

YOUR WATER FOOTPRINT

We need water on a daily basis for drinking, cooking and washing. But water is also used for producing food, paper, clothes, and so on, water that we consume indirectly without knowing.



“Imagine you have a bucket. This is all the water on the planet. You cup your hands and scoop out a tiny fraction of the water. That is all the fresh water on the planet. You hold life and civilization. Now shake your hands, blow on them a bit – and the dampness left, the glistening traces of water in the crease of your skin, that is all the fresh water accessible to humans.”

Peak Water by Alexander Bell (2009) Luath Press Ltd, Edinburgh.



Water Footprints

Our Water Footprint is the water we use directly from the tap, and the hidden water we consume indirectly in the goods we buy, we each have our personal water footprint. There is also our country's water footprint, the water used to produce the goods and services consumed by all of us. Human water consumption patterns are draining global water availability.

voice

Voice of Irish Concern for the Environment

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Global Water Footprint

The global Water Footprint, the water consumed by humanity each year, is more than one million litres per person, (1,243,000 liters to be precise!), the equivalent of 20,717 baths per person every year.

When we measure a country's water footprint we have to ask the question, where does all this water come from? Europe imports huge quantities of water embedded in products from countries that are suffering water shortages.

Our Irish Water Footprint

We each use between 150 to 200 litres of water a day, but only 4% of drinking quality water used is actually for drinking and cooking.

- Two thirds of us shower for 10 minutes or longer, a shower uses about 9 litres per minute.
- 1/3 of household water is used for flushing the toilet, 40% of us flush the toilet 5-6 times every day, using about 40 litres of water each.
- Two thirds of us clean our teeth twice a day. However, two thirds also keep the tap running, wasting 6 litres of good quality water a minute down the drain.
- A garden hose uses as much water in an hour as a family of four in a day.

Water Stress and Scarcity

Freshwater is not evenly distributed around the world. Two thirds of the world's people live in regions that only receive a quarter of the global rainfall. Economic development is draining our water resources, with access to water becoming increasingly unequal. Over half of all accessible freshwater is being extracted at unsustainable rates.

By 2025, it is believed that three billion people will suffer water stress or scarcity, and by 2050 this number will have grown to four billion (about 40% of the expected world's population).

Water is also becoming a very real issue in Europe. More than half of European cities are extracting water faster than it can be replenished.



Here at home in Ireland, several large urban areas will experience shortages in water supply by 2013, such as Athlone, Dublin, Galway, and Letterkenny.

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Hidden Water – the water we eat

Globally, agriculture makes up 70% of water used, industry 22%, and household use makes up 8% of water consumed. The hidden water used by agriculture is embedded in the food we eat.



The top three thirstiest crops are rice, which uses 21%, wheat using 12%, followed by corn at 9%. However the water needed for animal products including meat, leather and other by-products is far greater.

Beef

About 15,000 litres of water are used to produce 1kg of beef. This includes the water used to produce the cereal feeds (oats, corn, silage etc.), and the drinking water needed over its life.



Coffee

A cup of coffee uses more than a cup of water. About 21,000 litres of water are used to produce 1kg of coffee, and the average cup of coffee is 7 grams. This translates to 140 litres of water to produce a cup of coffee

Cheese

About 5,000 litres of water is used to produce 1kg of cheese. This includes water used to produce the milk (10 litres of milk for 1kg cheese).

Cotton T-shirt

Wearing a cotton T-shirt is like wearing 2,700 litres of water. About 210 billion m³ is used to satisfy global cotton growing/processing needs, of which 50 billion m³ of water is polluted. The global cotton industry uses 3.5% of global water resources.

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Is water really free?

Ireland has a lot of rainfall feeding into rivers, lakes, and aquifers (underground water), so isn't it free? However, before reaching our taps, water goes through a series of treatment processes to ensure it is suitable for human consumption. The average cost for treating water and providing water services in Ireland is €2.08/m³.

Storage

Lakes, rivers, reservoirs

Sedimentation Tanks

Aluminium added to remove particles

Filtration

Through sand/gravel

Disinfection

(Chlorine/filter)

Storage

Drinking water in towers

Distribution

By pipes to houses and businesses

Distribution to our homes and businesses through a vast network of pipes is a significant part of the cost. Many of the pipes are old and urgently need replacing. On average, 43% of treated water is lost through damaged leaking pipes.



Of the more than 100 OECD countries, Ireland is alone in not charging for domestic household water. But under the EU Water Framework Directive, Ireland is now obliged to implement domestic water charges. Our neighbours in Northern Ireland pay charges averaging €169 per year.

Where Does Water Come from?

Although 70% of the Earth's surface is water, almost all of this is salty ocean water. Only 2.5% is freshwater, and even most of this is inaccessible or locked up in icebergs and snow. Converting sea water into fresh water, known as desalination, is possible but is very expensive.

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What we can do!

Even small changes can add up to a lot over the course of a year. In the house and garden, good quality drinking water is used for activities that don't need such high standards, like flushing the toilet and watering.

Savings in the house

| Water Use | Litres used | Action | Litres saved |
|----------------------------------|-------------------------------------|---|------------------------------------|
| Bath | 60-80 L | Shower for 8 minutes or less (not a power shower) | 40-80L per use |
| Leaky Taps 1 drop per sec | 41L a day, 15,000L a year | Fix taps | 41L a day or 15,000L a year |
| Toilets, 1,000 flushes a year | 6-13L per flush | Install a dual flush toilet, or put a brick in the cistern | 4L per flush; 4,000L a year |
| Washing Machine | 100L per wash; 270 cycles a year | Invest in new "A" rated machine | 50-70L per wash; 13,500L a year |

Savings in the garden

About 7% of water used in households is for garden use. Use of rainwater is very effective, and plants prefer rainwater.

- Install a rain barrel to collect rainwater.
- Water in the early morning or in the evening to avoid evaporation during the hottest time of day.
- Use watering cans instead of hoses, and direct the water at the base of the plant, not overhead.
- Reduce grass cutting to help protect lawns from drought. Use mulches in flower beds to conserve soil moisture.
- Don't convert your front garden into a paved car park. Keeping the front garden in grass reduces floods by absorbing water, rather than water going straight into the drainage system, and soil stores water for your plants.



Rain Water Harvesting

Rainwater harvesting systems can reduce water consumption by 50% in domestic situations and by up to 80% in the commercial sector.

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Food

Look for where and how your food is grown and produced. Food grown in season and in their native countries will generally use less water than food that needs a greenhouse.

Eat less meat and more fresh local food.

Organic farming will generally contain less embedded water as no water is needed for water dependent pesticides/herbicides/fertilizers.

And remember you can get lots more information on water in Ireland at www.taptips.ie and www.askaboutireland.org and click on ENFO and then the 'Water' tab.

Calculate your Water Footprint at www.waterfootprintkemira.com/meter

www.waterfootprint.org

www.unwater.org

www.taptips.ie

www.energyeducation.ie

www.ecologic.eu

www.askaboutireland.ie

www.slowtheflow.ie

www.dublin.ie/environment/water.htm

www.environ.ie

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Our thanks go to the sponsors below, to whom we are grateful. Any errors are our own, and any views are also our own, and may not necessarily reflect the views or policies of our sponsors.

Funded by the Local Agenda 21 Environmental Partnership Fund.



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