

Minutes of the ECO4 Innovation Technical Advisory Panel 8b

From: Reuben Privett

Date: 01 May 2024

Time: 09:00 – 11:30

Location: Conference call

A technical advisory panel (TAP) has been set up to review innovation measure applications and make recommendations to Ofgem to approve or reject 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 IM 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.

1. Present

Adrian Hull, (Panel Member) THS Inspection Services

David Glew, (Panel Member) Leeds Beckett University

Jason Palmer, (Panel Member) Cambridge Energy

Paul Philips, TrustMark

Kay Popoola, DESNZ

Hunter Danskin, DESNZ

Andy Morrall, Ofgem

Reuben Privett (Chair), Ofgem

Ajay Patel (Secretariat), Ofgem

2. Introductory remarks by the Chair

2.1. The Chair welcomed all panel members and attendees to the meeting. The Chair highlighted that regular panel member Cliff Elwell was unavailable for this meeting and sent notes on the applications to be reviewed.

3. Innovation Measure Application: Baunit EWI

3.1. The application is for an EWI system with enhanced breathability due to a more permeable EPS insulation material which aims to improve the indoor environment for homeowners. The application is for a substantial uplift.

3.2. The chair highlighted that the product certifications come in the form of an ETA and NSAI certification. The TAP was satisfied that these were appropriate certifications.

3.3. The TAP felt that the evidence provided in the application suggested that the fire criteria in Germany may be different to the UK. However, they noted that building regulations vary depending on country and installations must meet building regulations of the country where the installation occurs.

3.4. The TAP identified that there was difference in vapour diffusion between the topcoat renders – and especially brick slips - and the EPS insulation material. They accept that the insulation material is highly permeable, and moisture will pass through this layer more

effectively than in regular EPS insulation material. The TAP was of the view that this would not be an improvement over mineral wool. Furthermore, the topcoat renders having an SD value of less than or equal to 2 will restrict the movement of moisture through the topcoat render. Additionally, the EPS may be fixed to an existing render and therefore is sandwiched between two layers with lower permeability, leading to a negligible improvement in moisture control.

- 3.5. By comparing the WUFI reports for the product under application and the comparable measure, the TAP felt that the difference in the accumulation of water was not significant. The TAP was of the view that the evidence demonstrated that the comparable system would reach the same equilibrium within one year. Additionally, the TAP noted that the WUFI reports showed almost no difference in relative humidity within the dwelling between the application product and the comparable measure.
- 3.6. The TAP noted that the comparable measure, when installed appropriately under PAS, will have adequate ventilation and therefore achieve the same result.
- 3.7. The TAP was of the view that u-value calculations should be provided where the insulation product has tangible differences to the more common material to demonstrate that the performance is not adversely affected.
- 3.8. The TAP dismissed the claims in relation to the increase in the annual cost savings of the measure as claimed savings to the NHS cannot be attributed to the performance of the product.
- 3.9. The TAP discussed the increase in durability of the measure improvement claim. The TAP felt that the benefits conferred by reduced degradation caused by UV exposure were not significant. The TAP noted the lack of evidence provided to support this claim.

- 3.10. The TAP felt that some of the claims made under the improvement in the overall environmental impact criteria should have been under the “other” criteria, as they related to benefits to homeowner health due to an improved internal environment. However, they felt that all these claims were too tenuous and lacked suitable evidence.
- 3.11. The TAP was of the view that the application did not demonstrate a substantial improvement over the comparable measure and that there was not a reasonable explanation of an improvement. The TAP recommended the application be rejected.

4. Innovation Measure Application: Homely Smart Thermostat

- 4.1. The application is for a smart thermostat designed to be used with ASHPs. The measure monitors factors like heat loss from the home, internal temperature and solar gain in order to optimise the ASHPs flow temperature. The application is for a standard uplift.
- 4.2. No application history was raised by the chair.
- 4.3. The TAP raised no concerns around installation standards or the comparable measure.
- 4.4. The TAP noted that it is good practice for an ASHP to be installed with weather compensation, although the effectiveness of this in practice was questioned, and the TAP has seen examples of MCS installations where weather compensation was installed but turned off. The TAP noted that weather compensation was also impacted by where the temperature sensor was situated.
- 4.5. The TAP acknowledged the benefit of using internal temperature data to modulate the ASHP flow temperature, as well as predicted solar gains from weather forecasts.

- 4.6. The TAP was of the view that the application would benefit from additional data on the cost savings the measure would achieve in practice, and noted that references were made in the application to this data. The TAP was of the view that the extent of the savings presented in the application were unlikely to be achieved in practice, but acknowledged that energy savings and related cost savings would be possible given the information provided.
- 4.7. The TAP responded positively to the demand shifting functionality that the smart thermostat would enable, and questioned whether this would be achievable for every heat pump it is installed alongside – particularly where there is no tariff to incentivise demand shifting.
- 4.8. The TAP noted that the measure would speed up the time taken for an ASHP to suit the end-user, where the system maps weather compensation and occupancy more accurately to reduce energy consumption. This would be particularly valuable in fuel-poor households where end-users may be less likely to monitor their ASHP performance and make appropriate adjustments.
- 4.9. The TAP discussed the impact of solar gain in this product versus a comparable ASHP installation. They noted that in the comparable measure this depends heavily on where the external temperature sensor is located. This product relies less heavily on this given it is able to take into account additional data points.
- 4.10. The TAP noted that the in-home display (IHD) was not currently available and would come at an additional cost. They were of the view that an IHD would be beneficial and should be installed in each instance without cost to the homeowner when it is available.

- 4.11. The TAP questioned whether the warranties of the ASHPs with which the product would be installed would be affected by this product, given the way the ASHP functions is impacted by Homely.
- 4.12. In the Q&A, the TAP questioned whether the product could be installed with any ASHP and whether this would affect the warranty on the ASHP. The representative stated that they had been in contact with heat pump manufactures to confirm that this would have no impact on the warranty and that they have a compatibility list on their website for all ASHPs with which the product can be installed.
- 4.13. In the Q&A, the TAP asked whether the savings were in part related to the higher resolution control over the ASHP flow temperature. The applicant noted that weather compensation is usually specified by the installer and can require tweaks in order to set at the correct level, whereas this measure enables more fine-grained automated control based on the various data inputs.
- 4.14. In the Q&A, the TAP questioned the extent of the reduced electrical input and the representative stated that they could provide this data after the meeting.
- 4.15. In the Q&A, the TAP questioned whether demand shifting functionality would be available on every heat pump the product is installed with. The representative confirmed that this is the case.
- 4.16. In the Q&A, the TAP questioned the extent to which the homeowner can override the settings defined by the system to add more heat to their home. The representative gave an overview of the different modes of operation and how a homeowner would go about altering the settings as required using the app. Additionally, the representative noted that it is possible to override heating by using the physical hub on site.

- 4.17. In the Q&A, the TAP questioned whether any issues had presented relating to the connection of the temperature sensors to the control hub where insulated dry linings using aluminium foils are present. The representative confirmed that since upgrading to 868MHz no issues have occurred.
- 4.18. In the Q&A, the TAP questioned what happens when the battery in the temperature sensor runs out and how long it can be expected to last. The representative stated that if the battery dies, the system is capable of operating without the node using the learned behaviour from the house. However, they also send alerts to the homeowner via the app and by email 2 months before the battery is expected to die to highlight that it should be replaced. The battery is expected to last for 2 years, and in practice often lasts for 5 years.
- 4.19. In the Q&A, the TAP questioned the extent that the measure would increase savings related to solar gains given normal weather compensation sensors would also achieve some savings. The representative confirmed that savings related to solar gains are relatively small and a large proportion of the savings are related to more fine-grained control of the weather compensation.
- 4.20. In the Q&A, the TAP questioned how the user would interact with the product to create their schedule and what the impact would be if the schedule was inaccurate. The representative stated that the end-user can set minimum comfort levels through a schedule, but occupancy will be monitored by the product and impact the way heat is provided.
- 4.21. In the Q&A, the TAP questioned when the IHD would be ready for deployment. The representative stated that the display was in development. The TAP suggested that the product should be provided at no cost to the end-user when it is ready and the

representative stated that this was the intention. The representative confirmed that the product with the app interface only would not be installed where an app-only solution is not appropriate for the end-user.

4.22. In the Q&A, the TAP requested additional evidence be provided where the product has been installed. The representative stated that they would provide this for TAP review after the meeting.

4.23. The panel recommended that the product be approved for a standard innovation measure, subject to written confirmation of the points raised in the Q&A.

5. Date of next meeting

5.1. The next meeting of the TAP is scheduled for 03 July 2024. The dates of future TAP meetings are available on our [website](#).