



Climate Change Impacts: Carbon Neutrality

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Outline

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- 2. What is carbon neutrality and how can it be achieved by 2050?**
- 3. Carbon offsetting**
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The Paris Agreement with regard to limiting global warming



- The past decade was the hottest on record; Arctic sea ice in October was the lowest ever, and apocalyptic fires, floods, droughts and storms are increasingly the new normal.
- Biodiversity is collapsing, deserts are spreading, oceans are warming and choking with plastic waste.
- Science tells us that unless we cut fossil fuel production by 6 per cent every year between now and 2030, things will get worse. Instead, the world is on track for a 2 per cent annual rise.
- Pandemic recovery gives us an unexpected yet vital opportunity to attack climate change, fix our global environment, re-engineer economies and re-imagine our future.

The Paris Agreement with regard to limiting global warming



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What is carbon neutrality and how can it be achieved by 2050?

- Climate change is already affecting the entire world.
 - In order to limit global warming to 1.5 degrees Celsius – a threshold the Intergovernmental Panel for Climate Change (IPCC) suggests is safe – **carbon neutrality by mid-21st century** is essential.
- A. This target is also laid down in the **Paris agreement** signed by 195 countries.

What is carbon neutrality?

- Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in **carbon sinks**. Removing carbon oxide from the atmosphere and then storing it is known as **carbon sequestration**.
- In order to achieve net zero emissions, all worldwide greenhouse gas emissions will have to be counterbalanced by carbon sequestration.
- Carbon sink is any system that absorbs more carbon than it emits. The main natural carbon sinks are soil, forests and oceans.
- According to estimates, natural sinks remove between 9.5 and 11 Gt of CO₂ per year. Annual global CO₂ emissions reached 38.0 Gt in 2019.
- To date, no artificial carbon sinks are able to remove carbon from the atmosphere on the necessary scale to fight global warming.
- The carbon stored in natural sinks such as forests is released into the atmosphere through forest fires, changes in land use or logging. This is why it is essential to reduce carbon emissions in order to reach climate neutrality.

What Is Climate Neutrality?

- Neutrality actually is - it can get a bit confusing with terms like “carbon neutral” and “net-zero emissions”.
- These all pretty much fundamentally the same.
- The difference between ‘climate neutral’ and ‘carbon neutral’ is
 - climate neutral counts all greenhouse gas emissions. So instead of just measuring carbon dioxide, we use carbon equivalent when we’re measuring a company’s footprint. That’s taking into account *all* the greenhouse gas emissions.”
- The “net zero” has essentially the same meaning. It means that you’re offsetting all the emissions you’re responsible for to get to that net-zero spot.
- So are used more or less be used interchangeably.”

Why Is Climate Neutrality So Important?

- Now the most important question: Why should we care about climate neutrality as consumers?
 - If we continue emitting, we're going to see more and more impacts from climate change that extend beyond environmental issues like extreme weather.
- Things like rising sea levels, extreme temperatures, and storms can partially be tied to climate change, but Drown says there are a variety of other impacts as well.
- Increases of food insecurity and has public health implications.

Carbon offsetting

- Another way to reduce emissions and to pursue carbon neutrality is to offset emissions made in one sector by reducing them somewhere else.
- This can be done through investment in renewable energy, energy efficiency or other clean, low-carbon technologies.

Why Is Climate Neutrality So Important?

- Increases of food insecurity and has public health implications.
- For instance, you can see more deaths related to record-high temperatures, or from illnesses that are appearing from mosquitoes and other types of insects that thrive in a warmer climate.
- So the effects of carbon emissions really do extend far beyond what many people may think of as climate change.
 - It is important to think about the ripple effects that a changing climate will have across every sector of society.

How Do You Offset Emissions?

- Regardless the name, it essentially means you have to offset your emissions.
 - by purchasing carbon credits. One carbon credit is equal to one ton of carbon that's either removed from the atmosphere through a project like a forestry project, or those emissions are avoided in the first place through something like a renewable energy project.

How to Reduce Emissions as a Consumer

- We've spent a lot of time talking about companies,
 - but let's switch gears and talk about what *you* can do to reduce your own emissions. Look at what you are eating.
 - Are you buying local? Because there are carbon emissions associated with shipping things. So if you're purchasing things locally, that's beneficial.
- We to cut down on meat consumption as a way of decreasing our emissions. Meat, compared to plants, has a much higher carbon footprint.
- Start slowly—whether that's just doing Meatless Mondays, or only having meat with dinner instead of lunch
 - that's one way to reduce your own personal carbon footprint.

How to Reduce Emissions as a Consumer

- Thinking about your electricity usage. You can switch to LED lightbulbs, or even take it a step further and purchase power from renewable energy sources.
- Small actions can be really powerful.
 - take advantage of *any* sustainable options that are presented to them.
 - The most important thing as an individual is to use your voice and to use your wallet to call on change.

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Four levers for climate neutrality

Four levers for climate neutrality

We have defined four levers to enable climate neutrality:

- 1) Increase energy efficiency - save
- 2) Expand the supply of renewable energy - New clean power – wind energy;
- 3) Purchase more green electricity (solar power);
- 4) offset unavoidable CO₂ emissions with carbon credits.
 - emissions from combustion processes (heating, process heat) and
 - to offset electricity sourced in countries with only limited availability of green electricity

Thank you