

Aim for zero

Industrial net zero pathways

Companies are taking action

The past two years has seen a step up in ambitious corporate targets as companies look to meet investor expectations and manage their long-term climate related risks.

Companies are now setting longer term GHG targets. Many companies wish to ensure their targets are robust and defensible and therefore have them validated by the Science Based Targets Initiative.

These targets are generally in the order of a 50% reduction in scope 1 and 2 emissions over a 10-year period. By signing up to such a commitment there is an inference that the company will continue to set future targets which are aligned with climate science - broadly a 50% reduction in GHG emissions every decade until 2050.

Industrial net zero pathways

Confidence levels can vary

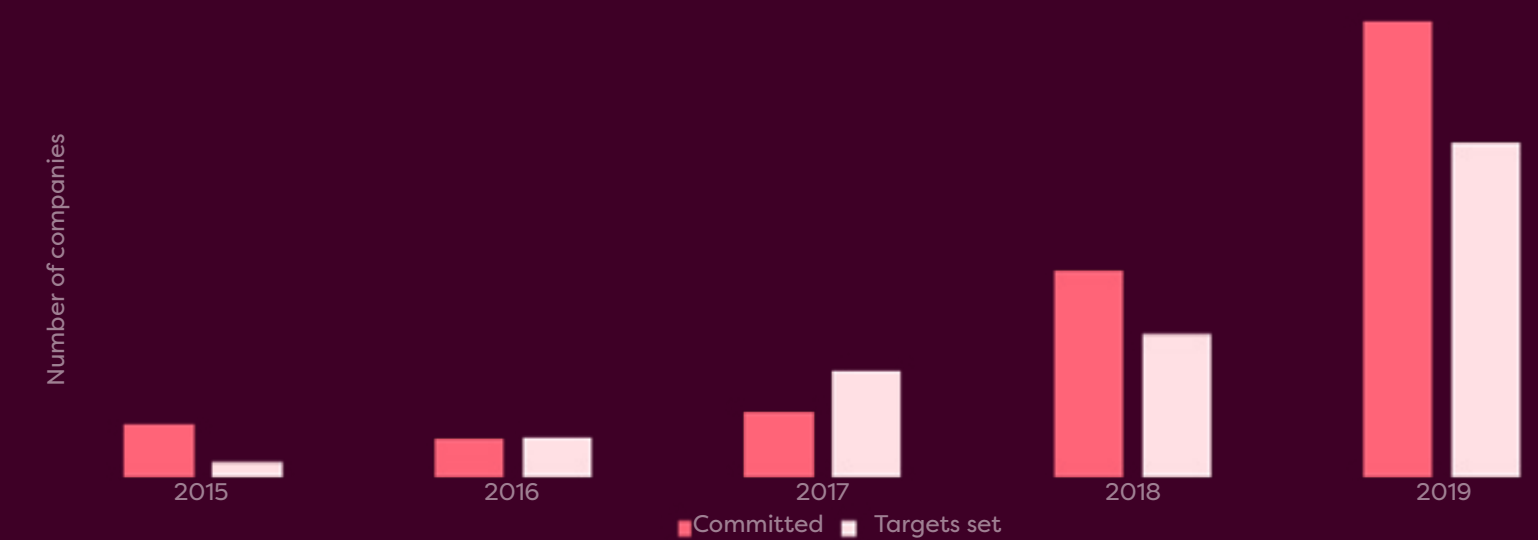
For some sectors the pathway to meet the current and likely future targets can be mapped out with an acceptable level of confidence. These sectors are likely to be those whose current emissions are mainly from electricity with fossil fuel emissions limited to low grade heat applications. Examples of such sectors would be commercial property and light industrial / manufacturing sectors which are focused more on product assembly.

Challenges can vary

Other sectors such as industries with high process heating demands, for example glass production, food and drink processing and production of chemicals face a more fundamental challenge. It may be companies in these sectors have a detailed plan to achieve their reduction targets for 2025 or 2030 (decarbonisation of electricity and energy efficiency are likely to be the foundation of many plans for the 2020s) but there is much less understanding on how this decarbonisation momentum will be maintained over the subsequent two decades.

Commitments are increasing

Of the over 800 companies taking action as part of the Science based target initiative, more than 170 are likely to have a significant process heating demand which can complicate the route to net zero. A company is considered to be taking action if they have either committed to setting a science-based target within the next two years or have had their target approved by the SBTi.



Act now

Overcome the challenges

What to consider

Developing a decarbonisation pathway is not a straightforward activity due to the inherent uncertainty when considering a plan over a 10-30 year period. Key questions are:

- What will your business will look like?
- What are the risks around some of the technologies being considered?
- What economic uncertainty is there?
- Does regulatory doubt make one path more favourable than another?

In fact, the only real certainty in a net zero pathway is the end goal!

Who to involve

Whilst there are techniques for analysing and modelling these factors, developing a net zero pathway can be an operational challenge. It will need involvement from cross functional stakeholders. They will need to think in timeframes which are likely to be far beyond their normal planning cycles. It will need strong championing internally and acceptance that it will be an iterative process.

Reap the benefits

Why act now

Despite the challenges, a net zero pathway gives a company many benefits:

- Ensures the greatest alignment between net zero transition and core business
- Supports a “no regrets” strategy. Long term investments at key intervention points will have fully considered climate-related risks and opportunities, avoiding a ‘stranded asset’ situation
- Manages climate risks and investor expectation
- Mitigates impact of transition risks (carbon taxes and other such levies)
- Identifies opportunities for market collaboration and innovation
- Identifies areas suitable for grant funding and be ready to apply for such funding when it becomes available.
- Capitalises on circular economy opportunities e.g. recognising value from waste products.

Components of your pathway

The net zero pathway for an industrial organisation is likely to be complex and multifaceted. It is important to consider these 7 areas when developing your strategy:



Risk Register

When developing any long term plan it is important to understand the likely operational profile of the company over the timeframe being considered. For some companies this might be very difficult to predict so several scenarios might need to be considered to understand their materiality.

Current energy efficiency plans

Part of the solution will be improved operation efficiency and it is important to include current energy efficiency plans. A change in mindset is often needed to move from <3% per annum incremental improvements to real step change. These plans are likely to include a mix of standard available technologies and management related improvements.

Process optimisation

This is a good area of opportunity for most industries and an area attracting grant funding to tackle some of the more challenging areas such as industrial heat recovery systems.

Process innovations

There may be opportunity for innovations to either reduce the energy requirement or enable them to be supplied by lower carbon energy. These solutions may not yet have been developed e.g lower temperature pasteurisation. These areas offer a good opportunity for sector-based collaboration.

Novel/ low carbon technology

Decarbonisation of heat is likely to be one of the biggest challenges in industry. In many cases the technology may exist, but there are considerable barriers such as the capital and operating costs (common in electrification), availability and security of fuel (a consideration for both hydrogen and biomass), maturity of technology (high temperature heat pumps) and regulatory uncertainty.

On/ near site renewable energy

A company's plan should take into account any potential renewable energy assets, this could include roof spaces for PV or waste streams for energy from waste technologies. We would recommend this is extended to look at nearby opportunities, particularly at sites located near other industrial operations as this can present an opportunity for energy integration / industrial symbiosis projects.

Remaining GHG emissions

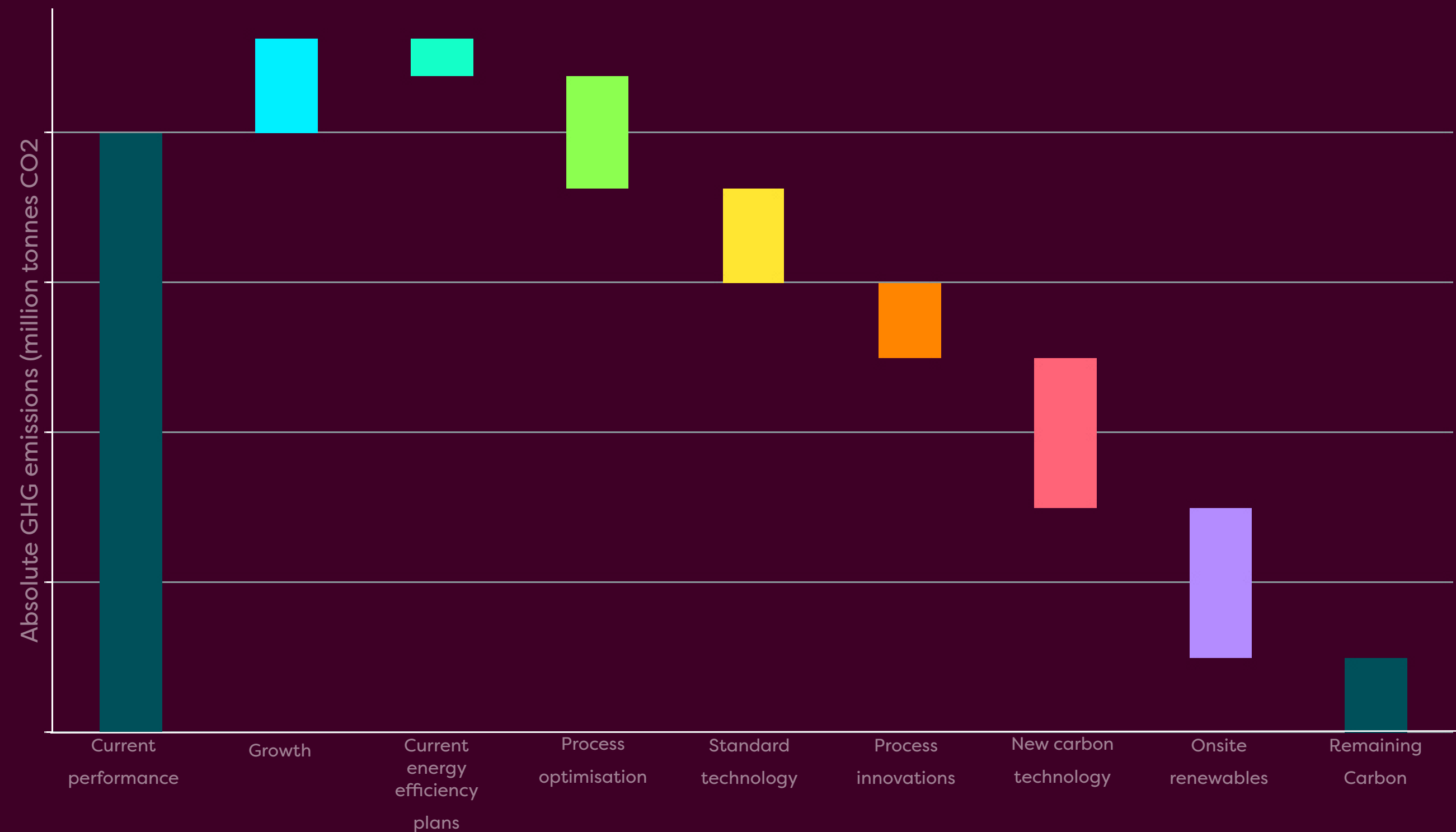
A company is unlikely to adopt an "at any cost" approach. It would be expected that a level of GHG emissions will remain after all viable internal measures have been implemented.

Find out more: Watch our webinar

How it should look

When a company is considering a net zero target it is important to know: Firstly that it is possible and secondly what the potential pathways would look like.

The sooner you act, the more pathway options your company will have. Each will be based on different assumptions such as; internal vs external action, the level of capital a company is willing to commit, and the associated appetite for risk. These pathways are likely to need updating over time as better data becomes available to replace initial assumptions.



Find out more: Watch our webinar

Where to start

Identify where you are on your journey.

Find out more: Watch our webinar

For more information or an informal chat about your net zero pathway, please email achievezero@vercoglobal.com



1. Robust GHG reporting

It is critical to ensure you are starting from a well informed position. Review your GHG reporting methodology; ensure all expected emissions sources are covered and an appropriately robust approach is being taken.

2. Engage senior management

For a net zero pathway to be successful the alignment of net zero with core business strategy is essential; the earlier senior management are engaged the greater the chance of success.

3. Develop agreed future business scenarios

Understand the key internal and external drivers which could have an impact on the company's emissions. Model the impact of these for a number of scenarios. For example differences in growth rates between regions or changes in product mix.

4. Identify GHG focus areas

Map out your key emissions by source and activity. Identify those which are both material and do not have an obvious decarbonisation solution; these are your focus sources.

5. Translate existing plans into carbon impact

There are likely to already be a number of plans for energy and resource improvements. It is important that these are incorporated into any GHG plans; this is likely to help engagement and also highlight the need for any step changes in thinking.

6. Identify potential areas for innovative/disruptive technologies

Review focus areas and identify potential areas for innovative or disruptive technology. Explore opportunities for collaboration to tackle key opportunity areas. It is likely that there will be opportunities for grant funding to support these ideas.

7. Develop renewable energy plan

Renewable energy is likely to be part of the solution. Depending on the nature of a company's operations the onsite renewable energy opportunities may stop at roof mounted PV; others may have energy from waste, wind or ground-mounted solar opportunities. Understand the opportunities and their importance.

8. Develop thinking on how to handle remaining emissions

For some companies achieving net zero completely within their operational boundary may not be possible. How to handle these remaining emissions in a way which avoids reputational and regulatory risk is an important consideration.