

Contribution to Beyond GDP “Virtual Indicator Expo”

<http://www.beyond-gdp.eu>

Name of the indicator/method: **Ecological Footprint**

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Why we need the Ecological Footprint

One fundamental requirement for sustainability is using renewable resources slower than nature can replenish them. Societies who do not meet this minimum condition run ecological deficits.

To know whether we meet this requirement, and to properly manage our ecological assets, we need to measure our use of nature. We need resource accounts that keep track of how much nature we have versus how much we use. Ecological accounting operates like financial accounting: it tracks available capital, revenues and expenditures. As with financial assets, it is possible to spend more of our ecological assets than are being regenerated – for some time. But such overspending depletes the natural capital and cannot be sustained in the long term. Continued ecological deficit spending leads to environmental bankruptcy, eroding economies, lessened quality of life and societal instability.

In short, like any successful business that keeps track of revenues and expenditures, society needs robust accounts of its demand on, and supply of, ecological assets. This is what Ecological Footprint accounts offer.

Description of the Footprint

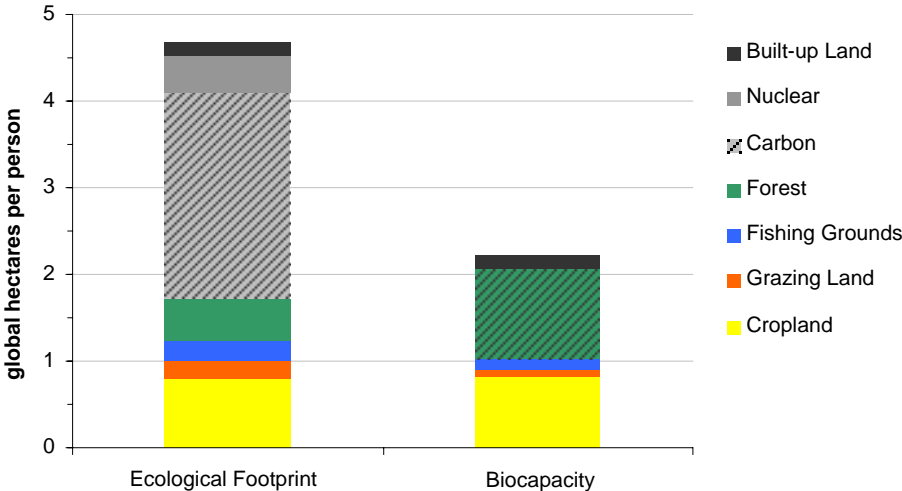
The Ecological Footprint is an indicator that measures people's demand on nature. This demand includes both the resources we consume as well as the waste we produce. We obtain these resources from forests, cropland, fisheries, and grazing land, among other ecosystems. The built environment compromises the land's ability to provide biological resources. Additionally, ecosystems absorb and assimilate the waste we produce as a result of resource consumption. The Ecological Footprint adds up these ecosystem areas to measure total human demand on nature. In other words, Ecological Footprint analysis builds

on “mass flow balance,” and each flow is translated into the ecologically productive areas necessary to support these flows.

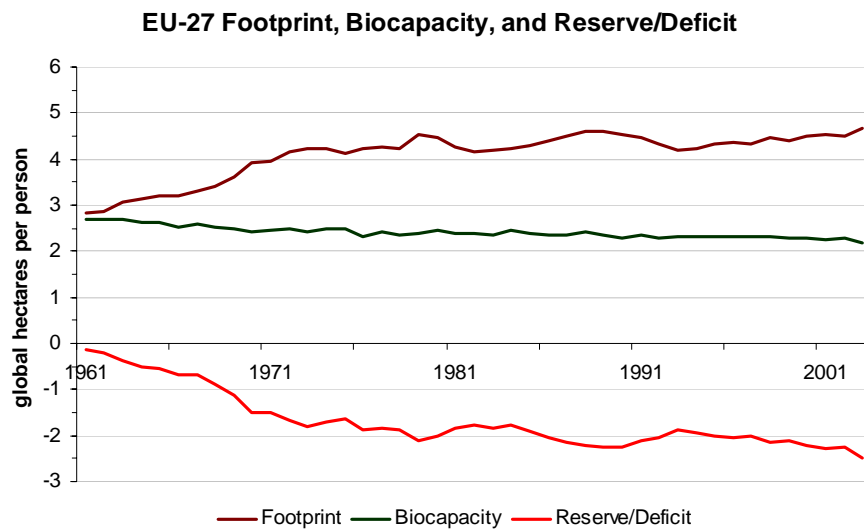
Ecosystems have a limited ability to supply us with natural resources (this is based on factors such as available water, climate, solar energy, technology and management practices). This is called biocapacity. When a population’s Ecological Footprint exceeds its biocapacity, biological resource ‘overshoot’ occurs.

Global Footprint Network calculates the Ecological Footprint of nations on an annual basis. From this data we undertake global analysis. Overshoot measured on a global scale is an indicator of unsustainability. Data shows that humanity’s resource demands and waste production began to exceed planet Earth’s ability to meet this demand around 1986. Today humanity exceeds the planet’s ability to provide biological resources by 30 percent - thereby dipping into the natural capital stock. While the world average capacity was 1.8 hectares per person, the world average Footprint was 2.2 hectares per person. In contrast, the average Footprint in EU-27 was 4.7 hectares per person against a biocapacity of 2.2 hectares per person.

EU-27 Footprint and Biocapacity, 2003



National Ecological Footprint accounts can also inform us about local or regional ecological performance. An Ecological Footprint Assessment of the European Union sponsored by the European Environment Agency and published by *WWF International* shows, for instance, that Europe has an Ecological Footprint more than twice its biocapacity (http://www.footprintnetwork.org/newsletters/gfn_blast_europe05.html). This means that more than half of the ecosystem area on which Europe depends is outside of Europe. Europeans have about twice the Footprint of what is available per person world-wide (and this available biocapacity also needs to support wild species that are competing with people for food and space). All of the EU members have per person Footprints above what is globally available. All but three—Sweden, Latvia, and Finland—are running a national ecological deficit by using more than what is available within their boundaries. The Ecological Footprint of Europe has increased by almost 70% per person since the 1960s (see figure below).



As underlined in many publications, the Ecological Footprint measures merely one aspect of sustainability: the availability of, and the human demand on, Earth's regenerative capacity. Other measures are needed to complement this tool for assessing social well-being, depletion of non-renewable resources, inherently unsustainable activities such as the release of persistent pollutants, or the degradation of ecosystems.

History of the concept

The original Ecological Footprint methodology resulted from collaboration between Dr. Mathis Wackernagel and Dr. William Rees at the University of British Columbia in Vancouver, Canada. The publication of their book '*Our Ecological Footprint: Reducing Human Impact on the Earth*' in 1996 made the concept more widely accessible.

Global Footprint Network was founded in 2003 with the goal of advancing the scientific rigor and practical application of the Ecological Footprint, and making the Ecological Footprint as prominent a metric as the Gross Domestic Product (GDP). Global Footprint Network is made up of a 23-member advisory board of leading scientists and politicians, an office in Oakland, one in Switzerland, and, soon, one in Brussels. More than 75 organizations, spanning six continents, have become formal Global Footprint Network partners. The Ecological Footprint is now in wide use by governments, communities, and businesses to set targets and monitor their ecological performance.

The adoption of the Ecological Footprint as a trusted sustainability metric depends upon the scientific integrity of the methodology, consistent and rigorous application of the methodology across analyses, and on results being reported in a straightforward and non-misleading manner. To meet these goals, Global Footprint Network and its partners have created a consensus-based committee process for improving the method and for developing international Ecological Footprint Standards (www.footprintstandards.org).

Examples of current activities

The tool is getting increasingly popular: a simple Google search yields hundreds of thousands of websites discussing the Ecological Footprint. The effort of advancing this accounting tool is also increasingly recognized. For instance, Global Footprint Network is the recipient of a 2006 [Skoll Award for Social Entrepreneurship](#). Global Footprint Network is one of only 10 organizations honoured with the USD 1,000,000 prize paid over three years, in recognition of the most innovative and effective approaches to resolving critical social issues.

The Footprint is also entering new arenas. For instance, work with the Swiss Agency for Development and Cooperation applies Footprint analysis to human development in Africa (www.footprintnetwork.org/africa).

New tools are available to calculate the Footprint. For businesses, for instance, www.footprinter.org or TBL3 (<http://www.bottomline3.com/>), and for UK municipalities REAP (<http://www.sei.se/reap/index.php>);.

A number of government organizations have active Footprint initiatives, for instance EPA Victoria in Australia (<http://www.epa.vic.gov.au/ecologicalfootprint>), the city of Calgary (<http://www.calgary.ca/footprint>), Wales (<http://www.footprintwales.org>) or Scotland (<http://www.scotlandfootprint.org>). Various countries have initiated research collaborations with Global Footprint Network to strengthen the Footprint analysis of their country: Switzerland, Japan, Belgium, and the United Arab Emirates. DG Environment has commissioned a study on how to use the Ecological Footprint for policy assessments – the final report should be available by the end of the year.

WWF has committed to help humanity reduce its Footprint to the size of one planet Earth by 2050. If you think this is radical, you are absolutely right (because it will take significant investments), and you are absolutely wrong (because it is profoundly necessary).

Future possibilities

The method of calculating the Ecological Footprint continues to be refined under the scientific guidance of the National Accounts Committee, housed by Global Footprint Network. For detail regarding the key aspects of the methodology targeted for future work see Kitzes et al. (http://www.brass.cf.ac.uk/uploads/fullpapers/Kitzes_et_al_M65.pdf).

Updates to the first edition of Footprint standards are in the works and expected to be released in late 2008. The next step is to establish a certification system for standards-compliant applications.

In 2005, Global Footprint Network launched its “Ten-in-Ten” campaign with the goal of institutionalizing the Ecological Footprint in at least ten key nations by 2015. The aim of this program is to have ecological accounting be given as much weight as economic accounting and for the Ecological Footprint to become as prominent a metric as the Gross Domestic Product (GDP).

