

Minutes of the ECO4 Innovation Technical Advisory Panel

From: Victoria Truelove

Date: 30 November 2022

Location: Conference Call

Time: 09:00 – 13:00

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

Paul Phillips, TrustMark

Hunter Danskin, BEIS

Kay Popoola, BEIS

Andy Morrall, Ofgem

Eric Baster, Ofgem

Jonathan Balls (Chair), Ofgem

Victoria Truelove (Secretariat), Ofgem

2. Introductory remarks by the Chair

2.1. The Chair welcomed all panel members and attendees to the meeting.

3. Innovation Measure Application: Superfoil SF19+

3.1. The application is for a light-weight, flexible multifoil insulation material for Internal Wall Insulation (IWI). The multi-foil insulation includes a dual vapour control layer which offers protection against interstitial condensation.

3.2. Ofgem gave an update on the application having been subject to a previous ECO3 innovation measure application, and reviewed the clarifications that had been asked for at the time.

3.3. The TAP discussed at length the mechanism for the measure to achieve required u-values. The TAP concluded based on evidence provided that this would require the maintenance of a minimum of two 20 mm sealed air pockets, on each side of the foil material. The TAP was concerned that evidence submitted appeared to show air gaps not being sealed, and that this would compromise the achieving of u-values.

3.4. The TAP discussed at length moisture risk control and BEIS Best Practice. The TAP was concerned that the maintenance of closed air pockets to protect u-values was at odds with requirements for a vapour-closed system, noting insufficient evidence of the ability of the system to be completely vapour closed had been provided, suggesting the system could bring a risk of condensation formation and mould growth. The TAP agreed the applicant would need to provide further information before a decision on any improvements could be made.

- 3.5. Thermal bridging was discussed by the TAP, and the potential for this occurring where the product is compressed at points where the counterbattens cross over battens.
- 3.6. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.
- 3.7. The comparable measure selected by the applicant was noted as not being the most common form of IWI within the broader GB market: PIR insulation bonded to plasterboard, applied directly to the wall, with a continuous application of adhesive around the edges.
- 3.8. The TAP was not satisfied with both the evidence submitted to substantiate a faster installation time and to substantiate cost of installation. The TAP agreed a faster installation time may be achieved, however the information and evidence was insufficient. The TAP was of the view the installation process video provided did not contain all of the required installation steps. The TAP noted that weathering products may be required, and that the time and cost implication of these must be accounted for.
- 3.9. The TAP agreed that offering to sell this system for ECO at a discounted rate would not be an eligible improvement for an innovation measure uplift.
- 3.10. The TAP agreed that only slight benefits were gained from the product being able to be more easily transported, the bi-directional VCL layer. The TAP considered that the application had not evidenced that Superfoil degrades less than comparable measures.
- 3.11. The TAP considered that the recyclability of components was a slight benefit but would look for a full Lifecycle Analysis of the measure to determine any environmental benefits, compared with a comparable alternative.
- 3.12. The TAP did not consider that compliance with BEIS Best Practice was grounds for an improvement.

- 3.13. While the TAP accepted that the product was less likely to be damaged while being installed, they considered that durability should be considered holistically across the life of the product. The TAP was of the view that insufficient evidence was provided to demonstrate that the product would be less liable to damage, for example being potentially more vulnerable to the measure being punctured.
- 3.14. The TAP advised that the claim to being less invasive, based on the product being thinner than comparable alternatives, was not achievable if the two 20 mm air gaps required by the BBA are maintained.
- 3.15. The TAP discussed difficulties with IWI delivery and the approaches taken towards underfloor voids, cut outs for electrical outlets, pipe work, and other uneven structural elements within properties.
- 3.16. During the Q&A, the TAP queried the product fire rating; the installation approach employed for the time study video; the ventilation of cavities; how the required u-value is achieved; the sealing at the top and bottom of the product; the external wall vapour coating; and how thermal bridging risk was managed.
- 3.17. The TAP was of the view that insufficient information has been provided on how the product can achieve the required u-values, how the product is sealed, and procedure to address moisture risk for a recommendation on an innovation measure being awarded.

4. Innovation Measure Application: Insta CWI Non trad

- 4.1. The application is for a white wool CWI System for select non-traditional construction properties.
- 4.2. No previous history related to the application was outlined by Ofgem.
- 4.3. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.

- 4.4. The TAP discussed at length the u-values achieved by the measure, moisture ingress risks, and the 'making good' requirements for this product.
- 4.5. The TAP noted that there were two insulation products, one with a better u-value, and that the preference would be for the product with the better u-value to be used.
- 4.6. The TAP agreed the explanation of an improvement provided in the application was reasonable, against comparable measures.
- 4.7. The TAP was of the view that the information presented against the increase in durability criterion, reflected a substantial improvement.
- 4.8. The TAP was concerned that drilling into concrete panels could impact the structural stability/ integrity of buildings that are often classified as 'designated defective'. The TAP wanted further clarifications on this, to ensure the structural stability of buildings was maintained, as required by building regulations and PAS 2030 standards.
- 4.9. Prior to determining the suitability of cavities, the TAP noted borescoping would be required. The TAP wanted more information on how drill holes and borescope holes would be treated and sealed, including the type of fill material employed.
- 4.10. The TAP discussed how the measure would be installed in properties that were two stories high, and wanted more information on this.
- 4.11. During the Q&A the TAP queried whether the U-values of the product were able to meet Building Regulation requirements, the choice of insulation material, drill patterns, whether the cavities encountered during measure delivery were typically clean, the process for installation where wall tiles are encountered, and the warranty for the system.
- 4.12. The TAP was of the view that this product should be approved as a substantial innovation measure, subject to further assurances on structural integrity.

5. Innovation Measure Application: Ezy-Fit M-IWI System

- 5.1. The application is for an enhanced mineral wool IWI system, which also makes use of plasterboards, enabling the removal of an oriented strand board (OSB) stud and plastic vapour control layer and improved delivery around reveals and restricted areas.
- 5.2. Ofgem provided an update on the ECO3 approval of the Ezy-Fit RIRI system as an ECO3 innovation measure, IM 010, for which the product under application is one component.
- 5.3. The TAP discussed at length whether the BBA provided, covering the Ezy-Fit RIRI system, was adequate for the IWI measure under consideration. The Panel Members agreed that it was not, and that they did not have enough information on installation processes and design to make a recommendation to Ofgem on the improvements claimed. In particular, the TAP wanted more information on how the product was correctly fixed to walls to ensure durability and on the installation approach to window and door reveals, external junctions and corners, and gable walls.
- 5.4. The TAP discussed that weather proofing material would be required on the exterior wall of the property, employing a product like Stormdry, highlighting the application did not reference this element of delivery.
- 5.5. The TAP agreed that the SWI method (OSB studs, with an XPS backing) stated for the comparable measure is unusual and that a more appropriate comparison would be PIR bonded to plasterboard or standard (un-insulated) timber studs, in filled with mineral wool.
- 5.6. The TAP saw merit to the claim of reduced installation time, and agreed further in-situ timed studies would not be needed. However, the TAP wanted revised detailed installation timings that include the time for delivery of the fungicidal wash to the wall and a parge coat where that is required. The TAP also wanted the comparison to be against PIR bonded to plasterboard, or standard (un-insulated) timber studs with mineral wool infill.

5.7. The TAP wanted updated cost calculations, especially if cost was to be a claimed improvement.

5.8. Against the environmental improvement criterion, the TAP agreed a full LCA would be required to consider an improvement against this criterion, considering the mechanism for environmental savings not having been demonstrated within the application.

5.9. The TAP was of the view claims against the reduced disruption to householders criterion were not reasonable, noting the evidence submitted did not account for all steps of measure delivery.

5.10. During the Q&A, the TAP queried the process for installing the measure as an IWI and asked for a clarification on how the measure would attach to walls. The TAP queried how radiator area attachments, window frames, and reveals are dealt with, the approach employed for the fungicidal wash, and the status of a BBA application.

5.11. The TAP was in consensus that before a recommendation could be made on an improvement, full detailing of the installation process and information on materials/products employed needed to be provided.

6. Innovation Measure Application: SWIP IWI System

6.1. The application is for an IWI system for installation on solid wall, timber frame, and non-traditional buildings.

6.2. No previous history related to the application was outlined by Ofgem.

6.3. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.

6.4. The TAP discussed the installation manuals for the product under application, noting detail on insulating window reveals and rain index exposure zones had not been included. The TAP discussed the usage of breathable membrane, open IWI solutions, and queried whether the subsequent application of a plaster/gypsum layer and

impermeable paint may compromise breathability of the system. The TAP discussed the impact on permeable membrane systems householder redecoration may have over time.

6.5. The TAP discussed at length what the appropriate comparable measure might be.

Panel Members highlighted that the system was already well established in the GB Market, and widely installed to their knowledge. The TAP members accordingly considered that there was not a clear comparable measure, other than the measure itself.

6.6. It was unclear to the TAP whether the applicant was claiming the product could achieve a final thinner thickness than alternatives, and noted if that was the case, additional evidence would be required.

6.7. Against the annual cost savings criterion, the TAP was of the view there were no additional annual cost saving identified and evidenced, to support an improvement claim.

6.8. The TAP was of the view that the explanation of an improvement provided was not reasonable against the decreased cost of installing the measure criterion. The TAP agreed more rigorous evidence would be needed, noting holistic system costings should be provided, with a clear comparison to a comparable product.

6.9. The TAP was of the view that a vapour closed and vapour open option does enable measure delivery to an increased range of properties.

6.10. The reduction in waste claimed in the application against the environmental improvement criterion was discussed by the TAP. The claimed use of recycled materials was noted as insufficiently evidenced. The TAP agreed that an application would require a holistic environmental assessment such as a Lifecycle Analysis.

6.11. The TAP were unclear on the basis for a claimed improvement in terms of reduced householder disruption, based on information provided.

6.12. During the Q&A the TAP queried the approach to weather exposure mapping and moisture risk and the recycled material content evidence.

6.13. The TAP was in consensus that the given this system is already established and widely delivered, careful consideration should be given to whether it could be supported under the innovation measure route. The TAP recommended that further evidence would be required to support claimed improvements.

7. Date of next meeting

7.1. The next meeting of the TAP is scheduled for 21 February 2022. Further planned upcoming TAP meetings are available on our [website](#).