

Minutes of the ECO4 Innovation Technical Advisory Panel 11

From: Reuben Privett

Date: 20 November 2024

Time: 09:00 – 13:00

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

Cliff Elwell, (Panel Member) University College London

David Glew, (Panel Member) Leeds Beckett University

Jason Palmer, (Panel Member) Cambridge Energy

Kay Popoola, DESNZ

Hunter Danskin, DESNZ

Christopher Parfitt, DESNZ

Charlie Murphy, Ofgem

Eric Baster, Ofgem

Reuben Privett (Chair), Ofgem

2. Introductory remarks by the Chair

2.1. The Chair welcomed all panel members and attendees to the meeting. The chair noted that David Glew had sent apologies that due to unforeseen circumstances, he would arrive late. The chair stated that David had provided notes for the first two applications to be used to add to the discussion in his absence.

3. Innovation Measure Application: IndiBreathe Underfloor / Loft Insulation

3.1. The application is for an industrial hemp insulation material which has BBA certifications for use in UFI or LI. The application is for a substantial uplift.

3.2. The chair raised history relating to the application, including that a previous iteration of the product was reviewed during TAP 9. The minutes for that meeting noted that the TAP recommended the measure was rejected for a substantial innovation measure but that there may be merit in a future application for a standard innovation measure. This was subject to sufficient detail being provided to satisfy concerns around thermal bridging and fire safety.

3.3. The TAP raised no concerns around installation standards and raised no issue with the comparable measure selected.

- 3.4. The TAP noted that the installation instructions had been updated to state that where non-combustible materials and fire breaks are required, the installer must source these and they were not part of the package an installer would receive. The TAP was concerned that this relies on the installer sourcing appropriate materials and there was no robust process undertaken by the manufacturer to ensure that the correct materials are installed in practice. The TAP was of the view that the applicant should, at the very least, demonstrate a robust process to ensure the requisite fire safety elements are installed. It would be preferable if the manufacturer provided the required non-combustible insulation material and fire stops.
- 3.5. The TAP noted the response to Q13b reiterated the requirements but without demonstrating a robust quality assurance approach to make sure the measure is installed appropriately.
- 3.6. The TAP felt there was a clear distinction between the quality of detail provided in relation to the measure used as a loft insulation and as an underfloor insulation, with greater consideration of loft insulation.
- 3.7. The TAP noted that the installation guide contained no significant detail on the how to install the product as underfloor insulation. This relates to key areas required to meet the BEIS best practice guidance for UFI, including where there are cables running in the underfloor, what sort of breather membrane is required, and building regulations compliance when installed near party walls. They commented that the application references lying the cables on top of the insulation material in the underfloor, where this should be underneath, which they considered to demonstrate a lack of attention to detail in this area. The TAP was of the view that no detail was provided relating to the approach to party walls, compartmentalisation, maintaining cross flow ventilation, and thermal bridging when installed as an underfloor insulation measure.

- 3.8. The TAP was of the view that when installed as loft insulation, some areas required clarification, including the approach taken where cables are not long enough to lie on top of the insulation material. This is significant for this measure specifically given the class E fire rating where other insulation materials with improved ratings would act as an additional fire stopper. Additionally, the application references laying the material on top of existing mineral wool insulation when undertaking a loft 'top-up'. The TAP was of the view that either the material should be required to be replaced entirely, or a robust survey approach should be mandated and described to ensure no cables or heat sources are under the pre-existing insulation and to prescribe required actions when they are encountered.
- 3.9. The TAP noted that the fRsi calculations provided were modelled using cavity walls insulated with external wall insulation, which would comprise a proportion of installation scenarios, and likely to be the best-case scenario. The TAP was of the view that modelling should be done on all wall types where the installation is being considered to demonstrate the requisite fRsi value is met, and the installation guide should clearly highlight which scenarios the insulation may be installed in.
- 3.10. The TAP noted that in parts of the application, references have been made to the incorrect document, including referring to installing in line with PAS2035 rather than PAS2030. These areas suggest that the applicant may not have considered the specific installation scenarios and differences this measure has against the comparable measure. This is significant given the differing fire rating of this measure.
- 3.11. The TAP discussed the environmental improvement and agreed that the evidence provided demonstrated a reasonable explanation of an improvement, specifically given it is a renewable material which requires lower energy input to produce. This improvement was considered to be moderate.

3.12. The TAP discussed the claims in the other criteria. The TAP was of the view that there was a slight benefit relating to installer comfort and health against the comparable measure. However, the applicant did not provide evidence to suggest this would have a significant effect. The evidence demonstrated a small impact to the thermal mass of a masonry house. Equally, vapour breathability would only be improved if all elements of the house were consistent with this, including lime plaster and breathable paints, which are not guaranteed.

3.13. No Q&A was held for this application.

3.14. The panel recommended that the measure should be rejected for a substantial innovation measure. The TAP recommended that the measure is approved as a standard innovation measure when installed as loft insulation only, subject to minor clarifications being addressed adequately. The TAP recommended rejecting the application for the measure when installed as UFI, with substantial clarifications required to recommend approval as a standard innovation measure.

4. Innovation Measure Application: Ezy-Fit IWI

4.1. The application is for an IWI system using high density mineral wool slabs and comprising of fewer component parts than the comparable IWI system.

4.2. Previous history related to the application was outlined by the chair. The reasons for rejection in TAP 8 and 9 in particular were highlighted, which comprise insufficient detail on thermal performance, particularly in relation to fixings and gaps, insufficient detail to demonstrate that there is no thermal bridging risk associated with the installation technique, and insufficient detail on the installation process in the install guide.

- 4.3. The TAP raised no concerns around installation standards and raised no issue with the comparable measure selected.
- 4.4. The TAP discussed the u-value calculations and thermal bridging calculations. They were satisfied that the evidence demonstrated spot point thermal bridging would not be a significant risk due to the installation technique, where the fixings do not compress the insulation material. However, the TAP was of the view that this information did not address concerns which have previously been raised around where compression would occur, or thermal bridging risks at the edge of the material where it meets the adjacent wall or ceiling. While the installation guide recommends the removal of coving, it is only required where possible. As such, thermal bridging calculations should be provided to demonstrate that the installation of the system when removal of coving is not possible would not lead to a thermal bridging risk. Additionally, no thermal bridging detail was provided in relation to window reveals.
- 4.5. The TAP commented on the apparent contradiction between the material's ability to hug the wall while not being compressed and were of the view that no reasonable explanation had been given as to how this is possible. Additionally, they noted that the installation guide contained images where the insulation material has clearly been compressed such that the application of plasterboard on top would leave an air gap.
- 4.6. The TAP noted that the U-value calculations provided covered three substrates. However, the TAP felt there was a lack of clear terminology in the report and therefore could not ascertain whether the concrete substrate in the test referred to solid concrete walls or concrete block walls. As a result, they were not confident that all substrates referenced in the certification have been covered.

- 4.7. The TAP was of the view that the installation guide is not sufficiently detailed to provide a resource for installers to use on site. As was raised in previous reviews, they were of the view that this should be a reference guide for installers and that on-site training is a standard practice across IWI systems. This is not considered to be a replacement for a full installation guide. The guide should provide a clear set of instructions, often diagrammatically, to demonstrate how specific installation scenarios should be addressed. The TAP was of the view that the installation guide did not provide detail which demonstrated how the requirements of the BEIS best practice guide would be met.
- 4.8. For example, the installation guide did not provide any detail on how the window reveal insulation should be installed in practice. The TAP was of the view that this is an area of high risk and there should be clarity for the installers on the approach to take in every instance. This is especially considering the material is not included in the elements independently tested within KIWA certification in relation to moisture control, strength, fire performance and thermal conductivity. Equally, the removal of the end floorboard, curtains, radiators, and coving is mentioned where necessary, but it is not clear that these are requirements. The installation guide does not address how to access the underfloor void where the floorboards run perpendicular to the wall, where the end floorboard cannot then be removed. The TAP was of the view that considerable work would need to be done to the installation guide in order to demonstrate how the requirements of the BEIS best practice guidance for IWI could be met in practice.
- 4.9. The TAP was satisfied that the applicant had demonstrated an insurance backed guarantee was in place for the measure. They questioned what this would cover specifically and whether this would include elements like window reveals and the alternative materials utilised.

- 4.10. The TAP was of the view that it remains possible to demonstrate a reasonable explanation of an improvement for this measure. However, they would not recommend approval as an innovation measure until core aspects of the application are remediated.
- 4.11. The TAP recommended the application be rejected with substantial clarifications. They were of the view that the application should not be reviewed again until the installation guide was holistically altered to provide material which can be used by installers on site. Additionally, clarity must be provided in relation to the compression of the system, as well as thermal bridging calculations for the system at junctions with the floor and wall, and where it is cut and compressed.

5. Innovation Measure Application: Ariston ASHP

- 5.1. The application is for Ariston ASHP which utilises AI to monitor product performance and remediate issues remotely where possible to reduce on-site visits. Remote assistance is provided to the end-user, and energy reports are automatically created to detail how they can optimise their product's performance. The measure comes with a 7-year warranty. This functionality comes at no cost to the end-user. The application is for a substantial uplift.
- 5.2. No previous history related to the application was raised by the chair. The chair noted similarities between this application and a previously approved standard innovation measure.
- 5.3. The TAP noted that the comparable measure was of a high quality of ASHP and likely superior to current standard levels.

- 5.4. The TAP discussed the requirement for annual services to be conducted by Ariston for the warranty to remain valid. Clarification was needed to ensure a premium was not placed on Ariston services and any charge should reflect the market rate.
- 5.5. The TAP was of the view that any issues with the ASHP were more likely to arise past year 7 after installation. Therefore, the benefit of a 7-year warranty was marginal and the warranty length should be extended to 10 years, to offer parity with previous applications.
- 5.6. The TAP was of the view that data should be provided to the end user if is required for the improvements to be realised. Specifically, a 10-year data sim for those without broadband should be provided on installation and if a new end-user moves in, they should also have access to the functionality regardless of whether they have wi-fi.
- 5.7. The TAP noted that there was no mention of push notifications to the IHD 30 days prior to service, acknowledging this should be provided to demonstrate reasonable steps are taken to ensure the warranty remains valid.
- 5.8. The TAP noted the monthly report is positive for the end-user and provided simple data to help the user understand how the system's performance can be improved. Questions were raised around whether this would require an email and an online account to access the report and whether this support would be provided to those who do not have access to the internet.
- 5.9. The TAP also noted that this may increase annual bill savings, but evidence would be required to demonstrate that this occurs in practice. The TAP noted that it is possible that this would optimise the product performance, but this could result in an increase in bills due to optimised performance possibly requiring longer periods of heating.

- 5.10. The TAP questioned whether the configuration tool would reduce the cost of installing the measure. It was noted that many of the comparable ASHPs have a similar set-up 'wizard'.
- 5.11. The TAP was of the view that the remote diagnostics may lead to an increase in the durability of the ASHP. However, they questioned whether the end user would have to pay if a call out is mistakenly suggested by the system when it was not necessary, where this this is outside the scope of warranty.
- 5.12. The TAP questioned which parameters were being referred to in the claim that 100% of parameters can be monitored remotely. It was agreed that the system boundary is the heat pump, and clarification was required on whether areas such as potential refrigerant leaks could be monitored.
- 5.13. The TAP highlighted that the installer guide mentions not using glycol in the system and questioned what impact this would have on the warranty if an installer erroneously used that product.
- 5.14. The TAP questioned whether the system would automatically incorporate a 60+ degree cycle to prevent legionella should the end-user turn the flow temperature for hot water to below 55 degrees.
- 5.15. The TAP discussed which changes can be made remotely and whether permission is required from the end-user to change these parameters. The TAP noted that changing the parameters that affect the occupant in similar measures requires consent.
- 5.16. The TAP was of the view that the application did not demonstrate a substantial improvement over the comparable measure and should be rejected for a substantial uplift. However, they recommended that there was a reasonable explanation of an

improvement and therefore the measure may be approved with a standard uplift, subject to adequate responses being provided to clarifications.

6. AOBs

6.1. The TAP discussed responses to Q13 and Q14 in the application, and were of the view that applicants should provide a process whereby evidence can easily be retained by the supplier which demonstrates that the claims are being realised. This includes where applicants make claims around all installers having specific training, or bespoke WUFI calculations are made in every instance. Responses to these questions are expected to refer to how the claims made here will be checked by the applicant / supplier.

6.2. The TAP discussed the quality of the applications which are being received. They noted that they expect applicants to provide additional clarity around where in the appendices the claims are being evidenced. This should include page numbers and highlighted text to ensure that all relevant information can be located efficiently.

7. Date of next meeting

7.1. The next meeting of the TAP is scheduled for 9 April 2025. The dates of future TAP meetings are available on our [website](#).