

WP5 D1: Policy Engagement Report

RetroMeter Alpha (SIF)

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1. Introduction

The deliverable report sets out the relevant policy consultations and engagements with policy makers during the alpha phase of the RetroMeter project.

The purpose of RetroMeter policy engagement was: -

- To raise awareness among policy makers of the potential for Metered Energy Savings (MES) as a tool to use as part of the design of publicly supported retrofit programmes.
- To engage policy makers around potential policy enablers for the adoption of MES approaches.
- To engage policy makers around barriers to adoption of MES approaches, and how they may be addressed through policy.

Carbon Co-op directly organised several engagements, and tracked and coordinated further engagements which were facilitated by other project partners. Carbon Co-op and Energy Systems Catapult (ESC) collaborated on RetroMeter themed responses to policy consultations, and ESC included this MES material in their overall response to two policy consultations: Scottish Heat in Buildings consultation and the Home Energy Model.

This report sets out the context of each consultation and their responses, and summarises the engagement with policymakers.

2. Policy maker engagement summary

RetroMeter has engaged with various policy makers (see table below) as an opportunity for the RetroMeter work to provide insights to inform the development of policies, and for policymakers within the energy industry to provide feedback for the project and next steps.

The project focused on policy makers within the Office of Gas and Electricity Markets (Ofgem), the Department for Energy Security and Net Zero (DESNZ) and the British Standards Institute (BSI). A summary of these engagements can also be found in the RetroMeter WP5 Deliverable 2: Advisory Group and Stakeholder Report.

The project has engaged policymakers for DESNZ and Ofgem: -

Role	Organisation
Head of ED2 Net Zero: Strategic Investment	Ofgem
Innovation lead for RetroMeter project	UKRI
Greenhouse Gas Emissions Scientific Officer	Department for Energy Security and Net Zero
Sector Lead (Built Environment) and Lead Standards Manager	British Standards Institute

Ep group met with the Lead Standards manager and Sector Lead in Built Environment at BSI, who also works with DESNZ on Publicly Available Specification (PAS) development. Following on from this engagement, the RetroMeter project has been allocated a time slot and planned attendance, represented by ep group, at the upcoming Retrofit Standards Task Group (RSTG) in April, where the project and MES methods can be promoted, critiqued and ideas about the further development or integration of the methods within BSI/ PAS approaches could be raised and further discussed. This may include exploring if, and how, the findings can be incorporated into a standard.

There was attendance from Ofgem stakeholders at all three advisory group meetings. One crucial discussion surrounded the importance of ensuring that the work being done for the project is user centric and Ofgem suggested that further engagement should be prioritised with those that have existing relationships with homeowners. The Ofgem official suggested that without the participation and consent of householders it will not work, so we must ensure that the extraction of data is not intrusive and householders understand what their data is being used for and what benefit it brings them.

There was a discussion with Ofgem, who suggested that it would be useful to understand from the RetroMeter project, the extent to which the existing RIIO regulatory framework¹ for Distributed Network Operators (DNOs) supports the solutions being considered and any barriers if they exist. The RIIO framework is used to set price controls for the companies that operate the gas and electricity

¹ <https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/network-price-controls-2021-2028-riio-2>

networks in Great Britain, and stands for “Revenue using Incentives to deliver Innovation and Outputs”. While DNOs may financially reward, via flexible services payments or other mechanisms, energy efficiency improvements which have been proven to reduce the demand on the electricity distribution network, the RetroMeter project has highlighted that there are challenges with leveraging MES as part of these financing mechanisms. These challenges apply in the case of a ‘fabric first’ approach in gas heated homes, which only convert to heat pump at a later stage, and in the case of methodologies designed to measure total energy savings rather than energy savings at peak times. Therefore, there are policy implications as the project has highlighted the challenges that exist for the design of electricity DNO financing mechanisms for retrofit.

Through engagement with policymakers, there have been discussions on the potential to build MES into government schemes such as ECO and social housing decarbonisation schemes and on policy to support smart meter data availability, accessibility and access.

A member of DESNZ attended the 3rd advisory group meeting and was contacted for further engagement. We are working to schedule a date for further engagement.

Ofgem also advised in the meetings that further clarity would be useful to provide the detailed value to networks in terms of forecasting and flexibility solutions. To support this, a briefing note for DNOs has been created in collaboration with the project members. This will be one of six briefing notes, provided under the dissemination deliverable, which will target different audiences. Therefore, a briefing note will also be provided for policymakers. This will seek to inform policymakers more broadly and publicly share the key findings, learnings and outcomes of the project. All briefing notes will be published on the Electricity North West website.

3. Policy / industry consultations

3.1 Delivering net zero for Scotland’s building- Heat in Building Bill: consultation²: Submitted 8th March 2024

Background to this consultation:

In Scotland, heating of homes, workplaces and other buildings is the third largest cause of greenhouse gas emissions from gas and oil boilers. To meet the legal

² Delivery net zero for Scotland’s buildings- Heat in Buildings Bill: Consultation <https://www.gov.scot/publications/delivering-net-zero-scotlands-buildings-consultation-proposals-heat-buildings-bill/>

obligation to reach net zero the heating systems must be changed. This will not only make buildings more energy efficient, but these improvements can also reduce energy bills and address fuel poverty.

The purpose of this consultation was to address the introduction of a draft Bill containing the powers to create a new **'Heat in Buildings Standards'**. The Scottish government propose to:

- Introduce a new law that will require homeowners to ensure their homes meet a minimum energy efficiency standard by the end of 2033.
- Prohibit the use of polluting heating from 2045 in all buildings. Reconfirm that the use of polluting heating systems will be prohibited after 2045.
- As a pathway to 2045, require those purchasing a home or business premises to end their use of polluting heating systems within a fixed period following completion of the sale.
- Private landlords will be required to meet the minimum energy efficiency standard by 2028. This is because private rented homes have a poorer standard of energy efficiency and the people who live in those homes are usually unable to make improvements without permission.

The set minimum energy efficiency standard can be met by installing a list of measures, and monitored by submitting an Energy Performance Certificate (EPC) to demonstrate the type of heating system used in the building, and the presence (or not) of particular energy efficiency measures, such as loft insulation and the fabric efficiency rating of the building.

The following MES related content was drafted by Carbon Co-op, ESC and the RetroMeter team, and submitted by ESC on behalf of the project: -

- *Q4. Do you agree with our proposal to set a minimum energy efficiency standard that can be met by either installing a straightforward list of measures, or showing a good level of energy efficiency based on a reformed EPC fabric efficiency metric?*

Answer: Neither support nor oppose

The RetroMeter response proposed that in the case of retrofitted properties, EPC assessment can be supplemented through looking at metered energy savings, which have the advantage of providing data on the actual performance of the building post-retrofit relative to a counterfactual, rather than relying solely on the deemed performance based on measured installed. The work of the RetroMeter project to develop and test comparison methodologies, builds on the US OpenEEMeter methodology and tests it in the UK context. Further development, testing and standardisation of metered energy saving methodologies can provide a useful way of monitoring if retrofitted homes are meeting the Heat in Buildings Standard.

- *Q18. We will need to have a way to monitor if people are meeting the Heat in Buildings Standard, and discussed two options for this. Which do you support?*

Answer: Another method, please suggest below or explain your selected answer

The RetroMeter response argued that there are widely acknowledged problems with EPC ratings, which include their accuracy and reliability for measuring the effectiveness of domestic retrofit. Where possible, the actual energy performance of a building should be measured to demonstrate compliance with the Heat in Buildings Standard. In the case of retrofitted properties, EPC assessment can be supplemented by looking at metered energy savings. It can provide information on the quality of installation, rather than being based only on lists of measures installed, where metered energy savings methodologies measure the energy performance of buildings primarily through smart meter data. Further to this, the methodologies can unlock substantial investment in the UK retrofit market to monetise several value streams for institutional funders, such as public bodies, DNOs, private financiers and NHS trusts.

3.2 Home Energy Model Consultation: replacement for the Standard Assessment Procedure (SAP)³: Submitted 27th March 2024.

Background to this consultation:

The Standard Assessment Procedure (SAP)⁴ is the methodology currently used by the government to estimate the energy performance of homes across the UK. The Home Energy Model (HEM) will replace SAP for the energy rating of dwellings. Like SAP, the Home Energy Model will underpin a large number of government policies, making it of critical importance to the delivery of both housing and climate objectives.

Following recommendations by the Climate Change Committee and a scoping study commissioned by the then Department of Business, Energy and Industrial Strategy, the development of the new HEM methodology aims to increase its accuracy, robustness, and to ensure it is fit to support the transition to net zero. The Home Energy Model incorporates a number of structural changes to enable a more open, evidence-based methodology, and increases its potential applications.

³ Open consultation- Home Energy Model: replacement for the Standard Assessment Procedure (SAP) <https://www.gov.uk/government/consultations/home-energy-model-replacement-for-the-standard-assessment-procedure-sap>

⁴ Standard Assessment Procedure <https://www.gov.uk/guidance/standard-assessment-procedure>

The consultation was issued to enable industry to participate in the ongoing development of the model while it is still in its formative stage.

The Home Energy Model has sought to align with international energy modelling standards and the best available technical evidence. It is part of a wider government package relating to the Home Energy Model and Future Homes Standard. It is still under development and it is planned to implement the first version alongside the Future Homes Standard in 2025. The original deadline for consultation responses was 6th March, but this was extended to 27th March.

The following MES related content was drafted by Carbon Co-op, ESC and the RetroMeter team, and submitted by ESC on behalf of the project: -

Q27. What examples of real-world case studies, or other data, do you suggest be used to further validate the Home Energy Model?

The Catapult's Living Lab captures energy data from thousands of homes via smart meters, smart heating controls, battery storage, solar PV, electric vehicles and chargers, heat meters and more through the Digital Integration Platform. This data could be used to further validate the Home Energy Model against in occupancy energy use.

Q28. What suggestions do you have for further validation exercises that could be undertaken to refine the Home Energy Model?

The RetroMeter response suggests that a version of the Home Energy Model will need to be developed for existing properties, and this could be supported with validation against Metered Energy Savings methodologies. These compare real-life metered energy use of a home which has particular measures in place, with a counterfactual energy use.

The RetroMeter project is building on the OpenEEMeter methodology by developing comparison methodologies, by comparing the changes in metered energy use of homes which have been retrofitted with similar homes which have not been retrofitted.

Validation of HEM models can be done using RetroMeter or other metered energy savings approaches. The Home Energy Model can be run on the same home before and after retrofit, and Metered Energy Savings methodologies also applied to the same home before and after retrofit, to examine any differences in the findings. These differences can then be used to improve the Home Energy Model (or the metered energy savings methodology, or both).

4. Conclusion

The project has actively engaged with policy makers and will continue to do so by disseminating the briefing note for policy makers and discussing how work on MES

can be brought forward in the UK and the challenges that exist for the design of electricity DNO financing mechanisms. Project partners will also await the next stages of the above policy consultations and engage further.