ClimatePartner

The Road to Net Zero
with ClimatePartner

What does net zero mean?

We hear “net zero” in the news all the time. Countries and even companies around the world are making promises to join in the “race to zero”—but what does that really mean?

First, we need to start with the basic science: the way carbon moves around the earth is known as the carbon cycle. It consists of sources which emit carbon and carbon “sinks” – anything which absorbs more carbon than it releases (e.g., plants, the ocean and soil).

The system has always naturally balanced itself out – but human intervention is throwing a wrench in the cycle.

Our activity has created an imbalance between the amount of greenhouse gases (GHGs) released into the atmosphere and the amount of carbon that can be absorbed by our natural sinks.

This has resulted in a net accumulation of GHGs in the atmosphere, which is warming our planet and driving anthropogenic climate change.

> To stop the warming, we need to reach a balance between anthropogenic emissions sources and removals. A state known as net zero emissions.

For business, this requires making a science-based commitment to net zero (see ↗ SBTi Corporate Net-Zero Standard) – reducing your carbon footprint as close as possible to zero and then balancing out any residual emissions with carbon removal.

Why is net zero important?

We are at a critical juncture in needing to restore the earth's delicately balanced carbon cycle.

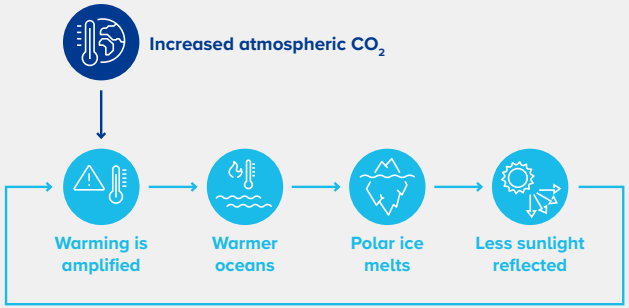
This needs to happen in time to limit global warming to well below 2 degrees – but in a world that runs on planes, cheap goods and manufacturing using fossil fuels, that is easier said than done.

We are witnessing an increase in both the frequency and severity of climate-related disasters, as well as the beginning of permanent changes to our environment.

> A phenomenon alarming scientists are "feedback loops"— climate change causing a cyclical chain reaction that results in even more climate change.

For example, the atmosphere warms, our oceans and rivers evaporate, the water vapor traps more heat therefore amplifying the warming effect. Over and over, taking on a life of its own.

What are feedback loops?



Then we have ↗ "tipping points" —a critical threshold that, when exceeded, leads to large and often irreversible changes in the state of the system. So, we will witness the permanent melting of the Greenland icesheets, and their disappearance will result in sea levels rising.

> In short, feedback loops and tipping points are winding the gears in the clock that is ticking faster in our race to zero.

This environmental crisis is also a deeply humanitarian one. While the poorest countries have done the least to change the climate, they bear the brunt of climate-induced consequences the most. Deadly heatwaves, droughts, storms and floods are hitting these areas the hardest and making some places unliveable. For example, in Madagascar, we are witnessing the world's first climate-induced famine and coming to our shores are some of the first waves of climate change refugees.

The Intergovernmental Panel on Climate Change (↗ IPCC) ↗ report has laid out the potential environmental consequences of not decarbonising the global economy by the middle of the century.

We know that if we are to avoid the worst effects of climate change, the earth's temperature must remain under 1.5°C. Without drastic action to reduce emissions, global temperature is on track to rise by 2.5 °C to 4.5 °C by 2100, ↗ according to the latest estimates.

Slashing emissions

So, we need to stop pushing the delicate carbon balance. We know net zero is our best chance for a sustainable future and whether we like it or not, that future is not in finite fossil fuels.

Energy, growing food/land use, industry, transport and building are all major sources of emissions. Each of these needs to be transformed: for example, we need to build more energy-efficient homes, farm differently, get more efficient with food to reduce waste, electrify our power systems and improve our grids, invest in renewable energy, as well as make the effort to encourage less consumption of meat.

There's no shortage of ideas, but there is a scarcity of will. A systems change approach like this requires governments to write new policies, look at what it subsidies, taxes and where it imposes regulations – and doesn't.

The world must almost halve greenhouse gas emissions in the next eight years to reach net zero emissions by 2050.

To achieve this, companies, policies and consumers have to deliberately rise to the challenge.

Tackling negative emissions

Even if we can manage to cut emissions, we can't stop there: the carbon in the atmosphere will not return to pre-industrial levels. We need to take emissions out of the air – which is trickier business – and on no small scale. This means removing billions of tonnes of CO_2 a year to get to a net zero future.

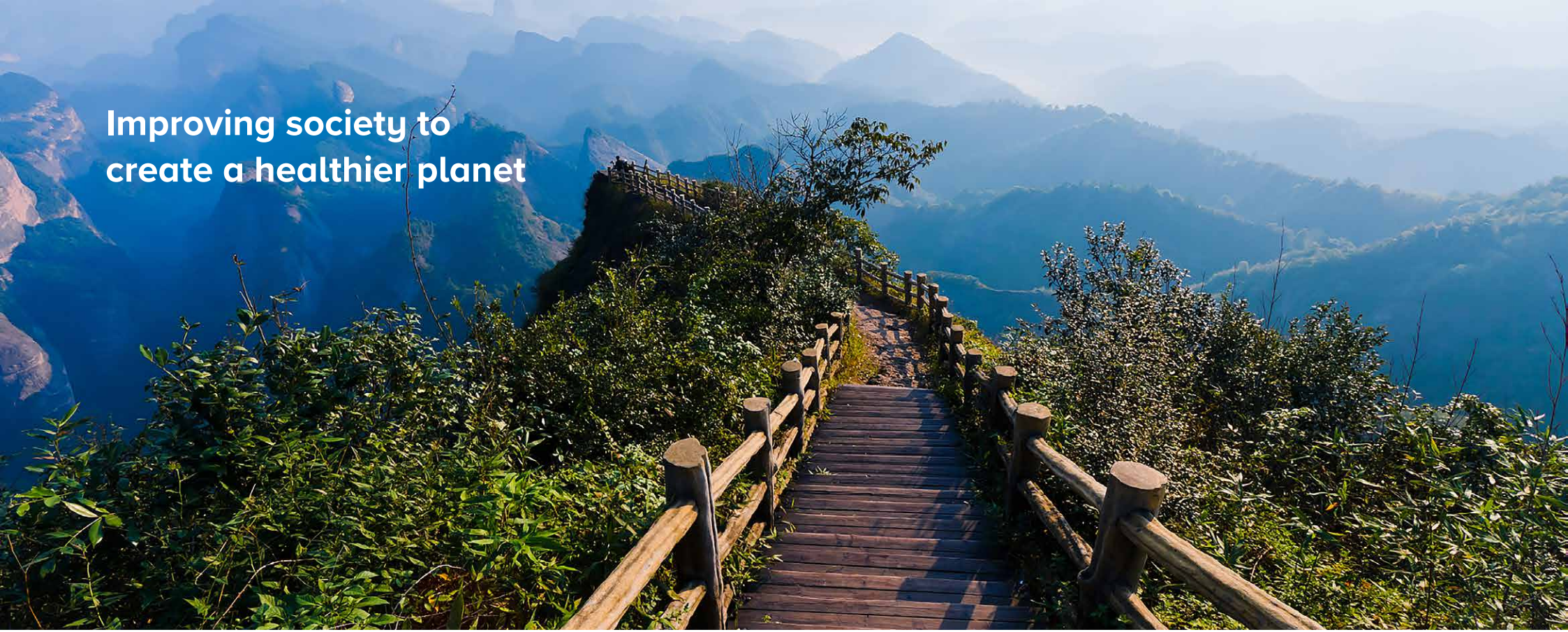
> It is estimated that our oceans absorb 40% of CO_2 emissions – nature is already doing much of the heavy lifting, but as temperatures change, so will the ability of our carbon sinks to do this vital work.

To bring carbon levels down, we need to support our sinks and create new ones. This may involve putting up protections so major forests can never be cleared and coastal ecosystems (coastlines, marshes, wetlands) can't be pulled apart.

In addition to putting up protections, we must add to our carbon sinks by restoring forests, improving carbon storage in the soil through more sustainable farming practices and farming more coral reefs.

Society is also looking at manmade approaches. Many companies are engineering ways of capturing CO_2 and storing it permanently underground – but it is expensive and limited at the moment and does not tackle all GHGs.

How much GHG needs to be removed will ultimately be dependent on how much we are able to cut.



Improving society to create a healthier planet

Not only will improving equality allow more vulnerable populations to adapt better to the impacts of climate change, but we also know that creating a more just world will get us to net zero faster.

For example, gender equality may not immediately strike us as a climate action solution but ↗ research shows what a powerful lever this can be. Improving access to education for girls has multiple positive outcomes: educated girls attain higher wages/greater upward mobility, contribute to economic growth and ultimately go on to have fewer children or have them later, which slows population growth.

Another example is ↗ protecting indigenous land rights: indigenous communities have long been the frontline of resistance against deforestation; mineral, oil, and gas extraction; and the expansion of monocrop plantations. By ensuring their land stays in their hands, we can not only prevent its destruction but safeguard our precious carbon sinks.

Some of our solutions have nothing to do with technology and more to do with addressing the disparities we collectively created or turned a blind eye to.

Building a net zero economy

The scale and urgency of this challenge is going to require a transformation of the global economy over the next three decades.

International politics makes the severe and necessary cutting of carbon very difficult. Many governments want to go slowly on cutting emissions and take the risk that innovation may catch up, when perhaps carbon capture technologies are cheaper and better – and can possibly tackle all GHGs and not just carbon. Not only is it a gamble, to count on technology that has not yet been proven at scale, but it also allows major polluters carte blanche to pollute even more.

The pressure is building to create a green economy, which is ↗ defined as low carbon, resource efficient and socially inclusive. Some say drastically cutting carbon-emitting jobs will impact livelihoods, others say we can generate many more jobs in things like electric car manufacturing or renewable energy.

Here is where we frequently hear calls for variations of a "Green New Deal," which puts the onus on the government to provide job training and new economic development, particularly to communities that rely on jobs in fossil fuel industries.

There is a major cost associated with the status quo, as governments are spending more and more coping with extreme weather events: in 2020 the U.S. sustained 22 separate billion-dollar weather and climate disasters.

Whose responsibility is net zero?

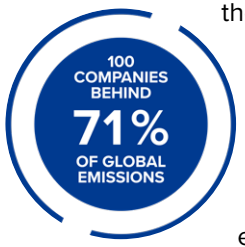
For a long time, climate change felt almost abstract but every flood and wildfire brings precision to the picture that lies in front of us. In our shock and horror at its destructive acts, many are left asking: whose job is it to tackle this?

When we look at the "culprits," it's hard to pin down any particular player.

While per capita, USA and Europe are among the leading emitters – through the lens of absolute figures, today's big emitters like China, India, and Brazil have only recently become part of the problem. Some would argue this is in large part due to North Americans and Europeans wanting to consume the affordable goods they manufacture.

Historically, wealthy countries got rich by putting CO_2 into the air and some poorer countries have made the case that they require fossil fuels to lift their own people out of poverty. ↗ To put this in perspective, the global north has emitted 92% of the CO_2 that pushed the planet beyond safe levels, while Asia, Africa, the Middle East and Latin America have emitted just 8%.

The issue goes beyond borders as well: companies and individuals also have carbon footprints. The wealthy, wherever they live, contribute more to the problem via their choices: ↗ the world's richest 1% emits more than the poorest 50%. And when we look at corporate responsibility on the issue, 100 companies are responsible for 71% of global emissions.



So how do we divide up the responsibility? Should wealthy countries take the lead on decarbonisation and pay reparations for using up more than their share of their carbon budget?

With these factors in mind, we can understand why discussions at events like COP26 have been complex and contentious.

Making net zero targets a reality

Action isn't happening fast enough and so we hear it referenced as the "race" to net zero.

Countries are making public pledges: America and the EU are working towards a net zero 2050 target and China has said 2060. While targets are important for bringing us together and guiding policy decisions, we can't afford to conflate goals with guarantees.

There are ↗ hundreds of solutions to climate change, well beyond what has been discussed here, but there needs to be a will and financing to explore them.

The journey to net zero will be equal parts a revolution in our technology, as well as a revolution of our mindsets. This race will involve every government, every economy, and all of us to change the way we do things.

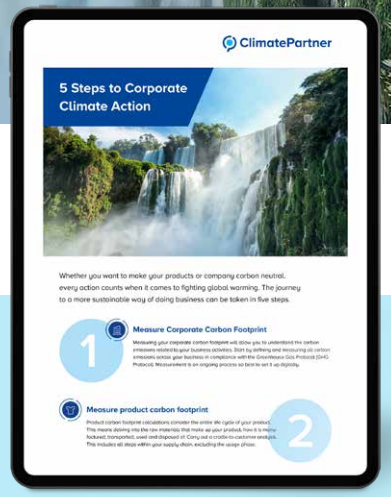
Whether you are a consumer, a big or small business owner, or a policy-maker, each of us can, and must, move the needle forward.

What can your organisation do?

For a company wishing to embark on its sustainability journey, it can be wise to seek expert guidance because a climate action strategy must be done both accurately and transparently.

If a company wants to strive for a net zero path, they must achieve science-based reduction targets (using the ↗ the SBTi's Corporate Net-Zero Standard) and remove residual emissions (some emissions simply cannot be avoided or reduced). This journey will begin with becoming carbon neutral – offsetting all emissions today.

If your company wants to embark on a sustainability journey, **click here** to learn about the five steps involved in making a climate action strategy.



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