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One planet budgeting with the ecological footprint: Opportunities and limitations

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travaux qu'il juge intéressants pour alimenter le débat. Pour toute question : mathis@footprintnetwork.org

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Global Footprint Network
Advancing the Science of Sustainability

One Planet Budgeting with the Ecological Footprint: Opportunities and Limitations

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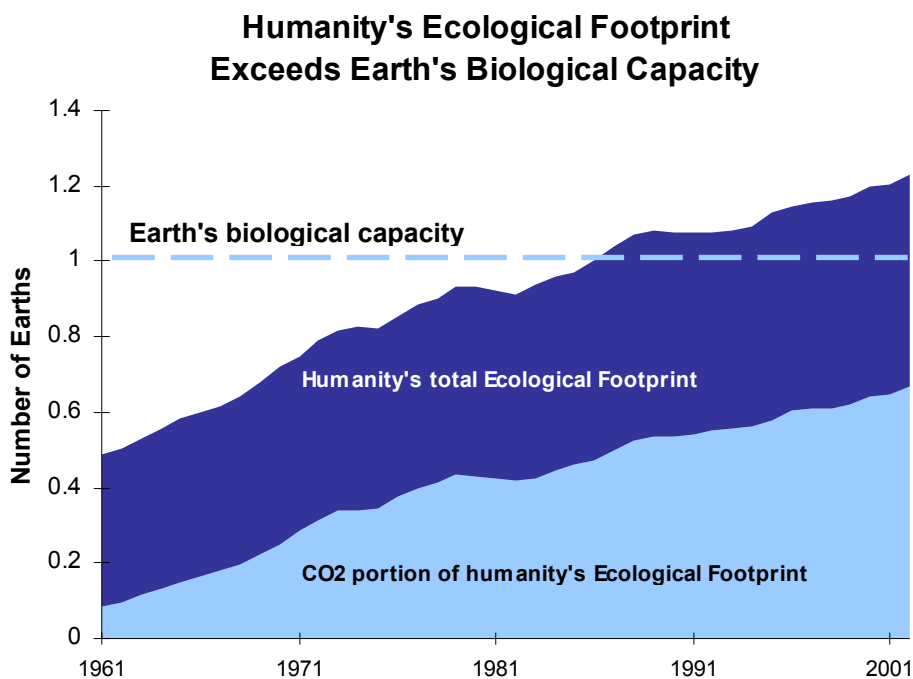
Are we running out of planet? Do economies self-correct or self-destruct when operating as if resources are limitless? Can everyone on this planet live like a Sudanese? A Sri Lankan? A Swede? The Ecological Footprint allows decision makers to explore these questions. It also supports business managers in turning the challenges of global competition for limited resources, new environmental regulations, and consumer demand for greener products into business opportunities.

This summary introduces the concept. More specific details on how the Footprint can be applied are available at www.footprintnetwork.org/casestudies and the links you find there.

Living Within Our Means?

The Ecological Footprint tracks **demand on nature** in terms of the area of biologically productive land and water needed to provide natural resources and services. A Footprint adds up all of the biologically productive land and sea area that is needed to support a population, an individual, or an activity and thus generates a measure of total ecological demand. In other words, each activity's resource use is translated into the biologically productive area necessary to provide this resource flow (e.g., how much area is necessary to produce a given amount of cotton).

The Footprint is then compared to the total amount of biologically productive land on Earth ("**supply of nature**") that is available to support that individual or group. This analysis allows us to answer important questions - Who is using how much? Do we all fit on one planet?



This accounting tool estimates that for 20 years, humanity's demand on ecological resources has exceeded what the Earth can renew. This calculation method suggests that, globally, it now takes one year and three months to regenerate what we use within one year. We are in a state of ecological overshoot, on an unsustainable path.

We can reverse overshoot using the Ecological Footprint, a practical and scientific tool designed to manage resource supply and demand. Developed over the last 15 years, this tool is now being used by government agencies, businesses, and civil society organizations (NGOs) around the globe. For example, in the UK, Footprint estimates for each county or municipality are now available. The European Environment Agency has sponsored national Footprint calculations, and a Swiss government sponsored Footprint review is under way. Google finds over 2 million websites discussing the Ecological Footprint.

Comparisons, Nation by Nation

Latest Footprint calculations show that the average Swede requires 6 global average hectares to provide for his or her consumption. If everyone on Earth consumed at this level, we would need about three additional planets.

	Population	Ecological Footprint	Biological Capacity	Ecological Deficit (-) or Reserve (+)
	[millions]	[global ha/cap]	[global ha/cap]	[global ha/cap]
WORLD	6225.0	2.2	1.8	-0.4
Brazil	176.3	2.1	10.1	8.0
China	1302.3	1.6	0.8	-0.8
Denmark	5.4	5.3	3.4	-1.9
France	59.9	5.6	3.2	-2.4
Italy	57.5	4.0	1.1	-2.8
Norway	4.5	5.9	7.0	1.1
Sweden	8.9	5.5	9.8	4.3
United Kingdom	59.3	5.6	1.6	-4.0

In the last column, negative numbers indicate an ecological *deficit*, positive numbers an ecological *reserve*. All results are expressed in global hectares, hectares of biologically productive space with world-average productivity.

Note that numbers may not always add up due to rounding. These Ecological Footprint results are based on 2002 data. For details check www.footprintnetwork.org or results on the website of European Environment Agency (<http://org.eea.europa.eu/news/Ann1132753060>)

The average Italian lives on a Footprint two thirds that size (4 global hectares). The average Mexican occupies 2.5 global hectares, the average Indian lives on about 1/3 of that. The global average demand is 2.2 global hectares per person. Yet there are only 1.8 global hectares available per person worldwide, not taking into account areas needed for wild species. (see table below – or for more results visit http://www.footprintnetwork.org/gfn_sub.php?content=national_footprints).

How Do These National Footprint Calculations Work?

Each national Footprint result, calculating the supply and demand of biocapacity, is based on 5,000 data points per country per year. A country's demand is calculated by adding imports and subtracting exports from production. Each resource flow is translated into the bioproductive area necessary to provide this flow. This method only captures demands on the biosphere, not human health aspects or depletion of non-renewable stocks.

The method is continuously being refined and reviewed to make it more detailed and accurate. For more detail on the approach, see the methodology paper at

http://www.footprintnetwork.org/gfn_sub.php?content=download.

Reviewers include academic institutions, independent research institutes and government agencies. A technical summary of the latest method is available at <http://www.footprintnetwork.org/2006technotes>.

Having access to reliable ecological asset accounts is in the interest of any government because it allows populations, individuals, and organizations within its borders to make informed environmental decisions. Like any responsible business that keeps track of its spending and income in order to protect its financial assets, we need ecological accounts to manage and protect our natural assets – our ultimate wealth. To have access to trustworthy information on our “ecological balance sheet,” government (and their research agencies) are encouraged to engage in reviews of the Footprint calculations. This will ensure that the tool is robust, reliable. Subsequently, the tool allows states, countries, provinces, cities, regions, individuals, and businesses to track their Footprints and make informed decisions based on the results.

Consistent application is important to ensure results are reliable. To this end, the Global Footprint Network community has developed standards to

make analyses more comparable across applications. Please visit (www.footprintstandards.org) for more information on the Ecological Footprint standards.

Generating Measurable Business Results

The Ecological Footprint is used around the world to help corporations improve their market foresight, set strategic direction, manage performance, and communicate their strengths. Unlike other impact assessments, the Ecological Footprint is a comprehensive, standardized resource accounting system that links resource use to global limits. The Footprint not only measures an organization's environmental impact, but compares it against the planet's ecological limits. This helps companies find openings for innovation and new markets, test their long-term strategies, and identify potential resource constraints. As a result, businesses can find new opportunities, identify risks, and avoid costly surprises.

Another practical element of the Ecological Footprint is the intuitively simple method for communicating results. Footprints are expressed in units of biologically productive area and, therefore, easy to understand and communicate to a broad set of stakeholders.

With the Ecological Footprint, businesses can assess their sustainability performance, set realistic targets, monitor projects and programs, communicate successes and, by comparing scenarios, identify implications of policy choices. For selected examples of Footprint applications please visit: www.footprintnetwork.org/casestudies

Becoming Footprint Neutral

Here is a new, exciting possibility being discussed by some companies (the idea emerged from Swiss Re): Businesses can offer Footprint Neutral goods and services, and eventually become Footprint Neutral themselves. What does this mean? Footprint Neutral goods and services satisfy clients while also reducing humanity's overall Footprint. This is achieved through a combination of (a) efficient production and distribution as well as (b) high quality offsets for the remainder of the Footprint. Footprint offsets are measurable Footprint reductions such as replacing a kWh of coal powered electricity with one that is wind generated, or making a

building more energy efficient, thereby using less energy for the same service.

Footprint Neutral goes beyond environmental compliance and eco-efficiency. It is a systems approach that ensures a Footprint Neutral good or service is not just less damaging than an average product. Furthermore, it acts as a driver to reduce humanity's Ecological Footprint. It becomes a quantifiable, global solution to improve the economic and environmental bottom line.

Learning More about the Ecological Footprint

Being committed to advancing human well-being, Global Footprint Network's mission is to end overshoot. It does this by further developing the Ecological Footprint and making the reality of planetary limits relevant to decision-makers throughout the world. Global Footprint Network, a non-profit research organization, gathers in its network over 70 partner institutions around the world, including businesses. With its partners, Global Footprint Network continuously strengthens and improves the Ecological Footprint by coordinating research, developing methodological standards, and providing robust national resource accounts. The network offers a variety of tools and services. For more information about partners, methods, or case studies, visit www.footprintnetwork.org.

