

Ecological footprints

CALCULATING ECOLOGICAL FOOTPRINT

Everything used for our daily needs and activities comes from natural resources. The **ecological footprint**, measured in acres or hectares (ha), calculates the amount of the earth's bioproductive space needed to keep a population at its current level of resource consumption. The calculation takes into account the following resources:

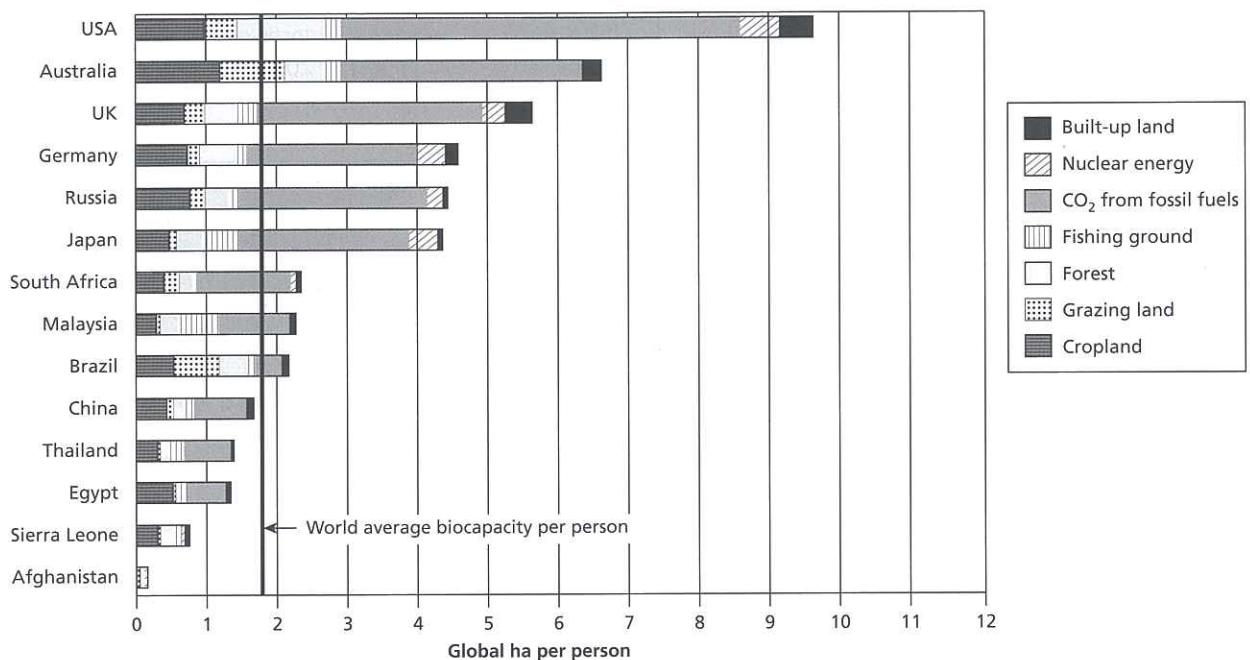
- **arable land:** the amount of land required for growing crops
- **pasture land:** the resources required for growing animals for meat, hides, milk, etc.

- **forests:** for fuel, furniture, housing, etc., also providing many ecosystem services such as climate stability, erosion prevention
- **oceans:** for fish and other marine products
- **infrastructure needs:** transportation, factories, housing, etc. based on the built-up land used for these needs
- **energy costs:** the land required for absorbing carbon dioxide emissions and other energy wastes.
- Species extinction, and toxic pollution of the air, water and land, are not yet taken into account in calculating the ecological footprint.

ECOLOGICAL FOOTPRINT – GLOBAL AND NATIONAL

The planet's biological productive capacity (biocapacity) is estimated at 1.9 ha per person. Currently, countries are using up 2.2 ha per person, living beyond the planet's biocapacity to sustain us by 15%, or by a deficit of 0.4 ha

per person. This deficit is showing up as failing natural ecosystems – forests, oceans, fisheries, coral reefs, rivers, soil, water, and global warming.



Global ecological footprints

Source: WWF

The planet's biocapacity is affected by the global population as well as the rate of consumption. Higher consumption depletes the planet's carrying, renewal and regeneration capacities. Estimates indicate that, if global population trends continue, the ecological footprint available to each person would be reduced to 1.5 ha per person by 2050 and, if consumption rates as prevalent in the rich western countries are adopted by the majority of humanity, then we would need four to five planets more to sustain ourselves.

The USA is the country with the largest per capita footprint in the world – a footprint of 9.57 ha. If everyone

on the planet was to live like an average American, our current planet's biocapacity could support only about 1.2 billion people. On the other hand, if everyone lived like an average person in Bangladesh, where the per capita footprint is just 0.5 ha, the earth could support roughly 22 billion people.

The global ecological footprint grew from about 70% of the planet's biological capacity in 1961 to about 120% in 1999. Furthermore, future projections show that humanity's footprint is likely to grow to about 180% or even 220% of the earth's biological capacity by the year 2050.