



Net zero for Manufacturing sites

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Who this is for

You work at site-level for an FMCG manufacturer, your objectives are to keep your factory running smoothly and meet production targets while keeping costs low. your company has probably started setting net zero carbon targets and so your factory will now need to contribute to that goal.

Not your role?

Please click below for information for other roles in the manufacturing industry:

[Net zero for manufacturing Head Office](#)

Why read this

We have been working with manufacturers to achieve their sustainability goals for 30 years. We take a collaborative approach, working first to establish relationships and understand your site so that we can be a useful part of your team. We are proud to have long-term relationships with the majority of our clients (we have been working with some for over 10 years).

This document has been created from our on-site experience, in collaboration with other Manufacturing Engineering Managers.

Net zero for Manufacturing sites

Your net zero journey

Where do you want to be?

Taking the net zero journey will require your business to answer 3 key questions. To fully achieve net zero goals, these questions will need to be answered at every level of the organisation, not just the top.

For each area, we have listed some considerations for manufacturing sites in particular, which we hope will be of use to you in your role.

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How will you track and measure?

How will you achieve targets?

Aim for zero

Where do you want to be?



Understand your business objectives

Understand what the net zero aims of your business are and when the board expects to achieve them. If you fully understand the requirements and objectives, you can move in the same direction at the right speed. It will help you to prioritise upgrades and determine what you need to track and measure on your site.

Set your investment strategy

Now you understand how your site fits into the net zero challenge, you can have a long-term overview to make sure your long-term investments and short-term plans are going in the right direction. Are there decisions you are making today that are going to impact your ability to achieve these targets in the future? Consider the software you will need as well as the hardware- is your M&T system up to the job of net zero reporting (see Report for zero section)?

Double down on demand reduction

Understand the potential for demand reduction as this will likely have a significant impact on the future capital requirement when large plant needs to be replaced. This is the area that will save costs, freeing up capital for the areas that will need investment.

Use your site expertise

No-one knows your site better than you. Decarbonisation of heat is probably a big consideration for your factory. If your site is a particular challenge for the group's decarbonisation, start thinking about how to approach this. Although all of the answers may not be available yet, there is still plenty you can do and you will be ready to make the right decisions when the time comes. The net zero plans of a site are likely to combine different aspects of energy reduction (operational improvement, energy efficiency, process optimisation and innovation) as well as renewable/ low carbon technologies. There is likely to be a role for green energy procurement and offsets to manage any residual emissions. It is important to have a plan that understands the interrelation of these activities.

Aim for zero

Benefits for manufacturing sites

- A clear plan helps everyone work together towards a common aim and ensures site activity is directly contributing to what the business as a whole is trying to achieve.
- A pro-active rather than a reactive approach enables your site to make good decisions for long-term benefit.
- A long term plan ensures that you don't miss an opportunity to take action now that will help the low carbon transition in the long-term. For example, if the long-term plan is to transition to a low temperature hot water system powered by a heat pump, you can be prepared by specifying heat exchangers that will be able to operate at a lower temperature than you currently use. Any upgrades take into account the needs of the technology you will implement in the future.

Case study

Development and delivery of a technically and financially viable zero carbon dairy strategy to meet Arla's ambitious goals.

[Read full case study](#)

Aim for zero

Services for you

Technology briefing webinars

Are you considering the long-term development of your site and the investment required for heat decarbonisation? These on-demand technology briefing webinars review the different technology options for manufacturers:

[Go to technology briefings](#)

Technology Screening assessment

We review technology options for decarbonisation and identify the best fit options for your site.

[Go to Technology Screening Assessment](#)

Remote net zero site study

We answer the question 'how could net zero be done at my site and what is in the way of it happening?' This is a high-level, high value review.

[Find out more about Aim for zero](#)

Deliver for zero

How will you achieve targets?



Identify barriers

Identify any barriers to implementing resource efficiency and process optimisation opportunities, there may well be a strong business case for more resource or an outsourced solution.

Focus on what you can change: Reduce demand

For sites with significant thermal loads it is likely that an ideal solution for decarbonisation is not currently available. But don't let the lack of certainty prevent action now. Reducing demand will help in all situations, particularly cost reduction and is likely to feature prominently in any industrial net zero strategy. Therefore the initial plans will need to focus on demand reduction and process optimisation. When compared to low carbon thermal options it is likely that process optimisation and innovation will have a favourable carbon abatement cost and may provide other co-benefits.

Consider the future

It is important to consider future net zero aspirations when evaluating projects today. For example, when looking at gas fired CHP or replacing a boiler plant, you need to consider how this will fit into a net zero strategy to avoid creating further challenges in 5-10 years' time. Look to build the carbon risk into your decision making straight away to avoid making decisions today which you will be stuck with for some time. This can be done by incorporating an internal cost of carbon into capex project appraisals.

Deliver for zero

Benefits for manufacturing sites

- Significant operational cost savings.
- Work smarter for better use of your time.
- Avoid the risk of future 'stranded assets'.
- Recognition and credibility for your site.
- Ensure most effective use of capital.

Case study

CCL Secure UK have achieved a considerable and impressive 20.5% reduction in their carbon footprint per tonne of product (Scope 1,2 and 3), against the 2018 baseline year, without the need for offsets or market instruments. This was done through:

- A comprehensive materiality assessment
- Investment in the right technology to reduce scope 1 and 2 emissions
- Efficiency improvements
- Process innovations
- Scope 3 smart supply chain.

Verco continues to support their ongoing zero carbon journey.



[Read full case study](#)

Deliver for zero

Services for you

Net zero deep dive

We answer the question 'what needs to be done and in what order'? You will get a detailed net zero pathway, built up from many individual opportunities. This will include the likely opex/ capex impact of the different scenarios as well as the key technology tipping points/ milestones for critical decisions.

Optimal implementation plan

There may be a number of different approaches to achieve net zero for a company, but each will vary in terms of timescales, capital required, changes in operational costs and risk. We develop and deliver optimal implementation plans for manufacturers- which may include supporting the implementation of projects you complete in-house or supporting the procurement of an EPC or Energy as a Service provider.

Deployment of hardware and software

Deployment of enabling systems such as data solutions and energy management software such as Carbon Desktop and Reduct (see Report for Zero).

Report for zero

How will you track and measure?



Consider the stakeholder need

Think about the stakeholders who will need to engage with the reporting outputs and on what frequency. It is likely the site team will want to use the data for active energy management, while also reporting KPI's to senior management (the data outputs will likely need to be quite different).

Link site progress to business net zero objectives

Your site will be required to provide accurate data for reporting as well as progress updates on the implementation plan. It is likely that the reporting system for site level data is already in place but consideration should be given to how consistent progress updates can be provided across sites as well as at group level where targets are focussed on CO2 rather than your energy targets of kWh and MWh.

Use consistent M&V principles

It is important that the site has the means to verify improvements and track performance to ensure the savings are locked in. Develop a set of M&V principles which can be applied to any project type to ensure consistency.

Consider data governance from the outset

You may also want to consider where your data should be stored, perhaps with an internal system or third party? Ensure you have a well documented data governance process outlining who is responsible for data, where it comes from and in what form. Three years down the road when people have moved roles, this document will become invaluable!

Report for zero

Benefits for Manufacturing sites

- Accurate reporting will demonstrate your site's contribution to net zero goals.
- Careful consideration of the methodology will ensure savings are realised when action is taken.
- Accurately forecasting impacts on an ongoing basis will support long-term strategic decision making.

Case study

Pilgrims Pride were able to achieve a 10% reduction in their energy and water consumption largely through low cost and no cost initiatives driven by Verco's data collection systems and tools. Tulip is a leading food producer in the UK producing a wide range of fresh and cooked pork products. Verco have been working with Tulip for over 8 years across all 15 UK food production facilities. Verco's support includes the provision of our energy management software package 'Carbon Desktop' accompanied by our technical consulting support.

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Report for zero

Services for you

Carbon Desktop

Simplifies group-wide reporting and provides easy access to data for driving improvement initiatives to reduce cost and carbon.

[Visit Carbon Desktop website](#)

Guaranteed compliance

We provide a guaranteed compliance offer to meet all EU and UK energy and carbon regulation (both voluntary schemes and standard compliance).

Contract Energy Manager

Our experienced engineers work as part of your team to focus on energy improvements at your site. You can choose one of three tiers of involvement to suit your needs, time constraints and objectives.

[Find out about Contract Energy Manager](#)

[Find out more about Report for zero](#)

Encourage engagement

Engagement is essential to keep projects running well, overcome the challenges quickly and celebrate success in style. Here are some ideas that we have seen work with our manufacturing clients:

Support colleagues

Before you start working on net zero projects, make sure you are all talking the same language- does everyone understand what a science based target is? Do they know what initiatives your business is involved with and what they are? Take a look at our 'Verco explains' series of bite-sized webinars and videos which explain net zero terminology and initiatives:

[Go to Verco explains](#)

Establish roles and responsibilities

Stakeholders throughout the business need to understand their role in the process and the roles of their colleagues too. Share these documents with colleagues, each one with a role-specific focus:

[Net zero for manufacturing head office](#)

Continuous improvement

Taking a continuous improvement approach to energy will make cost reduction part of the routine. Click here for our engagement toolkit which includes continuous improvement tips.

[Engagement toolkit](#)

What next:

Visit our website

Find out more about us and the services we provide.

Visit our website

Join our mailing list

We will keep updated on the latest compliance requirements, opportunities for funding and upcoming webinars and events that are relevant to you.

Join our mailing list

Call us for a free 30 minute phone consultation

We are here to help you achieve zero and love talking to businesses about how they can meet their net zero targets. Arrange a call with one of our engineers to discuss your needs and the options available to you.

Book a consultation