

Briefing Note

Decarbonising South Derbyshire District Council by 2030

Introduction

With growing pressure on Local Authorities to go 'net zero' South Derbyshire District Council are investigating a proactive approach towards the decarbonisation of their assets and operations. Given the scale of the challenge, it is sensible to approach a neighbouring Local Authority who already have the experience needed. Therefore, to achieve their aims South Derbyshire District Council would like to work with Nottingham City Council, drawing on the extensive experience within Nottingham's Energy Services team, to identify a suitable pathway and take the appropriate action to efficiently decarbonise their assets and operations.

Nottingham City Council is well placed to assist other Local Authorities as they are a leading organisation in the energy revolution; generating green energy and installing and developing the latest technology to reduce energy consumption. The council's award winning Energy Services is the driving force behind this activity; delivering projects that ensure organisations have access to a secure and affordable energy supply; reducing operational costs, risks and environmental impacts. The Energy Projects team work with large corporates, small-medium enterprises and the public sector to help organisations to switch to renewable and low carbon energy solutions.

Challenge

Decarbonising all of SDDC's operations and assets by 2030 will require significant planning alongside human and financial resource. There are three key areas of consideration; domestic housing stock, public buildings and land assets. The logical starting point would be domestic housing stock under SDDC's control; this includes consideration of any new homes under development – as these are currently under review.

As Figure 1 shows, in order to fully understand the challenge and opportunities presented by a move to net zero, it is important to have full and accurate data down to individual asset level. Once the data set is complete, SDDC will be well placed to develop a suitable strategy and working plan to proceed with the decarbonisation of their assets.



Figure 1 – High level process to identify, prioritise and deliver energy projects.



Action & Considerations

With the initial focus being on SDDC's domestic housing assets the first action is to ensure a targeted site audit is carried out within the 3,000 property portfolio; 1,500 houses, 700 bungalows and 800 flats. Then, upon delivery of the Domestic EPC, detailed modelling of the property in question to provide recommendations for improvements can be undertaken. Under MEES (Minimum Energy Efficiency Standards) the minimum grade of E needs to be reached, but additional options can be outlined to exceed this.

Once decarbonisation projects are identified, a business case will be developed in order to inform strategic decisions. Two example measures and considerations are:

Solid Wall Insulation

- Number houses that could be treated and the cost per dwelling
- How the work would be funded
- Benefit in terms of cost per tonne of carbon saved (cost carbon benefit analysis)
- Will the intervention allow further carbon savings by facilitating renewable heating

Solar PV

- Cost and size of system that could be fitted on most roofs
- How would you look to fund the works and generate a return; will the tenants be charge for the power generated or just have a service charges assigned for maintenance costs?
 - \circ $\;$ How would you look to cover post installation Operation and Maintenance costs?
- Would battery storage be part of the package (benefits to tenant plus potential benefit to council through commercial deals for the power stored)

Housing – 30 Year Plan

There is also an opportunity to carry out a review of the Housing 30 year plan and identify energy saving measures that could be included in the programme of planned maintenance works. This approach may mean higher initial costs for work, but result in cost savings over the 30 year plan. For example, where full central heating systems are being replaced, but not the boiler, the pipework and radiators could be specified to be heat pump ready and be plumbed to allow the heating system to work off a boiler and heat pump simultaneously (Hybrid approach) or simply be plumbed for the transition, but continuing to run of a gas boiler for the immediate future – this would still improve operational efficiencies and carbon savings, while decreasing running costs.

Conclusion

Achieving net zero is challenging, requiring significant investment. Therefore, creative solutions and working in partnership to achieve cost reductions and to enable efficient working practices is required. Taking 2005 carbon emission figures for SDDC as a baseline will reveal how much carbon needs to be saved. Data from the review of housing stock will give an indication of a likely direction of travel and help focus resources on key projects that give the best 'carbon return' for the money invested. Though the route to full decarbonisation by 2030 is not an easy one SDDC are well placed to benefit from Nottingham's experience. The realisation of this goal will place SDDC ahead of the national government target of decarbonisation by 2050 and most other local authorities in England.



Energy Services

Domestic Energy Performance Certificate provision for South Derbyshire 19th September 2019



EXECUTIVE SUMMARY

Nottingham City Council's award winning Energy Services manages the delivery of energy services, projects and programmes both regionally and nationally. We **provide award winning services** and lead Nottingham City Council's commercial agenda as the experts behind the UK's greenest city.

We support businesses and organisations including local authorities **achieve compliance**, improve their energy performance, reduce environmental impact and ultimately switch to renewable and low carbon/high efficiency energy solutions.

Our team of fully qualified energy assessors and auditors have undertaken over **1000 compliance services** including **Domestic Energy Performance Certificates (EPCs)**, Commercial Energy Performance Certificates (EPCs), Display Energy Certificates (DEC) on a range of property architypes and providing detailed modelling support to ensure **Minimum Energy Efficiency Standards (MEES)** are being met.

Following a face-to-face meeting with Paul Whittingham on the 29th August 2019, Nottingham City Council's Energy Efficiency and Compliance Team (EECT) are pleased to provide a quotation reflecting a 20% sample of Domestic hosing stock.

The approach will see a variety of housing architypes assessed and provided with holistic recommendations bespoke for the housing portfolio ensuring the minimum of an EPC C grade is achieved alongside carbon emission reductions, and or, energy generation.

For further information relating to this proposal, please contact:

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Energy Services

SCOPE OF WORKS AND SUMMARY

Work Ty	pe	Description	Cost
1. Domestic EPC		Site audit and provision of 3,000 Domestic EPCs (inclusive of lodgement fee and travel costs)	
:	1.1	Houses	£70 (price per EPC) £105,000 (for full portfolio) £21,000 (for 20% of portfolio)
:	1.2	Bungalows	£65 (price per EPC) £45,500 (for full portfolio) £9,100 (for 20% of portfolio)
:	1.3	Flats	£60 (price per EPC) £48,000 (for full portfolio) £9,600 (for 20% of portfolio)
:	1.4	Studios (no number listed against these in information provided by south Derbyshire)	£55 (price per EPC)
2. Modelling		Bespoke modelling on all EPCs to provide recommendations to improve energy efficiency rating and reduce carbon emissions	12,000 (20% portfolio)
То	tal	Based on 300 houses, 140 bungalows, 160 flats Domestic EPCs	£39,700 (+VAT)
		Based on 600 properties modelled	£12,000 (+VAT)
			£51,700 (+VAT)



SCOPE OF WORKS DESCRIPTION

1. Domestic EPC

Site audit and production of Domestic Energy Performance Certificates (EPCS) of properties within the 3,000 portfolio as detailed by south Derbyshire contact circa; 300 houses, 140 bungalows and 160 flats (20% of overall portfolio).

The cost is inclusive of travel to and from site, office based input and lodgment fee of the Energy Performance Certificate to the national database.

Rates listed for each property architype are reflective of costs and as such, if the proportion of each type is altered this price can be reflective of the alerted numbers.

The Domestic EPCs will be programmed for a 21-week period, in line with discussions with Paul Whittingham for scheduled completion December-April 2019. To make the delivery most cost effective a block booking approach will need to be undertaken ensuring that multiple EPCs (circa 10) are undertaken in a single day for efficiency allowing for this timescale to be met.

South Derbyshire will be required to liaise with tenants and ensure access for assessors, any issues with access may delay the completion date.

2. Modelling

Upon delivery of Domestic EPC, our qualified assessors will undertake modelling to accurately provide bespoke recommendations suitable for the properties in question linking with the overarching aims of South Derbyshire Council.

Recommendations will be based on the architype and usage of the property to ensure that bespoke recommendations are provided utilising information provided by South Derbyshire.

It will be made clear within recommendations what potential EPC score is able to be achieved and what carbon reduction/energy generation will be achieved utilising the latest government carbon calculations enabling South Derbyshire to effectively demonstrate carbon emission reductions across the 20% portfolio that is assessed helping to achieve wider carbon reduction targets.



APPENDIX

Appendix 1 – Fees Notes

- This quotation is based on the content outlined in this proposal. If a different number of audits, assessment, reporting or deliverables, ancillary materials or days are required then the fee will be subject to revision based on EPS's day rate or pro rata. Additional travel costs will be charged at cost and agreed in advance.
- This quotation is valid for one month from date of issue and is subject to contract.
- Invoice payment terms are 30 days. Invoices will be received at the end of each month during programme delivery covering works undertaken in the month.
- Company purchase order and payment required before commencement of work.

Appendix 2 – Professional Negligence Insurance

All professional services involving advice, design or specification provided by Nottingham City Council to third party clients are covered by Professional Negligence Insurance to the sum of £5,000,000 any one claim and in the aggregate for all claims first made against the insured and notified to Zurich Municipal during the period of insurance.