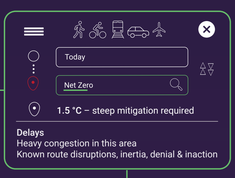
Net Zero

The journey to Net Zero; a simple guide



Delays
Heavy congestion in this area
Known route disruptions, inertia, denial & inaction

What does Net Zero mean?

Net-Zero means reaching a future where, on balance, we no longer emit any carbon into the atmosphere.

It requires wholesale reductions in the amount and type of emissions we produce.

This means radical changes across the entire economy – doing away with fossil fuels and other sources of emissions wherever possible.

For the remainder, which cannot be removed or substituted, every ton of CO2 equivalent we emit must be matched by a ton that we remove from the atmosphere.

For companies, reaching net zero emissions requires them:

1. To achieve, with limited or no overshoot, value-chain emission reductions consistent with the pathways that limit warming to 1.5°C, and;
2. To neutralise the impact of any source of residual emissions by permanently removing an equivalent amount of atmospheric carbon dioxide.

Derived from: Science-Based Targets initiative https://sciencebasedtargets.org/

Hang on - what about Carbon Neutral?

CARBON NEUTRAL

OK – that's where a company offsets its emissions at a given time, so that on balance emissions are zero.

Isn't that good?

Up-to-a-point... There's no requirement to fit with the 1.5C trajectory.

Offsets on their own aren't enough.... absolute reductions are required

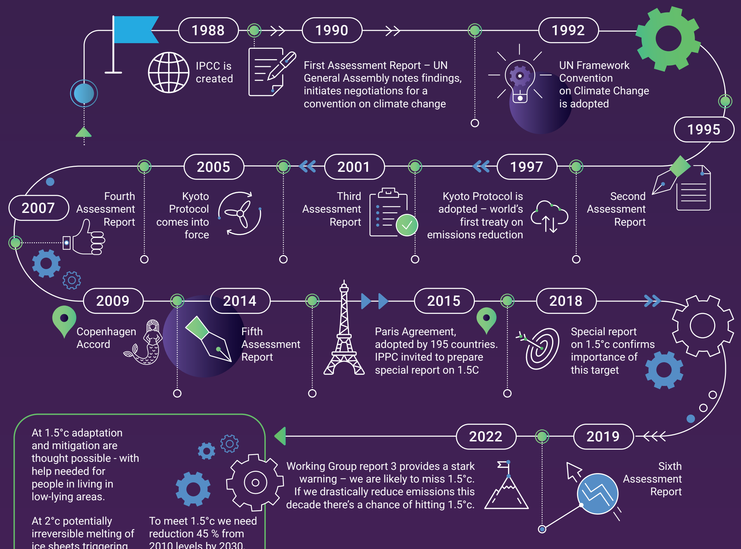
Some organisations only include Scopes 1 & 2 – missing big pieces of the puzzle.

Challenges?

In practice Net Zero has many challenges. Perhaps the biggest is an over reliance on offsets (investments made in environmental projects around the world to "balance out" emissions from the organisation) rather than rapid de-carbonisation. This creates a loophole where companies avoid changing their practice or fundamental emissions but employ offsets or carbon credits to 'reach' net-zero.

IPCC

The Intergovernmental Panel on Climate Change



At 1.5°c adaptation and mitigation are thought possible - with help needed for people in living in low-lying areas.

At 2°c potentially irreversible melting of ice sheets triggering sea-level rise affecting millions, species extinctions, massive ecosystem loses, reduction in food production capacity.

Current pledges in the Paris Agreement will get us to about 3°c of warming by 2100. Science suggests that much of the planet would be uninhabitable.

https://unfccc.int/timeline/

To meet 1.5°c we need reduction 45 % from 2010 levels by 2030, net zero by 2050.

To meet 2°c we need reduction 20 % from 2010 levels by 2030, net zero by 2075.

What are the GHG Scopes?

Indirect emissions from company (organisation) – purchased electricity, heat or cooling.

Direct emissions from company (organisation) owned or controlled activities and resources. Including; heating sources and fuels, vehicles, fugitive emissions (leaks from refrigeration or air conditioning) and process emissions (GHGs released from/during industrial processes).

The big one!

Emissions across the value chain outside the company from activities commissioned or used by the company.

Includes all purchases and use by others of company products.

How do we get to Net Zero – and avoid green-washing?

01 Measure & Disclose

All emissions across all scopes should be included; company operations (Scopes 1 & 2) and emissions across the whole supply chain including materials purchased and customer use of products (Scope 3). The boundary should include the entire company, all GHG emissions and sources e.g. land use change.

02 Set Targets & Disclose

Targets should be in line with 1.5 degrees warming scenario and follow the Science Based Targets Initiative (SBTi), set Short, Medium and Long-term targets. Approval by SBTi achieved.

Establish and communicate your baseline.

03 Reduce Emissions

Remove
Reduce
Renewable

Energy efficiency in operations, reduce travel, systemically address supply chain emissions, redesign products and services. Switch to renewable energy; use bundled RECs and higher quality power purchase agreements (PPAs) improve integrity of energy procurement.

04 Remove Residual Emissions

Offsets should only be used on residual emissions.

Emissions removals must be additional to normal activity. Offsetting based upon avoided emissions should generally be avoided.

Emission removals should be permanent.

Glossary

2050	–	the latest date that science suggests is vital for arresting global emissions – they must be zero by 2050 to have a reasonable chance of limiting global warming to 1.5C
1.5°C	–	the amount of additional warming of the earth that is thought to be the threshold to prevent catastrophic global changes
BECC	–	Bio-Energy with Carbon Capture and Storage
Carbon Credits	–	a tradable certificate representing the right to emit an amount of CO2e.
CO2e	–	carbon dioxide equivalent - global warming potential expressed as a unit of carbon dioxide which = 1.
GHG	–	Green House Gas(es) – gases that contribute to global warming
GHG Protocol	–	provides standards and tools for carbon accounting and tracking progress towards goals
IPCC	–	Inter Governmental Panel on Climate Change - the United Nations body for assessing the science related to climate change. 195 countries are members.
Offsetting	–	reduction or removal of emissions of CO2, or other greenhouse gases, to compensate for emissions made elsewhere
Overshoot	–	a period where global mean temperatures rise above warming targets
PPA	–	Power Purchase Agreement, contract between generator and customer that can include renewables
REC	–	Renewable Energy Credit. Certificates to enable the trading and transfer of the renewable aspects of energy within a mass balance system
SBTi	–	Science Based Targets Initiative – a collaboration between CDP, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature to establish the means to set targets that will likely deliver a relatively safe world
Scope	–	a conceptual model used by the GHG Protocol to categorise how and where emissions arise in relation to the organisation in question. See Scope 1, 2 and 3
TCFD	–	Task Force on Climate-related Financial Disclosures, encouraging companies to report on the financial impacts and implications of climate-related impacts.