

ecologic

CREATING A SUSTAINABLE FUTURE



Ecological footprint

What is it?

Nature provides us with resources in the form of food, forest products, fuel and so on and it also absorbs waste (especially carbon dioxide). An ecological footprint can show the amount of land required to support the lifestyle of an individual, region, community, nation or an industry. It is an estimate of the area a population uses to produce all or part of the natural resources it consumes and to assimilate the waste this generates. Put simply, it calculates the size of our impact on the Earth.

A footprint is measured in 'units'. Each unit corresponds to one hectare of biologically productive space – about the size of one playing field. As people use resources from all over the world, and affect faraway places with their

pollution, the footprint is the sum of these areas wherever they are on the planet.

A footprint is calculated by drawing together a range of data on resource use and waste assimilation from a variety of **available** sources. The size of a footprint can be calculated using different available data and assumptions. Therefore footprints calculated by different organisations for different reasons may reveal different size footprints.

Footprints can sometimes underestimate the impact individuals and communities are making because there is so much information about our impact that we currently do not or cannot collect. Impacts such as gaseous and liquid pollution, for example, cannot always be adequately represented as land areas.

The important thing to remember is that an ecological footprint is an indicator of environmental impact.

How is it used?

Ecologically sustainable footprints tell us about the human pressures on the Earth's resources and also allow comparisons to be made between the demands placed on nature and the capacity of the Earth to meet these demands. In essence, footprints tell us that humanity is living beyond its means. According to the *Living Planet Report 2000*, produced by the World Wide Fund International, in 1997 the ecological footprint of the global population was at least 30% larger than the Earth's biological productive capacity.

Footprints demonstrate the unequal nature of consumption and production of waste among different nations and groups of nations. The ecological footprint of an average consumer in the industrialised world is about four times that of an average consumer in the lower income countries. Australia has a large ecological footprint relative to other nations, indicating high levels of consumption. Our average size footprint is 10 hectares. The average for all people on Earth now is about 2.5 hectares.

Footprints can also be used to analyse:

- types of consumption, for example fossil energy consumption and carbon sinks
- city and regional footprints
- individual footprints
- national footprints compared to the nation's own productive capacities. For example the Dutch 'consume' a land 15 times larger than their country
- resource intensity of competing technologies or major capital project (such as a power plant or bridge).

Why is it important?

Many people in urban industrial societies are becoming increasingly distant from the resources that support their lifestyles. Ecological impact of human settlement no longer coincides with geographic locations. Therefore the impact people are having on the Earth can largely be hidden from them. People only tend to act on a problem when it either affects them personally or is part of their direct experience. Ecological footprints are one way of clearly bringing the message home that many communities that seem economically prosperous are actually running ecological debts with the rest of the planet.

Footprints can help people see how changes in their behaviour and lifestyle affect the size of their footprint and by how much.

Ecological footprints in EcoLogic

- Bigfoot interactive – calculates your ecological footprint
- NASA image of the 'world by night' showing electricity hot spots
- Image of a child in an Australian kitchen identifying the country of origin of everyday products

Want to know more?

Mathis Wackernagel and William E Rees, 'Our ecological footprint', New Society Publishers.

William E Rees, 'Ecological footprints', in *YES! a journal of positive futures*, Spring/Summer 1996.

www.powerhousemuseum.com/exhibitions/ecologic.asp