

Environmental Education – Small Actions With Big Impacts



Cultivating Futures



Associação Educativa para o Desenvolvimento da Criatividade

Reduce



Refuse

Reduce

consumption
(of Resources)
and the waste;

Reuse

Recycle

Rot

Sometimes it's not possible to “Refuse” and that's when the “Reduce” comes in and it also has a huge impact

Reduce



Reduce - what we need



Before buying / getting something, we should think about

- do I really need this?
- Do I need all the products that appear in the ads and promise miracle solutions?
- don't I have something that has the same effect?
- can I get it in a more sustainable way (2nd hand or borrow)?

Reduce



greengroupcollective

AS CONSUMERS,
we have so much
power to change
the world by just
being careful in
what we buy.

Emma Watson

“Stop
buying
crap and
companies
will stop
making
crap”

What can we do to save the Planet?

“The only thing we should all do, in a way that covers every aspect of our lives, is simply not to waste. Don't waste plastic, don't waste food, don't waste energy. Live within your means without harming the planet. This is a possibility and should be our goal.”



- **David Attenborough**



David Attenborough:

<https://www.youtube.com/watch?v=r-91umZ7cQE>

A Life On Our Planet



Waste of Paper



Waste of Energy

**Domestic consumption represents 29% of global energy
(and 21% of the resulting CO₂ emissions)**



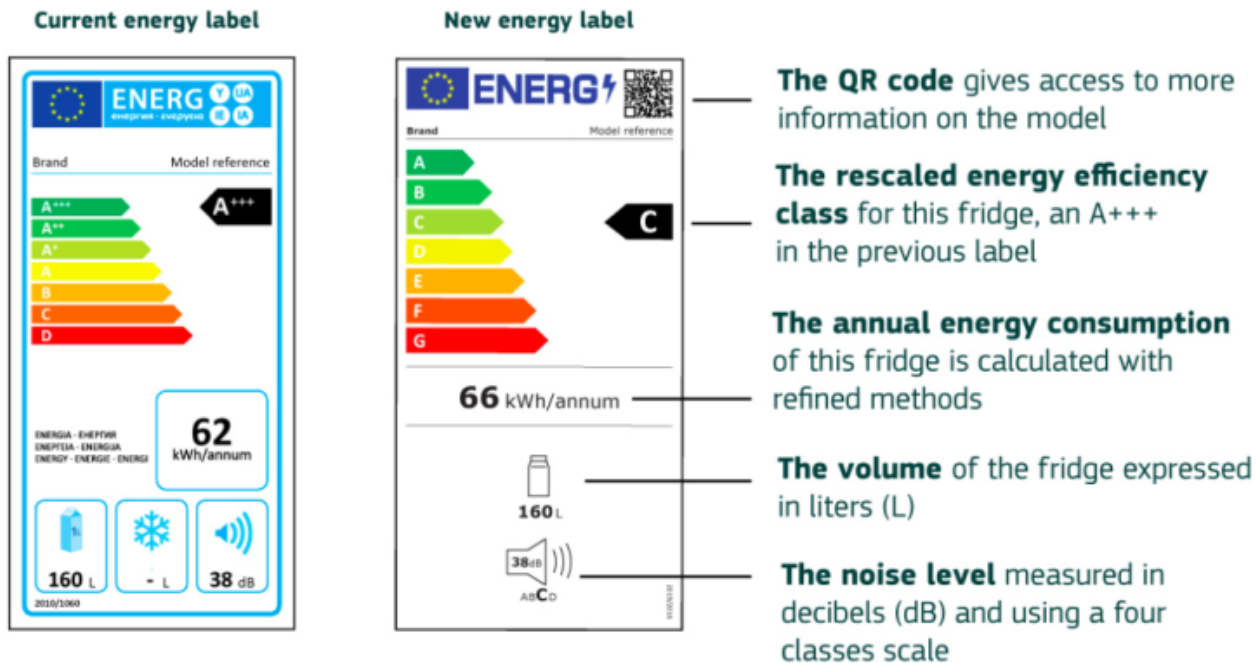
Waste of Energy



Home appliances → greater energy efficiency

[Guide to reading labels](#) and the new scale considering the evolution of energy efficiency!

How to recognise a rescaled product ?



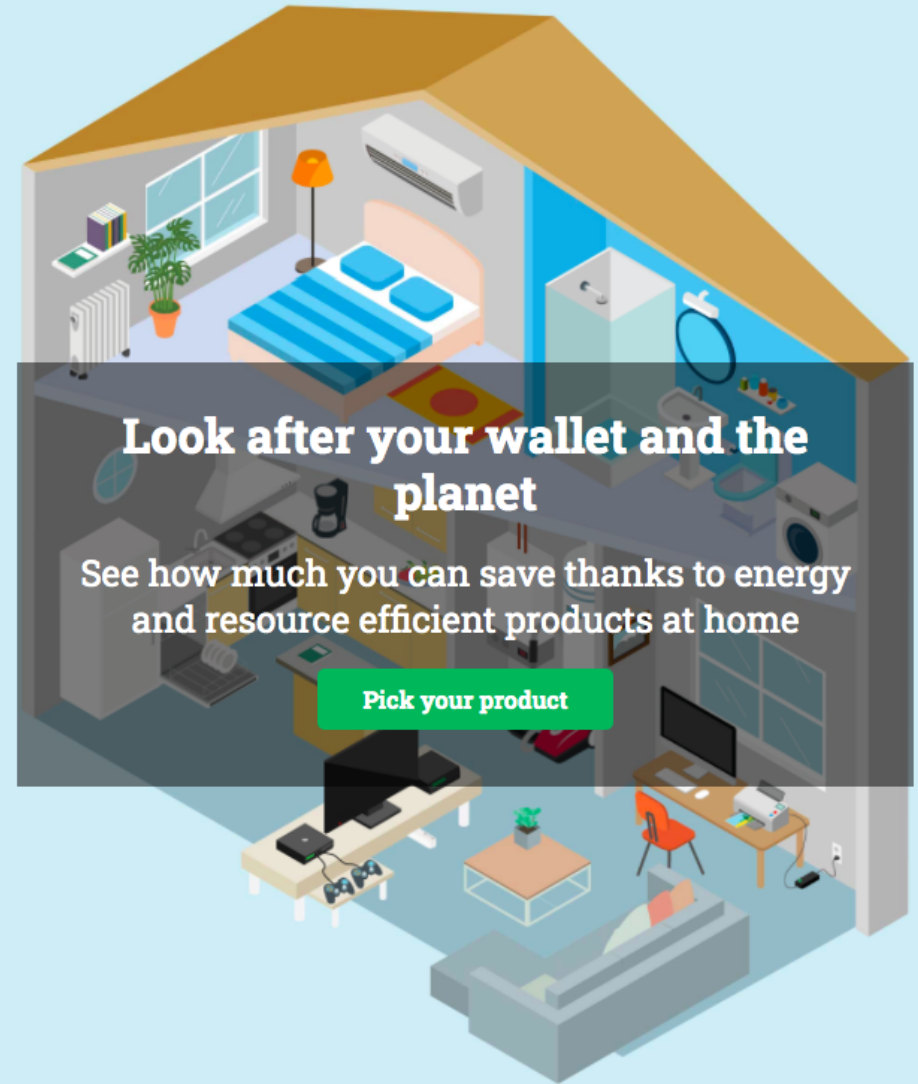
The energy labels for a fridge without freezer

How much can we save?



See how much we can save if
we choose energy- and
resource-efficient home
products!

<https://eeb.org/coolproducts/>



Waste of Energy

Switch off the oven 10 - 15 minutes before using
residual heat to finish cooking

Do not open the oven door
→ consumption of more
energy



Sockets
→ with switches



Oven with ventilation
→ speeds up the
process AND cooking
on several trays
simultaneously



Appliances on stand by
→ turn off

Stand by consumption
corresponds to around
11% of the energy bill



Waste of Energy

“Every time you spend money, you're casting a vote for the kind of world you want.”
- Anna Lappe



Waste of Water



Waste of Water



Water Tap/ /shower
→ flow reducer



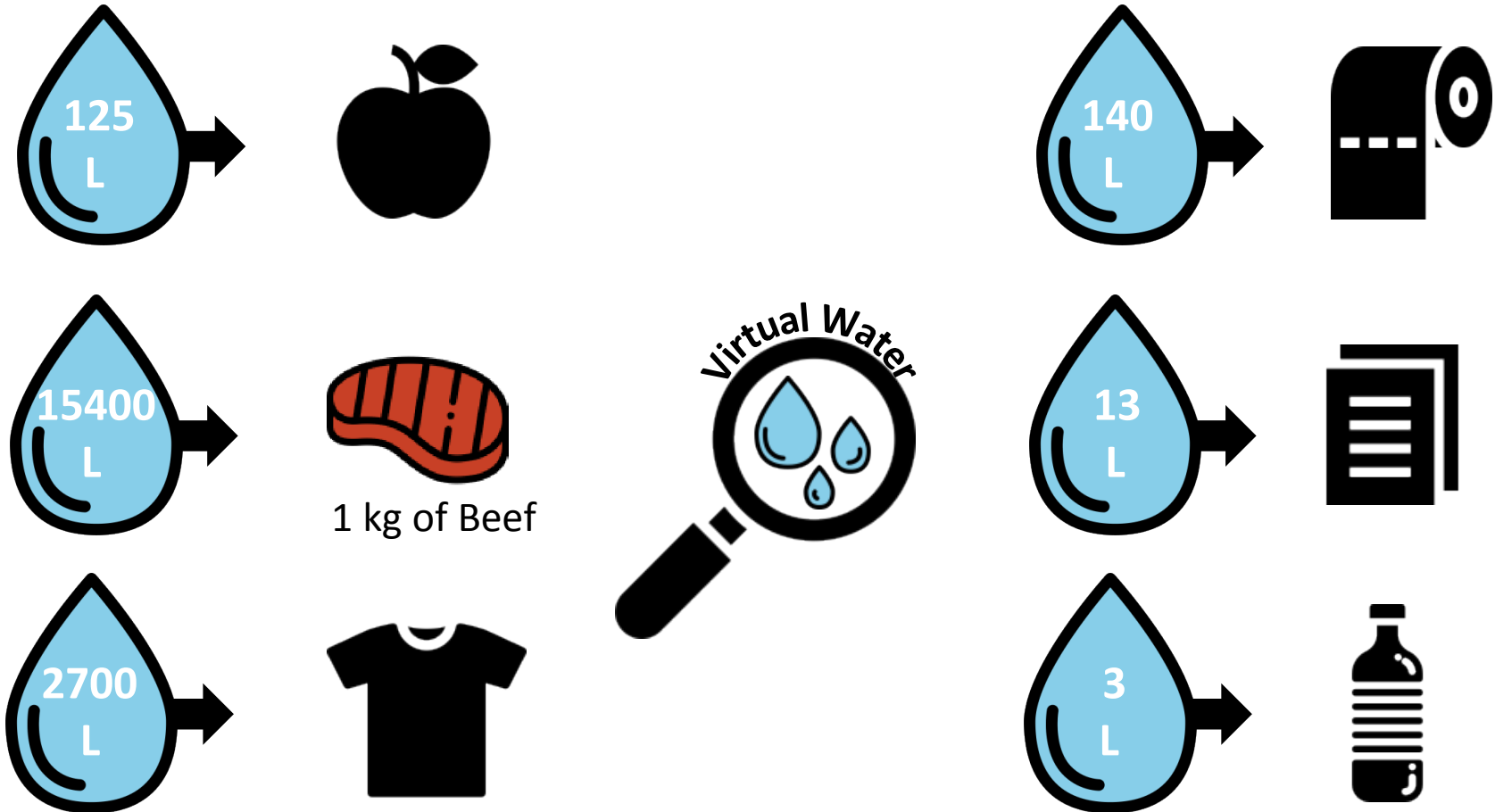
Calculate how
many liters of
water you use per
minute on your
water taps

Waste of Water



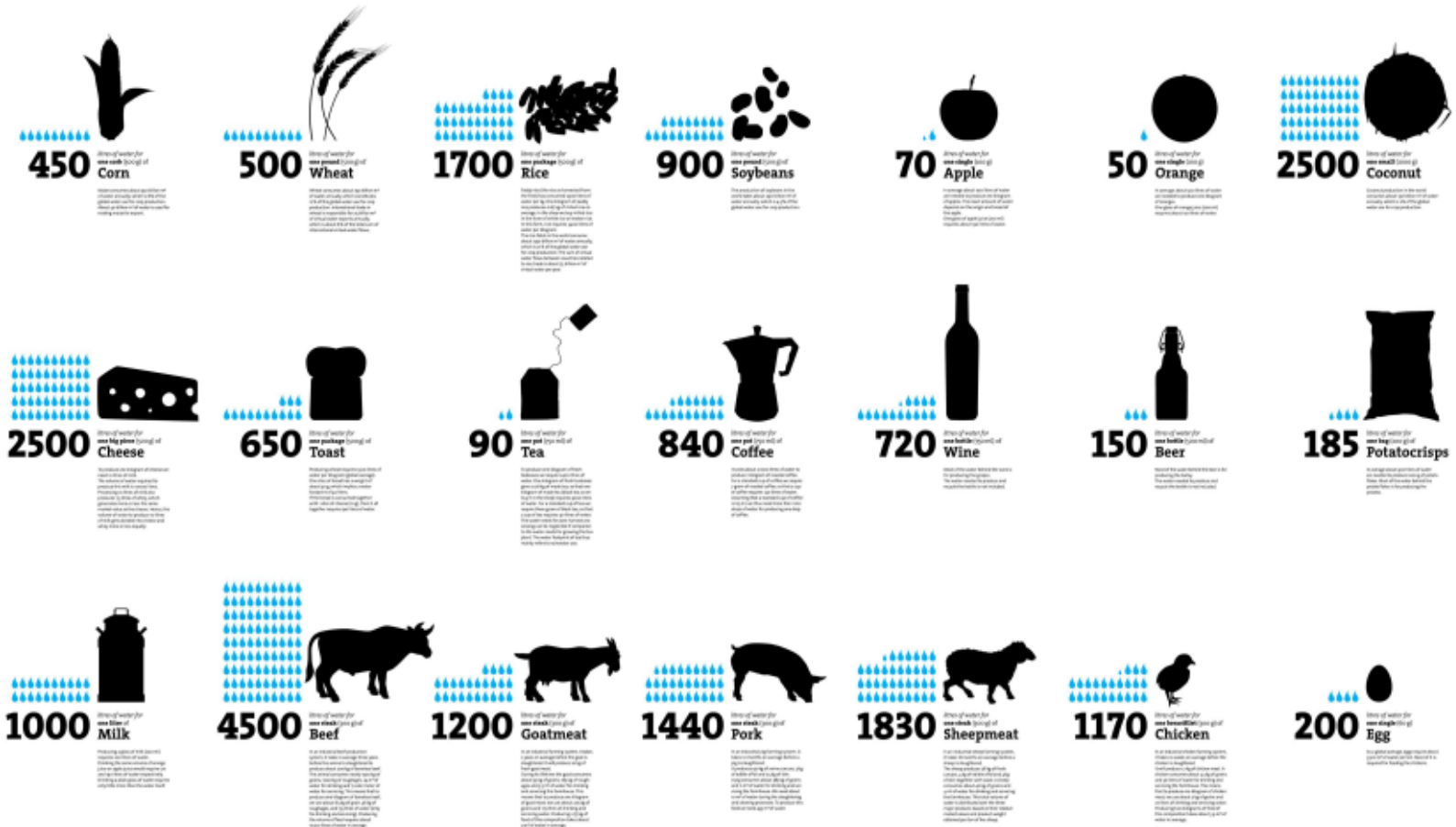
Amount of water used to produce:

<https://waterfootprint.org/en/resources/interactive-tools/product-gallery/>



Virtual Water

VIRTUAL WATER inside products



Water Footprint of a Glass of Beer

The water footprint of a glass of beer is 150 liters. This includes the water used to grow the barley, malt the grain, brew the beer, and bottle it. The water footprint of a glass of wine is 720 liters, and the water footprint of a glass of beer is 150 liters.

Water Footprint of a Glass of Wine

The water footprint of a glass of wine is 720 liters. This includes the water used to grow the grapes, harvest them, and process them into wine. The water footprint of a glass of beer is 150 liters, and the water footprint of a glass of wine is 720 liters.

Water Footprint of a Glass of Beer

The water footprint of a glass of beer is 150 liters. This includes the water used to grow the barley, malt the grain, brew the beer, and bottle it. The water footprint of a glass of wine is 720 liters, and the water footprint of a glass of beer is 150 liters.

Educational Resources



“Energy, let’s save it!” (European Union, 2008) -
<https://www.youtube.com/watch?v=1-g73ty9v04>



Aquastory - <https://lisboaenova.org/en/aquastory/>

The Value of Water for the Societies -
<https://www.youtube.com/watch?v=08ustwZt70s>

If Water Could Speak
<https://www.youtube.com/watch?v=jkiXAdJCdNE>



Educational Resources



Teacher's Resources for Water Education

https://www.usgs.gov/special-topic/water-science-school/science/teachers-resources-water-education?qt-science_center_objects=0#qt-science_center_objects



Educational Resources: Top Water Websites

<https://www.watercalculator.org/resource/water-resources-for-educators/>

Teaching Tools & Resources - All About Water

<https://thewaterproject.org/resources/>



Learning resources + tours

<https://www.melbournewater.com.au/water-data-and-education/learning-resources>

Educational Resources

Browse learning resources

Year level

Browse by year level to find what you need. If you're not an educator or student, choose all ages.

Foundation to year 2	Years 3-4	Years 5-6
Years 7-8	Years 9-10	



Educational Resources

All ages

- ▶ [Water cycle colouring activity](#)
- ▶ [Water cycle find-a-word activity](#)
- ▶ [Water in the home colouring activity](#)
- ▶ [Natural water cycle poster](#)
- ▶ [Urban water cycle poster](#)
- ▶ [Water words](#)
- ▶ [Take the Water Saving Pledge](#)

Primary School

- ▶ [Natural water cycle activity](#)
- ▶ [The ins and outs of drains](#)
- ▶ [Pipes](#)
- ▶ [Weird and wonderful water](#)
- ▶ [Bottled water](#)
- ▶ [Water for health and wellbeing](#)
- ▶ [Catchment protection](#)
- ▶ [Water storage features](#)
- ▶ [Recycled water](#)

Early Learning, Foundation and Years 1 and 2

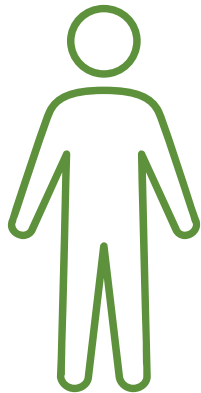
- ▶ [After the drain book](#)
- ▶ [Before the glass](#)
- ▶ [Story of the raindrop](#)
- ▶ [Water for life](#)
- ▶ [Big book of water](#)

Secondary School

- ▶ [Careers in the water industry](#)
- ▶ [Water for health and wellbeing](#)
- ▶ [Melbourne Waters drip trip game](#)
- ▶ [Melbourne Water virtual tour of Western Treatment Plant](#)

Actions with the greatest impact?

What individual actions can we take with the greatest impact on the environment?



Reduce food waste and adopt a plant-based diet!

DRAWDOWN
THE MOST COMPREHENSIVE
PLAN EVER PROPOSED TO
REVERSE GLOBAL WARMING
EDITED BY PAUL HAWKEN

Actions with the greatest impact?

* Gigatons CO2 Equivalent Reduced / Sequestered (2020–2050)

↕ SOLUTION	↕ SECTOR(S)	▼ SCENARIO 1 *	↕ SCENARIO 2 *
Reduced Food Waste	Food, Agriculture, and Land Use / Land Sinks	87.45	94.56
Health and Education	Health and Education	85.42	85.42
Plant-Rich Diets	Food, Agriculture, and Land Use / Land Sinks	65.01	91.72
Refrigerant Management	Industry / Buildings	57.75	57.75
Tropical Forest Restoration	Land Sinks	54.45	85.14
Onshore Wind Turbines	Electricity	47.21	147.72
Alternative Refrigerants	Industry / Buildings	43.53	50.53
Utility-Scale Solar Photovoltaics	Electricity	42.32	119.13
Improved Clean Cookstoves	Buildings	31.34	72.65
Distributed Solar Photovoltaics	Electricity	27.98	68.64
Silvopasture	Land Sinks	26.58	42.31
Peatland Protection and Rewetting	Food, Agriculture, and Land Use / Land Sinks	26.03	41.93
Tree Plantations (on Degraded Land)	Land Sinks	22.24	35.94
Temperate Forest Restoration	Land Sinks	19.42	27.85
Concentrated Solar Power	Electricity	18.60	23.96
Insulation	Electricity / Buildings	16.97	19.01

Source: [Drawdown](#)

Actions with the greatest impact?

REDUCED FOOD WASTE

REDUCE SOURCES › ■ Food, Agriculture, and Land Use › *Address Waste and Diets*

SUPPORT SINKS › ■ Land Sinks › *Address Waste and Diets*

87.45–94.56

GIGATONS

CO₂ EQUIVALENT
REDUCED / SEQUESTERED
(2020–2050)

Roughly a third of the world's food is never eaten, which means land and resources used and greenhouse gases emitted in producing it were unnecessary. Interventions can reduce loss and waste, as food moves from farm to fork, thereby reducing overall demand.

SOLUTION SUMMARY*

A third of the food raised or prepared does not make it from farm or factory to fork. Producing uneaten food squanders a whole host of resources—seeds, water, energy, land, fertilizer, hours of labor, financial capital—and generates greenhouse gases at every stage—including methane when organic matter lands in the global rubbish bin. The food we waste is responsible for roughly 8 percent of global emissions.

Losing food to one waste heap or another is an issue in both high- and low-income countries. In places where income is low, wastage is generally unintentional and occurs earlier in the supply chain—food rots on farms or spoils during storage or distribution. In regions of higher income, willful food waste dominates farther along the supply chain. Retailers and consumers reject food based on bumps, bruises, and coloring, or simply order, buy, and serve too much.

There are numerous and varied ways to address key waste points. In lower-income countries, improving infrastructure for storage,

Food waste



“We are too many and we will still be more...
there is no capacity to feed so many people” - Popular Thought



This statement is false, there is in fact the capacity to feed everyone on the planet!
There shouldn't be people starving to death!



1/3 of global food is wasted

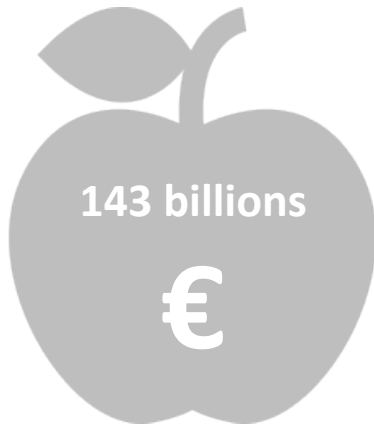
= waste all the resources used since it is produced until it reaches us
(cultivation or production, processing, packaging, transport, consumption, etc.).



Domestic = 53 % (UE)

Food waste

1 milhão/ano em Portugal



Greenhouse gases
e.g. Methane

Emission of greenhouse gases equivalent to the global land transport network.

If World Food Waste were a country, it would be the third largest emitter after China and the United States.

Climate change

Food waste

Buy “ugly” or solitary fruits and vegetables

Buy seasonal and local

Buy in bulk in
required quantities
<https://agranel.pt/>

Meal Plan and make
a List

Make several meals
for the week



Food waste



Store Food Correctly

Sources to consult: [Ecology center](#)

What is ethylene?

Ethylene is a gas released by some fruits and vegetables that causes produce to ripen faster. Some fruits and vegetables are more sensitive to ethylene than others.

Why should I care?

Fruits and vegetables that are stored incorrectly spoil quickly. This could mean lost profit for you.



What can I do?

- Do not store fruits and vegetables that produce ethylene with those that are sensitive to ethylene. For example, do not store bananas and apples next to each other. This applies to produce that is refrigerated and not refrigerated.
- Do not store produce in bags or sealed containers. This will trap the gas and cause the produce to ripen faster.

Do not display fruits and vegetables that are sensitive to ethylene near fruits and vegetables that produce it.

Ethylene Sensitive

Apples
Asparagus
Avocados
Bananas
Broccoli
Cantaloupe
Collard Greens
Cucumber
Eggplant
Grapes
Honeydew
Kiwi
Lemons
Lettuce
Limes
Mangos
Onions
Peaches
Pears
Peppers
Squash
Sweet Potatoes
Watermelon

Ethylene Producers

Apples
Avocados
Bananas
Cantaloupe
Kiwi
Peaches
Pears
Peppers
Tomatoes

Not Ethylene Sensitive

Blueberries
Cherries
Beans (Snap)
Garlic
Grapefruit
Oranges
Pineapple
Potatoes
Raspberries
Strawberries
Tomatoes
Yucca

Store Food Correctly

Sources to consult: [Ecology center](#)



**Blackberries,
Raspberries and, strawberries**

Fridge. Do not wash until eating. Keep in a paper bag/box or in a container with a cloth/towel underneath.

**Blackberries,
Raspberries** - store in a container on a single level or layer.



Tomato

Store at room temperature. Don't put it in the fridge.



Carot

Fridge. Remove the leafs. Store it in a container (with water or a wet towel).

Store Food Correctly

Sources to consult: [Ecology center](#)



**Parsley, Coriander
and leek**

Fridge, inside a bottle of water.



Basil

Fridge. Lasts longer inside a humid cloth



**Arugula, lettuce, spinach
and other vegetables**

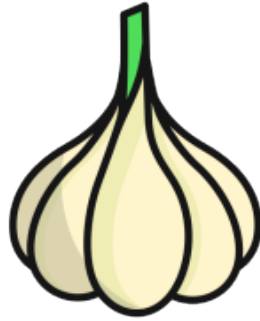
Fridge. Place wrapped in a humid cloth

Store Food Correctly

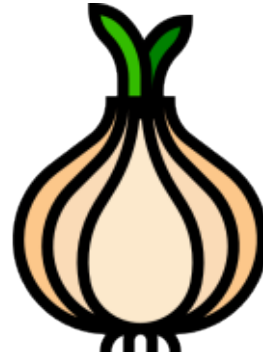
Sources to consult: [Ecology center](#)



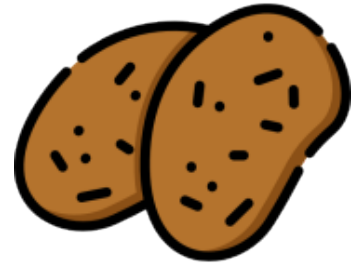
Pumpkin



Garlic



Onion



Potato

Room temperature, dark, cool, dry and with good air circulation.

Give food a second life

Sources to consult: [Ecology center](#)



Bread
Croutons
(e.g. olive oil,
salt,pepper,
Rosemary)



Coffee grounds
Exfoliating
fertilizer for the plants



Vegetable top / leafs
Pestos, stir-fries,
Quiches, soups



Herbs
“Ice cubes” with
aromatics with
water or olive oil

Give food a second life

Sources to consult: [Ecology center](#)



Vegetable scraps

Scraps and stalks stored in the freezer to make broth (boil with water and salt)



Cooking water

Boiling water of legumes
→ for broth or soup

Chickpea boiling water (aquafaba) → “egg whites”



Ripe fruit

Juices, porridges, fruit cakes, jams



Remains of sauces
freeze in “ice cubes”

Food Regrow and Compost



“In Nature nothing is lost,
nothing is created, everything is transformed”
- Antoine Lavoisier



Food Waste - Resources

Love food hate waste - website with recipes with leftovers and waste

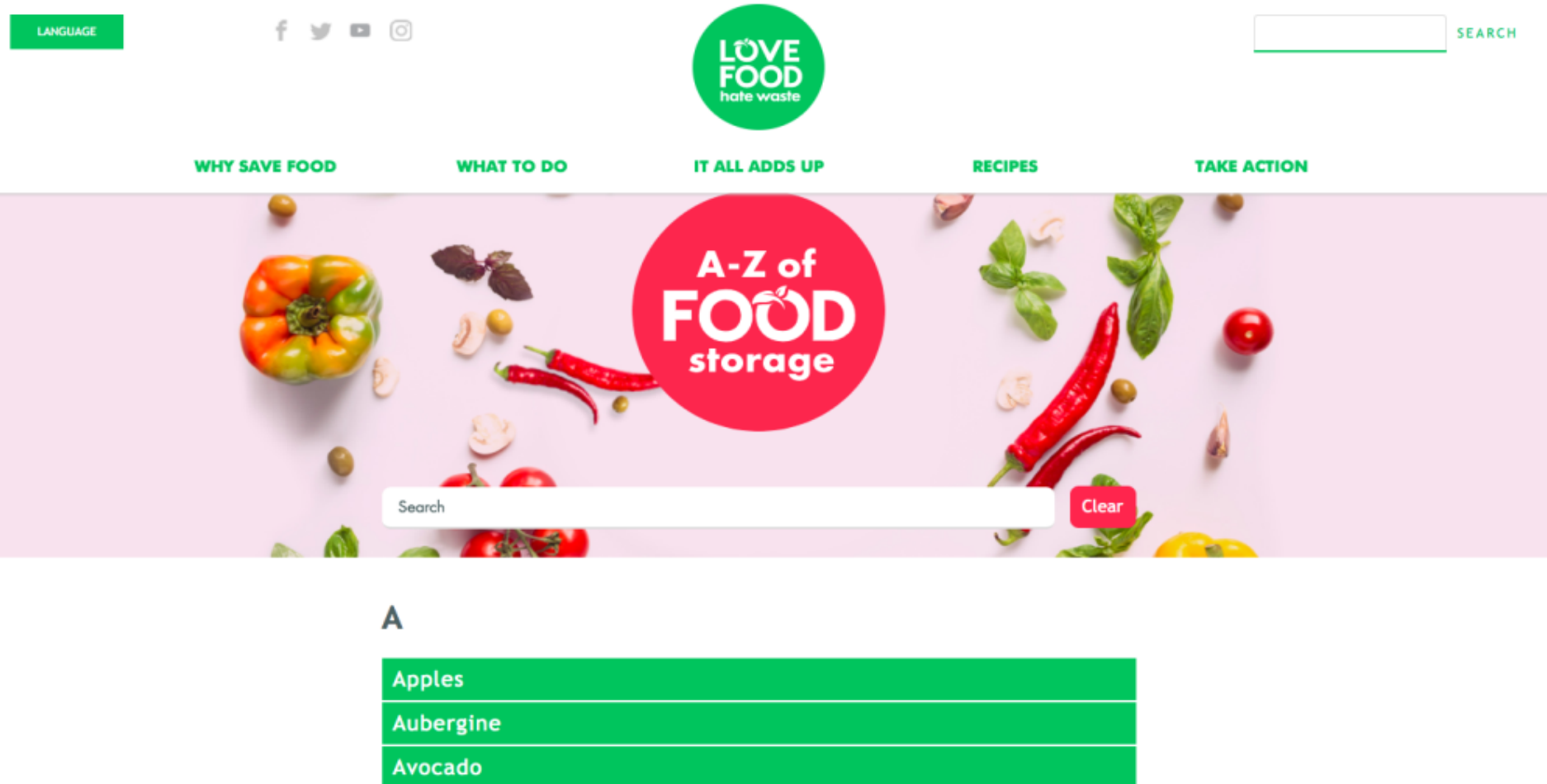
<https://lovefoodhatewaste.com/recipes>



Food Waste - Resources

Love food hate waste - site with suggestions on how to store different products

<https://lovefoodhatewaste.com/article/food-storage-a-z>



The screenshot shows the homepage of the 'Love Food Hate Waste' website. At the top, there is a green navigation bar with a 'LANGUAGE' dropdown, social media icons for Facebook, Twitter, YouTube, and Instagram, the 'LOVE FOOD hate waste' logo, a search bar with a 'SEARCH' button, and a menu with five items: 'WHY SAVE FOOD', 'WHAT TO DO', 'IT ALL ADDS UP', 'RECIPES', and 'TAKE ACTION'. Below the navigation bar is a large hero section with a pink background and various vegetables like bell peppers, chili peppers, and tomatoes. In the center of the hero section is a red circle with the text 'A-Z of FOOD storage'. Below the hero section is a search bar with the text 'Search' and a 'Clear' button. At the bottom, under the heading 'A', there is a list of food items: 'Apples', 'Aubergine', and 'Avocado', each in a green box.

LANGUAGE

f t y i

LOVE FOOD hate waste

SEARCH

WHY SAVE FOOD WHAT TO DO IT ALL ADDS UP RECIPES TAKE ACTION

A-Z of FOOD storage

Search Clear

A

- Apples
- Aubergine
- Avocado

Food Waste - Resources

Save the Food - site with countless suggestions for planning, recipes and storage.

<https://savethefood.com/storage>

SAVETHEFOOD.COM

PLANNING RECIPES STORAGE COMMUNITY JOIN US

PLAN IT

A FULL SUITE OF TIPS AND INTERACTIVE TOOLS TO HELP YOU START PLANNING SMARTER AND SAVING FOOD RIGHT NOW.





TOOLS


THE GUEST-IMATOR

WHO ARE YOU EXPECTING?

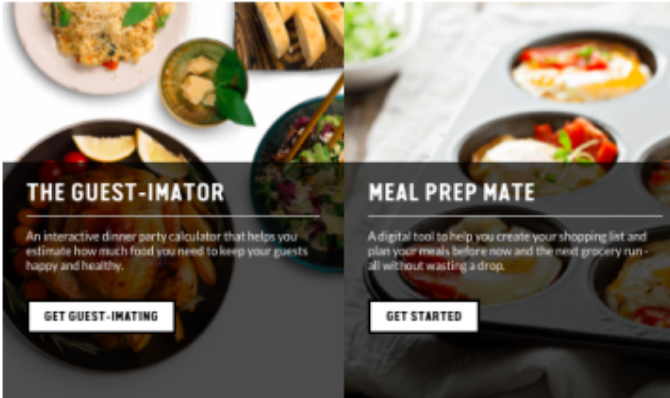
We all know some people eat more than others.


SMALL EATERS
◀ 0 ▶


AVERAGE EATERS
◀ 0 ▶



BIG EATERS
◀ 0 ▶

TOTAL GUESTS: 0



THE GUEST-IMATOR

An interactive dinner party calculator that helps you estimate how much food you need to keep your guests happy and healthy.



MEAL PREP MATE

A digital tool to help you create your shopping list and plan your meals before now and the next grocery run - all without wasting a drop.

STEP 1
HOW MANY PEOPLE ARE YOU COOKING FOR?

- +

STEP 2
HOW MANY DAYS ARE YOU COOKING FOR?

STEP 3
WHICH MEALS DO YOU WANT TO PREP FOR?

☐ BREAKFAST ☐ LUNCH ☐ DINNER

Food Waste - Resources

Save the Food - site with countless suggestions for planning, recipes and storage.

<https://savethefood.com/storage>

SAVETHEFOOD.COM

PLANNING

RECIPES

STORAGE

COMMUNITY

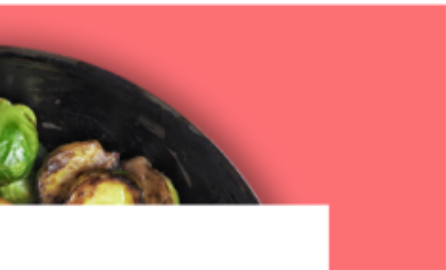
JOIN US

COOK IT

RECIPES FOR EVERYTHING FROM
OVERRIPE AVOCADOS TO CHEESE
RINDS.



FEATURED RECIPES



leftover mashed potatoes

LEFTOVER MASHED POTATO APPLE CIDER DONUTS

Makes 24 donuts

Leftover mashed potatoes, apple cider, and a cinnamon coating make these homemade donuts the ultimate fall treat.

[VIEW RECIPE](#)



turkey gilets

SPATCHED TURKEY WITH T

Makes 10 servings

Let's talk turkey. The crispiest, juiciest turkey you'll ever c

[VIEW RECIPE](#)

Food Waste - Resources

Save the Food - site with countless suggestions for planning, recipes and storage.

<https://savethefood.com/storage>

SAVETHEFOOD.COM

PLANNING

RECIPES

STORAGE

COMMUNITY

JOIN US

STORE IT

OUR INTERACTIVE STORAGE GUIDE -
WITH TIPS, TRICKS, AND INFO TO KEEP
YOUR FOOD FRESH AND TASTY FOR AS
LONG AS POSSIBLE.



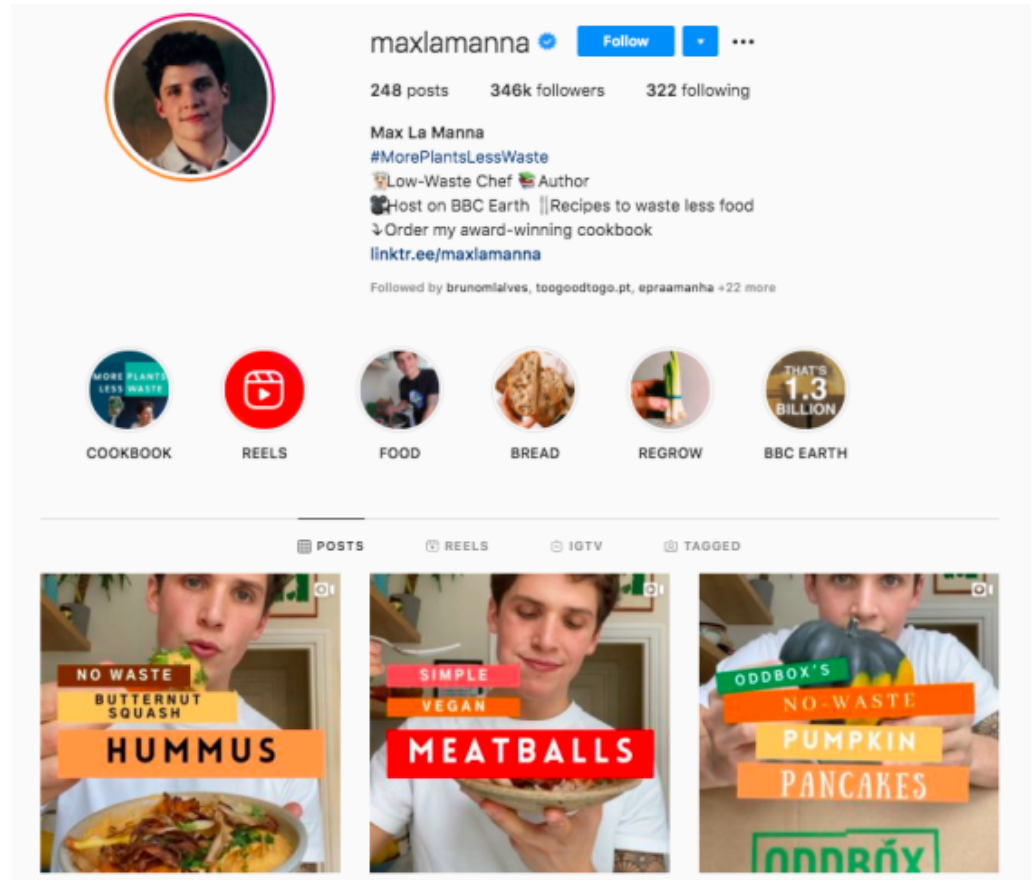
- ▶ BEANS, NUTS & PROTEINS
- ▶ OILS, CONDIMENTS & SPICES
- ▶ DAIRY & EGGS
- ▶ PANTRY STAPLES
- ▶ MEAT, POULTRY & SEAFOOD
- ▶ FRUITS
- ▶ VEGETABLES



CHOOSE ANY FOOD FROM THE MENU AND LEARN EVERYTHING YOU
NEED ABOUT HOW TO STORE IT.

Food Waste - Resources

Book [more plants less waste](#) de Max La Manna



Food Waste - Projects



Refood - aims to Eliminate food waste and hunger by collecting excess food from different institutions and distributing to those in need.

<https://www.re-food.org/pt>



Fruta feia (Ugly fruit) - created an alternative market (Ugly Fruit baskets) for “ugly” fruits and vegetables that, due to consumption patterns, would be wasted.

<https://frutafeia.pt/pt/projecto>





Your
flaws
make
you
unique.

Your
flaws



are
delicious
to me.

Your flaws



aren't flaws to me.



Perfect is boring.

Not perfect?



Butt delicious.

You



are

you.

Food Waste - Apps



Too Good to Go - “Say no to food waste” - an app where you can buy products/meals in stores/restaurants that would otherwise be wasted at reduced

<https://toogoodtogo.org/en>



Phenix - “Together we avoid waste” App - Take concrete action against waste, buying excess that would go to waste from stores in your neighborhood.

<https://wearephenix.com/pt-pt/>

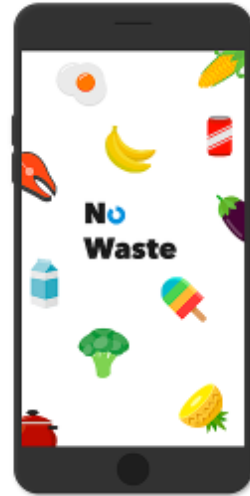


Food Waste - Apps



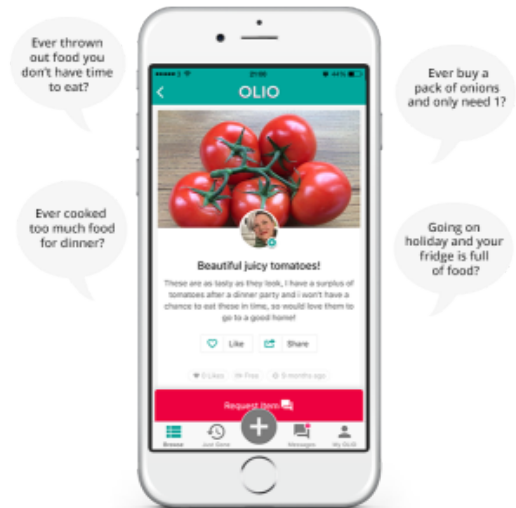
NoWaste - Easily track, organize and manage the food in your home! With lists for your freezer, fridge and pantry, you can easily check what food you have left, see what food you need to use first, plan your meals, create a shopping list, avoid unnecessary purchases, reduce food waste and save a bunch of money.

<https://www.nowasteapp.com/>



Olio - Join millions of neighbours all over the world who are using OLIO to share more, care more and waste less. Give & get free stuff, borrow & lend household items, and shop homemade – all directly from your community. Fight waste. Help your neighbours. Save our planet. Feel amazing!

<https://olioex.com/>



Food Waste - Resources



Reflective video (European Union)

<https://audiovisual.ec.europa.eu/en/video/I-111438>

Food Waste Video (FAO)

<https://www.youtube.com/watch?v=loCVrkcaH6Q>

FAO Platform

<http://www.fao.org/platform-food-loss-waste/en/>



Food Waste - Resources



Educational Activities

<http://www.fao.org/3/ca0995en/CA0995EN.pdf>

Food Waste Warrior Toolkit

<https://www.worldwildlife.org/teaching-resources/toolkits/food-waste-warrior-toolkit>



Food waste lesson Plans

<https://lovefoodhatewaste.co.nz/food-waste-lesson-plans/>

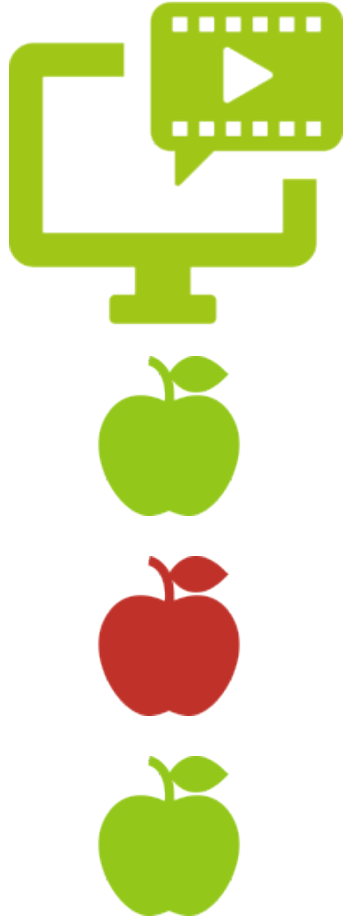


Teaching resources

<https://www.zerowastescotland.org.uk/food-waste/teaching-resources/primary>



Food Waste - Documentaries



1. **"Just Eat It: A Food Waste Story"** - In this 2014 movie, filmmakers experiment with eating only wasted food. The results are... interesting.
2. **"Wasted! The Story of Food Waste"** - this movie shows how famous chefs enjoy all kinds of food, turning surplus into amazing dishes. It has the participation of Anthony Bourdain.
3. **"Taste the Waste"** - a film that explores food waste in Europe - from farm to fork.
4. **"Expired? Food Waste in America"** - this short film shows how misleading food labeling in the US leads to more than 160 billion tons being wasted annually.

Actions with the greatest impact!


* Gigatons CO2 Equivalent Reduced / Sequestered (2020–2050)

↕ SOLUTION	↕ SECTOR(S)	▼ SCENARIO 1 *	↕ SCENARIO 2 *
Reduced Food Waste	Food, Agriculture, and Land Use / Land Sinks	87.45	94.56
Health and Education	Health and Education	85.42	85.42
Plant-Rich Diets	Food, Agriculture, and Land Use / Land Sinks	65.01	91.72
Refrigerant Management	Industry / Buildings	57.75	57.75
Tropical Forest Restoration	Land Sinks	54.45	85.14
Onshore Wind Turbines	Electricity	47.21	147.72
Alternative Refrigerants	Industry / Buildings	43.53	50.53
Utility-Scale Solar Photovoltaics	Electricity	42.32	119.13
Improved Clean Cookstoves	Buildings	31.34	72.65
Distributed Solar Photovoltaics	Electricity	27.98	68.64
Silvopasture	Land Sinks	26.58	42.31
Peatland Protection and Rewetting	Food, Agriculture, and Land Use / Land Sinks	26.03	41.93
Tree Plantations (on Degraded Land)	Land Sinks	22.24	35.94
Temperate Forest Restoration	Land Sinks	19.42	27.85
Concentrated Solar Power	Electricity	18.60	23.96
Insulation	Electricity / Buildings	16.97	19.01


Source: [Drawdown](#)

Actions with the greatest impact!

[Project Drawdown](#) - Reduce food waste and adopt a plant-based diet



What individual actions can we take with the greatest impact on the environment?



Adopt a plant-based diet



DRAWDOWN
THE MOST COMPREHENSIVE
PLAN EVER PROPOSED TO
REVERSE GLOBAL WARMING
EDITED BY PAUL HAWKEN

Actions with the greatest impact!

PLANT-RICH DIETS

REDUCE SOURCES › ■ Food, Agriculture, and Land Use › *Address Waste and Diets*

SUPPORT SINKS › ■ Land Sinks › *Address Waste and Diets*



65.01–91.72

GIGATONS

CO₂ EQUIVALENT
REDUCED / SEQUESTERED
(2020–2050)

Consumption of meat and dairy, as well as overall calories, often exceeds nutritional recommendations. Paring down and favoring plant-based foods reduces demand, thereby reducing land clearing, fertilizer use, burping cattle, and greenhouse gas emissions.

SOLUTION SUMMARY*

Shifting to a diet rich in plants is a demand-side solution to global warming that runs counter to the meat-centric Western diet on the rise globally. That diet comes with a steep climate price tag: one-fifth of global emissions. If cattle were their own nation, they would be the world's third-largest emitter of greenhouse gases.

Plant-rich diets reduce emissions and also tend to be healthier, leading to lower rates of chronic disease. According to a 2016 study, business-as-usual emissions could be reduced by as much as 70 percent through adopting a vegan diet and 63 percent for a vegetarian diet, which includes cheese, milk, and eggs. \$1 trillion in annual health-care costs and lost productivity would be saved.

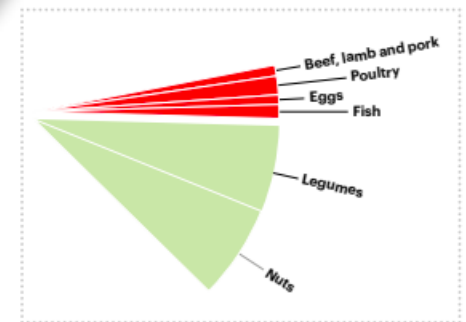
Bringing about dietary change is not simple because eating is profoundly personal and cultural, but promising strategies abound. Plant-based options must be available, visible, and enticing, including high-quality meat substitutes. Also critical: ending price-distorting

Healthier and more sustainable diet?

Reduce - let's start with a meal, every meal has a huge impact

Eat Lancet Commission - answering the question “What is the healthy and sustainable diet that we should adopt to feed the world?”

Plant-based food - Increase vegetable consumption and reduce animal protein consumption.



Planet based Diets

Planet-based diets (WWF) - <https://planetbaseddiets.panda.org/>

“Planet-Based diets are “win-win” consumption patterns that are high on human health benefits and low on environmental impacts.”



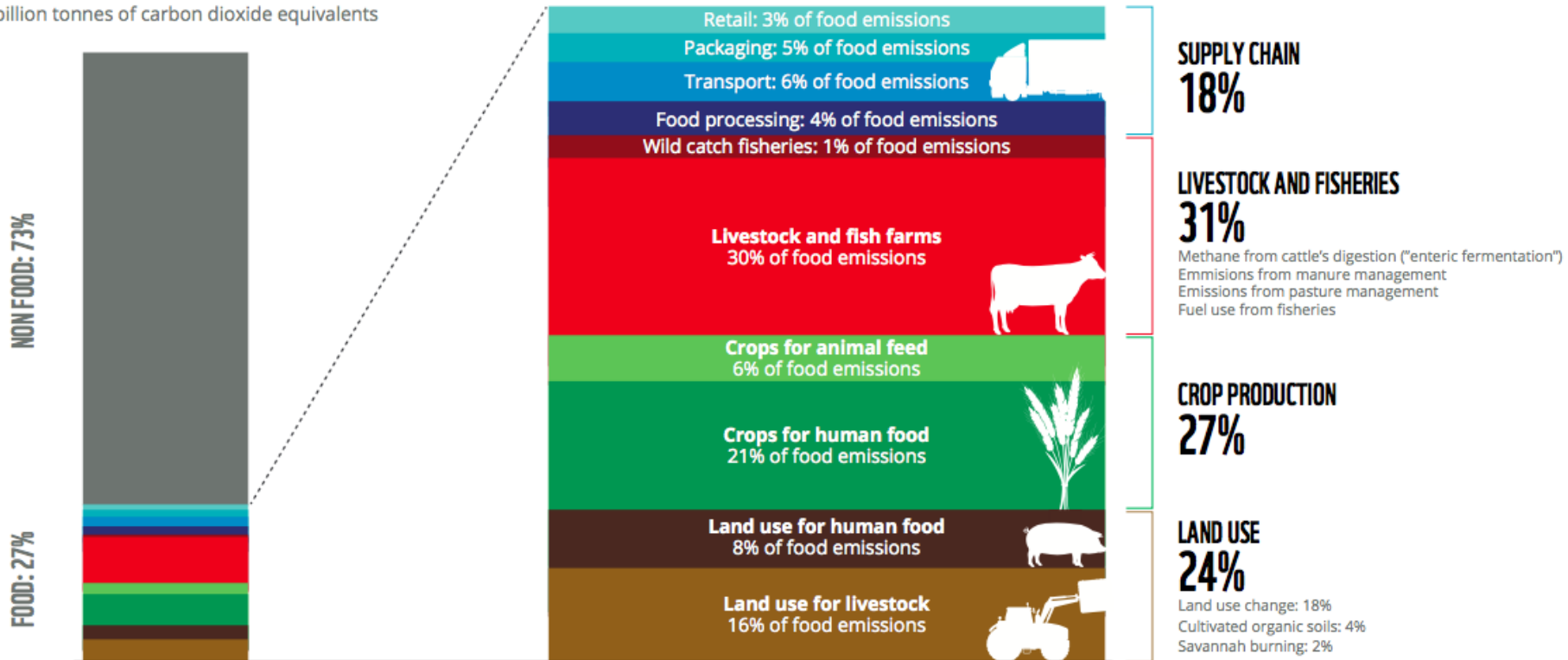
The impact of our food

“You want to reduce the carbon footprint of your food?
Focus on what you eat, not just the package or if your food is local”
- ([Our World in Data](#))

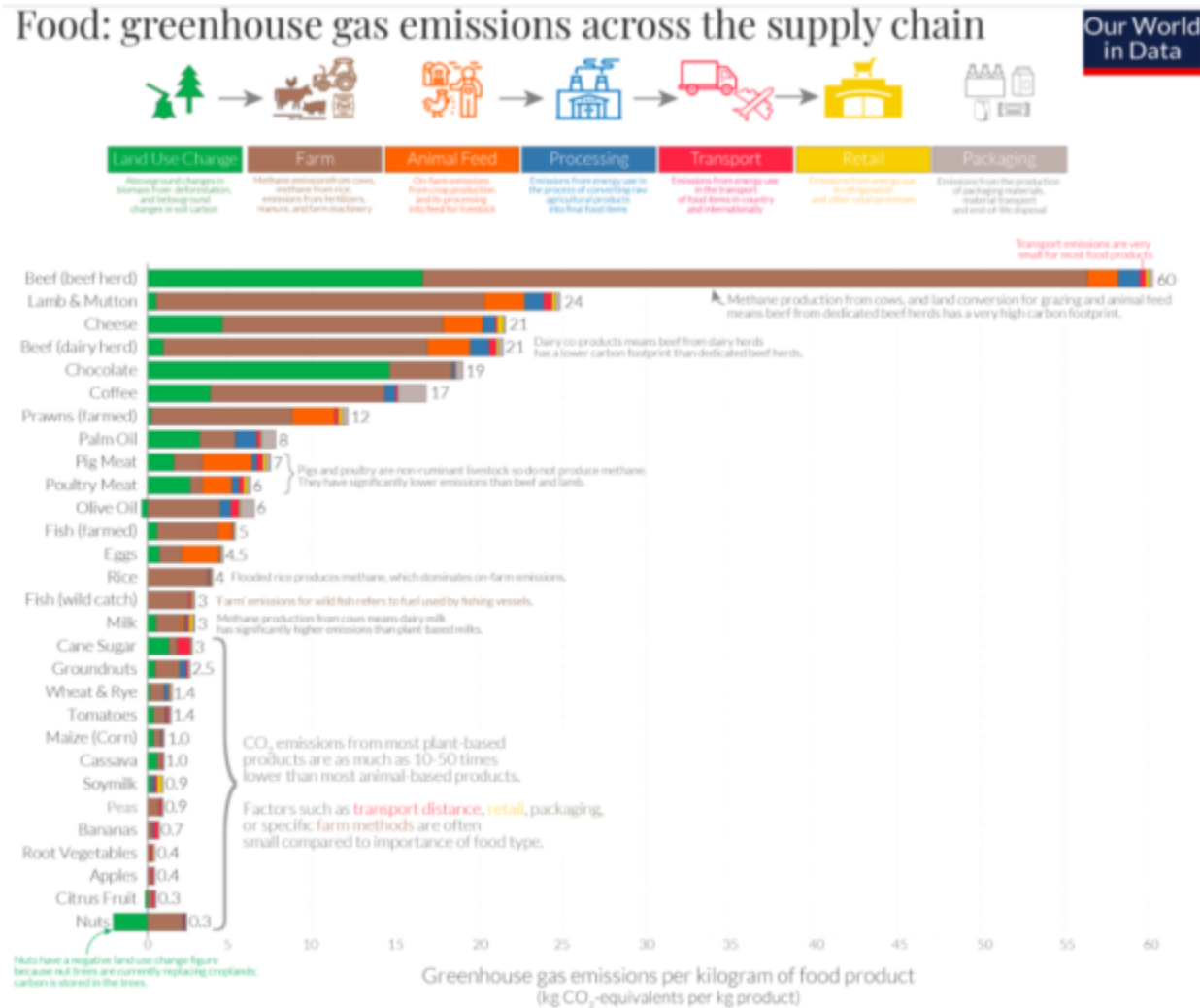
[Report Bending the curve \(WWF\)](#)

GLOBAL EMISSIONS

52.3 billion tonnes of carbon dioxide equivalents



Is no packaging and local the most important?

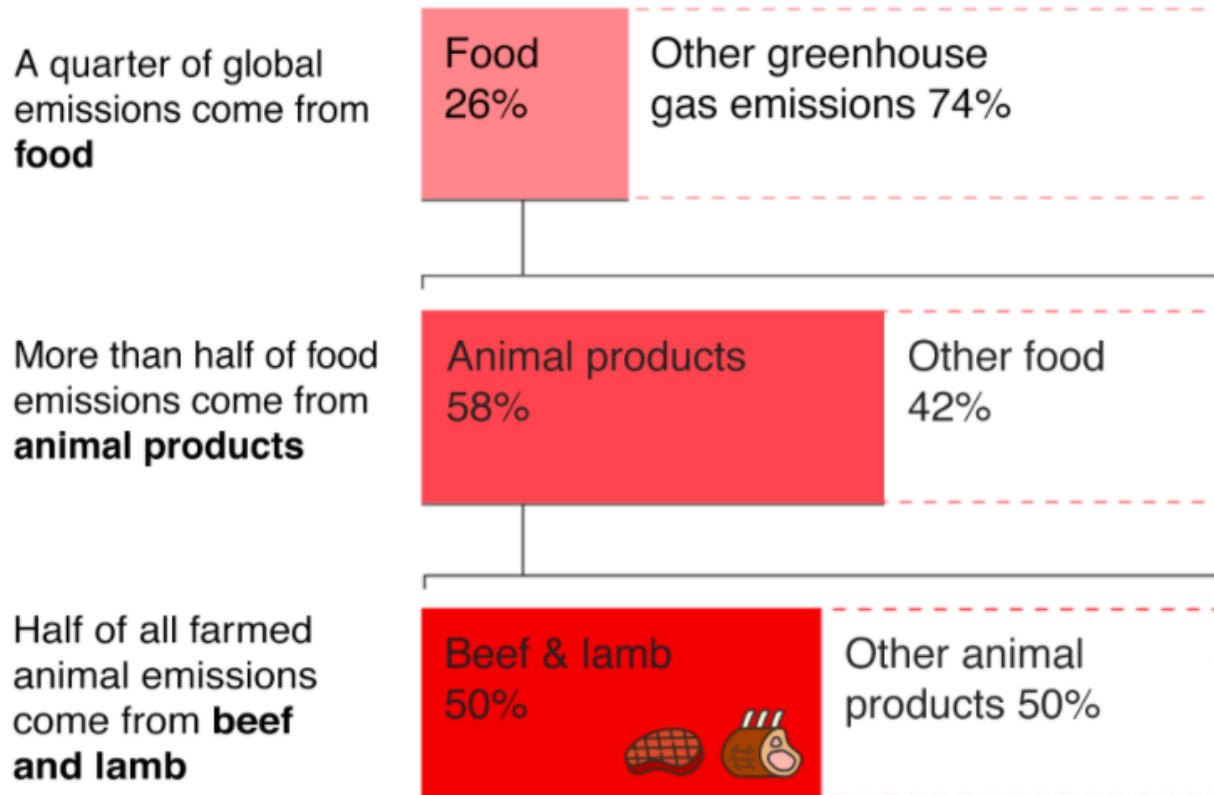


Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries.
 Data source: Poore and Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Science. Images sourced from the Noun Project.
 OurWorldinData.org – Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Hannah Ritchie

Carbon Footprint of Food

How much impact does food have?

Proportion of total greenhouse gas emissions from food



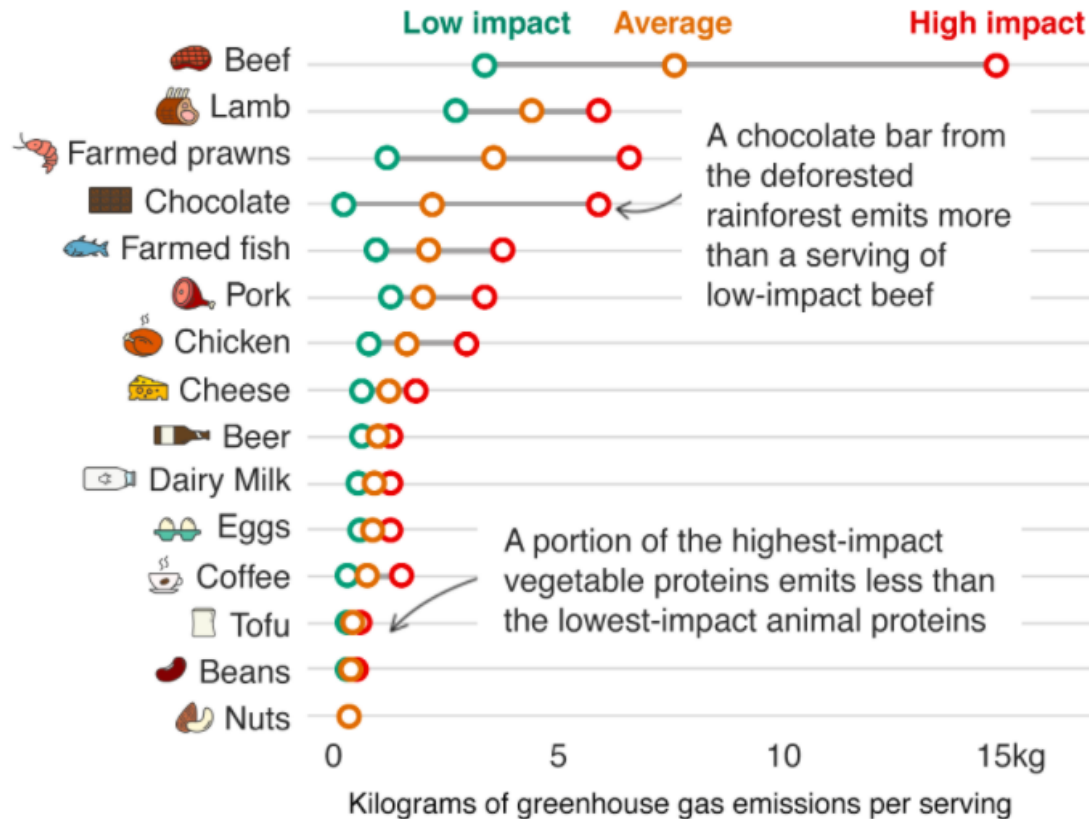
Source: Poore & Nemecek (2018), Science

BBC

Carbon Footprint of Food

Beef has the biggest carbon footprint - but the same food can have a range of impacts

Kilograms of greenhouse gas emissions per serving



Source: Poore & Nemecek (2018), Science

BBC

What's your diet's carbon footprint?

Climate change food calculator: What's your diet's carbon footprint? [Calculate it here](#) (BBC)

1 kg of beef
= 15400 L of water



Reduce consumption
1/2 times per week

After a year =



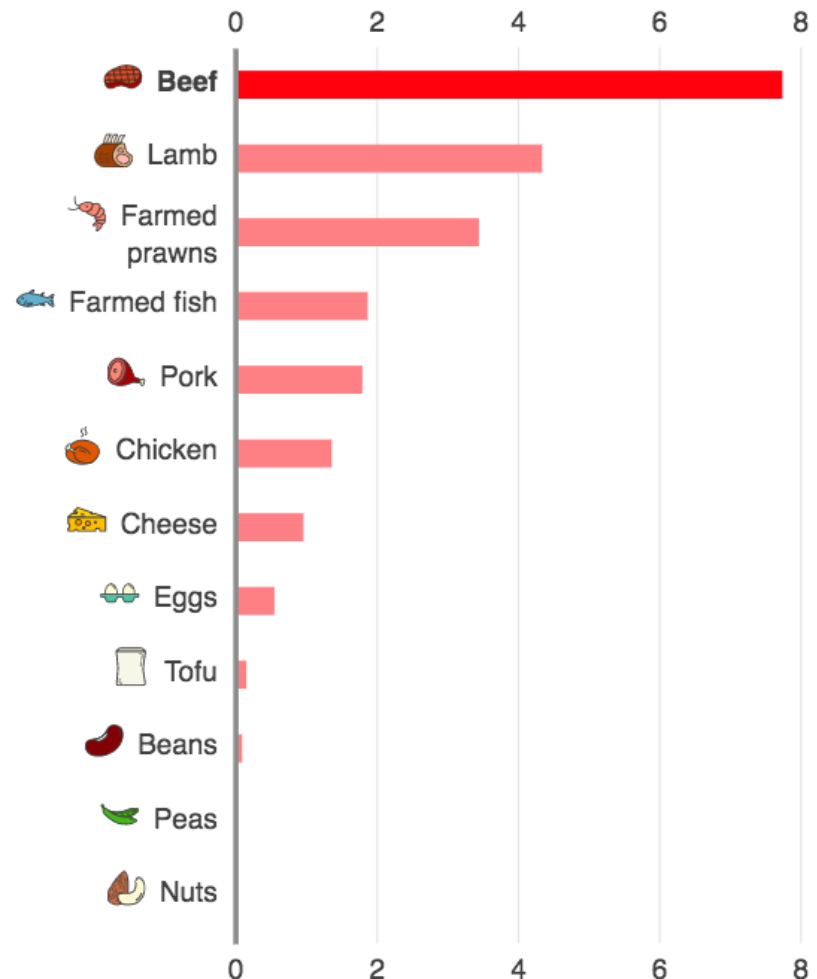
604 kg of CO₂ emissions
= 2482 km by car
(8 trips Lisbon - Porto)



6 fields of tennis courts
of land

How proteins compare

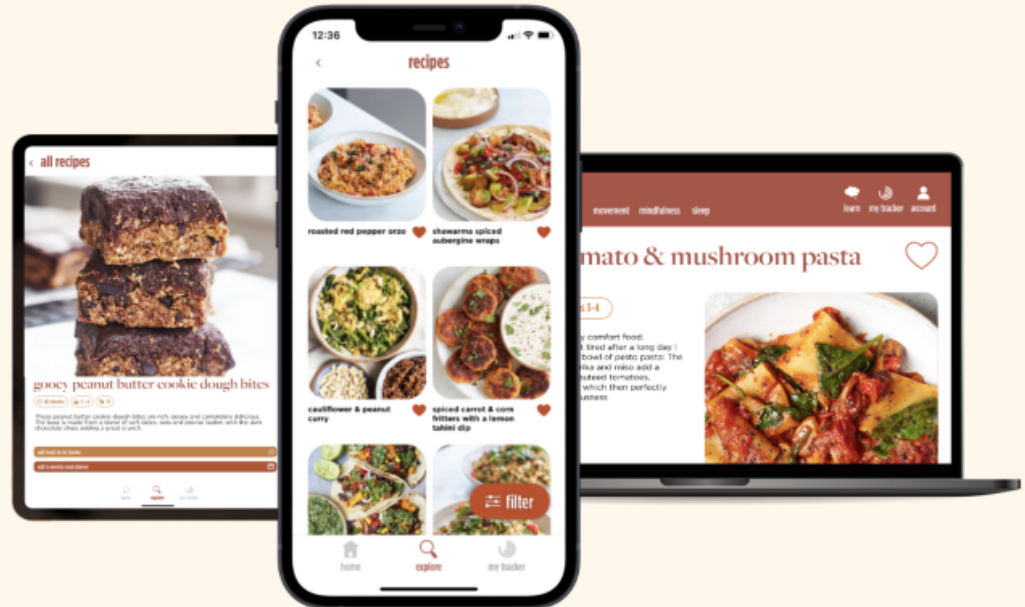
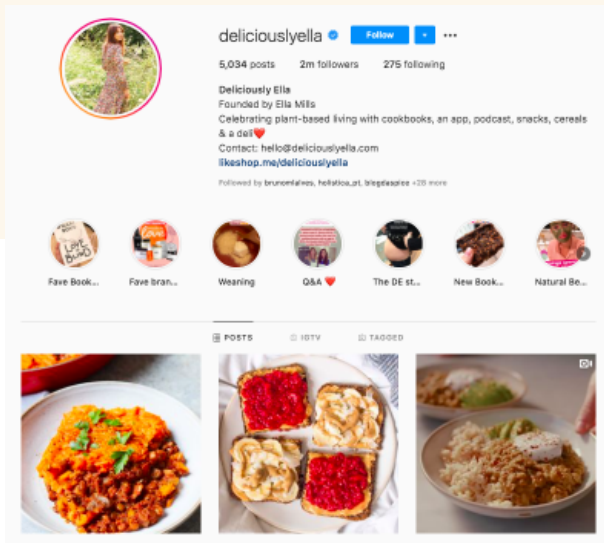
Kilograms of greenhouse gases per serving



Plant-based food - Inspiration

700+ plant-based recipes

hundreds of simple & delicious recipes for all occasions and abilities, with new recipes added every week



Food Waste - Activity suggestion

**Organize a workshop/community dinner about:
How to cook with less waste and plant-based food**



Food Waste - Activity suggestion



Documentaries / Videos recommendation

Cowspiracy

https://www.youtube.com/watch?v=dSjE8xw_-Dg

Video - Why do we need to change our food system?

<https://www.youtube.com/watch?v=VcL3BQeteCc&feature=youtu.be>

Video - What would happen if the world went vegetarian?

<https://ed.ted.com/featured/dolIWkHI>



Reduce Pollution (inc. Greenhouse Gases)

The other small actions with big impacts, already mentioned, also reduce pollution!



[Biklio](#) App
rewards for riding a bicycle.

Climate change

“Ensure that the global average temperature rise stays below 2 °C above pre-industrial levels and continue efforts to limit the temperature rise to up to 1.5 °C above pre-industrial levels, recognizing that this will significantly reduce impacts of climate change”

- Paris Agreement, approved by 195 countries in 2015, at the UN climate conference (COP21)

How is it all interconnected?

What is the impact of climate change?

[Simulator of the impacts of climate change and how is it all interconnected?](#)

⏪ 🏠 > Show Overview

Causes

Mechanisms

Diseases

Populations



CO2



Crop Yield



Allergy



High Temp



Wildfire



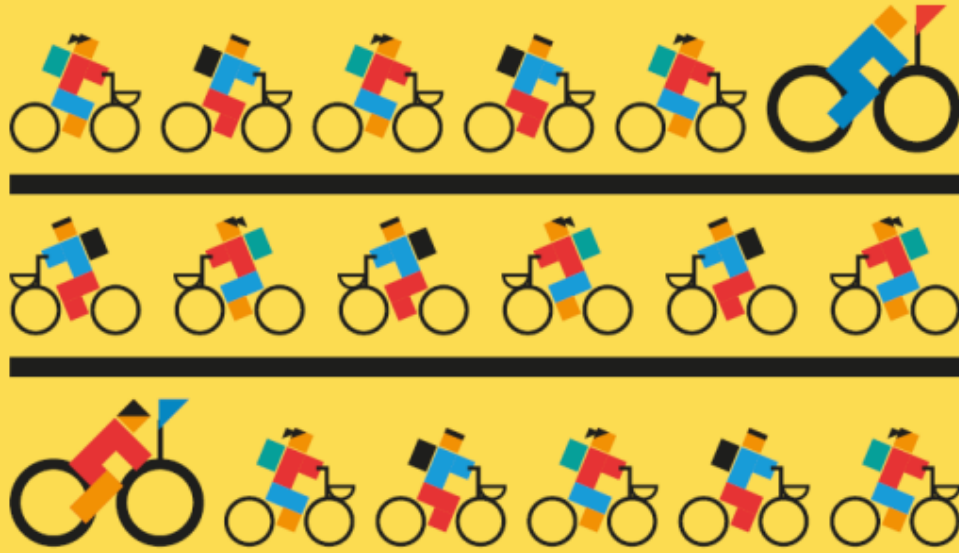
Nutritional

Activity suggestion – Create a bike park in your school



Share your suggestions 😊

Activity suggestion – Bike “trains” to school



Vem experimentar esta viagem!
Traz a tua bicicleta e vai a pedalar até à escola!

PROGRAMA DE MOBILIDADE ESCOLAR

COMBOIOS DE BICICLETAS DE LISBOA



Activity suggestion - Community bike rides



Cultivating Futures



Sugestão – Bicycle Community officine



Cultivating Futures



Associação Educativa para o Desenvolvimento da Criatividade



Cicloficina dos Anjos



Cultivating Futures

Resources - General activities

"Doing the 4Rs A Classroom Activity Guide to Teach Reduce, Reuse, Recycle and Rot" (Inglês) - <http://www.stopwaste.org/resource/doing-4rs-classroom-activity-guide-teach-reduce-reuse-recycle-and-rot>



Challenge – Seeds of Change

- ☐ Reduce food waste – box “eat me first”;
- ☐ Plan your meals and make a list;
- ☐ Buy “ugly” / “lonely” fruits and vegetables;
- ☐ Store the food properly so it can last longer;
- ☐ Check expiration dates properly;
- ☐ Freeze food that won't be eaten anytime soon;
- ☐ Cook with less waste and use the scraps to make new recipes;
- ☐ Reduce animal products' consumption;
- ☐ Walk more, ride a bicycle or use public transportation;



Challenge – Seeds of Change

- ☐ Save water in general;
- ☐ Close the tap while washing your hands / teeth / etc.;
- ☐ Don't water your plants during the heat hours, instead do it at the beginning / end of the day;
- ☐ Wash your car with a bucket and sponge instead of a hose;
- ☐ Collect the cold water when starting to shower;
- ☐ Reuse the water from washing vegetables or boiling vegetables / legumes / pasta / rice;
- ☐ Put a flow reducer on taps and showers;
- ☐ Don't litter onto the sewer;
- ☐ Double flush toilet system;
- ☐ Rain collecting systems (it can be a bucket on the balcony);



Challenge – Seeds of Change

- ☐ Save paper, think before printing, use both sides of the sheet or draft sheets;
- ☐ Replace paper towels, baby wipes and synthetic cleaning cloths with reusable options (cloth rags, etc.);
- ☐ Replace toilet paper with the use of the bidet or other alternatives;
- ☐ Opt for cloth napkins;
- ☐ Choose cloth tissues;



Challenge – Seeds of Change

- ☐ Save energy in general;
- ☐ Turn off the lights when leaving a room;
- ☐ Turn off stand-by devices and choose button sockets;
- ☐ Switch to LED lamps (when the ones you have, blow);
- ☐ Opt for rechargeable batteries;
- ☐ Choose higher energetic efficiency household appliances;
- ☐ Don't lower the temperature of the fridge (+5°C) and freezer (-18°C);
- ☐ Reduce the use of air-condition / heaters;
- ☐ Make full use each time you turn on the oven;
- ☐ Dry your clothes in the sun and not in a dryer;
- ☐ Only use the dishwasher and laundry washing machine when full and on ECO mode;
- ☐ Install solar panels / sign with 100% renewable energy services;



A Common Cause! Our planet!

“We are at a unique stage in our history. Never before have we had such an awareness of what we are doing to the planet, and never before have we had the power to do something about that. Surely we all have a responsibility to care for our Blue Planet. The future of humanity and indeed, all life on earth, now depends on us.

- David Attenborough

