Rochford District Council

REPORT TITLE:	**Financial Appraisal of Rochford District Council's 2030 Net Zero Carbon Target**
REPORT OF:	**Executive Lead Member for Resources, Climate Change and Economy Cllr Michael Hoy**

REPORT SUMMARY

To consider the proposed financial appraisal of the pathway for the Council to deliver on its Net Zero 2030 Carbon Emission target for those emissions under the influence of the Council.

RECOMMENDATIONS

Members are asked to recommend to the Executive:

R1. To explore a green/zero carbon electricity tariff for the Council corporate supplies.

R2. To consider the allocation of an additional £84,000 revenue budget for the purchase of the procurement of green diesel (Hydrotreated Vegetable Oil) for the Council fleet, currently using mineral diesel.

R3. To consider the allocation of a £750,973 of capital funding to deliver energy-saving improvements to Council assets as set out in the report.

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATIONS

1.1 In February 2023 the Executive approved the Sustainability Strategy which sets out the high-level approach as to the how Rochford District Council can achieve its declared aims of achieving carbon neutral within its own activity by 2030 and district wide by 2050.

1.2 Further to that report, at a meeting on the 28 June 2023, Council approved the declaration of a Climate and Ecological Emergency, where commitment was reaffirmed to achieve net-zero by 2030 for its own estate.

Pathway to Carbon Neutral by 2030

1.3 With respect to the scope of this report the baseline carbon footprint for Rochford District Council (RDC) 2018/19 is based on corporate buildings, managed services, staff business travel and the emissions associated with fuel consumption of the waste fleet.

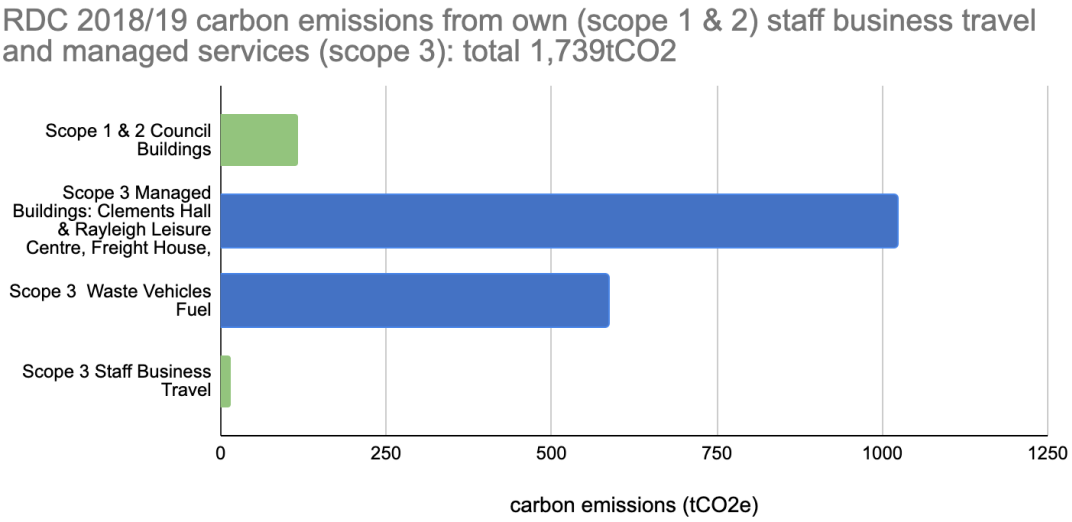

Figure 1 Sources of carbon emissions for RDC

1.4 Figure 2 below demonstrates the total carbon emissions aligned to Council activity. The data show a 17.9% reduction in carbon emissions, from 1,739tCO2e to 1,428tCO2e.

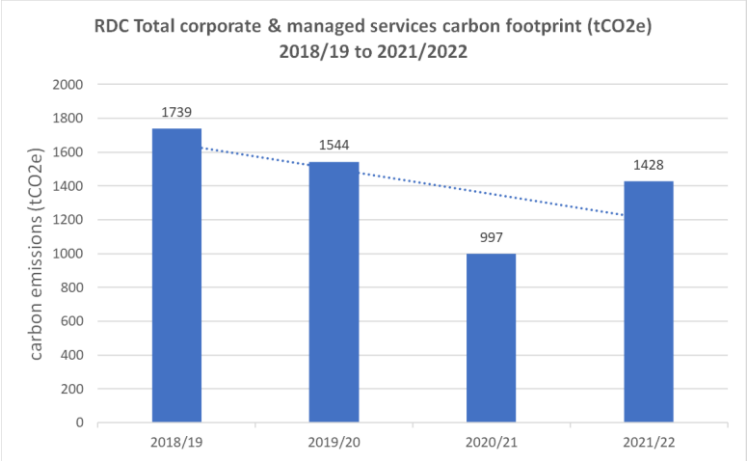

Figure 2 Carbon emissions trend RDC owned and managed services

1.5 The Financial Appraisal of Council Net Zero Carbon Emissions was presented to an informal meeting of the Climate Emergency Committee, on September

20th September 2023. **The Plan, as of November 2023, has identified that a 92% reduction in carbon emissions for RDC corporate and managed services is achievable falling from 1,789tCO2e for the baseline 2018/19 year, to 132tCO2e in 2030**. The majority of the Action Plan is costed (at least one quote from the market). This would presently require 132tCO2 to be "off set" to achieve Net Zero Carbon for the Council. The figure below shows the net zero pathway to 2030 for RDC for measures identified

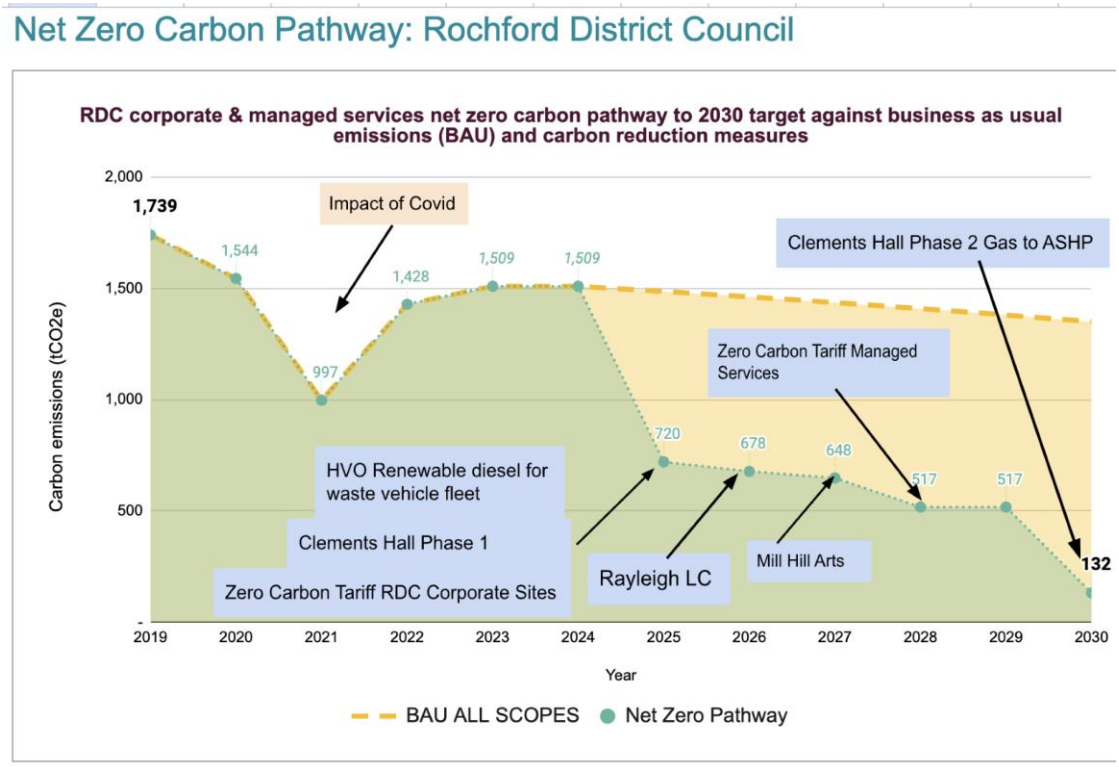

Figure 3: RDC Net Zero 2030 Pathway

1.6 To support investment decisions and provide prioritisation of energy saving measures, consideration should be given to those schemes that achieve the greatest carbon emissions reduction per pound (£) spent. The latter process is used by Salix Finance – the UK Government's public sector investment vehicle for awarding funding for decarbonisation schemes. For applicants to access the fund, individual carbon reduction measures are assigned a persistence factor (PF), this is based on roughly how many years the measure will continue to provide the carbon savings calculated. This is then used to calculate **'lifetime abatement cost/tonne carbon (£/LTCO2e)".**

2.0 BACKGROUND INFORMATION

2.1 There are 29 sites that RDC own, from recreational facilities to car park streetlighting, and the initial site surveys focussed on the significant energy users.

2.2 High level energy efficiency surveys were carried out on the major buildings in the Council corporate and managed services portfolio: The Mill Arts & Events Centre, Rayleigh Leisure Centre (LC), Clements Hall LC, Freight House. South Street offices were not surveyed given that the direction of travel for the Council is to vacate this site.

2.3 The initial survey of Freight House identified that significant investment in building fabric measures such as insulation of solid walls and window upgrades made the cost prohibitive.

2.4 The Council currently procures its electricity as a standard business supply. There is an opportunity to change the corporate electricity tariff to a 100% renewable energy, or zero carbon contract. The uplift in a green tariff is shown below, and the impact delivers a reduction of 62.7tCO2 for corporate emissions. From the initial enquires with energy switch companies the uplift for a green tariff vs standard electricity is 30.3p/kWh vs 27.4p/kWh. This is equivalent to a 9.6% increase, which for the Council would represent a £6,000 increase to revenue costs at current tariff rates for electricity.

2.5 If procurement of 'green electricity' was a condition of award for the new leisure contract (from April 2025), a further 120.6tCO2e reduction could also be achieved (post installation of carbon reduction measures identified).

Proposed Carbon Reduction Measures

2.6 With respect to buildings; quotes have been obtained for measures at Clements Hall LC and Rayleigh LC to improve building fabric, install pool covers, install solar photovoltaics (PV) and upgrade lighting to LED. The table below illustrates that for those measures costed**, a capital expenditure (excluding grants) of £750,973 would realise a 64% reduction in carbon emissions, with financial savings of around £163,140 per annum. This saving would be off-set by the additional revenue expenditure of £84,000** (as green diesel approximately 30% higher costs than mineral diesel). The full 92% carbon reduction would be achieved once the Clements Hall LC main boilers are replaced, presently scheduled at the earliest 2030.

2.5 It should be noted, that there is currently a live bid to Sport England Swimming Pools Fund for £453,386 for the proposed capital works for Clements Hall Leisure Centre. The Council will find out if it is successful in January 2024.

2.6 The tables below illustrate the capital expenditure for measures identified and the subsequent table those measures that have impacts on revenue for the Council.

Measure	net energy savings costs (£)	Persistence factor	annual carbon savings (tCO2e)	Lifetime abatement cost (£/tCO2e LT)	Cap-Ex for solution (£)	payback for measure (yrs)
All Refuse fleet to Renewable diesel	- 84,000		555.8	151		n/a
Clements Hall (CH) Pool Cover	53,732	8.45	77.8	99	64,632	1.2
CH Cavity Wall Insulation	11,948	30	37.6	25	28,393	2.4
CH LED Lightiing Upgrade	44,814	25	31.0	100	77,824	1.7
CH PV	81,988	22.5	56.7	282	359,939	4.4
Zero Carbon Electricity Tariff RDC Corporate			62.7	n/a	n/a	
Rayleigh LED Lighting Updgrade	14,368	25	9.9	137	34,010	2.4
Rayleigh Calorifiers to ASHP	-	20	n/a		?	
Rayleigh PV	26,909	22.5	17.0	196	123,000	2.8
Mill Hill Arts (MHA) Centre CWI	7,235	30	13.0	38	*36,175*	2.1
MHA Lighting LED Upgrade	680	25	0.6	127	2,000	2.9
MHA PV	5,466	23	3.8	294	25,000	4.6
Zero Carbon Electricity Tariff Managed Services	-		120.6	n/a	n/a	
SUBTOTAL	**163,140**	**23**	**867.4**	**144**	**750,973**	
Clements Hall LC Phase 2 - ASHP replaces all gas boilers	- 86,649	20	382	39	*300,000*	
Closure of South St Offices ?	-					
Totals	76,491		**1,249**	**204**	**1,050,973**	**4.9**

Table 2: RDC carbon reduction measures, capital expenditure (those in italics subject to further investigation)

2.7 The main boilers were replaced (like for like gas boilers) at Clemence Hall LC in 2022 thus replacement with lower carbon heating (air source heat pumps) would not be looked at for at least 8-10years. As a result, a quote has not been sought, as the market is still relatively immature, and costs should be less at the end of the decade.

2.8 The lifetime carbon abatement costs for each measure are plotted below to show the cost effectiveness of investment. As can be seen all measures would be suitable for Salix external funding criteria being below the £305 / LTCO2e threshold

2.9 The table below shows the carbon reduction measures identified and groups the types of measures together, as can be seen building fabric (cavity wall insulation), then pool covers followed by LED lighting upgrades then solar Photo Voltaic (PV) offer the most efficient investment route.

Measure	£/LTCO2e
CH Cavity Wall Insulation (CWI)	25
Mill Hill Arts (MHA) Centre CWI	38
Clements Hall (CH) Pool Cover	99
CH LED Lighting Upgrade	100
MHA Lighting LED Upgrade	127
Rayleigh LED Lighting Upgrade	137
Waste Fleet to Green Diesel (HVO)	151
Rayleigh LC PV	196
Clements Hall PV	282
MHA PV	294

Table 3 shows the lifetime carbon abatement costs in ascending order

2.10 A business case was prepared for the Council vehicle fleet to transfer from mineral diesel fuel, to, hydrotreated vegetable oil (HVO). This is attached in the Appendix. HVO would provide a 99% reduction in carbon emissions based on the UK Government GreenHouse Gas Conversion Factors 2023. In summary, when comparing current market prices (November 7th 2023), for HVO vs regular diesel (diesel - £1.29 vs HVO - £1.73) which equates to a 34% annual increase in revenue cost of £84,000 over and above the existing annual diesel costs when transferring the fleet to HVO. Over seven years this equates to £588,000 and would deliver a 30% (556tCO2e) reduction in the RDC carbon footprint.

2.11 There is currently a challenge to the quality of HVO coming into Europe as to the renewable credentials of green diesel from China. It will be essential, to avoid reputational risk to the council that the outcome of this is monitored before any move to HVO.

3.0 OTHER OPTIONS CONSIDERED

3.1 **Assets**: Currently options underway to decant South St offices to Rayleigh Civic Centre are being considered, the impacts on energy and carbon emissions at this stage are unclear. The future of Freight House is also undecided.

3.2 The table above includes the switch of the **waste fleet from mineral to green diesel (HVO)** and is seen as a bridging measure before electrification of the entire fleet. Given that most of the fleet were replaced last year with diesel the council is effectively locked into mineral diesel for at least the next six years. This is discussed in more detail below with a high-level view of procuring electric vs diesel vehicles.

3.3 The Council in 2022 procured ten 26 tonne Eagle Dust Carts that run on mineral diesel. The Council is in the process of procuring a further 13 vehicles at a cost of £1.42m (see appendix 3 Waste Fleet Vehicle Replacement forecast). Costs were obtained for these vehicles to be battery powered electric and equate to £2.67m, a difference of £1.25m. Looking at running costs for a single Eagle Dust Cart Westminster Council found savings (which are dependent on diesel & electricity costs) of around £2,000 per month per vehicle. Westminster is a dense inner-city borough, therefore cost would be expected to be higher for a rural district such as Rochford.

3.4 Based on the difference in cost for an electric vs diesel dust cart of £196,000 and current costs of around £22,000 per annum per vehicle to run on diesel. Even if electricity were free, over the lifetime of the vehicle (seven years typically) savings to the council on fuel would equate to £24,000 per year, lifetime savings of £168,000. This would still not payback on the uplift cost for electric dust carts.

3.5 Furthermore the procurement of an electric fleet does not take into consideration the cost of charging infrastructure required.

3.6 With respect to carbon emissions; although there would be zero tailpipe emissions, carbon emissions would only be zero if the council moves to a green tariff. Currently the UK national grid is approximately 70% green if including solar, wind and nuclear.

Procurement of the Leisure Contract

3.7 Some of the proposed capital improvements relates to the Rayleigh Leisure Centre, and the Clements Hall Leisure Centre, both properties form part of the leisure contract that is planned to put out to the market in the near future. The identified works could be delayed and incorporated into any new offering to the leisure industry, setting out that the works must be undertaken by the new provider.

3.8 The advice of Leisure Consultants, SLD, is that the works would be best undertaken prior to the commencement of any new leisure contract to ensure that the offer to market remains competitive.

3.9 Further, it is anticipated that any new contract may require the Council to underwrite the utility costs for the running of these buildings, particularly if energy saving measure have not been installed. Therefore the Council would directly benefit from any savings that would be realised by reduced utility bills from undertaking the capital improvements.

4.0 RELEVANT RISKS

4.1 If these recommendations are not taken forward there is a risk that RDC will not meet its net zero carbon 2030 commitments

5.0 ENGAGEMENT/CONSULTATION

5.1 n/a

6.0 FINANCIAL IMPLICATIONS

6.1 An additional annual £84,000 revenue budget will be required to fund the purchase of HVO fuel as an alternative to Diesel. This budgetary pressure cannot be accommodated in the existing budget allocation, and consideration will be required within the budget setting cycle of the medium term strategy against other competing financial priorities.

6.2 The request for an additional £751,000 capital is not part of the Council's existing capital programme and would have to be considered within the upcoming budget setting cycle for next municipal year.

7.0 LEGAL/GOVERNANCE IMPLICATIONS

7.1 None.

8.0 EQUALITY & HEALTH IMPLICATIONS

8.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:

a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act make discrimination etc. on the grounds of a protected characteristic unlawful.

b) Advance equality of opportunity between people who share a protected characteristic and those who do not.

c) Foster good relations between people who share a protected characteristic and those who do not, including prejudice and promoting understanding.

8.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and sexual orientation. The Act states that 'marriage and civil partnerships' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).

8.3 The proposals in this report will not have a disproportionate adverse impact on anybody with a protected characteristic.

9.0 ENVIRONMENT & CLIMATE IMPLICATIONS

9.1 The implications are included within the body of the repot.

10.0 ECONOMIC IMPLICATIONS

10.1 None

REPORT AUTHOR: **Name:** **Marcus Hotten**

Title: **Director of Environment**

Phone: **07814 861952**

Email: **Marcus.hotten@brentwood.rochford.gov.uk**

APPENDICES

None.

BACKGROUND PAPERS

None

SUBJECT HISTORY (last 3 years)

Council Meeting	Date