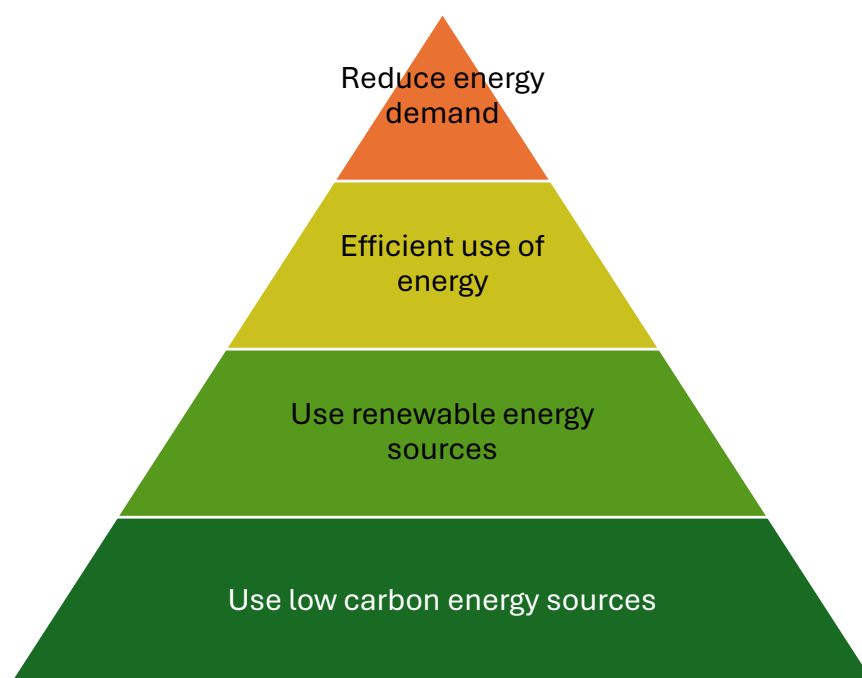


Appendix A: 2039 Net Zero Trajectory Modelling

1. **Carbon reporting:** There is not a requirement for councils to report on their carbon emissions using a specific methodology. To date the council's carbon reporting methodology has focused on absolute emissions rather than using net emissions to maintain focus on adhering to the energy hierarchy (Figure 1).

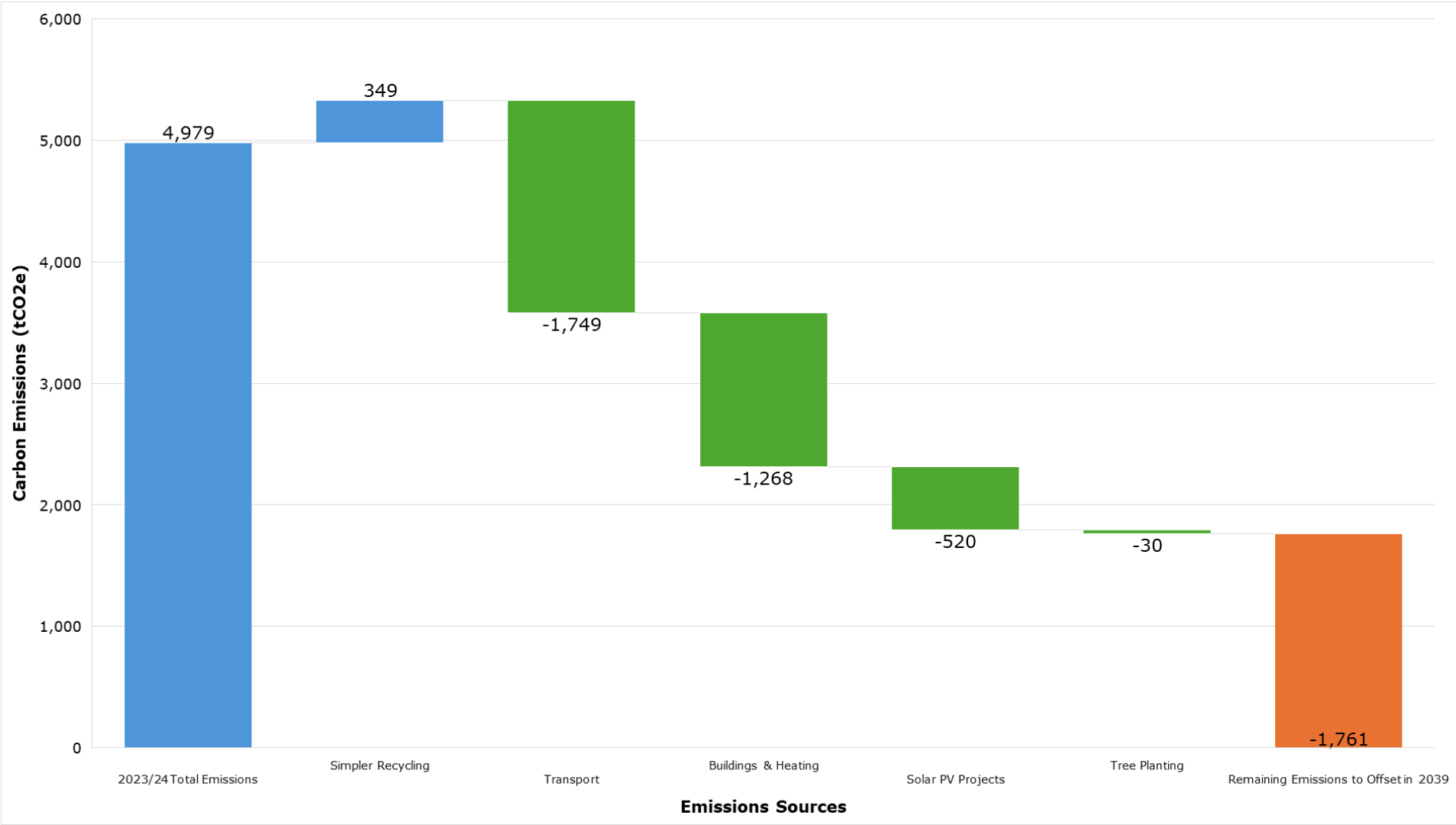
Figure 1. The energy hierarchy model



2. The method in which the council reports on emissions can have a significant impact on its emissions trajectory; the activity which is most significantly impacted by using the absolute methodology is reporting on emissions from grid electricity consumption. The council's reporting of carbon emissions from grid electricity consumption uses national carbon emissions factors published by Government, known as location-based emissions factors (orange line in Figure 3 on page 9), and not the emissions factors published by the council's electricity supplier, known as market-based factors (blue line in Figure 3). This method follows Streamlined [Energy and Carbon reporting guidelines](#) (a standard pushed by Government for commercial organisations and those who wish to report on a voluntary basis) and is referred to as dual reporting. Dual reporting helps the council identify emissions associated with the use of electricity while also recognising the value of purchasing renewable energy.
3. Since 2021 the council has purchased electricity from zero carbon sources. Figure 3 below shows the impact on the emissions trajectory when using the market-based emissions factor, that is zero emissions (blue line). If the council continues to be supplied by zero carbon sources, it is proposed this revised trajectory will be reported alongside the absolute emissions trajectory.

4. **Scope:** The methodology used to calculate the council's carbon emissions is the same each year. However, the scope of the data reported for multi-occupancy buildings is not consistent between those sites. For example, at Mildenhall Hub, the Environmental Statement only includes the emissions from the parts of the building that the council is responsible for (the office and the leisure centre), based on a high-level floor area calculation. Whereas at West Suffolk House, the emissions produced by the entire building are reported in our Environmental Statement, but other organisations make use of the building and contribute to the building's energy consumption. In order for the environmental statement to be as robust as possible in its methodology, a consistent approach across all multi-occupancy sites will be adopted going forward. Currently the only amendment required is to include all emissions from Mildenhall Hub, that is all emissions associated with energy procured by the council will be included in the environmental statement.
5. **Offsetting:** It is recognised that some carbon emissions will always be associated with the council's activities, for example emissions resulting from staff mileage. Once all possible emissions from scope 1 and 2 (areas the council have direct control over) have been eliminated from council activities, the remainder will need to be offset.
6. An example of a local solution to offsetting is to utilise the electricity generated by Toggam solar farm. Each megawatt of electricity generated by the solar farm produces one Renewable Energy Guarantee of Origin (REGO) certificate. By purchasing and then retiring the required number of REGO certificates, the council could demonstrate how its remaining emissions have been offset by these REGO certificates.
7. It will be important for the council to be transparent with any offsetting activities to avoid accusations of greenwashing. Offsetting should only be used as a last resort, when the council's emissions cannot be reduced any further, and any offsetting activities should be detailed within annual environmental statements including methodology used. The [Oxford Principles for Net Zero Aligned Carbon Offsetting 2024](#) provide good guidance for ensuring offsets are robust and credible.
8. **Carbon reduction:** Figure 2 below shows the current sources of emissions (4,979 tonnes plus an additional 349 tonnes arising from Simpler Recycling), along with the possible feasible activities to achieve a 2039 reduction target. These include transport (1,749 tonne reduction), buildings and heating (1,268 tonne reduction), solar photovoltaic (PV) installations (520 tonne reduction), and tree planting (30 tonne reduction). As with the first 2030 aspiration, this new date remains an un-funded target and it will be for future council decision-making processes to decide when, how and, ultimately, whether this is achieved.

Figure 2: West Suffolk Council's current emissions and the suggested sources of emissions reduction



9. **Interventions:** Delivering the route-map to net zero will require new interventions. Table 1 below proposes a grouped set of interventions which, subject to funding, could feasibly achieve a new net zero date of 2039. This is based upon the current fleet replacement cycle in which vehicles are replaced every eight years, and a logical timetable of building decarbonisation projects which aims to prevent resource and budget constraints by scheduling a mixture of large and small buildings into 5-year periods, rather than attempt to decarbonise our biggest and most expensive sites as early as possible.
10. Some of these interventions are already in the council's plans and budgeted for, and this is highlighted. The remainder, however, would require new funding before they proceeded. This would require formal approval as part of the council's future decision-making processes and need to be considered alongside other priorities for available funding at a time of significant financial constraint on the public purse. By logical extension, it would also be possible to decelerate or accelerate the programme in this way. **It should therefore be stressed that the purpose of this review is not to recommend a budgetary position or political prioritisation. Instead, the aim is to identify a feasible and costed route map to net zero by 2039 if the council wishes to pursue it as part of its wider priorities.**

Table 1: A breakdown of key interventions required to reduce emissions, including estimated costs, split into five-year periods.

Please note: where gas removal projects are marked with '(decision pending)' £0 funding already allocated in council budgets is correct at this point in time. However, there will be an unavoidable cost to the Asset Management Plan of renewing plant with conventional technology and this will need to be reflected in the table in due course so that it identifies the marginal cost of upgrading to carbon-free technologies.

Interventions (already agreed or new suggestions)	Estimated cost of interventions	Funding already included or identified in current and future council budgets	Grant contribution	New net council contribution required	Emissions reduction from intervention
Currently funded 2025-29					
Bury Leisure Centre - gas removal	£2,563,912	£323,491	£2,240,421	£0	330
Haverhill Leisure Centre - gas removal	£2,185,300	£275,721	£1,909,579	£0	319
Mildenhall Hub - solar canopies	£1,549,000	£1,549,000	£0	£0	124
Olding Road - rooftop solar (Assuming the generated electricity is used by West Suffolk House and/or Bury Leisure Centre)	£1,155,000	£1,155,000	£0	£0	234
2025-29					
West Suffolk House - gas removal	£2,700,000	£1,150,000	£1,350,000 (50% funding to come from Suffolk County Council as joint owners of the building)	£200,000	82
The Apex - gas removal	£2,284,000	£1,000,000	£0	£1,284,000	89
St Andrews Street HMO - gas removal (decision pending)	£50,000	£0	£25,000	£25,000	8

Interventions (already agreed or new suggestions)	Estimated cost of interventions	Funding already included or identified in current and future council budgets	Grant contribution	New net council contribution required	Emissions reduction from intervention
Nowton Park greenhouses and cottage - gas removal (decision pending)	£289,000	£0	£145,000	£144,000	32
Plant 5,000 trees	£250,000	£0	£250,000	£0	0
Replace cars and LGVs with electric vehicles	£2,119,000	£1,364,000	£38,000	£717,000	400
2030-34					
Brandon Leisure Centre - gas removal (decision pending)	£554,000	£0	£277,000	£277,000	45
Newmarket Leisure Centre - gas removal (decision pending)	£2,666,000	£0	£2,000,000	£666,000	174
Mildenhall Hub - gas removal (decision pending)	£731,000	£0	£353,000	£378,000	78
Athenaeum- gas removal (decision pending)	£190,000	£0	£95,000	£95,000	21
Vicon House - gas removal (decision pending)	£326,000	£0	£163,000	£163,000	36
Olding Road Car Park - solar canopies (Assuming the generated electricity is used by West Suffolk House and/or Bury Leisure Centre.)	£1,694,000	£0	£0	£1,694,000	162
Replace 50% of remaining fleet with electric vehicles	£11,765,000	£8,010,000	£488,000	£3,267,000	600
2035-39					
West Suffolk Operational Hub - propane removal (decision pending)	£208,000	£0	£0	£208,000	23

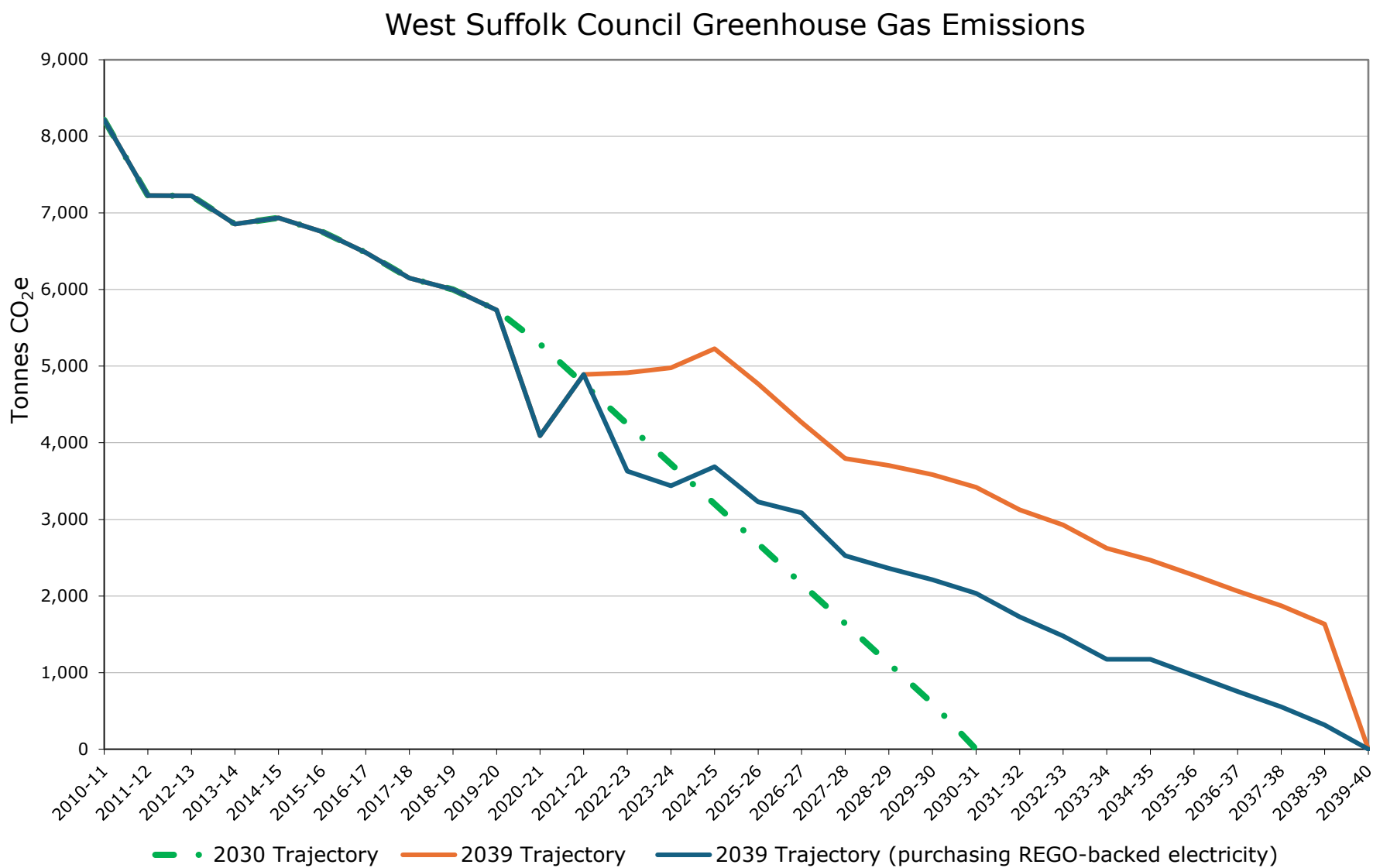
Interventions (already agreed or new suggestions)	Estimated cost of interventions	Funding already included or identified in current and future council budgets	Grant contribution	New net council contribution required	Emissions reduction from intervention
Remaining WSC estate - gas removal (decision pending)	£280,000	£0	£0	£280,000	31
Trees planted in 2025-30 begin sequestering carbon	£0	£0	£0	£0	30
Replace remaining fleet with electric vehicles	£8,270,000	£5,572,000	£466,000	£2,232,000	732
Increase EV usage for mileage claims from grey fleet	£0	£0	£0	£0	17
	£41,829,212	£20,399,212	£9,800,000	£11,630,000	3567

Table 2: A summary of the costs and emissions savings of the key interventions in Table 1.

	Estimated total cost of interventions	Funding already identified in council budgets	Grant funding available	New net council contribution required (see pending decisions in Table 1)	Emissions reduction from interventions
2025-29	£15,145,212	£6,817,212	£5,958,000	£2,370,000	1,618
2030-34	£17,926,000	£8,010,000	£3,376,000	£6,540,000	1,116
2035-39	£8,758,000	£5,572,000	£466,000	£2,720,000	833
Total	£41,829,212	£20,399,212	£9,800,000	£11,630,000	3,567

9. **Costing the 2039 target:** The costs in the above tables have been calculated using 2025 pricing without the application of inflation. Costs were based on using a combination of the following:
- manufacturer quotes
 - high-level officer estimates based on past experience and knowledge
 - invoices from previous West Suffolk Council projects
 - prices other local authorities have reported they paid.
10. The council has successfully obtained a £4.2 million grant from the Public Sector Decarbonisation Scheme (PSDS) to decarbonise Bury Leisure Centre and Haverhill Leisure Centre. The remaining grant funding figures have been conservatively estimated based on current grants available for local authorities such as PSDS (Assumes a 50 per cent PSDS grant for all eligible sites. For reference, the most recent PSDS grant awarded to the council covers 87 per cent of costs) and the [Plug-in Grant](#).
11. **New trajectory:** As explained above, if adopted, the proposed interventions would reduce emissions by 3,567 tonnes CO₂e, leaving 1,761 tonnes CO₂e remaining to offset. The largest source of remaining emissions is generated by the council's electricity consumption. However, the government's Clean Power 2030 Action Plan aims to decarbonise Great Britain's electricity supply by 2030, therefore it is likely that the council's emissions from electricity consumption will naturally reduce as the National Grid gets greener. Figure 3 shows how these new trajectories could be mapped with or without REGOs. If the interventions in table 1 above are amended, then the trajectories will change.

Figure 3: West Suffolk Council's emissions trajectory options



12. **Council's wider contribution:** The covering report explains how the council makes wider contributions to general carbon reduction in addition to what it is doing with its own assets. These cannot be included in our own net zero performance. However, it is worth highlighting that, through its own direct actions, the council is estimated to have already prevented at least another 7,000 tonnes of carbon a year from entering the atmosphere via its 'off-site' renewable energy investments, grant schemes, and so on. **As can be seen in Figure 3, this would save more than all of the council's own emissions.**
13. **Local government reorganisation (LGR):** If the Government's proposed reorganisation of local authorities in Suffolk proceeds as envisaged in 2028, then clearly later decisions on net zero will fall to a new unitary council, with a larger carbon footprint than West Suffolk Council and a different financial position. However, it is felt important that West Suffolk Council continues to pursue a decarbonisation agenda in the interim period. Firstly, because a large proportion of the decarbonisation could be achieved by projects that West Suffolk Council would still have time to commit funding to before 2028, which would benefit the new unitary council and its taxpayers financially as well as strategically. Secondly, so that the new unitary council inherits a fully costed route-map for the facilities and services it takes on in 2028 from West Suffolk. Thirdly, because all the councils in Suffolk involved in LGR currently support the same net zero ambitions, working in a county-wide partnership to deliver them.