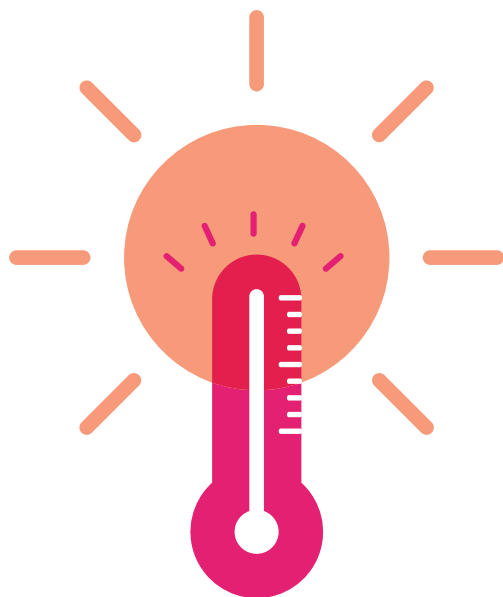


SCUOLA **Park**.it



climate
change...
how hot!

**PUPIL BROCHURE
PRIMARY SCHOOLS**

Product made by
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IDEE E PROGETTI PER LA SOSTENIBILITÀ

Climate Change

From the mid-20th century onwards, scientists realised that the climate was changing and was doing so too rapidly for it to be a natural change.

The cause of this rapid change was human beings, who around 150 years ago began releasing large quantities of greenhouse gases into the atmosphere due to the increasing use of industries.



Difference between climate and weather

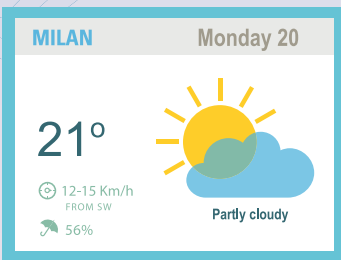
Let us begin with a necessary premise: **climate and weather are two very different concepts.**

WEATHER

Meteorological weather is a succession of atmospheric phenomena such as wind, cloud formations, precipitations, which have a very

limited duration of hours or a few days.

For example, we say that it is raining in Rome today and that a strong wind is blowing in Milan at this time.



CLIMATE

The word climate refers to the set of atmospheric conditions that characterise a certain place over a long period of time. The classical average period is 30 years. We can therefore say that at the poles there is a polar climate, while in Italy there is a mostly Mediterranean, temperate humid climate.

Why is the climate changing?

A phenomenon called **greenhouse effect** occurs on planet Earth: **greenhouse gases in the atmosphere trap the sun's rays, which are converted into heat, increasing the temperature.**

This is a positive phenomenon because it has allowed life to develop on our planet, because it allows for fairly constant average temperatures in summer and winter, day and night.



-19°C

WITHOUT GREENHOUSE EFFECT

the average temperature on Earth would be a very cold -19°C.



15°C

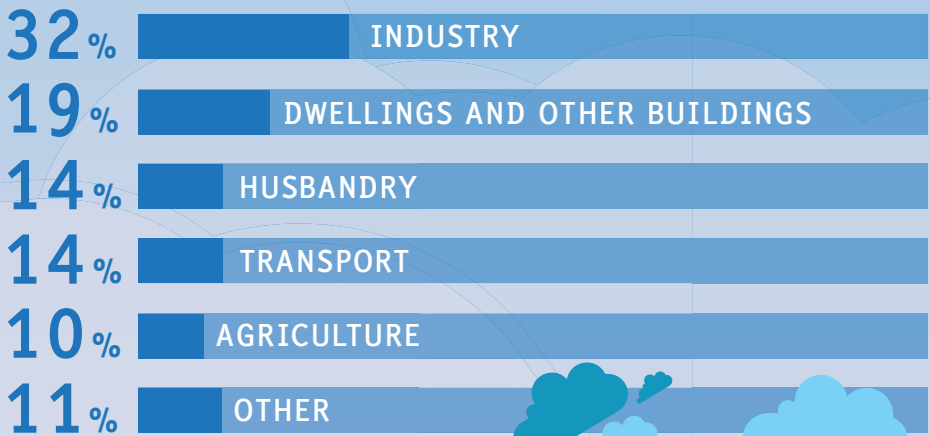
WITH GREENHOUSE EFFECT

the average temperature on Earth is 15°C.

The problems began when humans started producing too many greenhouse gases 150 years ago, breaking the balance that nature had created, raising the earth's temperature excessively and threatening the climate.

Carbon dioxide (CO₂), which is produced in all types of combustion (e.g. engines, heating, factories, etc.) is primarily responsible for climate change.

GREENHOUSE GASES BY SECTOR OF ORIGIN:



(IPCC Data Processing 2014)



What does climate change cause?

If humans do not decrease the greenhouse gases they produce, the temperature will continue to rise and a series of consequences will be unleashed that will threaten the survival on our planet of plants, animals and mankind itself.



Greater instability:
more impetuous and unpredictable weather events (e.g. severe storms, hurricanes, etc.)



More acidic oceans:
death of coral reefs
and fewer fish to catch.



Ice melting:
the water level rises.

Damage to agriculture and little fresh water available:
migration due to survival difficulties
and conflicts



How can we improve the situation?

Scientists' recommendations to curb the situation:

HALVING

emissions of CO₂ BY 2030

ZERO

net emissions* of CO₂ BY 2050

* Net emissions are the difference between the total amount produced and the amount removed by natural processes.

... and what
can we do?

1

CHANGING AND NOT WASTING ELECTRICITY

Electricity is very important and we need it in our daily lives, but we must be careful not to waste it.

Let us remember:



Switching off the light when leaving a room



In winter, putting on an extra jumper even inside the house and don't turn up the heating too high



Never leave the refrigerator door open for a long time



Buying new household appliances in A+++ category

We also need to learn to use fewer fossil fuels (e.g. coal, oil, natural gas), which release a lot of CO₂ into the air as they burn, and more renewable energies (e.g. solar, wind, hydro, marine, geothermal).

2

CHANGING DIET

Every food we choose to put on our table has a burden on the environment: water is needed to produce it and CO₂ is emitted.

We must learn to consume food that is:



LOCAL



SELF-PRODUCED

in this way we avoid the CO₂ emissions necessary for its:

- transport
- deep-freezing
- packaging



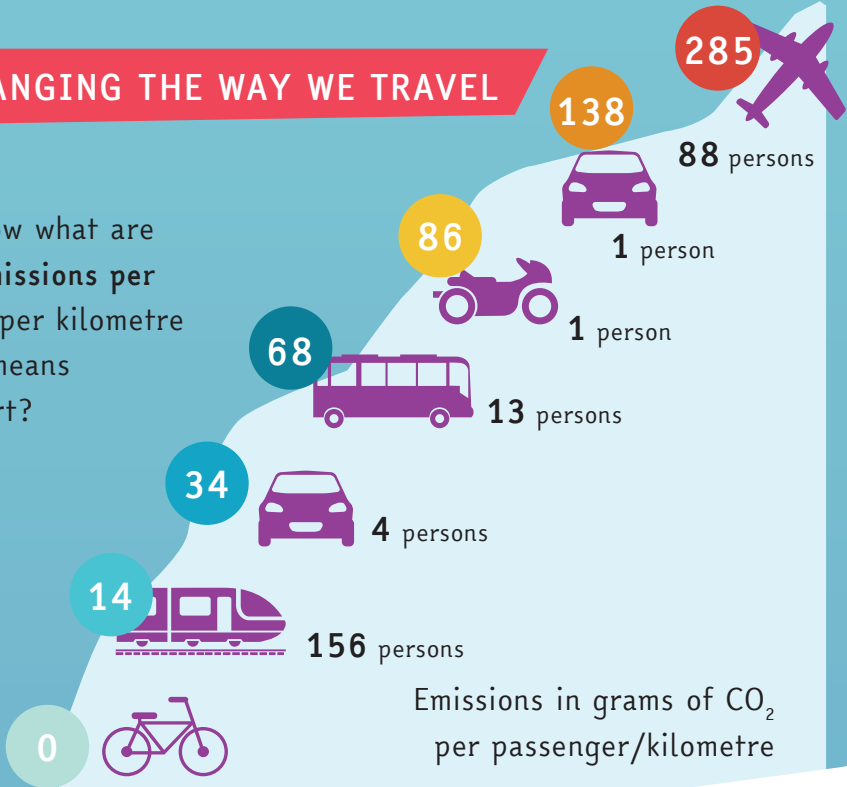
SEASONAL



2

CHANGING THE WAY WE TRAVEL

Do you know what are the CO₂ emissions per passenger per kilometre for these means of transport?



Emissions in grams of CO₂ per passenger/kilometre

When we use a car, exhaust gases release CO₂ into the air. For short journeys we could then move around on foot or by bicycle: this way we do not pollute and we stay fit! For longer journeys, however, we can travel together with other people or use public transport.

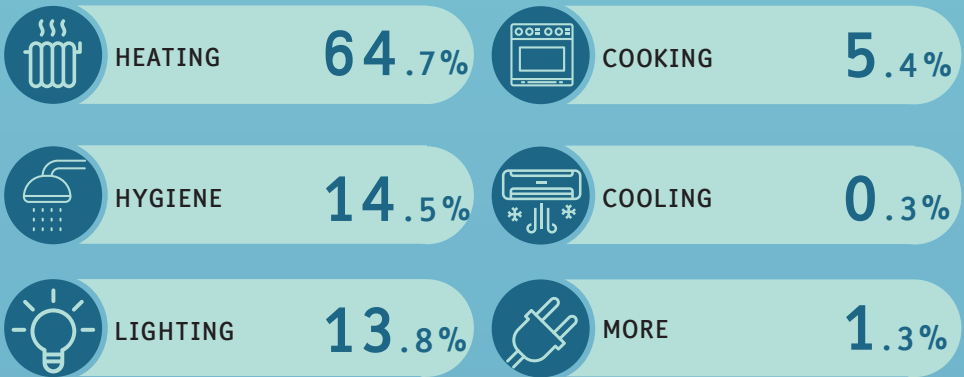
Source: European Environment Commission data processing

4

IMPROVING OUR HOMES AND INCREASE THE GREEN

Our houses consume a lot of energy, especially if they are very old. We must build or renovate buildings to be as sustainable as possible.

Where do we consume most of the energy in our homes?



Our cities have a lot of asphalt and few trees; it is important to extend the 'green' territory as plants, through chlorophyll photosynthesis, absorb carbon dioxide (CO₂) and return oxygen to us. To improve the situation, we can try planting a tree in the garden or keeping a few extra plants inside the house.

Greta Thunberg

Greta Thunberg is a Swedish activist for sustainable development and against climate change. At the age of sixteen she started the School Strike for Climate in front of the Swedish parliament, which has become a global message involving hundreds of thousands of children around the world that follow her example on **#fridayforfuture**.

My name is Greta Thunberg. I am a Swedish climate activist.

When I was about eight years old, I first heard about something called climate change, or global warming. Apparently, it was something that human beings had produced by their way of life. We were told to turn off the lights to save energy, to recycle paper to preserve resources.

I remember thinking that it was very strange that human beings, who are one animal species among others, were able to change the earth's climate. Because that's how it was, if it was really happening. That was all they were supposed to talk about on television. On the radio, in the newspapers, on the front pages.

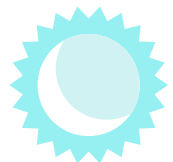
Practically nothing else should have been read or heard. Like a world war. Instead, no one talked about it.

If burning fossil fuels was harmful enough to threaten our very existence, how could we continue to do so? Why were there no restrictions? Why didn't they make it illegal?

It made no sense to me. It was too absurd.



Taken from
"Our house is on fire"
by Greta Thunberg





“

You are never
too small to make
a difference.

”

GRETA THUNBERG



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