Minutes

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Minutes of the ECO Innovation Technical Advisory Panel

From: Roisin Curran	Date: 07 October 2019 Time: 9:00am	Location: London

The technical advisory panel (TAP) has been set up to review ECO demonstration and innovation applications. It is formed by a number of independent panel members, with its Chair and Secretariat function provided by Ofgem. The TAP makes recommendations to Ofgem to approve or reject certain ECO applications. It does not, in and of itself, make any decisions to approve or reject such applications. Accordingly, these minutes provide a summary of each discrete review undertaken by the TAP as discussed by TAP members during group meetings. The TAP review is limited to the material submitted by applicants at application stage, or in subsequent correspondence, and these minutes provide a summary of the opinions offered by TAP members on the material submitted insofar as they inform the eventual recommendation made by the TAP. These minutes are reviewed by the TAP members prior to publication. These minutes do not represent a formal statement of opinion by Ofgem in regard to any product, measure, or application received by Ofgem in relation to ECO. Applicants who wish to challenge the opinions contained within these minutes may contact Ofgem directly.

Present

David Glew, Leeds Beckett University

Jason Palmer, Cambridge Energy

Neil Cutland, Cutland Consulting Ltd

Hunter Danskin, BEIS

Andrej Miller, BEIS

Adam Bricknell, BEIS

Christopher Mack, Ofgem

Jessica Kissack (Chair), Ofgem

Eric Baster, Ofgem

Roisin Curran (Secretariat), Ofgem

Kay Popoola (Observer), BEIS

Introductory remarks by the Chair

The Chair welcomed all panel members to the meeting.

1. Innovation Measure Application: Chimney Sheep

1.1. The application was for a removable draught proofing system intended to reduce heat loss through open chimneys.

1.2. The panel agreed the product was 'materially different' to products so far installed under ECO.

1.3. The panel agreed the product was capable of achieving cost savings, and was an improvement on current draft proofing measures.

1.4. One panel member questioned the assumption in the cost saving calculation that the product would reduce air flow to zero when this is not the case for permanently blocked chimneys, and whether this had implications for condensation and damp.

1.5. The panel were of the view that the number of open chimneys quoted where the measure could be installed was overestimated, but there remained good potential. The panel noted that chimneys may already have a temporary draught proofing measure installed, or in the case of some older properties may have a closable flap, and recommended the measure should not be installable in these cases.

1.6. The panel briefly discussed the alternative methodology application, and noted there was a difference in airflow rates for open chimneys between the version of SAP used in ECO3 and the version quoted in the application. They also noted that the number of days the product was estimated to be removed for per year was not accounted for in the cost

saving. The panel were of the opinion that there was insufficient evidence to support the estimated lifetime, considering the product is removable.

1.7. The panel agreed that the product could positively impact on fuel poverty, and those vulnerable to the cold.

1.8. The panel recommended the application is approved subject to further information on the air flow reduction and potential for damp issues.

2. Innovation Measure Application: Energystore Superbead

2.1. The application was for a new installation technique for internal wall insulation (IWI), in which the insulation is applied into a cavity between the internal masonry wall and plaster.

2.2. The panel agreed that the installation method was materially different to measures already installed under ECO.

2.3. The panel were satisfied that the installation method was likely to reduce disruption to the householder and increase the speed and ease of installation, making it an improvement on current IWI installation methods.

2.4. The panel noted that it may not be suitable for all properties, or all walls within a property. Further information is needed on the pre-installation survey, including on borescope check locations.

2.5. The application lacked sufficient information for the panel to be content that any potential issues had been considered and adequately addressed. Information obtained from the investigation of cavities within the targeted property types would help to show the consideration of potential problems or risks that may be encountered, and how these were addressed.

2.6. The panel had concerns that any gaps or thermal bridging may cause condensation issues. Further information on the treatment of inter-floor voids, joist ends and the top and bottom of walls is required. They also questioned the impact on moisture in properties with breathable lath and plaster inner leafs.

2.7. The panel noted that there were a significant number of checklists to be completed prior to installation. It was unclear how the applicant would ensure continued compliance in relation to the checklists.

2.8. The panel noted that no additional technical monitoring questions had been proposed by the supplier despite the differences between the product and current insulation systems. They suggested that consideration be given to applying both the internal wall insulation and cavity wall insulation technical monitoring questions.

2.9. The panel agreed that this could help some hard to treat properties, which would impact Fuel Poverty and those vulnerable to the effects of cold.

2.10. The panel recommended that the application is approved subject to clarifications on how potential issues have been considered and addressed, and how they would continue to ensure that the checklists are fully completed.

3. Demonstration Action Application: Airoom

3.1. The application was for an automated ventilation device to replace air bricks or open vents in rooms.

3.2. The panel agreed the product was materially different, and it was reasonably expected to achieve cost savings.

3.3. The panel considered there was insufficient evidence to support the predicted cost savings, and were of the opinion that a lower value may be more realistic.

3.4. The panel did not agree the attributed lifetime of the measure was reasonable. The panel raised concerns about the requirement for active maintenance by the householder with respect to battery lifetimes and Wi-Fi connectivity.

3.5. The panel were of the view that the monitoring proposal was largely reasonable, though were concerned about specific aspects.

3.6. The panel considered that relative humidity data from the Airoom sensors may not be representative due to the sensors' location being close to the vent, and that additional relative humidity sensors are needed to record the levels elsewhere in the property. The panel also noted that two of the proposed energy monitoring methods – optical

readers and manual reads – tend to be less reliable, and this is likely to reduce the amount of usable data.

3.7. One panel member noted the opportunity for the Airoom to be programmed with an upper temperature limit to allow night time cooling in summer and reduce overheating.

3.8. The panel were of the opinion that there was limited value in the control group if the properties are not paired. They considered that extended periods of before and after monitoring would provide a higher degree of confidence in the performance of the measure.

3.9. The panel were content that the proposed sample size would be suitable if usable data was obtained for all properties, however it was noted that the application did not consider drop outs or data problems. If additional installations are carried out instead of the control group, this would allow for some contingency.

3.10. The panel agreed the cost of installation and monitoring were largely reasonable. However, the panel questioned the need to conduct blower door and pulse tests on all properties, rather than a representative number. It was unclear how data was being used from both tests, and what value it brought to the trial. The also panel noted that it was difficult to see how a single measurement could determine a representative post-installation infiltration rate, given that this must vary as the vent opens and closes. One member also questioned if inter-dwelling ventilation had been considered for blower door tests on individual flats, and how this would affect the results.

3.11. The panel were unsure what benefit the QUB testing would bring to the trial given the relatively high uncertainty in results and the small sample size.

3.12. The panel agreed the credentials of laboratory tests / test house or research author were reasonable.

3.13. The panel agreed the product is at TRL8.

3.14. The panel agreed the safety arrangements for the equipment and installation were reasonable.

3.15. The panel did not agree the aftercare arrangements were reasonable, and noted that the consent form was overly complicated and unclear. It was requested that the

consent form was simplified, and that clear contact details and the option to have the product removed at the end of the trial with no cost to the householder are added.

3.16. The panel agreed this product could have a positive impact on Fuel Poverty and those vulnerable to the effects of cold.

3.17. The panel recommended the application is approved subject to clarifications on the monitoring proposal, costs, and consent form.

4. Demonstration Action Application: Hive TRVs

4.1. The application was for programmable TRV's that can be controlled remotely via a central hub.

4.2. The panel agreed the product was 'materially different', and reasonably expected to achieve cost savings

4.3. The panel agreed that the predicted cost savings seemed reasonable, but noted the lack of evidence or reasoning to show how the figure was obtained made this difficult to determine.

4.4. The panel agreed the monitoring proposal was largely reasonable, although they would have liked more detail on what data would be recorded as part of the trial. The panel recommend the applicant should ensure the sample is representative, and that enough information is collected to remove relevant sources of bias.

4.5. The panel felt the costs of the proposal were generally reasonable but that further justification of specific items is needed. The panel were unsure what additional benefit motion sensors would add to the data, as they anticipate unoccupied periods could be inferred from smart meter data.

4.6. The panel noted the cost per unit for the product was high, and requested confirmation if these were listed at full retail price. It was also unclear how many TRVs will be installed in each property.

4.7. The panel were not convinced by the proposal to include properties with different levels of existing heating controls in the sample recruited. This increases the number of variables, reducing the likelihood a meaningful result is obtained. The panel noted that

if only properties that already have standard TRVs are recruited, this may reduce installation costs.

4.8. The panel were unable to confirm the credentials of laboratory tests / test house or research author were reasonable, and recommend further clarification is required on the credentials of the individuals completing the analysis.

4.9. The panel agreed the product is at TRL9 as it is deployed on the market.

4.10. The panel agreed the safety arrangements for the equipment and installation were reasonable.

4.11. The panel noted that there were no additional guides or contact details outside those provided as standard when purchasing the product.

4.12. The panel raised a concern regarding the reliance on batteries, and noted that this may become an issue if applying for a deemed score. The panel requested clarity on what the product defaults the radiator valve to if the battery is not replaced/is removed.

4.13. The panel agreed this product could have a positive impact on Fuel Poverty and those vulnerable to the effects of cold, but noted that households in Fuel Poverty may be unlikely to replace the battery due to battery cost, or remove the battery for use in other home devices, which could significantly affect the impact of the product on Fuel Poverty. The panel also noted this may be very tech heavy for the elderly or those vulnerable to the cold.

4.14. The panel recommended the application was approved subject to clarifications on the operation of the product, aftercare, and monitoring proposal, including what data will be collected and reported.

5. Demonstration Action Application: Powerflow

5.1. The application was for a system to increase self-use of solar PV generated electricity by heating water to contribute to the space heating and hot water demands of the property.

5.2. The panel agreed that aspects of the measure are materially different, and that it is reasonably expected to achieve some cost savings.

5.3. The panel were of the view that the predicted cost savings and estimate were not well enough supported, a key reason being that the system does not appear to have been tested in its final form and in the type of properties it is intended to target. The panel did not have confidence in the proportion of generated electricity assigned to each use.

5.4. Given the system does not appear to have been trialled, the panel agreed that it could not be considered to be at TRL8. The panel noted that the component parts were deployed on the market, however they have been combined into a complex system which has not itself been sufficiently tested.

5.5. The panel agreed the monitoring proposal was not sufficiently detailed and would benefit from additional clarity and expertise. The value of the control group was questioned, as the data collected from the main sample would appear to enable contribution of the system to heating, hot water and electricity use (and therefore the cost saving) to be calculated directly.

5.6. The panel agreed the cost of the proposal was not reasonable, and did not represent value for money. The panel agreed that the PV panels should not be included in the project costs, as they are not part of the innovation. The panel also noted the cost of the heat meters was unusually high, questioned the need for a full time project manager and assistant and were unclear why the householders were being updated weekly.

5.7. The panel considered that the restriction of the project to park homes limited its value, and highlighted that there are more properties located off the gas grid that could benefit from a system that saved on space heating. The panel considered the sample size to be excessive given the limited property types included.

5.8. The panel questioned whether the PV panels and tank would be under the ownership of the site manager for park homes, or the householder.

5.9. It was still unclear who will be completing the independent analysis. The panel would expect to see an independent body or person with recognised expertise in monitoring projects involved in at least the design of the monitoring plan and the verification of results.

5.10. With regard to safety arrangements, the panel questioned whether the potential for legionella to occur in the system had been considered. The panel also had concerns regarding the weight associated with mounting PV panels on park home roofs.

5.11. The panel recommended the application is declined absolutely as it is not currently at a sufficient TRL for inclusion in ECO3.

6. Date of next meeting

6.1. The next meeting of the TAP is on Thursday 17 October 2019 in London.