

A Guide to Net Zero for Chigwell Parish Council

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1: Net Zero Defined

Net Zero:

Definition (provided by the Science-Based Targets Initiative): Achieving a state in which the activities within the value chain of a company result in no net impact on the climate from greenhouse gas emissions. This is achieved by reducing value chain greenhouse gas emissions, in line with 1.5°C pathways, and by balancing the impact of any remaining greenhouse gas emissions with an appropriate amount of carbon removals. These residual emissions must be offset through valid greenhouse gas removal. This is a complex undertaking and can be covered further later, once the task of focus on emissions reductions is fully covered and understood.

Carbon Neutrality:

Whilst the term **carbon neutral** is often used interchangeably with **net zero**, these are not the same thing.

To become carbon neutral, one need not necessarily commit to reduce absolute emissions. Carbon neutrality requires only the purchasing on offsets to balance impact. This is widely considered to be an ineffective strategy as the majority of purchased offsets do not constitute any greenhouse gas removal from the atmosphere.

I would recommend aligning with the UK government along with many other cities and councils countrywide and sticking to net-zero as a target rather than using the term carbon neutral.

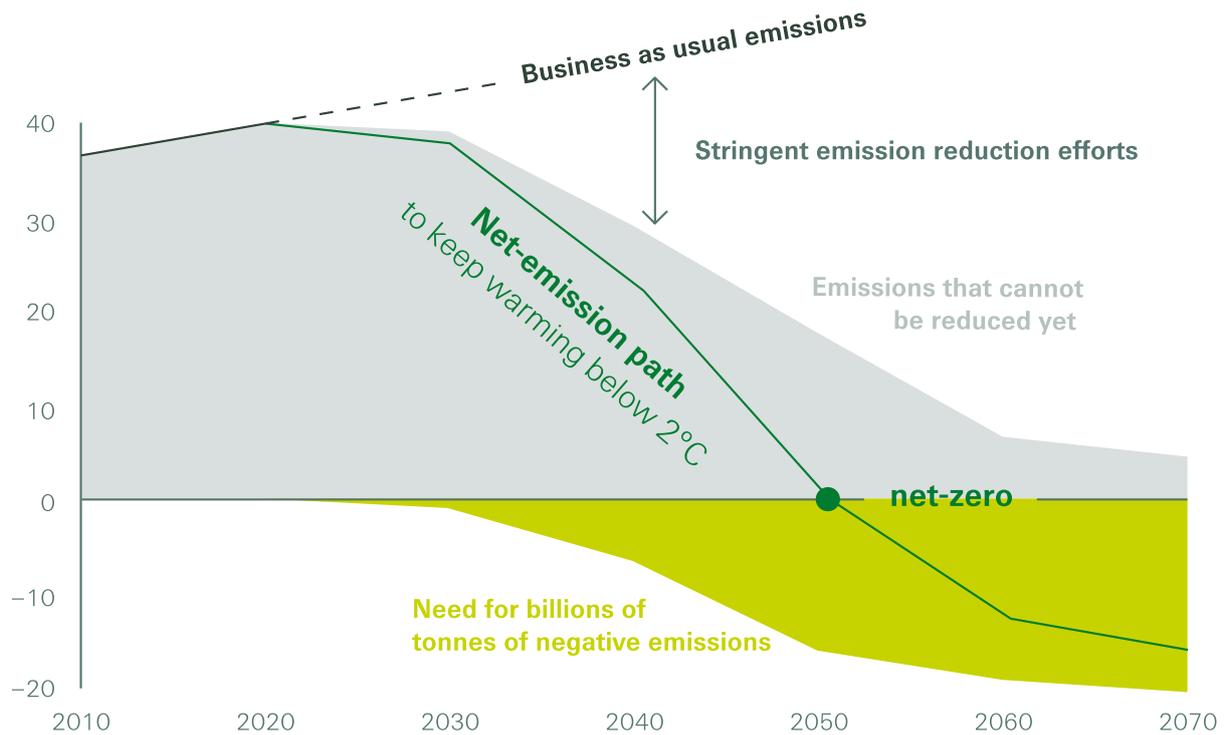


Figure 1: Graph demonstrating the logistics of the world becoming Net-Zero by 2050, Source: Swiss Re, based on graph published by IPCC.

Net Zero Planning:

Figure 2 shows a framework for developing a pathway to Net-Zero:

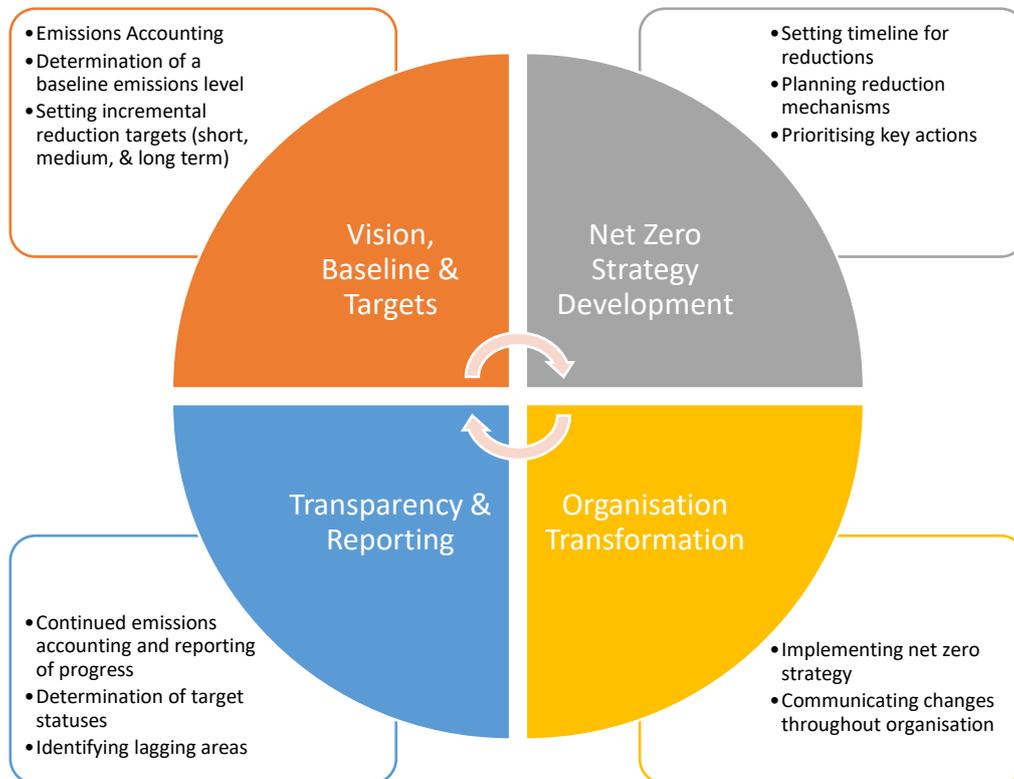


Figure 2: Pathway to Net Zero Framework

Within the above framework, Chigwell Parish Council sit in the Vision, Baseline & Targets section, which is the first step towards aligning to a net zero pathway. Each of the following 3 stages are equally important and it is essential that all are committed to if the council wishes to hit a net zero target.

The council needs to begin by determining their baseline emissions, using these estimations to determine whether the over-arching net-zero target set is achievable within the time frame, and set smaller incremental targets for reduction over the short (1 year), medium (3-5 years), and long (>10years) term.

2: Emission Types

Scopes 1, 2, and 3:

Scope 1: emissions occurring on-site such as through gas boilers and through the use of petrol/diesel vehicles owned by the council.

Scope 2: energy-emissions offsite, essentially only encompasses council electricity usage.

Scope 3: all indirect emissions such as those from non-council-owned vehicles, emissions embedded in supply chains (such as food consumption), the emissions embedded building materials, and many other sources.

Scope 3 emissions are the most difficult to define as a line of responsibility must be drawn on the indirect emissions to determine which are to be considered the council's responsibility.

Carbon accounting at a council level:

Below I have covered two key areas of emissions accounting to demonstrate the usage of the emission scopes. Other areas of emissions to consider are listed beneath and can be expanded on in further detail later.

Example of scopes within Energy

Scope 1: any buildings owned by the council will need to provide data on annual gas usage.

Scope 2: any buildings owned by the council will need to provide data on annual electricity usage.

Scope 3: an approximate estimate of the indirect energy usage resulting from council supply chains or activity more generally will be required. This is where a decision must be made regarding which indirect emissions are to be considered the responsibility of the council. For example, if the council hire a company to perform tasks (such as local maintenance) then the energy usage of that company (or an appropriate estimate of the usage for the tasks completed) could be incorporated into the council's scope 3 energy emissions. Therefore, the council will have to analyse the services they outsource to external companies or residents and either request energy usage data or approximate these figures.

It is important to draw a line between activities the council can and cannot control, for instance, it would be ill-advised for the council to take responsibility for residential energy usage as this is not something they have any control over (influencing the public should be included in a wider climate action plan rather than within a council net zero strategy).

Example of scopes within Transport

Scope 1: Any vehicles owned by the council themselves should be considered, an approximate figure for the annual distances travelled by these vehicles (and the fuel type) should be recorded to determine emissions due to direct travel emissions.

Scope 3: Any travel due to vehicles not directly owned by the council. Once again decisions must be made here regarding which forms of transport and from which individuals would be considered the council's responsibility. Any scope 3 transports emissions determined to be included in a net zero target will also require data on annual distance travelled and fuel type used.

Other sectors to consider:

- Agriculture and food
- Economic and business activity
- Housing and infrastructure
- Waste and resources
- Land-use and the natural environment

Important considerations:

The council must clearly determine during this stage which sectors and scopes of emission will be included into their own targets. It is vital that these boundaries of responsibility are made clear in order to accurately account for emissions reductions year on year. For example, the council may choose to account for scope 3 transport emissions from council members travelling to and from council business but to not account for public transport emissions for all members of the public.

Annual accounting procedures:

It is important that once baseline emissions have been calculated and targets have been set that these figures are re-evaluated regularly, and progress is reported. This will help the council to see whether they are on track to meet their targets and if further action is needed. Making this process transparent to the public will also help in building public trust in these goals and for them to see the outcomes of council actions taken. It is worth the council seriously considering outsourcing this process to a third-party consultancy as it could prove time consuming and will hold more weight with the public if the emissions calculations are assured against an international emissions accounting standard.

3: Setting Targets

Incremental targets

To achieve such a large goal, it will be important to set smaller target steps which can be achieved to ensure the council remains on track.

Short term (1 year): during the next year, what greenhouse gas emission reduction does the council want to achieve and how will it do so?

Medium term (3-5 years): during the next 3-5 years, what greenhouse gas emission reduction does the council want to achieve and how will it do so?

Long term (10 years): at the end of 10 years, what reductions should have been achieved, how will this be achieved, and what will the remaining annual emissions be?

These targets should be regularly re-evaluated and analysed to ensure the council remains on track to hit net zero.

The role of offsets

The final step to becoming Net Zero is to offset any remaining emissions through mechanisms which remove greenhouse gases from the atmosphere. In order to ensure the target is achieved, externally certified offsets would need to be purchased. The choice of offsets made by the council is very important to the validity of the net zero claim as certain options within the offsetting market do not necessarily result in greenhouse gas uptake from the atmosphere but rather offset through emissions avoidance. An example of emissions avoidance would be an offset in which you pay for a section of rainforest to be protected, no additional CO₂ uptake is achieved through this offset as the rainforest was already in existence (whilst it is of course a positive action through conservation). In order to be net zero, additional greenhouse gas emissions must be taken out of the atmosphere such as through technologies such as direct air capture with carbon capture and storage (DACCS), and other examples of greenhouse gas removal. These technologies and methodologies in greenhouse gas removal are not yet well established and therefore the council may want to wait until the end of the target period is approaching before determining which offsetting mechanisms will be the best choice for them as the market is likely to change during that time.

4: Resources

The Place-Based Climate Action Network (PCAN)

<https://pcancities.org.uk/> : DRIVING CLIMATE ACTION IN UK CITIES AND COMMUNITIES

“The Place-based Climate Action Network (PCAN) is about translating climate policy into action ‘on the ground’ to bring about transformative change. This ESRC-supported network brings together the research community and decision-makers in the public, private and third sectors through five innovative platforms: three city-based climate commissions (in Leeds, Belfast and Edinburgh) and two theme-based platforms on finance and business.”

It is worth using PCAN’s resources for Net Zero Carbon Roadmaps: <https://pcancities.org.uk/pcan-net-zero-carbon-roadmaps> (prepared for Leeds, Edinburgh and Belfast).

It may be worth contacting the network to see if any additional resources are available or if they can point you towards other organisations which specialise in council climate action.

The Local Government Association

<https://www.local.gov.uk/topics/environment-and-waste/climate-change>: a number of resources for council level climate action including publications with decarbonisation strategies for energy and transport: [https://www.local.gov.uk/publications?topic\[2466\]=2466](https://www.local.gov.uk/publications?topic[2466]=2466)

The Climate Change Committee

<https://www.theccc.org.uk/publication/local-authorities-and-the-sixth-carbon-budget/> : Publication on the “Local Authorities and the Sixth Carbon Budget”. Describing: “Local authorities have a range of existing levers that can be used to deliver local action that reduces emissions and prepares local areas to a changing climate.”

UK Government Emission Conversion Factors

<https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting> : to account for emissions the conversion factors provided by the UK government can be used, the information provided by the government also covers the use of these factors (it’s not the most intuitive process however once someone has used the spreadsheets once or twice, it becomes easier).