

Project Inspirer:

Research on Solid Wall Insulation

Proposal for Medway Council

CEN

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1. Introduction

CEN Services Ltd is pleased to submit this proposal for the delivery of research that will investigate suitable approaches and techniques for solid wall insulation and which will guide the distribution of a proposed grant scheme providing solid wall insulation to residential dwellings for Medway Council.

This proposal is based on a brief scope of service required provided by Susan Pledger of Medway Council.

The main contacts for this proposal are:

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1.1. Overview

The UK's housing stock is estimated at approximately 24.5 million dwellings of which approximately 36% consist of non-cavity wall construction (i.e. solid brick, solid stone, pre-1944 timber frame and non-traditional/concrete construction).

Improving the thermal efficiency of solid wall properties is an area which has massive potential for the future as this is an area where very little work has been done to date. However, more and more individuals are now starting to recognise the advantages of insulating such households and this is an area which is now seeing a real growth with many effective cost-effective solutions now available.

If you live in a home with solid walls, around 45% of your heat escapes through the walls. Insulating the walls will dramatically prevent heat loss in the winter (and also reduce heat gain in summer) in addition to reducing your energy consumption leading to:

- Greater warmth and improved comfort
- Less risk of ill health
- Lower fuel bills
- Reduced incidence of fuel debt and alleviation of fuel poverty
- Reduced maintenance
- Increased value of property

2. Client brief

The grant scheme will be made available for properties located in the All Saints priority neighbourhood. Properties in this area are predominantly of solid wall construction, were built pre 1919 and terraced. Properties are generally smaller than the average pre 1919 terraced property.

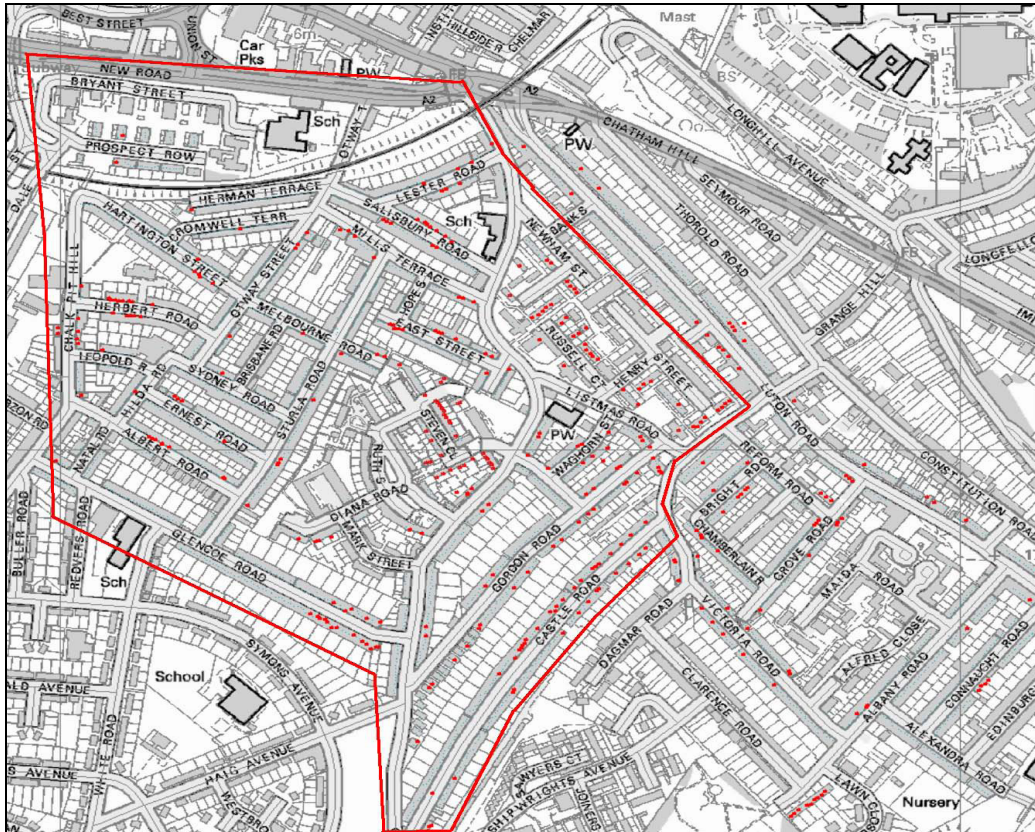


Figure 1: Research area - All Saints priority neighbourhood.

Specifically the research brief requests the following outputs:

- An appraisal of possible methods for internal and external insulation of property types within target area.
- The pros and cons for each insulation method appraised.
- Cost per m² for methods appraised.
- An Indication of how economies of scale may be achieved.
- Other relevant information to guide development of the proposed grant scheme.

2.1. Proposed methodology

The methodology that will be adopted to deliver requested outputs will be as follows:

- We will investigate the different types of solid wall construction within target area in order to develop a typology of dominant housing types. As part of this we will carry out a physical external assessment within the target area. This will be undertaken to ensure that the insulation techniques/products taken forwards by the research are suitable for the dwellings present in the area under consideration and so that suitable solutions can be proposed for the dominant dwelling types.
- Using outputs from the above we will then carry out desk based research into methods of treating solid wall residential properties to enhance thermal performance and overall energy efficiency of the dwelling. We will investigate current best practice methods for treating solid wall properties and provide a summary of positive and negative features and costs for installed solutions.
- Once the main techniques/products have been identified we will analyse how economies of scale could be achieved. As part of this we will assess potential for levered-in funding and review short-to-medium term implications of the current changes in the funding landscape. We will also consider the impact of emerging policies/legislation (e.g. PAYS, CESP, Green Deal, etc.).
- Finally, we will provide guidance for the development of a grant/loan scheme. As part of this we will consider supply chain and tendering options and advise on in-house versus outsourced management solutions. We will also provide examples of similar schemes and how these are managed.
- These four elements will be drawn together in a single report and presented to the client during a face-to-face meeting.

CEN is well placed to deliver this work programme due to our extensive experience of designing and delivering solutions that interact with existing supply chains and which facilitate the implementation of the non-conventional energy retrofit measures. We can combine this experience with extensive knowledge of building design, construction and refurbishment and the techniques employed to measure energy performance.

Due to our involvement in several retrofit programmes in London and the South East CEN has already been active in the delivery of solid wall insulation measures. We can therefore use this experience to deliver advice on techniques and products that is both current and practicable and which will be suitable for the All Saints area of Medway.

We do not feel that it is necessary at this stage to enter properties in the target area and an external assessment of the main dwellings types would be sufficient at this stage. However, Medway Council may want to consider limited in-home surveys following this research to further test the suitability of the prioritised techniques and products.

3. Fees

The following table sets out our fees for this project.

Element of Works	Duration (days)	Rate/day	Total (Excl. VAT)
Research types of solid wall construction within target area in order to develop a typology of dominant housing types. As part of this conduct physical external assessment within target area.	3.5	£350	£1,225
Using desk based research investigate current best practice methods for treating solid wall properties and provide summary of positive and negative features. Include costing information.	6	£350	£2,100
Provide analysis of how economies of scale could be achieved. Assess potential for levered-in funding and review short-to-medium term implications of the current changes in the funding landscape and consider impact of emerging policies/legislation (e.g. PAYS, CESP, Green Deal, etc.).	3	£350	£1,050
Provide guidance on development on grant scheme. Investigate supply chain and tendering options and advise on in-house and outsourced management solutions. Provide examples of similar schemes and how these are managed.	3	£350	£1,050
Presentation of findings to client steering group	0.5	£350	£175
Travel and expenses		£150	£150
Total	16		£5,750

Notes: Any additional work will be undertaken on a day rate basis to a pre agreed timescale plus expenses. Fees are excluding VAT.

4. Provisional project plan

The provisional project plan is shown in the table below. The milestones are as follows:

- Desk based research commencing 25th October 2010
- Field research commencing 1st November 2010
- Draft report delivered 16th November 2010
- Final report delivered 22nd November 2010
- Present report 26th November 2010 (or date agreed)

2010	Medway Council Solid Wall Research	Status	Programme																																
			25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov
Desk research	Solid wall insulation treatment methods research	Pending	1	1							1																								
	Solid wall insulation costs research	Pending			1							1																							
	Economies of scale research	Pending											1		1																				
	Grant scheme research	Pending															1	1																	
Area research	Desk research	Pending			½	1																													
	Central Chatham	Pending							½																										
	Luton & Wayfield	Pending							½	1																									
Report writing	Solid wall treatment report	Pending																	1																
	Economies of scale report	Pending																		1															
	Guidance on grant scheme	Pending																				1													
Issue report	Issue draft report	Pending																																	
	Consultation period	Pending																																	
	Issue final report	Pending																																	
	Present to Medway Council	Pending																																	½

Appendix 1: CV's of Key Staff

A1.1. Matthew Morris – Senior Project Development Manager

Matthew joined CEN as a project manager in 2006 and has been involved in promoting sustainable energy and low carbon lifestyles within Kent's domestic sector. Matthew also provides support to the public sector in the South East and London, primarily as part of the carbon management consultancy team. Matthew has a degree in Geography and an MSc in Environmental Management.

Prior to CEN Matthew worked as a consultant providing advice and analysis for companies and institutions in the fields of agriculture, food and drink, rural development, environment, trade and animal welfare at an agri-food consultancy. Matthew has also had various positions within the direct marketing industry, with a focus on data planning, systems development, process improvement and campaign management.

A1.2. Paul Kegos – Project Manager

Prior to CEN Paul worked for 13 years in the architectural sector as an architectural technologist and project manager. His skill set includes:

- Production of planning permission drawings and associated documentation to obtain Local Authority planning approval.
- Production of Building Regulation drawings and construction specification to satisfy Local Authority Building Control department.
- Production of construction specifications and tender documentation.
- Contract admin in line with JCT contracts.
- Levelled land and measured building surveys to produce existing plans, elevations and site plans.
- Knowledge and experience of various methods of construction and building fabric including: - traditional, steel frame, timber frame, concrete frame (pre cast & cast in-situ).
- Experience of residential, commercial, leisure, Industrial, health care and education construction on both new build and refurbishment.

Paul is a full member of the Chartered Institute of Architectural Technologists and holds a current CITB card.

Appendix 2: About CEN

Since 1997, CEN has grown rapidly from a small, locally focussed organisation to a significant player with a team of almost 100 staff, supplying integrated project development, design and implementation to a range of organisations, from individuals and communities, to businesses, public bodies, developers and architects. Our mission is to:

- Stimulate CO2 reduction.
- Alleviate fuel poverty.
- Provide environmental benefit.
- Act in a socially responsible way.

We deliver advice on energy, transport, waste and water efficiency to over 200,000 domestic households every year through our telephone advice lines, in-home advice visits and outreach events. In combination with our sister company Climate Energy, which operated the East of England ESTac, the Group overall provides advice and support across an area which includes 42% of the UK population.

CEN has a dedicated team of consultants working for a range of clients including local authorities, affordable housing providers and industry bodies including the National Housing Federation and the Housing Corporation (now the Homes and Communities Agency).

Specific experience relevant to this project includes:

- Carrying out stock-wide assessments in order to produce accurate baselines, identify current funding streams, pinpoint those most at risk of fuel poverty, and create long-term targets and action plans to eradicate fuel poverty, reduce carbon emissions and improve thermal comfort (see appendix).
- Research projects on financial models for improving the energy performance of existing social housing stock. Focussing on ESCOs and Pay As You Save models, this work has focussed on the unique challenges faced by affordable housing providers aiming to implement and finance stock improvement programmes.
- Future funding analysis to ensure CEN is well prepared to advise clients on strategic approaches to funding energy saving measures post-2012.
- 3 successful 'Retrofit for the Future' projects currently under construction, implementing whole-house solutions to reduce CO₂ emissions by over 80%. CEN were successful in securing funding for these projects due to our extensive knowledge of the energy saving sector and our practical and partnership-based approach to projects.
- Review of large-scale ESCo bids for social housing providers, comparing capital and running costs, standing charges and the implications for both landlords and residents.

As part of a wider Group of companies that includes Climate Energy and Climate Change Capital, CEN is uniquely positioned to coordinate interventions that leverage substantial sums of money from multiple energy companies. Our combined installer network is capable of delivering insulation, heating and energy generation measures at scale across a wide area. Our expertise also stretches to hard-to-treat properties with solutions for internal and external solid wall insulation and park homes.