

CASE STUDY

2024



Denbies Wine Estate





Beyond Zero helps Denbies Wine Estate become the first UK vineyard and winery to produce certified Net Zero wine

DENBIES WINE ESTATE

Denbies Wine Estate (Denbies), which is both an agricultural business and a tourist destination, totals 162 hectares with 90 hectares currently under vine, and sits within the Surrey Hills National Landscape.

Denbies is one of England's largest single Estate vineyards, with the first vines planted in 1986, and produces some of the finest sparkling and table wines in Europe through repeated recognition in the annual International Wine awards.

THE CHALLENGE

Denbies – a founding member of the Sustainable Wines of Great Britain certification scheme – committed to become Net Zero as part of a five-year plan in 2022.

The business and its staff have taken responsibility for the wider environment and the surrounding countryside very seriously.

For years, Denbies has been actively reducing carbon emissions from its vineyard and winery operations, and increasing carbon capture through nature-friendly farming on the Estate. However, Denbies did not have a comprehensive set of measured baselines, and therefore was unable to create an informed transition plan to reach its Net Zero target.



THE SOLUTION

Denbies engaged [Beyond Zero](#) – as a leading Environmental Asset Manager – to act as an independent carbon auditor and project developer to provide the baselines and transition plan needed to realise its ambition of producing Net Zero wine.

Beyond Zero used the [UK Carbon Code of Conduct](#) framework to develop a project and measure, report and verify all Scope 1, 2 and 3 emissions from the wine production process.

This involved collating all emissions related information from Denbies' vineyard and winery operations, including Processing, Fuels, Materials, Inventory, Crops, Inputs, Waste and Distribution.

Similarly, basemaps of the Estate's natural capital were created in order to measure carbon capture throughout the vineyard and surrounding land.

Habitats and hedgerows were mapped and classified using UK Hab classification providing a detailed understanding of the above ground biomass and vegetation sequestration.

Tree data from the Bluesky's National Tree Map provided information on the height and canopy cover for each of the Estate's 7,000+ trees, and their carbon capture was calculated.

Soil types were identified from Cranfield University's National Soil Map, and randomly generated locations for soil sampling were used to collect and analyse soil from all 112 hectares of vineyard and permanent grassland at three depths: 0-30 cm, 30-60 cm and 60-90 cm.

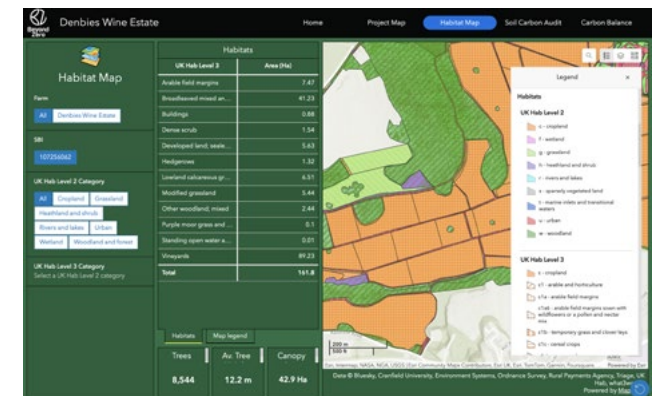
All emissions and sequestration data was input into WineGB's bespoke version of the Farm Carbon Calculator, and Beyond Zero conducted further data processing and analysis using other sources of authoritative information.

All project results were made available to Denbies through a series of interactive maps and dashboards - developed and hosted in Esri's ArcGIS Online - providing an auditable record of all baselines, an updatable platform for recording future measurements and reporting results from change analysis, and a communication and stakeholder

engagement tool.

Having measured, recorded and verified Denbies' emissions and sequestration figures, Beyond Zero developed a five-year plan to further reduce emissions and increase vineyard soil and habitat sequestration through a range of operational and land management changes - further strengthening its Net Zero position.

Annual monitoring visits will ensure targets are reviewed and adjusted as required, before a full re-baseline process which will measure and analyse change after year five.



Habitat maps help quantify the above ground biomass and vegetation carbon storage.



“As one of the founder members of Sustainable Wines of Great Britain, we are absolutely delighted that our wines are now produced with Net Zero impact. This is another example of the UK wine industry continuing to strive for excellence in all areas of wine production. We committed to becoming Net Zero as part of a five-year plan in 2022 and are delighted to have reached that goal in under two and a half years.”

Chris White, CEO - Denbies Wine Estate



THE OUTCOME

Denbies has become the first vineyard and winery in the UK to achieve Net Zero status to the UK Carbon Code of Conduct standard (UKCCC).

UKCCC methodology and protocols align with the highest global standards including SBTi (the Science Based Targets initiative) and ICVCM (the Integrity Council for the Voluntary Carbon Market).

Denbies' latest figures, which include the bumper harvest and bottling from 2023, show that the Estate sequestered more carbon than it emitted, leaving a carbon balance of -96 tonnes of CO₂e.

Denbies joins only a handful of wine producers globally to have achieved Net Zero in wine production.



THE UNLOCKED VALUE

The UKCCC certifies the Net Zero position, assuring and verifying that Denbies' wine Scope 3 emissions into the retail supply chain are zero.

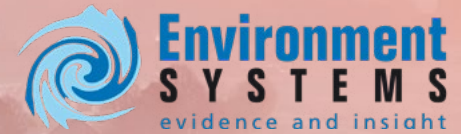
Through its nature-friendly farming, Denbies is playing its part in the reversal of climate change & biodiversity collapse, all whilst maintaining its primary business objective, i.e. to produce award winning, Net Zero certified wine.



For project details and further Case Studies:



PARTNERS



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