



FOR PUBLICATION

DERBYSHIRE COUNTY COUNCIL

**IMPROVEMENT AND SCRUTINY COMMITTEE – CLIMATE CHANGE,
BIODIVERSITY AND CARBON REDUCTION**

MONDAY 1 JULY 2024

Report of the Executive Director - Corporate Services and Transformation

**Decarbonising the Corporate Estate
Asset Disposal and Renewable Energy**

1. Purpose

- 1.1 To report further progress on the plans to decarbonise the council's estate since the previous report to committee in February 2024, with particular emphasis on property rationalisation and current proposals for renewable energy generation.

2. Information and Analysis

2.1 Executive Summary

New data for 2023-24 indicates a further 6 million kWh reduction in energy use associated with corporate buildings in 2023-24.

Energy use has been further reduced as shown below:

year	kWh	tonnesCO2e
2020-2021	45,169,293	9,171
2021-2022	44,963,103	8,861
2022-2023	38,860,609	7,475
2023-2024	32,820,000*	6,564*

(*Final figures will be confirmed in August 2024).

Property rationalisation has delivered 75-80% of the savings achieved. The potential saving from further property rationalisation has been assessed and informs the projections for future energy use by 2032.

Proposed capital projects for the installation of photo-voltaic (p.v.) panels on corporate buildings have been paused due to funding issues, so an alternative means of provision has been identified, and is progressed to approval to procure. This option - for p.v. installation by an energy provider subject to a power purchase agreement - requires no capital investment up front.

2.2 Decarbonisation Progress 2020-2024.

In February 2024 the council was able to report:

- *“Between 2020-21 and 2022-23 the energy use associated with the corporate estate was reduced by 14% or 6.1 million kWh (from 45 million kWh to 38.9 million kWh).*
- *Carbon emissions were reduced by 18% or 1700 tonnes CO2e since 2021. (From 9171 to 7475 tonnes CO2e).*
- *5.1million kWh (80%) of this reduction has been achieved by property rationalisation.*
- *1 million (20%) is due to other measures including energy management, and other energy efficiency projects”.*

2.3 Energy Use Data 2023-24

The latest energy use data for 2023-24 shows a further reduction of energy consumption for corporate buildings, with a further 6 million kWh saving.

The total energy use for 2023-2024 is 32.8 million kWh.

(Subject to final confirmation in August 2024)

year	Energy use kWh	Carbon emissions	Fossil fuel	Elec	%
2022-2023	38,860,609	7,475	28,114,193	10,715,773	72%
2023-2024*	32,820,000*	6,564*	23,370,000	9,450,000	71%

It is estimated that 4.5million kWh (75%) of this reduction is as result of property rationalisation. 1.5 million (25%) is due to other measures including energy management, and energy efficiency projects.

In February 2024 the council predicted a minimum 3.5 million kWh of further savings from property rationalisation, to be achieved in 2024. The higher figure of 4.5 million kWh saving may be due to the pace of property rationalisation.

Summary:

- Total 12.1million kWh of energy savings since 2021-22.
- 9.6million kWh has been saved by property rationalisation.
- 2.5million kWh by other means.

There is a small shift away from fossil fuels, but progress is limited by lack of available project funding to remove gas and oil fuelled heating systems in favour of cleaner renewable alternatives.

2.4 Scope for further reductions in energy consumption arising from property rationalisation.

In February 2024 a comprehensive review was undertaken of the anticipated future commitment to assets across the estate (excluding schools).

- 40% of assets are in scope to be retained.
- 20% of assets are under review.
- 40% of assets are in scope for potential disposal.

This is an estimate which anticipates the potential outcome of future reviews. The estimated maximum energy saving associated with assets in scope for disposal is currently 17.5 million kWh.

This is an additional 13 million kWh over the 4.5million kWh saving just achieved.

The current programme for disposals schedules 22 buildings with a total energy saving value of 8.6 million kWh, based on total energy use for buildings during 2022/23.

1605-01	Beechcroft – Ilkeston	614466
1615-01	East Clune – Clowne	863766
1618-01	Gernon Manor – Bakewell	557955
1620-01	Goyt Valley – New Mills	539942
1623-01	Hazelwood Old Peoples Home – Ilkeston	505155
1625-01	Holmlea – Tibshelf	623675
1626-01	Ladycross House – Sandiacre	585678
1641-01	The Spinney – Brimington	797538
1696-01	Newhall Centre	356966
1722-01	West Street Offices, Chesterfield	260241
2922-01	Whitemoor Centre	335456
3475-01	Newhall Depot, Sunnyside, Swadlincote	2672
4063-01	New Mills Youth & Community Centre	186320
1611-01	Clay Cross Resource Centre	109924
3071-01	Peter Webster Centre	321908
3336-01	Gosforth Youth Centre	109560
3374-01	Hunloke Centre	252995
3411-01	Offices at School Road Chesterfield	152396
3458-01	Offices at High Street Staveley	49849
4271-01	Former Hasland Youth Centre	98621
3451-01	John Hadfield House	281,670
2574-01	Chatsworth Hall	1,002,855
		8,609,606

These savings begin to accrue after the buildings are vacated and power and heating demand is significantly reduced.

The 4.5 million kWh saving achieved in 2023-24 is part of the above disposals programme.

A further saving – a significant proportion of the remaining 4.1 million kWh – should be realised during 2024/25.

2.5 Projected Future Energy Use

When projecting future energy requirements to 2032 a range of potential scenarios is considered, together with an estimate of the possible commitment to future projects which will reduce energy use and transition away from fossil fuels.

There will be an additional energy load associated with any new buildings or alternative accommodation provisions which cannot be estimated.

In February 2024, the future energy use associated with the corporate estate was projected to be around 50% of the 2020-21 energy use by 2032. Consumption was therefore projected to reduce towards 20-22 million kWh.

Given the increased scope of the property rationalisation project, and the updated potential savings from future property rationalisation, this forecast can now be revised, such that the projected total energy use in 2032 is currently 15 million kWh.

There are many variables, including the future scope of carbon reduction projects, and the unknown energy demand of new buildings such as the Chesterfield hub.

2.6 Future Carbon Reduction Capital Projects.

Annual project programmes have been proposed to meet and exceed these targets, but there has been limited allocation of funding for carbon reduction projects. There has therefore been little opportunity to implement projects which will transition away from fossil fuels.

Measures to decarbonise the retained buildings focus upon microgeneration, energy management and retrofit projects.

- Microgeneration by photo-voltaic panels on roofs
- Energy management via remote monitoring kit to enable better monitoring.
- Retrofit projects including small scale interventions and major refurbishments.

2.7 Renewable Energy

Generating renewable energy from photo-voltaic panels installed on roofs.

There are two options for installing p.v. panels on corporate buildings:

- Option A: Capital projects to install p.v. panels are included in project programmes.
- Option B: installation by a provider at no capital cost subject to a subsequent lease and power purchase agreement.

Option A

Option A offers greater benefits but requires capital investment funded by borrowing or capital receipts.

Every year the proposed annual carbon reduction programme includes proposed capital projects for p.v. installation.

In 2022-23 the £6 million proposed programme included £2.4 million for proposed p.v. installations on 34 buildings to generate 500,000 kWh of renewable energy with an estimated payback of 10-12 years. Unfortunately, funding approval was subsequently withheld due to the wider financial pressures and emergency cost control measures.

In 2023-24 the £2 million proposed programme included £700k for proposed p.v. installations to generate 100,000 kWh of renewable energy on 15 buildings. This bid was unsuccessful due to the same funding issue.

The 2024-25 proposed programme is currently in development prior to a capital strategy bid in July 2024.

Residential care homes were prioritised for p.v. installation due to the high energy demand. Seven schemes were taken through preliminary design to secure the necessary prior determination for permitted development. Two small installations were completed. Five further schemes are now on hold due to the subsequent asset and service review.

Option B

The alternative option applicable to larger buildings meeting a certain threshold of annual electricity demand is to allow installation of p.v. panels by others as noted above.

This is effectively a method to procure renewable energy from an alternative provider. However, there will be an option to purchase the installation after 5 years. This option would then offer the full benefits of improvement in the energy efficiency ratings of the buildings.

In May 2024 approval to procure a contractor for the installation of the first four projects was approved. The proposed installations are estimated to generate 177,000 kWh of renewable energy to be utilised on site.

2.8 Solar Farms and Wind Turbines

Renewable energy may also be generated by major projects. The proposed solar farm at Williamthorpe is estimated to offer the potential to generate 3 million kWh of renewable energy per annum. Funding is allocated and the project is currently submitted for planning approval.

Feasibility assessments have identified opportunities for additional solar farms elsewhere in Derbyshire, but it is not currently possible to secure the necessary grid connections in these locations. A county-wide review of the potential for wind turbines on our sites has identified two sites of interest which are currently subject to further technical assessment.

3. Consultation

The relevant report regarding the approval to procure a contractor to install p.v. panels subject to a power purchase agreement has recently been subject to consultations with:

- the Climate Change group
- the Climate Change and Environment Board
- Legal Services
- Procurement
- Finance.

4. Alternative Options Considered

As described in the report.

5. Implications

Appendix 1 sets out the relevant implications considered in the preparation of the report.

6. Background Papers

None

7. Appendices

Appendix 1 – Implications

8. Recommendation(s)

That the Improvement and Scrutiny Committee:

- a) Notes further progress on the plans to decarbonise the council's estate since the previous report to committee in February 2024, and the current proposals for renewable energy generation.

9. Reasons for Recommendation(s)

To support the strategy and action to achieve Net Zero for the Corporate Estate

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Appendix 1

Implications

Financial

- 1.1 The Director of Finance has confirmed the existing allocation of capital funding for the proposed solar farm. Finance have been consulted on the approved procurement report regarding the proposed alternative for p.v. installation.

Legal

- 2.1 The Director of Legal and Democratic Services will provide advice as necessary on a project specific basis.

Human Resources

- 3.1 HR provide input regarding any proposed building closures and any impact on human resources.

Information Technology

- 4.1 no issues

Equalities Impact

- 5.1 no issues

Corporate objectives and priorities for change

- 6.1 The corporate policy is to achieve Net Zero for the corporate buildings by 2032 or sooner.

Other (for example, Health and Safety, Environmental, Sustainability, Property and Asset Management, Risk Management and Safeguarding)

- 7.1 n/a