

Net Zero for SMEs

**An Introduction to Net Zero and
Understanding Your Carbon Emissions**

Anne Miller 17 February 2022

<https://annemiller.uk/>



Agenda

Why decarbonise?

- The moral and commercial imperative

Understanding your carbon emissions

- How to get started?

Setting and communicating your target

- What useful frameworks are there?

Understanding “offsetting”?

- How can we avoid greenwash?

Why Decarbonise?

Moral Imperative



Business Imperative

- Cutting costs and increasing profits
- Larger companies are decarbonising their supply chains
- Customer Expectation
- Staff recruitment/retention
- Opening New Markets
- Enhancing reputation

Read more at the Carbon Trust's excellent resource for SMEs <https://www.carbontrust.com/resources/the-journey-to-net-zero-for-smes>

Understanding your Carbon Emissions

How to get started?

1. Measure and declare the emissions from your own operations (scope 1 and 2)
2. Set and commit to a “Science Based Target” to reduce them
3. Start reducing your emissions

To go further

1. Include key emissions from your value chain (Scope 3)
2. Pay voluntary “compensation” for your emissions

Understanding your scope 1, 2 and 3 emissions

Scope 1

Direct emissions from fuel eg

Gas for heating

Fuel for company vehicles

Process heat for manufacturing

Fugitive emissions (eg methane, refrigerants)

Your Organisation: you have control

Scope 2

Indirect emissions from purchased energy, eg

Purchased electricity

Purchased heat or steam

Scope 3

Indirect emissions in your whole value chain, eg

Purchased goods and services

Transportation and distribution

Business travel

Employee commuting

Use of sold products

Investments

Your Value Chain: You have influence

Scope 3
can be
90% of
the total

Green electricity tariffs (Scope 2)

Beware: “Green” doesn’t mean zero carbon

- **Best:** directly generate, store and use your own renewables, without selling REGOs
- Power Purchase Agreement with generator.
- Green tariff, 100% based on Power Purchase Agreements (eg Good Energy)
- Green tariff based on REGO purchases
- **Worst:** general electricity tariff (especially at peak times)



<https://www.ofgem.gov.uk/environmental-and-social-schemes/renewable-energy-guarantees-origin-rego>

<https://www.uswitch.com/gas-electricity/green-energy/green-accreditation/>

https://ghgprotocol.org/scope_2_guidance

Any questions?

Setting and communicating your target

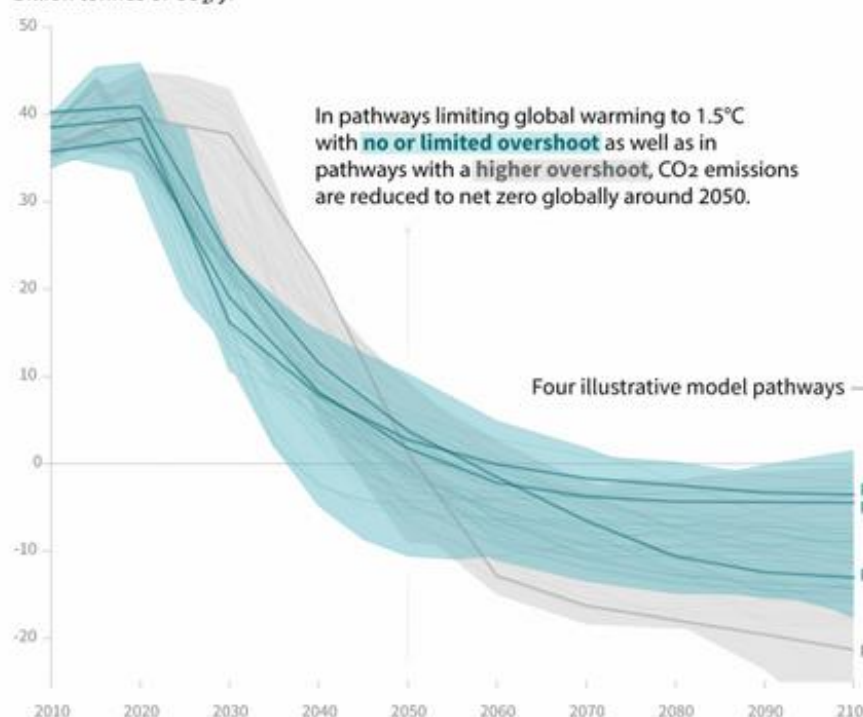
Science Based Target Initiative (SBTi)

<https://sciencebasedtargets.org/>

- Corporations are setting Science Based Targets accredited by SBTi.
- Increasingly, these
 - Target 1.5C
 - Include Scope 3

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



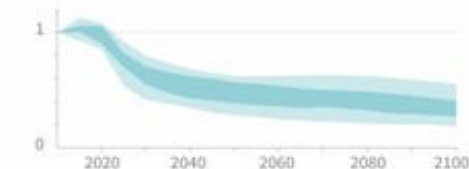
Timing of net zero CO₂
Line widths depict the 5-95th percentile and the 25-75th percentile of scenarios



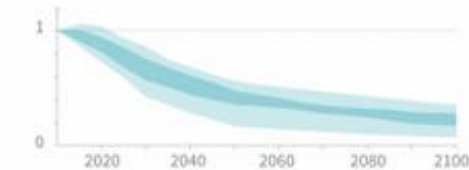
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.

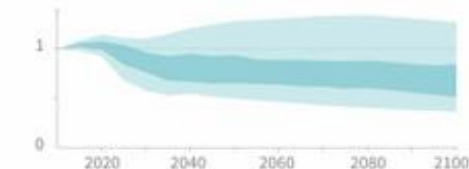
Methane emissions



Black carbon emissions



Nitrous oxide emissions

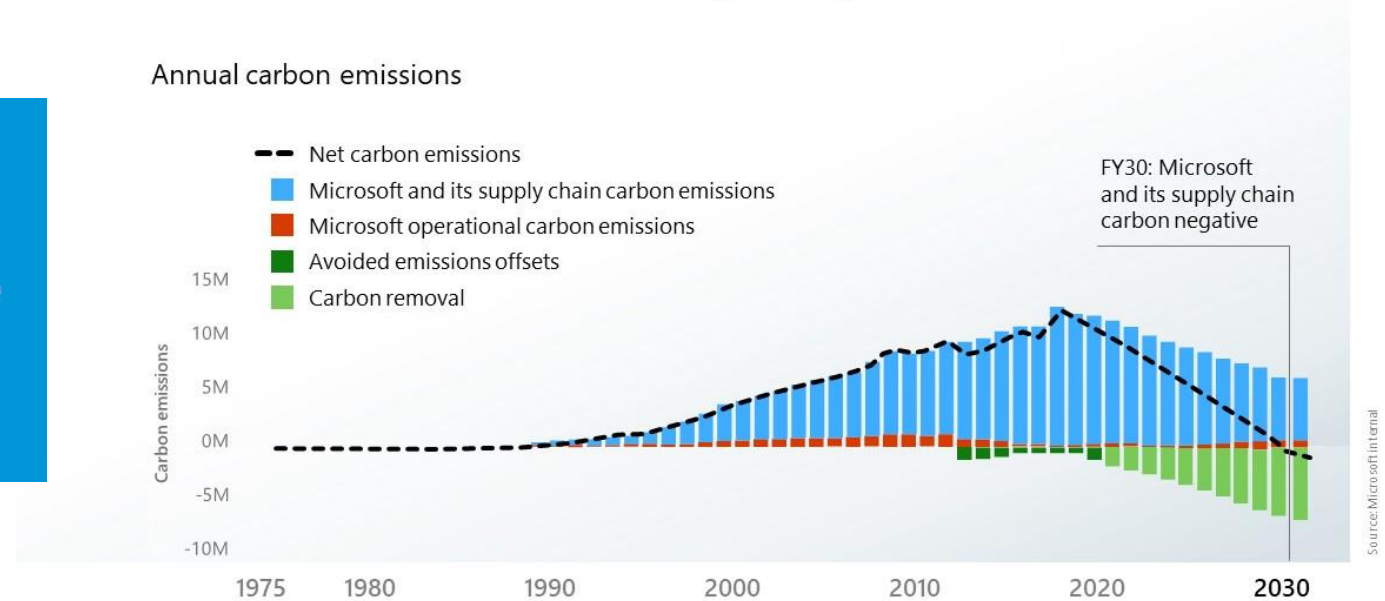


Setting and communicating “Science Based Targets”

Company X commits to reduce Scope 1 & 2 GHG emissions in half by 2030 from a 2018 baseline. Company X also commits to measure and reduce Scope 3 GHG emissions and by 2050 Company X will be net zero.

Typical SME Science Based Target

Microsoft’s pathway to carbon negative by 2030



Microsoft’s Science based Target

Useful links for calculating and declaring emissions

- BEIS carbon intensity factors: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>



Some useful calculators and accredited methods:

- <https://smeclimatehub.org/tools/> (free, fairly new)
- <https://www.carbontrust.com/resources/sme-carbon-footprint-calculator> (free)
- <https://ghgprotocol.org/ghg-emissions-calculation-tool> (Free)
- <https://www.spherics.io> (not free, but integrates with accounting packages)



Non-accredited (but locally influential)

- <https://cambridgecarbonfootprint.org/charter/> (free)



Useful free Scope 3 estimator for SMEs to help decide where to focus

- <https://ghgprotocol.org/scope-3-evaluator>



Any questions?

What to do about offsetting?

Understanding “Avoided Emissions”, vs “Greenhouse Gas Removals”

“Avoided Emissions”

Paying someone else to promise not to emit carbon emissions that they hypothetically would have done otherwise under “business as usual”



Cheap. Sometimes beneficial, but carbon impact uncertain.

“Greenhouse Gas Removals (GGR)”

Paying someone else to, in theory, permanently remove your emissions from the atmosphere.



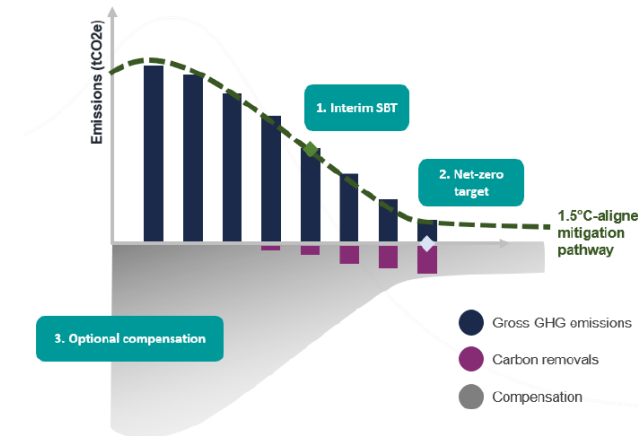
Expensive. Nature based solutions attractive, but durability uncertain. Technical solutions often “*Magic beans and unicorn blood*”

Understanding “Carbon Neutral” vs “Net Zero”

No universally agreed definitions, but....

Net Zero (SBTi)

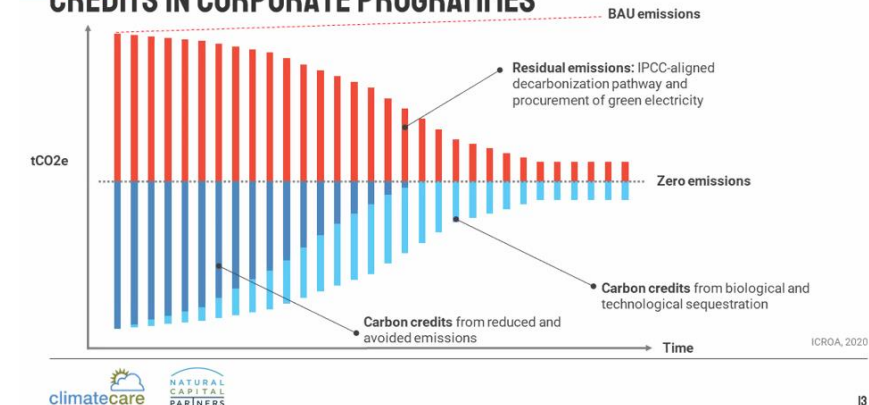
- Reduce emissions in line with 1.5C Science Based Target.
- Optionally pay “compensation” for emissions.
- Only then, neutralise any “hard to decarbonise” emissions with “removals (GGR) only



Carbon Neutral

- Reduce emissions and each year, pay for accredited offsets.
- Often just Scope 1 and 2
- Offsets are usually “avoided emissions, rather than “removals”

BALANCING A PORTFOLIO OF AVOIDANCE AND REMOVALS CREDITS IN CORPORATE PROGRAMMES



Compensating for the “social cost of carbon”

Pay “Compensation” : A voluntary donation eg

- Energy experts Max Fordham donate £100/Tonne for new woodland creation via <https://www.forestcarbon.co.uk/>
- “Carbon gift” of 10-100% of “guilt inducing expenditure

Buy accredited “offsets”

- Eg via <https://www.climatecare.org/> or <https://marketplace.goldstandard.org/>
- Beware ridiculously cheap near-scams (<£20 /Tonne)
- Try to find “removals” rather than “avoided” emissions.

If holding investments:

- Decarbonise your portfolio
- Invest directly in early stage low carbon businesses, Eg via <https://energy4all.co.uk/>

The “social cost of carbon” has been estimated at £100-£400/Tonne CO₂.

Or 1 year of someone’s life / Tonne CO₂.

Any questions?

To watch later and enjoy: “Cheat Neutral” <https://www.youtube.com/watch?v=l6zpnVW134k>

Concluding recommendations

To start

- Set your 2030 Scope 1 and 2 target.
- Measure, declare and reduce your Scope 1 and 2 emissions.

To go further

- Identify your key Scope 3 emissions and start to reduce them.
- Find exciting projects and support them by paying “compensation” for your unabated emissions

In general

- Be transparent about your approach and assumptions.
- Share what you’re doing and help others
- Buy from low carbon businesses (i.e decarbonise your own supply chain)



Thank you

anne@annemiller.uk

<https://annemiller.uk/>

 [YouTube Channel](#)

 [**@AnneMiller_uk**](#)