

Ecological Footprint

The ecological footprint is a measure of the amount of natural resources consumed by the human population. Various ecological footprint tools have been developed to measure sustainability at the individual, national, or global level.¹

The areas that contribute to humans' ecological footprints are:²

Carbon which represents the amount of treed land that could sequester the carbon emissions from burning fossil fuels (excluding what is absorbed by the ocean). Carbon is the most rapidly-growing component and contributes about 54 per cent of humanity's overall Ecological Footprint³

Cropland which represents that amount of land needed to grow crops that are used for human consumption, including food, fibres, oil crops, rubber, and animal feed. Cropland is the second largest factor contributing to the Ecological Footprint.

Grazing Land which represents the amount of land that's needed for livestock to graze.

Forest which is the amount of forest that is needed to fulfill the demand for pulp, fuel wood, and timber products.

Built-up Land which represents the amount of land is devoted to infrastructure, including housing, commercial and industrial structures, transportation, and hydropower reservoirs.

Fisheries which represents the estimated primary production needed to support the fish and seafood that are caught for consumption, and is based on marine and freshwater catch data.

Did you know?

The term ecological footprint has been deliberately excluded from trademark to encourage its widespread use.

Why it's important

The world is experiencing an ecological deficit, also known as an “ecological overshoot”. This means the demand for natural resources is higher than the Earth’s ability to regenerate these resources.

Demand for natural resources exceeded what the Earth could regenerate in the 1970s, and has continued to grow over the years. As of 2008, the world was in a 50 per cent deficit. At this time 1.5 Earths were needed to renew the resources that were being used by humans and to absorb the carbon dioxide that was emitted in 2008.² The ecological deficit is projected to continue rising as the global population increases.

The United Nations estimates that the human population will reach 7.8-10.9 billion people by 2050. If measures are not taken to reduce our resource use, the equivalent of 2.9 Earths will be needed to support the population in 2050.²

What you can do in 3 easy steps

Your personal actions can help reduce our global ecological footprint. Here are three steps to get you started:

1. Calculate your individual footprint to get a sense for how much you currently use.

The Ecological Footprint Quiz: this quiz has 27 questions split into four categories: carbon, food, housing, and goods and services. It calculates how many planet Earths would be needed if the global population lived your lifestyle, how your impact compares with national averages, and how your footprint impacts cropland, pastureland, forestland, and marine fisheries.

The Earth Day Network Footprint Calculator: this interactive quiz is available in adult or child-friendly versions and allows you to choose either a detailed or basic report of your impact.

WWF's EcoGuru: this tool allows you to calculate your individual Ecological Footprint and measures the positive impacts of lifestyle changes.

2. Set goals. How much do you really need? How much is fair to take?

After using one of the ecological footprint calculators to estimate your footprint, take some time to save and review the results. In which areas is your footprint low? In which

Did you know?

WWF's Living Planet Report 2012 estimates that Canadians use 3.5 times their share of the world's annual productivity.²

areas is your footprint high? Where could you make improvements to reduce your personal impact? What sorts of actions could you do to reduce your ecological footprint? After completing this personal assessment, set attainable goals and targets for reducing your impact. For example, if you wanted to reduce your impact on fisheries, you could set a goal for only eating fish — times per month. Make sure your goals fit your needs and lifestyle too, otherwise they may not be sustainable in the long run.

3. Start taking simple steps to reduce your impact and reach your personal goal.

You can begin to reduce your footprint by making small changes in your daily life that will help the planet, people and perhaps even your wallet.

- Follow the tips from the other sections in the **UAlberta Green Guide**
- After setting personal goals and taking action to reduce your impact, also make sure that you recalculate your footprint (using the same calculator) regularly to **track your progress**
- **Encourage your family, friends and colleagues** to do the same

Get involved on campus

One Simple Act on Campus

The Office of Sustainability's One Simple Act on Campus program challenges UAlberta students, staff, and faculty to commit to integrating one simple and meaningful sustainable action relating to reducing waste, using energy efficiently, incorporating sustainability into campus activities and conserving water into their daily routines.

The Green Spaces Certification Program

The Green Spaces Certification Program encourages people in work, school, and living spaces on campus to adopt sustainable practices and green their operations. Spaces are recognized as a Green Space with either Bronze, Silver, or Green and Gold certification. Certification is currently available for Offices and Events. In Fall 2013, certification for Labs and Dorms will be introduced.

Did you know?

The average Canadian ecological footprint is 7.5 hectares per capita.⁴

Adopt green purchasing practices

Making green purchases involves choosing products and services that reduce our impact on the environment.. At every stage during a products lifecycle and within the supply chain, there are opportunities to reduce our environmental impact and costs.

Join a sustainability student group

There are over 450 student groups on campus; 30 of these groups are sustainability oriented, and many more that include aspects of sustainability in their goals. You can take steps towards reducing your impact by getting involved with one or more of these groups on campus. And if you can't find a sustainability-related group that is right for you, you're welcome to start a new one!



Reducing our footprint at UAlberta

The University of Alberta is working to reduce our ecological footprint. Some initiatives include:

- **Sustainability Plan 2012-2016**, which outlines sustainability goals and strategies for achieving sustainable best practices on campus.
- Measuring sustainability performance through **STARS – Sustainability Tracking, Assessment and Rating System**. On February 3, 2012, the University of Alberta was recognized for its commitment to sustainability with a silver STARS ranking, and is the second highest STARS rated institution in Canada.
- All new buildings receiving provincial government funding must be at least **LEED (Leadership in Energy and Environmental Design)** Silver certified. LEED certifies buildings that perform well in five key areas of human and environmental health; sustainable site development, energy efficiency, water efficiency, indoor environmental quality, and materials selection.⁵
- The energy management program, recently rebranded as **Envision**, has been in place on campus since 1975. Even though there is continuous building and the size of the University is increasing, electricity, steam and water consumption have all been reduced through increased efficiency in buildings and maintenance, as well as many other aspects of campus operations. The excess savings from this program contribute to the **Sustainability Enhancement Fund**, which is a granting program that supports sustainability-related projects on campus.

Did you know?

Natural resources demand has doubled since 1966; across the Earth, the equivalent of 1.5 planets are currently being used.²

Sources:

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