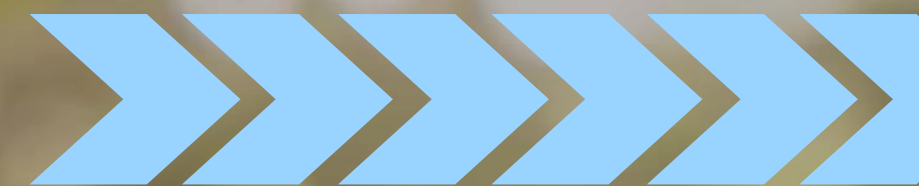


ENERGY

Conscious Consumption and
Sustainability



Co-funded by
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Comparative Research Network:

TABLE OF CONTENT

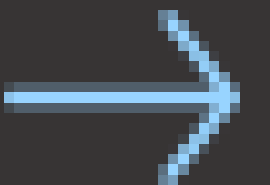
- 00. INTRODUCTION
- 01. CHECK THE ENERGY CLASSES AND LABELS
- 02. WHAT KIND OF ENERGY IS THERE?
HOW GREEN IS GREEN ENERGY?
- 03. MOBILITY
- 04. HOW TO SAVE ENERGY?



INTRODUCTION

Energy is one of the industrial sectors with the greatest impact on the climate. It is the third largest water consumer in the world (4% of drinking water is used) and one of the biggest emitters of greenhouse gasses (4 billion tons of CO₂ are emitted every year).

Our everyday life and daily choices play a significant role in shaping a sustainable future, with everyone contributing to the broader effort to reduce energy consumption. Let's see a few key points to reflect on our energy consumption :



Energy efficiency :

Optimization of the use of resources to minimize waste and reduce environmental impact (e.g energy-efficient appliances, turning off lights, insulating homes, changing transportation routines to become low-car use citizens)

Type of energy sources :

- **Primary energy sources** take many forms like wind, solar, geothermal, and hydropower - in this case, we are talking about renewable sources.
- **Nuclear energy and fossil energy** - like oil, coal, and natural gas. The energy can be generated onsite or needs to flow through power lines and other transmission infrastructure to your home and business places.

The 2030 Agenda for **Sustainable Development** outlines 17 **goals** including :

Goal 7 : Ensure universal access to affordable, reliable, and sustainable energy.

Goal 12 : Promote sustainable consumption and production

Goal 13: take urgent action to combat climate change and its impacts.

About energy efficiency :

<https://www.unep.org/topics/energy/energy-efficiency/about-energy-efficiency>

The 17 UN goals :

<https://sdgs.un.org/goals>

01. CHECK THE ENERGY CLASSES AND LABELS

Emissions from **food, living, furniture, clothes, and transport** are significant contributors to **carbon emissions**. It is essential to reduce emissions from these sources to achieve the **Net Zero Target**.

Some ways to **reduce emissions** include **eating a plant-based diet, buying second-hand furniture and clothes, and using public transportation and bicycles**.

Jevons Paradox :

The **Jevons Paradox** is the observation that as technology improves, **energy efficiency increases**, but **energy consumption also increases**.

This paradox highlights the importance of reducing energy consumption **through behavioral changes** and **not just relying on technological advancements**.



Labels index:

<https://www.ecolabelindex.com/ecolabels/>

Energy labels:

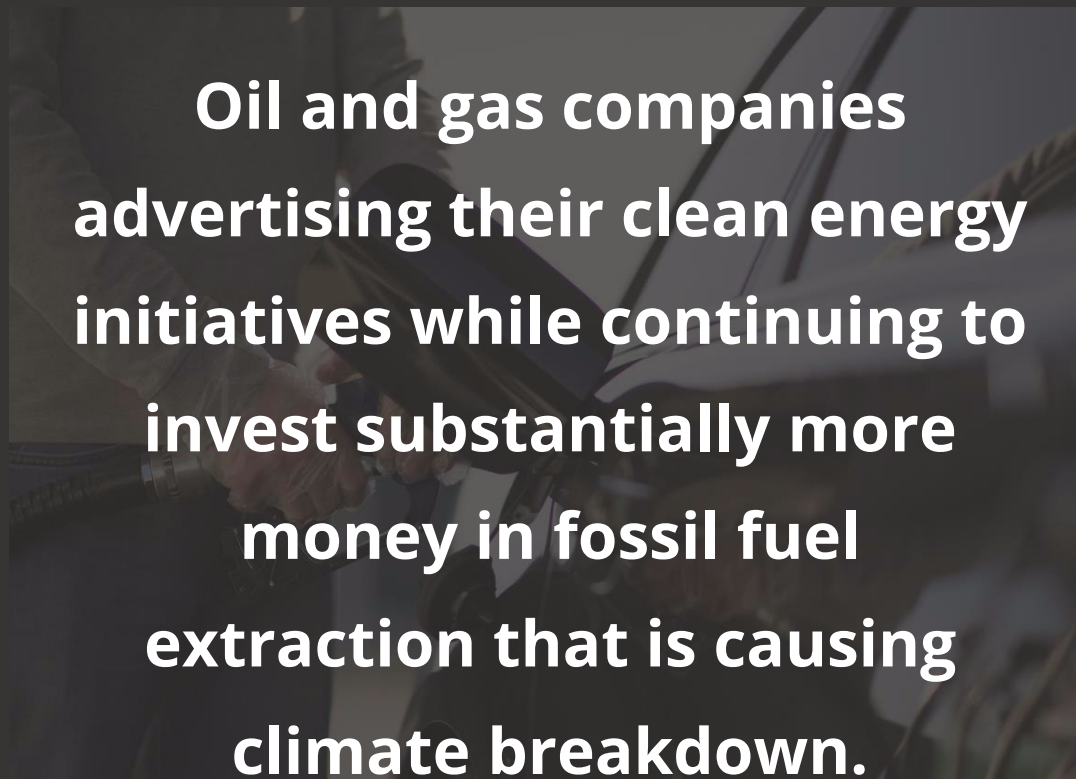

<https://www.label2020.eu/>

https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/about_en

02. WHAT KIND OF ENERGY IS THERE? HOW GREEN IS GREEN ENERGY?

What is greenwashing?

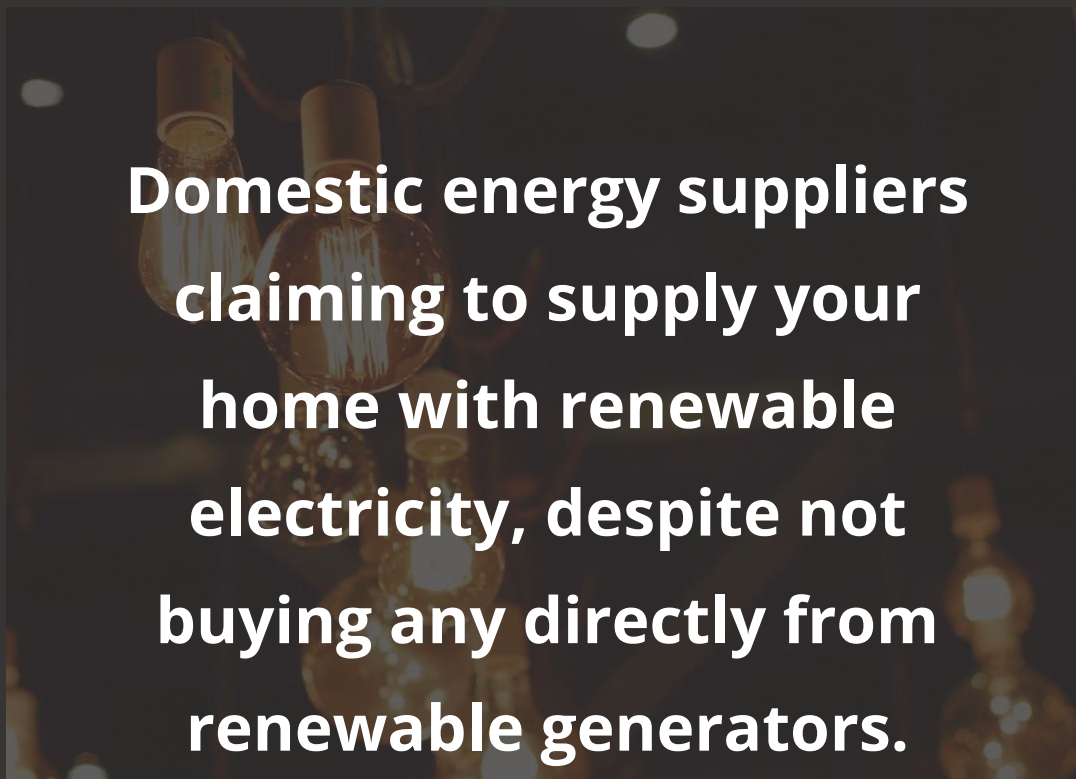
Examples of greenwashing can include:




Oil and gas companies advertising their clean energy initiatives while continuing to invest substantially more money in fossil fuel extraction that is causing climate breakdown.



Clothing brands promoting small sustainable ranges that make up a minuscule fraction of their overall stock of fast fashion.



Domestic energy suppliers claiming to supply your home with renewable electricity, despite not buying any directly from renewable generators.



03. MOBILITY



Clean and energy-efficient vehicles have an important role to play in reducing energy consumption, CO2 emissions, and pollutant emissions.

Our transport habits determine how much energy will be consumed for everyday travel.

Globally, transport is the fastest-growing contributor to greenhouse gasses and already accounts for a quarter of all CO2 emissions.



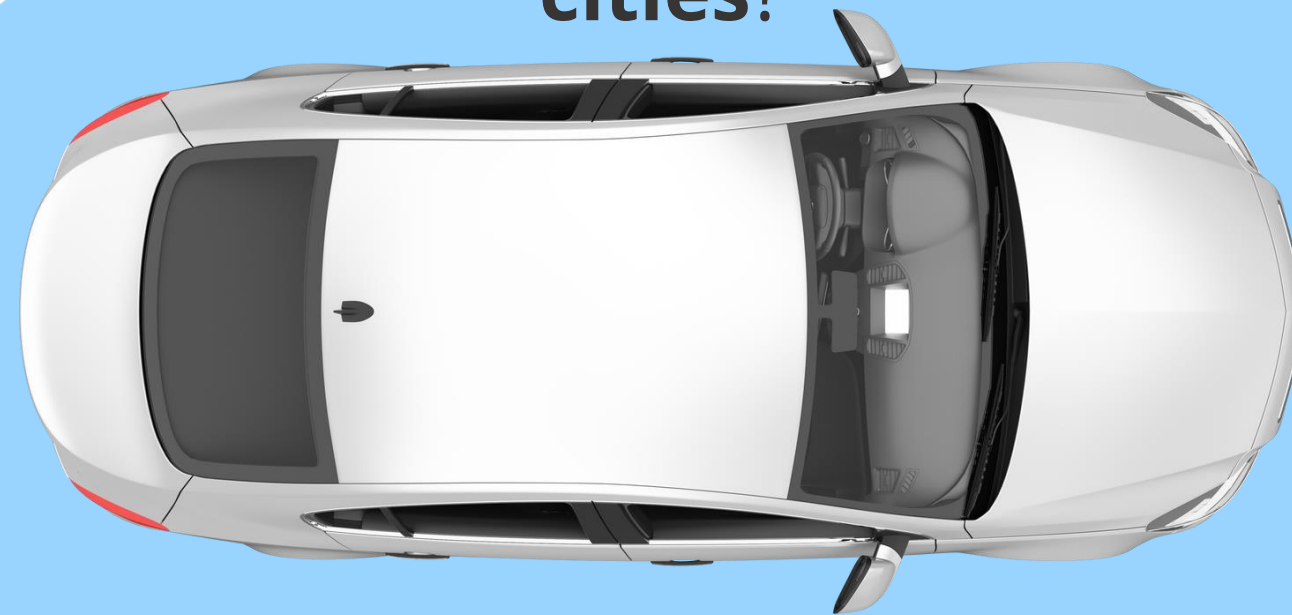
Sustainable transport

- Allows the basic **access** and **development needs** of individuals, companies and society to be met safely and in a manner consistent with **human and ecosystem health**, and promotes equity within and between **successive generations**.
- Is **affordable**, operates **fairly** and **efficiently**, offers a **choice of transport mode**, and supports a **competitive economy**, as well as **balanced regional development**.
- **Limits emissions** and **waste** within the planet's ability to absorb them, uses **renewable resources** at or below their rates of generation, and uses non-renewable resources at or below the rates of development of renewable substitutes, while **minimizing** the **impact** on the use of land and the generation of noise.

Infrastructure has the greatest **impact** on our **transport behavior**.

- More parking spaces means more driving.
- Wide, multi-lane roads mean more driving.
- Infrequent public transport means more cars and more driving.
- Poor conditions for walking and cycling mean more driving.

Why are **cars**, even though they are **not the cheapest** mode of transportation, so **willingly** used within the **cities?**



Is **low-car** life **possible?**

YES

What needs to be done?

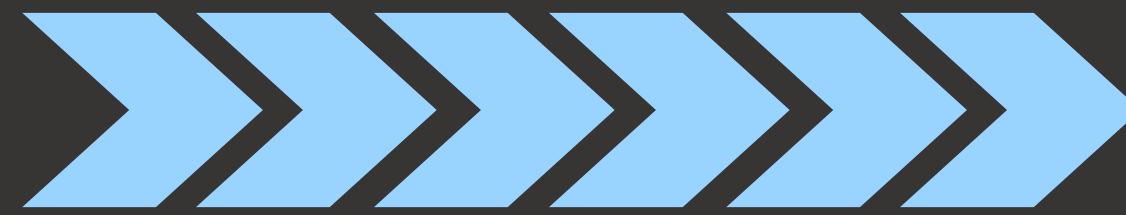
- **Redistribution of street space.** Pop-up bike lanes and sidewalks if there is none or is too narrow to accommodate pedestrians.
- **More green lights** for active mobility users.
- Bicycle parking on every corner.
- Affordable long-term bicycle rental program offering different types of bikes, eg. for kids, e-bikes, cargo bikes.

Eltis: <https://urban-mobility-observatory.transport.ec.europa.eu/>

Urban Transport: https://transport.ec.europa.eu/transport-themes/urban-transport/zero-emission-urban-freight-logistics-and-last-mile-delivery_en

Urban mobility and climate-neutral cities: https://transport.ec.europa.eu/transport-themes/urban-transport/urban-mobility-and-climate-neutral-cities_en

LOW TRAFFIC NEIGHBOURHOODS



A **LTN** is a scheme where motor vehicle traffic in residential streets is greatly reduced. This is done by minimizing the amount of traffic that comes from **vehicles using the streets to get to another destination**. This is often referred to as **'through-traffic' or 'rat-running'**.

Private motorised vehicles still have easy access to all homes and businesses without driving directly through the neighbourhood. This opens up networks of streets so people can safely travel through the area on **foot, bicycle, by wheeling or by bus**. **Emergency vehicles** can also be prioritised to reach their destinations quicker. Traffic is reduced by using temporary or permanent barriers called **"modal filters"**. These can include putting up **bollards** or **planters**. Or they can be camera operated.

Residents and businesses still have access to the neighbourhood by car using different routes, but **through-traffic is impossible**.



Eltis: <https://urban-mobility-observatory.transport.ec.europa.eu/>

Urban Transport: https://transport.ec.europa.eu/transport-themes/urban-transport/zero-emission-urban-freight-logistics-and-last-mile-delivery_en

Urban mobility and climate-neutral cities: https://transport.ec.europa.eu/transport-themes/urban-transport/urban-mobility-and-climate-neutral-cities_en

04. HOW TO SAVE ENERGY?

Idea of Net Zero Target

A **net-zero target** involves **minimizing one's carbon footprint**, aiming to offset emissions through sustainable practices.

By adopting renewable energy sources, reducing waste, and making eco-conscious choices, individuals contribute to the collective effort to achieve a net-zero lifestyle.

1.5-degree lifestyle concept

Target of the Paris Agreement from **2015**. The concept consists of changes in individual, civic, and political actions, as well as in consumer choices and technologies. There are alternative lifestyles that will help meet the 2030 targets.

To stay below 1.5°C, technological change alone is not enough. There is an urgency for lifestyle transformation.

Energy saving and what we can do

- **Reduce** emissions in Food, Furniture, and Clothes Production. Minimize transport and CO2 emissions.
- **Reuse** items before replacing. Choose energy-efficient appliances.
- **Recycle** and conserve energy by making informed purchasing decisions.

THERE ARE MANY WAYS TO REDUCE ENERGY CONSUMPTION AT HOME.

Here are some tips:

REPLACE YOUR OLD APPLIANCES WITH ENERGY-EFFICIENT ONES

Energy-efficient appliances consume less energy and can help you save money on your electricity bill. Look for appliances with the ENERGY STAR label, which indicates that they meet energy efficiency guidelines.

USE LED LIGHT BULBS

LED light bulbs use less energy than traditional incandescent bulbs and last longer. They are also available in a variety of brightness levels.

UNPLUG ELECTRONICS WHEN NOT IN USE

Electronics continue to use energy even when they're turned off. Unplugging them when not in use can help you save energy and money on your electricity bill.



INSULATE YOUR HOME

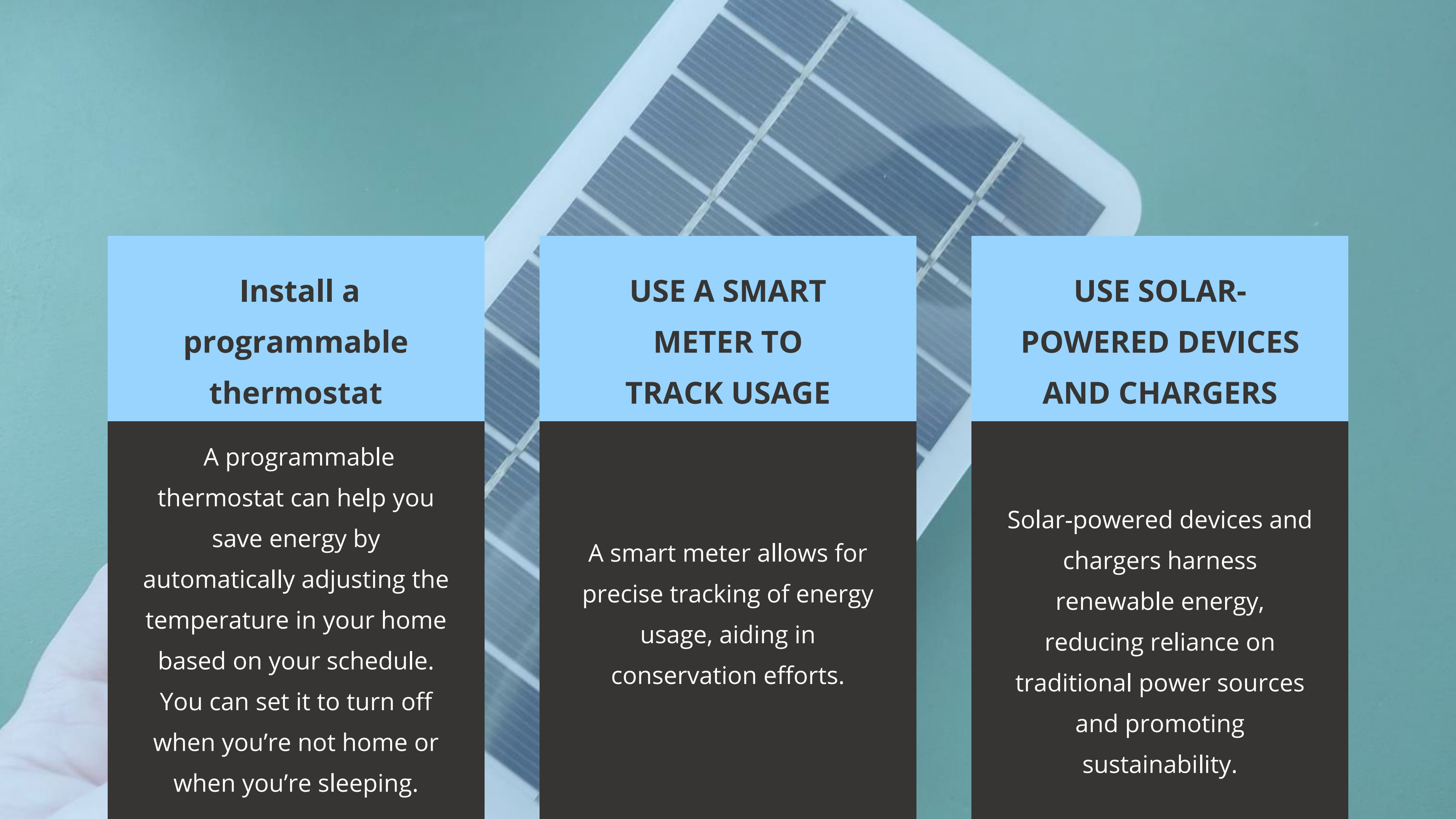
Insulating your home can help you save energy by reducing heat loss through walls, roofs, and floors. This can be especially important in older homes that may not have adequate insulation.

SEAL AIR LEAKS

Air leaks can cause your home to lose heat in the winter and cool air in the summer. Sealing air leaks can help you save energy and money on your heating and cooling bills.

USE NATURAL LIGHT

Using natural light instead of artificial light can help you save energy and money on your electricity bill. Open your curtains or blinds during the day to let in natural light.

A hand is visible on the left side of the image, holding a tablet. The tablet screen displays a close-up view of solar panels. The background is a solid teal color. The text is arranged in three columns, each with a title in a light blue box and a description in a dark grey box.

Install a programmable thermostat

A programmable thermostat can help you save energy by automatically adjusting the temperature in your home based on your schedule. You can set it to turn off when you're not home or when you're sleeping.

USE A SMART METER TO TRACK USAGE

A smart meter allows for precise tracking of energy usage, aiding in conservation efforts.

USE SOLAR-POWERED DEVICES AND CHARGERS

Solar-powered devices and chargers harness renewable energy, reducing reliance on traditional power sources and promoting sustainability.

Resources :

<https://www.europarl.europa.eu/topics/en/topic/energy>

REDUCE WARM WATER CONSUMPTION

Wash your clothes at a cold temperature.

COOK WITH THE LID ON

Cover a pot while you prepare the meals. It helps save energy and money every time.

CHOOSE WALKING OR CYCLING

For short trips walk or cycle (up to 3-5 km). For longer distances use public transport if available.

Worksheet:

A, B, C what about energy?

BATHROOM

A. List the energy consumption points or devices.

1.....	9.....
2.....	10.....
3.....	11.....
4.....	11.....
5.....	12.....
6.....	13.....
7.....	14.....
8.....	15.....

B. Indicate how you will reduce your energy intake at these points before.

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C. What can you give up? (indicate e.g. 3 things).

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Worksheet:

A, B, C what about energy?

KITCHEN

A. List the energy consumption points or devices.

1.....	9.....
2.....	10.....
3.....	11.....
4.....	11.....
5.....	12.....
6.....	13.....
7.....	14.....
8.....	15.....

B. Indicate how you will reduce your energy intake at these points before.

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C. What can you give up? (indicate e.g. 3 things).

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Worksheet: A, B, C what about energy?

LIVINGROOM

A. List the energy consumption points or devices.

1.....	9.....
2.....	10.....
3.....	11.....
4.....	11.....
5.....	12.....
6.....	13.....
7.....	14.....
8.....	15.....

B. Indicate how you will reduce your energy intake at these points before.

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C. What can you give up? (indicate e.g. 3 things).

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Worksheet: Mobility in the city

What will convince you to walk or cycle short distances more often?































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How far do you travel every day to work/school? (km)

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Create low traffic neighborhood (LTN). Keep in mind that all buildings need access by car, but throughout traffic is forbidden.

Worksheet: How do you commute?

.....

I use this transportation because:

.....

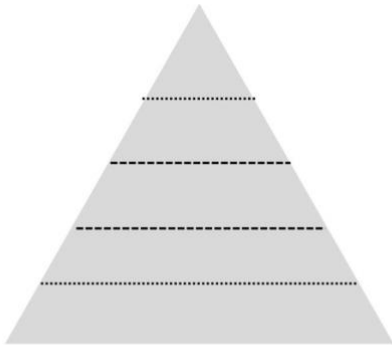
How much energy do you think your mode of transport uses?

What type of fuel it uses:

What is your mode of transportation doing when you are not using it?

.....

**Name 5 available modes of transport in your city and arrange them in a pyramid.
The least sustainable at the top of pyramid and the most sustainable at the bottom.**

<ol style="list-style-type: none">1.2.3.4.5.	
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