

Roadmap to Net Zero

This roadmap will support a wider suite of documents, including the Climate Change Strategy, the Council's Carbon Budget, and Annual Action Plan Updates.

2020-2025

- **HDPs produced for all Council buildings to determine decarbonisation works costs and timeframes.**
- **Budget approved. Timeframe: February 2024**

Eon have been commissioned to complete full surveys to produce Heat De-carbonisation Plans for the primary sites. Total cost of the project is £37,000 and is funded via main building infrastructure capital budget. The reports are due to commence early in the new year and will be completed by the end of February 2024.

Site List:

Burnley Town Hall
St Peters Leisure Centre
Covered Market Hall
Towneley Hall
Mechanics Institute
Padiham Leisure Centre
Prairie Sports Complex
Padiham Town Hall
Parker Lane Offices
Burnley Bus Station

Liberata were also requested to include the Crematorium and Sandygate Student Accommodation, to cover all highest emission buildings. However, the Crematorium site is being reviewed separately as part of the county-wide Crematorium De-carbonisation project. Sandygate was not included as it is a recent build where the gas boilers only supply hot water (heating is all electric), however, to assess improvements that can be made, Liberata are aiming to produce a basic HDP themselves for Sandygate, or this can be included in the next round of HDPs produced. Additionally, Charter Walk was acquired by the Council in August 2021 and data will be included in the carbon budget for vacant units and shared areas from 2022/23 onwards; this will also be a key site to produce a HDP for.

As part of the HDP exercise, Eon will provide firm budget costs for the next stage of the process, which is to provide technical design and the proposed full schedule of works to de-carbonise the sites to RIBA stage 3 as required by Salix Public Sector Decarbonisation Scheme (PSDS).

It is expected that there will be another round of Public Sector Low Carbon Skills Funding in April 2024. An application for funding to cover the costs of preparing the technical design and the proposed full schedule of work will be submitted into this round of funding.

If successful in securing funding to pay for the technical design and proposed full schedule of works all sites can be considered for inclusion into the Autumn 2024 round of PSDS for a grant to assist in the funding of decarbonisation works.

What this action will achieve:

- Will identify firm budget costs for next stages of decarbonisation works for Council buildings
- Will assist in identifying and planning what works are able to be completed and when
- Will identify buildings that are 'quick-wins' and can be decarbonised at a faster pace
- Will identify buildings that are too costly or not possible to fully decarbonise
- Will allow for the development of a clear plan of works with cost and timescales

Challenges:

- Lengthy process, which is potentially dependent on grant funding
- If we don't secure grant funding the costs to the Council could be significant

- **Scope 3 analysis software purchased to determine procurement emissions.**
- **Budget approved. Timeframe: 2024**

A company will be commissioned to carry out analysis of the Council's procurement (purchased goods and services) Scope 3 emissions.

CO2Analysis have quoted £24,995 for analysis over 3 years. The cost to run the Council's data is £9,995 for year 1, then £7,500 for years 2 and 3. It typically takes 2 weeks for data extraction and up to 2 weeks for the data analysis. They would aim to return a data set within a month from inception of project for year 1. The budget for this has been approved.

Co2Analysis calculates an organisation's supply chain carbon footprint from the ground up, by analysing all the individual purchases and adding these up to get the overall carbon footprint. This is in-line with the Greenhouse gas protocol and provides a best practice solution from the available data.

They will run 3 years of data using AI, which will provide an analysis for each year and give a baseline for each of the years. The data pack highlights areas for review, top suppliers, top products, and top categories. They also provide a breakdown of carbon by department/ cost centre.

The service on offer from **SHIFT Environment** is also being assessed to ensure value for money and quality of service. SHIFT use a different method of engaging with suppliers through surveys asking for their Scope 1, 2 and 3 emissions. They would then analyse the results; they don't use AI. Cost approx. £5,000 per year.

Burnley Council has a relatively low number of purchases for a Council. With the exception of contracted companies such as Urbaser and Liberata, the Council is not a large procurer of goods and services, so the ability to achieve reductions from Scope 3 procurement emissions may not be as significant as for larger Councils. Annual costs for procured goods and services below.

Annual Contracted Services cost Nov 2022- Nov 2023 (Group05): **£11,594,034.58**

Liberata: £4,933,769.87 (Strategic Partnership - Service Delivery)

Urbaser: £3,228,103.83 (Refuse Collection Services)

Burnley Leisure: £978,098.84 (Grant/ Management Payment)

Misc/ Other: £2,454,062.04

Annual Supplies and Services cost Nov 2022- Nov 2023 (Group04): **£7,149,609.96**

(This includes additional spend with Urbaser/ Liberata within other categories e.g. Labour, Vehicle costs and Capital expenditure. Urbaser: £11,793.12. Liberata: £14,276.89).

What this action will achieve:

- Allow us to work towards measuring the Council's complete Scope 3 emissions, alongside Scope 1 and 2. Scope 3 emissions usually account for more than 70% of an organisation's emissions, so measuring and reducing this area of emissions is crucial.
- Will put us 'ahead of the game' and show that the Council is willing to lead by example, as not many organisations are working on their procurement emissions yet. This may also save us money in the long run, by working on this now rather than later, and identifying areas of cost savings, as well as emissions savings.
- Allow us to identify areas of procurement that can be reduced, reducing emissions and costs.
- Allow us to identify carbon cost and financial cost of purchased goods and services. Any carbon cost will have a financial cost in the future when reducing or offsetting emissions; all purchased goods and services should have the lowest carbon cost possible.
- Highlight areas of procurement that are wasteful e.g. ordering too much, ordering an expensive version when alternatives are available, ordering from a company far away/ in another country where local alternatives are available.

Challenges:

- It is a relatively new area of work measuring scope 3 procurement emissions and there is risk in finding the best method and company to measure these accurately.
- If the approach is taken to ask the companies to complete surveys/ return data, there is the risk of a low response rate and weak output data.

- **Procurement emissions incorporated into Council's carbon budget to determine areas of highest emissions and inform emissions reductions.**
- **No immediate costs. Timeframe: 2025, then annual**

- **Staff commuting data gathered and incorporated into carbon budget. Options and incentives assessed.**
- **No immediate costs. Timeframe: 2024, then annual**

Staff commuting data will be gathered through a survey sent to all Council and Burnley Leisure staff. This will identify staff commuting method, vehicle type, and distance travelled.

This will be incorporated into the Council's carbon budget using emissions calculations for staff that commute with a personal vehicle.

This survey will be sent to all staff annually.

What this action will achieve:

- This will allow us to identify the emissions from staff commuting and look into areas where it may be possible to reduce them.
- Consider opportunities to introduce an EV/hybrid car salary sacrifice scheme to encourage a move away from petrol/diesel vehicles and reduce staff commuting emissions.

- Consider incentive schemes for reduced bus/train tickets to encourage increased public transport use where possible.
- Highlight walk/cycle to work days – consider incentives/ prizes to those participating.
- Continue to offer cycle to work scheme and highlight this for increased uptake.
- Decreased commuting with personal vehicles would give more space in Council car parks for increased EV fleet that will need to expand over the coming years.

Challenges:

- Not always possible for staff to commute using public transport e.g. rural areas.
- EV/ hybrid cars are still expensive and changing the vehicles is not always possible.

- **Waste data incorporated into carbon budget.**
- **No immediate costs. Timeframe: 2025, then annual**

The Council's waste generated from its own operations will be gathered and incorporated into the carbon budget.

This will include measuring organic waste, recyclable waste (paper and cardboard, plastics, glass, metals), non-recyclable commercial and industrial waste, and electronic waste.

What this action will achieve:

- Will allow us to measure, monitor and reduce the Council's waste where possible.
- Will allow us to monitor recycling rates and improve where necessary.
- Will present the opportunity to examine high waste areas and see if they can be improved e.g. removing single-use plastic cups and replacing with mugs.
- Indicate areas for increased recycling facilities, TerraCycle schemes for non-recyclable items, etc.

Challenges:

- Hard to accurately measure all areas of Council waste, averages may need to be taken.

- **Carbon Literacy Silver award achieved.**
- **Budget approved. Timeframe: April 2024**

£12,789 has already been spent from the Corporate Training Budget and Unallocated Budgets/ Special Items. £1,000 has been approved for the Silver application (based on current costs) from the Corporate Training Budget. £190 for certification of sufficient employees for Silver (based on current criteria) is available from the 2022/23 carry forward.

The Council has already achieved the Carbon Literate Organisation Bronze award. Work is ongoing to roll out Carbon Literacy Training across Council staff and Councillors to achieve the Silver award, and eventually the Gold award. This will now be rolled out via trainers who have completed the Train the Trainer Course who will deliver the training to groups internally, which will reduce costs.

What this action will achieve:

- Have carbon literate staff across the Council to act as carbon champions and drive sustainability initiatives and climate actions.
- Ensure staff and Councillors are aware of the seriousness of climate change, and the role they play in taking action and reducing emissions.
- Demonstrate how every Council job role has a connection to reducing emissions and that it will be a whole Council effort to achieve net zero.

- Allow everyone to recognise how they can make a difference in their daily lives, at work and at home.

Challenges:

- Rolling out the training internally, rather than with online paid classes, will take longer due to trainers needing to take time out of their regular jobs to carry out the training sessions and necessary work. However, this will save money.
- Some people may not recognise the importance of the training and not wish to participate.

2025-2030

- **Transition all Council fleet cars and vans to electric by 2030.**
- **Cost: Additional £101,863 over 7 years to replace 9 vans with electric alternatives. Timeframe: By 2030.**

Green Spaces & Amenities is the only service with diesel vehicles in their service's fleet which includes 8 diesel Ford transit type vans and 1 small diesel van.

None of these have a contract length/expected replacement date after 2030 so all can be potentially replaced before then.

The table below shows the estimated combined purchase & operating costs and the CO2 emissions over a 7-year vehicle life based on the use of the current vehicles.

Vehicle	Location	EV cost (7 years)	EV CO2 emissions (tonnes)	Diesel cost (7 years)	Diesel CO2 emissions (tonnes)	Cost difference	CO2 saving (tonnes)
Crew Cab							
Tipper	Queens Town centre team	£66,828	2.4	£55,323	20.3	£11,506	17.9
Tipper	Scott's park team	£66,957	3.2	£55,445	24.6	£11,512	21.4
Tipper	Padiham Team	£66,861	2.6	£58,132	20.5	£8,728	17.9
Tipper	Cemetery Team	£66,968	3.2	£58,132	25.3	£8,836	22.1
Tipper	Playground Team	£66,602	1.1	£48,973	9.0	£17,629	7.9
Panel Van	Tree Team	£66,831	2.5	£48,831	17.6	£18,000	15.1
Tipper	Bowling green team	£66,756	2.0	£54,655	19.1	£12,101	17.1
Panel Van	Playground/Litter team	£51,747	2.0	£46,898	14.2	£4,849	12.2
Pickup		£53,927	3.0	£45,225	20.8	£8,702	17.8
		£573,477	22.0	£471,614	171.4	£101,863	149.4

The 7-year operating cost difference between electric and diesel is **£101,863** which is an estimated additional cost of **£14,552** per year and results in an annual reduction in CO2 emissions of **21.3 tonnes**.

Note: the cost of larger electric vans may reduce as manufacturers bring more models to market.

GS&A already have 5 small electric vans, 1 electric ATV, and 3 e-bikes in their fleet. The experience of operating EVs is that they are far better than the IC (internal combustion) equivalent for the short distances travelled within Burnley.

What this action will achieve:

- Reduce Council’s emissions and ensure all future fleet cars and vans being procured are electric.
- Remain in line with the UK ban on petrol and diesel cars and ensure the Council is ready for the transition.
- Whilst there is a cost difference to transition to electric alternatives, there will be long-term savings from replacing petrol/diesel which have rising costs.
- Contribute to improved air quality – co-benefit for health of population

Challenges:

- Cost of vehicles
- Potential cost of expanding electric charging infrastructure in Council car parks/at Council buildings as demand increases.

- **Transition all small parks equipment to battery electric (BE) by 2030.**
- **Cost: Additional £18,197 over 5 years to replace with electric alternatives. Timeframe: By 2030**

Greenspaces currently operates a range of pedestrian and hand-held equipment.

Some battery electric equipment is already in use, including 2 chainsaws, 2 handheld blowers, 5 hedge trimmers, 2 long reach hedge trimmers, 4 brush cutters, 1 large pedestrian mower, and 1 cylinder mower and one hybrid ride-on mower. The experience of operating BE equipment is that most items are excellent, but they require multiple batteries to operate.

The table below shows the estimated combined purchase & operating costs and the CO2 emissions over a 5-year life based on the current use of equipment (for petrol equipment a 3-year operating life has been multiplied up to the 5-year expected life of battery electric).

Description	Quantity	Battery Electric		Petrol	
		total cost (5 years)	CO2 (tonnes)	Total cost (5 years)	CO2 (tonnes)
Blower (hand held)	14	£7,000		£35,653	8.5
Hedge Trimmer	9	£4,500		£18,840	
Extendable hedge trimmer	7	£2,625		£23,341	3.2
Strimmer	11	£3,850		£30,420	6.7
Smaller strimmer	6	£1,920		£26,145	6.7
Pedestrian mower	10	£14,990		£7,117	7.5
battery	59	£41,198	3.8*		
battery	36	£50,285	2.6*		
charger	95	£28,500			

Bowling green				
Cylinder mower	1	£13,415	£9,500	0.7
charger	1	£930		
battery	1		0.25*	
		£169,213	6.65	£151,016
				33.3

*Note the CO2 emissions of BE equipment applies only to the batteries not to the 'bare' equipment, whereas each item of petrol will emit CO2.

The estimated 5-year costs for purchasing and operating battery equipment, including fuel and servicing is **£18,197** more than the equivalent costs for petrol equipment, at current prices. This is equivalent to an additional annual cost of **£3,639** and will generate an estimated annual saving of **5.3** tonnes of CO2.

There are a couple of other advantages to battery powered electric hand-held equipment: the risks of hand arm vibration are significantly lower and for some items of equipment such as strimmers, the noise levels are also lower.

GS&A currently operates 7 large pedestrian mowers for which there are currently no suitable electric alternatives. The market for commercial battery equipment is developing at a pace and it is expected that suitable equipment will come to market before 2030.

The greatest number of serviceable years for any of this type of machinery is 5 years, meaning all this equipment can potentially be replaced by 2030 without the need to replace machinery that has life left.

What this action will achieve:

- Will reduce the Council's CO2 and NOx emissions.
- Electric equipment significantly reduces Hand Arm Vibration and some noise risks.
- Will reduce costs over time as we move away from petrol which has rising costs.
- Electric equipment in most cases has a longer life span than petrol equipment.
- Good publicity for what the council is doing by using electric vehicles/ equipment around the parks and public spaces

Challenges:

- Cost of equipment.
- Running time not always as long as needed.
- Batteries from one manufacturer may not work in another manufacturer's equipment so choosing the right supplier is important and a challenge.
- Running times for electrical equipment is not always accurate/as advertised (A full kit of electrical equipment could be provided to some park teams to monitor their progress over 12 months, this would determine the success rate of the equipment and could inform further purchases as the rest of the equipment is replaced)

- **Establish an EV salary sacrifice scheme to encourage the transition to EVs.**
- **Cost: No immediate costs. Timeframe: By 2030.**

An EV salary sacrifice scheme will be implemented to assist staff with the transition away from petrol/diesel cars. There will also be a natural progression to EVs as prices lower over

time and petrol/diesel cars are phased out. This scheme will assist with lowering the Council's emissions from staff using their own cars for business use.

A survey sent to all heads of service showed that currently there are approximately 86 staff using their own vehicle for work purposes. Discussions took place with heads of service around how many fleet EVs would be needed to allow each service to move away from staff needing to use their own petrol/diesel cars for work purposes, considering job roles and frequency of business travel. However, the cost and carbon offset associated with this option would not have sufficient impact to make it a cost-effective contribution to reducing the Council's carbon budget. Whereas the implementation of an EV salary sacrifice scheme encourages the natural move towards EVs, with no immediate costs.

Aswell as this, heads of service/managers should be encouraging all staff to minimise car journeys wherever possible e.g. Teams meetings rather than in person meetings, taking public transport to meetings where appropriate, lining up out of office meetings to prevent going back and forward to the office and generating more miles/ emissions.

Staff can be reminded that if taking public transport for meetings/work purposes that the costs of tickets can be reimbursed. They can also be advised that employees who use their own bicycle for work (cycling for work purposes, not commuting) are entitled to 20p per mile, tax-free. Some organisations match the amount they pay staff for car/van mileage and the Council could also consider implementing this to encourage staff not to use their cars where possible.

What this action will achieve:

- No immediate costs to setting up the scheme.
- Reduce Council's travel emissions.
- Contribute to improved air quality.
- Staff benefit/ encourages staff retention.

Challenges:

- Cost of expanding electric charging infrastructure in Council carparks/ at Council buildings over time.
- Electricity capacity at Town Hall/ council building locations to install additional charge points.

- **By 2030, procurement emissions reduction 'quick-wins' implemented, to reduce Council's scope 3 emissions.**
- **No immediate costs. Timeframe: Ongoing**

Through measuring and monitoring the Council's scope 3 procurement emissions, areas for 'quick-wins' can be identified and emissions reduced. Areas of procurement that are wasteful e.g. areas we are ordering too much or ordering from a company far away/ in another country where local alternatives are available, can be identified and amended.

As well as informing areas to reduce emissions, there is also the opportunity to highlight areas for cost savings.

What this action will achieve:

- Allow us to work towards reducing the Council's complete Scope 3 emissions, alongside Scope 1 and 2. Scope 3 emissions usually account for more than 70% of

an organisation's emissions, so measuring and reducing this area of emissions is crucial.

- Identify areas for emissions savings and cost savings.

Challenges:

- Variable costs, cost savings may be made in some areas e.g. by identifying areas of waste/ over ordering, encouraging less printing if paper/ ink orders are excessive. But costs may increase in some areas if a significantly lower emissions company i.e. a more responsible company, or a local company, are more expensive.

- **Begin building decarbonisation works.**

Awaiting further information from decarbonisation plans and cost implications.

What this action will achieve:

- Reduce Council's emissions.
- More energy efficient buildings and lower energy consumption/ costs over time.

Challenges:

- High costs of decarbonising buildings.

- **Begin to introduce renewable energy tariff, increase % over time.**

Work ongoing to identify timescale options, costs, and the implications of changing our energy mix.

The Council's current electricity cost for 2022/23 is £797,339.04, on the standard tariff at 0.2p per kWh. The gas cost for 2022/23 is £487,431.45.

The budgets for 2023/24 are £1,017,416 for electricity and £726,331 for gas.

It is unlikely that the Council will be able to change tariff until 2025 due to the current contract. It is due to renew soon but we do not have enough information about green tariffs to make an informed decision. The next time we can change our tariff will then be April 2025.

What this action will achieve:

- Reduce Council's emissions from one of their main areas of emissions.
- Impossible to achieve net zero without the move away from fossil fuel energy.

Challenges:

- Green tariffs are more expensive than current tariff.

- **Carbon Literacy Gold award achieved.**
- **Cost: £1,850. Timeframe: 2026**

£1,850 for the Gold application (based on current costs) and certification of sufficient employees for Gold (based on current criteria) is available from the 2022/23 Corporate Training Budget carry forward.

The Council has already achieved the Carbon Literate Organisation Bronze award. Work is ongoing to roll out Carbon Literacy Training across Council staff and Councillors to achieve the Silver award, and eventually the Gold award. This will now be rolled out via trainers who have completed the Train the Trainer Course who will deliver the training to groups internally, which will reduce costs.

What this action will achieve:

- Have carbon literate staff across the Council to act as carbon champions and drive sustainability initiatives and climate actions.
- Ensure staff and Councillors are aware of the seriousness of climate change, and the role they play in taking action and reducing emissions.
- Demonstrate how every Council job role has a connection to reducing emissions and that it will be a whole Council effort to achieve net zero.
- Allow everyone to recognise how they can make a difference in their daily lives, at work and at home.

Challenges:

- Rolling out the training internally, rather than with online paid classes, will take longer due to trainers needing to take time out of their regular jobs to carry out the training sessions and necessary work. However, this will save money.
- Some people may not recognise the importance of the training and not wish to participate.

2030-2035

- **Council achieves carbon neutral by 2030.**
- **Cost: £3000 annually to be part of One Carbon World, plus £6 per carbon credit* (1 carbon credit = 1 ton) for remaining emissions. Timeframe: 2030**

Through the climate change strategy, the Council are working to reduce emissions as much as possible by 2030, with the option to then offset remaining emissions with a scheme such as One Carbon World.

Achieving carbon neutral demonstrates the Council's dedication to climate action, but will not replace climate action needed to reach net zero.

*For cost reference, this would currently be approximately £16,600 for the Council's scope 1, 2 and (the partial calculated) scope 3 emissions. Cost will be dependent on the Council's emissions in 2030. Reducing emissions as much as possible before 2030 will reduce offsetting costs.

What this action will achieve:

- Demonstrate the Council's commitment to taking action against climate change and responsibility for their emissions.
- Encourage a push to reduce emissions as much as possible before 2030 to reduce the amount of carbon offsetting needed and minimise costs.

Challenges:

- Cost.

- Ensure it does not slow down efforts to reduce emissions, offsetting is a responsible action to take and shows dedication to climate action, but needs to work alongside the move to net zero.

- **Move Council energy onto 100% renewable tariff.**

Work ongoing to identify timescale options and costs.

What this action will achieve:

- Reduce Council's emissions from one of their main areas of emissions.
- Impossible to achieve net zero without the move away from fossil fuel energy.

Challenges:

- Green tariffs are more expensive than current tariff.

- **Building decarbonisation works.**

Awaiting further information from decarbonisation plans and cost implications.

2035-2040

- **Council's direct emissions reduced by 78% by 2035 in line with UK target.**

What this action will achieve:

- Remaining in line with the UK target shows dedication to taking action against climate change and gives confidence in the Council's targets.
- The Council will be leading by example to encourage others to take ambitious climate action.
- Not being ambitious in this early stage may lead to building up the costs and having to find a larger budget over a shorter timescale, rather than spreading the costs between now and 2050.
- Keeping in line with this target will ensure our emissions are reduced as much as possible, reducing the costs of being in a carbon neutral scheme which will commence in 2030.

Challenges:

- Steep emissions reductions will be needed before 2035 in order to achieve this goal.

- **Transition larger parks equipment/ vehicles to electric.**

- **Costs: Not yet available. Timeframe: By 2040.**

GS&A currently operates 29 items of diesel plant and machinery such as tractors, ride-on mowers, small utility vehicles, quad bikes, 360° diggers, road sweeper and other miscellaneous equipment.

For many of these there are not suitable or realistically priced EV alternatives available. For example, an EV ride-on mower that was tested cost over £100,000 compared to the £25,000 cost of the diesel equivalent. Costs will come down as the larger manufacturers develop models.

For the reason given above, a detailed calculation of costs and CO2 savings for transition is not available but will be developed as realistically priced equipment becomes available.

What this action will achieve:

- Reduce Council's emissions.
- Contribute to improved air quality.

Challenges:

- Technology is not there yet for some larger equipment and vehicles, unknown when these will be available and unknown costs.

- **Transition refuse collection vehicles and street cleansing to electric/hydrogen equivalents, where available.**
- **£4,490,000- 4,520,000 to replace with electric alternatives (difference from diesel £2,355,000 - £2,375,000 more), plus cost of large electric sweeper when alternative available. By 2040.**

This will involve transitioning RCVs and street cleansing vehicles to electric or hydrogen equivalents at the earliest possible date. Electric is currently the more likely route due to costs and infrastructure, but emerging technologies will be monitored.

Streetscene are also currently looking at the cost implications and carbon saving of changing the Urbaser fleet to biodiesel. Agreement has been reached with Urbaser that they would be willing to move the fleet to biodiesel providing we covered the additional cost. *More information to come.*

The Council currently has 9 RCVs, 7 cage vehicles, and 4 sweepers (3 small and 1 large).

The contract for these vehicles runs until June 2025, but could possibly be extended. Costs rather than contract length will be the reason for doing this transition by 2040. Costs will likely decrease by 2040.

REFUSE COLLECTION VEHICLE x 9

EV option: £400,000 (£3,600,000 for 9)

Diesel version: £150,000 (£1,350,000 for 9)

CAGE VEHICLES x 7

EV option: £80,000 (all 7.5 tonnes/ large due to batteries) (£560,000 for 7)

Diesel version: £40,000 for 3.5 tonnes (small), £60,000 for 7.5 tonnes (large) (£420,000 for 7)

SMALL SWEEPERS x 3

EV option: £110,000-120,000 (£330,000-360,000 for 3)

Diesel version: £75,000-85,000 (prices are variable, depends on manufacturer and they fluctuate quite a lot) (£225,000-255,000 for 3)

LARGE SWEEPER x 1

EV option: **No alternative yet**

Diesel version: £120,000-140,000 (prices are variable, depends on manufacturer and they fluctuate quite a lot)

Total EV costs £4,490,000- 4,520,000 (plus cost of large electric sweeper when available), total diesel costs £2,115,000- 2,165,000 (difference £2,355,000- 2,375,000).

Despite initial high costs for electric RCVs, reports have shown that by taking whole life costs of electric and diesel RCV options into consideration, cost difference is minimal (Figure 1).

'Biffa report service, maintenance, and repair (SMR) costs for a diesel RCV to be an average of £5,000 per annum, this expenditure is weighted towards the latter part of the vehicle's life. Electric RCVs should cost less than this, in part due to a drastic reduction in the number of moving parts in the drive train of an electric vehicle. The reduction in eRCV SMR is conservatively estimated at 30%, which Electra agree is a reasonable figure, putting an electric RCV's average annual SMR at £3,500'. (<https://democracy.brighton-hove.gov.uk/documents/s159941/Fleet%20Strategy%20APX.%20n%204.pdf>)

Table 4-1: Whole life cost of the electric and diesel RCV options.

Scenario	Fleet	Capital Cost ¹	VED & RUL	Grant funding & RBV ²	Energy/Fuel Cost ³	SMR	Total Cost
MCC	Electric	£10,342,500	£0	-£1,512,000	£1,598,877	£945,000	£11,374,377
	Diesel	£4,117,500	£166,050	£0	£4,448,440	£1,350,000	£10,081,990
Biffa	Electric	£10,342,500	£0	-£1,512,000	£1,598,877	£945,000	£11,374,377
	Diesel	£4,117,500	£166,050	£0	£5,476,771	£1,350,000	£11,110,321

¹ Includes infrastructure costs. ² RBV = Residual Battery Value. ³ Includes AdBlue® used in diesel exhaust systems.

Table 4-2: Fleet emissions and energy consumption.

Scenario	Fleet	Scope ¹	GHG emissions (tonnes CO _{2e}) ²	Tailpipe NO _x (kg)	Tailpipe PM10 (kg)	Energy Consumption (MWh)
MCC	Electric	2 & 3	2,814	0	0	12,480
	Diesel	1	9,883	28,266	57	40,283
Biffa	Electric	2 & 3	2,814	0	0	12,480
	Diesel	1	12,168	34,801	71	49,595

¹ GHG reporting Scopes. ² Includes 1 tonne of GHG emissions arising from the use of AdBlue in diesel exhaust systems.

Figure 1: Life cost and emissions comparisons for electric vs diesel RCVs, from a study by Manchester City Council, demonstrating a minimal life cost difference and significant emissions difference.

<https://democracy.brighton-hove.gov.uk/documents/s159941/Fleet%20Strategy%20APX.%20n%204.pdf>

What this action will achieve:

- Reduce emissions from one of the Council's highest areas of emissions.
- Contribute to improved air quality.

Challenges:

- Considerations for range of RCVs is needed, need to be able to complete journeys before needing to charge.
- Charge stations/ points will be needed – amount needed and costs will need to be calculated.

- **Building decarbonisation works.**

No further information or costs available yet.

2040-2045

- **Building decarbonisation works.**

No further information or costs available yet.

2045-2050

- **Final building decarbonisation works are completed.**

No further information or costs available yet.

- **Emissions are reduced as close to zero as possible. Any remaining emissions are offset.**

At this stage, offsetting schemes should only be used for remaining emissions that are impossible to remove by other means.

The Auditor's Annual Report has made the following improvement recommendation:

The Council should calculate the estimated costs of delivering their Climate Change Strategy and build them into the MTFS (Medium Term Financial Strategy).

Management comments: The Council has an approved carbon reduction capital budget of £280k in its 2023/24 capital programme. This is being utilised to provide for some carbon reduction measures, such as voltage optimisation, led retrofits and survey works to assess the cost of works required to meet the Council's objectives under the Climate Change Strategy. A budget for ongoing climate change initiatives has been built in to the 2024/25 revenue budget, which will be kept under review. An assessment of 'one off' items of expenditure will be carried out based on the Climate Change Strategy and be built into the MTFS accordingly.

In addition to the Management Response, the Council have also since included the costs identified in this net zero report in the Council's Capital Investment Programme for the period 2024/25 to 2028/29.