



Green Clusters – decentralised energy systems for Suffolk



Client's objectives

Following the success of the Suffolk Carbon Leaders Programme, Suffolk County Council were looking to scope prospective sites for renewable and low carbon energy systems within the County, to maximise cost- and energy-savings for local businesses, and contribute significantly to their decarbonisation targets.

This was a significant step for the council in creating Suffolk the greenest county. The goal was to support businesses to reduce their environmental impacts through the implementation of pioneering renewable technologies; cutting costs to Suffolk business; and looking for local suppliers to stimulate local innovation and keep revenue in the county.

The project

Seeking sites where several businesses are located together, such as local business parks, opened options which would not otherwise be possible on the scale of a single business. This strategic, county-wide review built the case for a series of renewable and low carbon systems in key locations across Suffolk. We worked with decision makers across the Council and in the District and Borough Councils to identify strategic priorities in energy strategy and sustainability, and ensure support for the proposed sites before approaching landlords and businesses to present the opportunity and explore feasibility in more detail.

Our work included:

- **Initial viability review**
- **Heat mapping, energy master planning and pre-feasibility**
- **Technical assessment**

- Economic assessment
- Site prioritisation

Project impact

Following successful long- and short-listing of sites, we identified several projects to take forward to implementation and worked in close collaboration with several businesses to support this. Examples of the projects included:

- Brownfield sites for long-term redevelopment as a recycling and energy-from-waste facility
- External network connections for an existing CHP plant at a food production facility
- Electricity recharging models for local micro-grids
- Electricity storage with solar PV for a site with a large mid-week power demand and export limitation

By applying agreed criteria and our industry expertise, we prioritised these sites for further work. This included detailed business cases with costings and range of costs, according to investment appetite; environmental metrics; and phased development of networks. We also arranged site visits to similar schemes for the shortlisted sites, so they could see the systems in operation, and to support local technology suppliers.

Given the scale of investment needed for some of the schemes, third party financing and/or governance was a potential enabler for the businesses. We reviewed local funding routes, including grants, lease financing, technology licencing and ESCo models – assessing their respective advantages and disadvantages to each project.

These prospective sites represent a significant carbon saving for Suffolk. Combining energy efficiency measures with local renewable generation, gives Suffolk businesses greater control over their energy bills, and security of supply for the future.



Testimonial

"We brought Carbon Smart in to help deliver our carbon reduction targets through direct support to Mid-Sized Businesses under the Suffolk Carbon Leaders banner. The Green Clusters work grew out of that, as something identified by the Carbon Smart team that would help achieve our goals. By connecting businesses to tackle sustainability issues, the programme not only delivered a really significant direct impact, it also established networks of cooperation that will continue to bring benefits after the programme has finished. The programme's success was down to the Carbon Smart team bringing to it the same professionalism, expertise and hard work that distinguished the rest of their work with us. More than that, the existence of the Clusters work was a result of them using their experience to challenge the ways we were going about our targets. The very significant benefits would not have been possible without that. We found them a joy to work with and would happily recommend their services to others."

Ned Harrison, Green Economy Officer – Suffolk County Council

"We've been working with Carbon Smart through the Suffolk County Council Green Clusters programme - and they have opened my eyes to what is possible for a small business. We had initially dismissed solar, but Carbon Smart developed a strong business case, accounting for grants, subsidies, and other financial support, which has given us the confidence to invest. We're now moving forward with a 135kWp solar array, which will cover 50% of our electricity demand and give us room to grow the business without worrying about the limits of our grid power supply."

Julian Long, Managing Director, EMS (programme participant)

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