

Carbon Calculations For The Planning Balance

The Planning Officer's report for the Strategic Planning Committee of 21st April 2025 was deficient in that it failed to address the scale of local emissions associated with the application. The applicant has been asked on numerous occasions to clearly set out local emissions but has failed to do so. This note attempts to quantify that impact.

The Carbon Calculation spreadsheets submitted by Acorn are wholly unreliable as they link to spreadsheets that are not provided and the Energy Centre calculations are headed Spring Grove (a site in Suffolk). The Spring Grove scheme, which was refused by Suffolk Council in 2025, had 5 smaller digesters rather than the latest plant configuration at Ashton Down and a different split of fuel usage at the CHPs. Spring Grove was to utilise natural gas and biogas equally in two identical CHP units. The Ashton Down application is to install a larger natural gas CHP unit and a smaller biogas CHP unit in the ratio of 68.95% to 31.05% (see para 3.23 of the applicant's 2023 Planning, Design and Access Statement). As The Carbon Calculation Report is the only information that has been provided, I have used those figures for CHP emissions and then pro-rated them in the ratio set out above to estimate emissions at Ashton Down. It would have been very helpful if the Planning Officer had followed my recommendation of 4th November 2025 and appointed engineering consultants to comment on the veracity of the applicant's calculations, as happened for the Hardwick proposal in Stratford upon Avon (which was withdrawn in 2024 after the submission of the consultant's assessment).

My best attempt at quantifying local emissions is as follows:

Local Emissions – Tonnes CO ₂ Per Annum for Planning Balance		
	Spring Grove	Ashton Down
Emissions from Energy Use on Site		
Imported Power ¹	272	272
CHP 1 (biogas) ²	341	211
CHP 2 (natural gas) ³	4301	5931
Estimated Emissions From Transport ⁴		
Biomethane to Banbury		106
CO2 sales		74
Crop/waste input		159
Digestate Out		173
Total Local Emissions		6926

¹ Taken from cell K26 of Energy Centre Spreadsheet

² Taken from cell K42 of Energy Centre Spreadsheet

³ Taken from cell K58 of Energy Centre Spreadsheet

⁴ Taken from Transport Spreadsheet, column M figures

The applicant's carbon report states biomethane production 107 GWh of supply (cell U11 of the Energy Centre spreadsheet). Natural gas emissions from the grid are 0.20 kg/kWh (cell C10 of GHG Emissions spreadsheet) so the 107 GWh equate to approximately 21,400 Te of CO₂ saved compared to natural gas at the point of combustion. Therefore, local emissions of over 6900 Te of CO₂ are approximately 32% of the claimed benefit. This is a minimum figure as no account is taken of gas that is flared either Ashton Down or Banbury, any leakage of biogas or biomethane or the need to deliver digestate outside of the ten mile radius due to nitrate restrictions local to the site. In addition, no account has been taken of any movement of chicken litter from the Wye Valley, which would be a long-distance movement.

The claimed benefits from CO₂ capture on site are not relevant as the CO₂ is not captured and stored but sold for commercial use in the food and drink industry and other industries and is released to atmosphere when the can of drink is opened or the packaging removed from food. There is therefore no credit to be made under the CCUS (carbon capture utilisation and storage) heading as the gas is not stored in geological structures but released to atmosphere by end users. The CO₂ from Ashton Down is simply a replacement source of CO₂ for industry.

It is essential that local emissions are taken account of in the planning balance as they are material and are a significant harm. They should be afforded the same significant weight as the emission saving benefits of the scheme. Any deviation from the calculations and methodology in this note need to be fully explained in the Planning Officer's Report.

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