

Minutes of the ECO4 Innovation Technical Advisory Panel

From: Victoria Truelove

Date: 23 November 2022

Location: Conference Call

Time: 09:00 – 14:45

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 and provided a summary of the Innovation Measure application procedure under ECO4 and outlined the Terms of Reference of the Panel.

3. Innovation Measure Application: ARP Rope Access CWI

3.1. The application is for an installation technique for delivery of mineral wool cavity wall insulation (CWI), to high rise building, using rope access. The application is for a substantial innovation measure.

3.2. Previous history related to the application was outlined as being the approval of ARP CWI as an innovation measure under ECO3. Two successful ECO3 CWI projects utilising their rope access methodology were delivered between April and December 2021, benefiting 1766 households.

3.3. The panel agreed certifications held for the product did not raise any concerns and considered the A1 fire rating to be good.

3.4. The TAP discussed the two different insulating products for this application, noting one was of higher performance. The Panel Members said that given that the insulating material is a small part of overall installation costs, they were of the view that the higher performing insulation should be used.

- 3.5. The TAP discussed the installation process and PAS2035 compliance for the measure where walls are not flat where thermal bridging might be a risk. The TAP wanted to know more about how these situations were dealt with.
- 3.6. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.
- 3.7. The Panel considered whether the use of aerial work platforms could be a 'comparable measure' for this application and agreed that while cherry pickers may occasionally be viable, they are often not appropriate because of access requirements around buildings. The TAP agreed, due to scaffolding being the standard approach to measure delivery, it would be the most appropriate comparison.
- 3.8. The TAP was of the view that increased cost savings for households had not been demonstrated against the comparable alternative.
- 3.9. The TAP agreed that the application had provided robust evidence of a substantial decreased cost of installation. It was noted cost savings were likely to correlate with the height of the building, but would be significant in all cases of buildings over 18 meters high. The TAP was of the view that a substantial improvement had been demonstrated against the criterion.
- 3.10. The TAP was of the view an improvement against the increased durability criterion had not been demonstrated against the comparable measure.
- 3.11. The TAP agreed the evidence submitted did not support an improvement against the environmental criterion, noting the environmental improvement claimed would be negligible over the lifetime of the product.
- 3.12. The TAP recommended that the application demonstrated a substantial improvement against the reduction in disruption to the householder during delivery criterion. Disruption and impact to householders from measure delivery employing scaffolding was discussed as well as safety benefits from not requiring scaffolding.

- 3.13. The TAP was of the view an improvement had not been demonstrated against the other improvements criterion.
- 3.14. In the Q&A, the TAP queried the delivery procedure for non-flat surfaces. The nominated representative described the approach to delivery in these scenarios.
- 3.15. In the Q&A, the TAP queried the scaffolding cost estimates provided in the application. An explanation on evidence sourcing was provided by the representative, who also confirmed a correlation between building height and scaffolding costs.
- 3.16. In the Q&A, the TAP queried the drilling pattern for the measure, and was satisfied with the response provided by the nominated representative.
- 3.17. The panel recommended the ARP Rope Access CWI system be approved for a substantial innovation measure.

4. Innovation Measure Application: EnergySave Superbead 33+ CWI

- 4.1. The application is for an Expanded Polystyrene (EPS) bead CWI product, which is claiming an improvement on comparable alternatives on the basis of reduced carbon emissions associated with the raw material, production, transportation and installation of the measure. The application provided evidence from a Lifecycle Analysis report and certification that covered the use of biofuels (instead of gas) to power the manufacturing of the beads, and that covered the distribution of the product.
- 4.2. Previous history related to the application was outlined as being the approval of a Superbead internal wall insulation (IWI) product as an innovation measure, under ECO3.
- 4.3. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.
- 4.4. The TAP determined that the relevant improvement for this application was the use of biofuels for the production of the Superbead 33+ beads, a process carried out by BASF

in Germany. The description provided of an improvement against 'comparable measures', was noted by the TAP as not having provided a like for like comparison, and the TAP therefore wanted further clarification on the data.

- 4.5. The TAP discussed at length the evidence provided on carbon emissions, and wanted further clarifications on the savings and the certification associated with the product. The TAP was of the view that a mechanism to explain the claim of negative emissions for Superbead 33+ had not been explained or evidenced, but could see the mechanism for very low emissions associated with the use of biofuels.
- 4.6. The TAP discussed at length whether, if approved as an innovation measure, there would be necessary assurance that the beads used in the measure were produced using power from biofuels. The TAP wanted additional assurances on the certification and distribution of the beads.
- 4.7. The TAP discussed at length whether the carbon savings associated with the production of the beads from renewables was enough to allow them to recommend an innovation measure uplift. The TAP concluded that the improvement was slight/moderate. The TAP considered this against the much larger annual carbon emissions by UK households.
- 4.8. In the Q&A, the TAP queried the mechanism and evidence provided to achieve the claimed negative CO₂ emissions with the Superbead 33+ product. The nominated individual provided a walk through of the evidence.
- 4.9. In the Q&A, the TAP queried whether the biofuel usage was solely for the bead production, and this was the basis for the improvement claim, and the representative confirmed this was correct.
- 4.10. In the Q&A, the TAP queried whether the applicant had sole rights to the use of the pellets. The applicant explained that they did not know of others, and noted that

the distribution of their product was linked to any distributor having the necessary certification.

- 4.11. The TAP wanted further evidence on the carbon savings for the Superbead 33+ before making a recommendation on an uplift.

5. Innovation Measure Application: Insta SWI Robust

- 5.1. The application is for an IWI system comprised of EPS insulation boards, with a reinforced embedded glass fibre mesh, with a claimed 60-year lifetime. The measure is to be offered with a 26-year maintenance plan.
- 5.2. The TAP did not raise concerns about the certifications submitted for the product.
- 5.3. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.
- 5.4. The TAP was of the view that the product and improvement claimed meant that an application should be made for the product to be included under existing IM 011. The TAP was in consensus, however, that the application had not provided adequate evidence of an inspection and maintenance plan to allow them to recommend the product be included under IM 011.
- 5.5. The TAP agreed that a fresh application should include evidence of a robust plan for inspection and maintenance that detailed costings, including for administrative functions necessary to deliver the plan. The inspection regime would need to be backed up by a robust data management solution to ensure that the building owner is contacted (particularly on change of ownership) to ensure that they are aware of the scheme and the purpose of the visits. The TAP agreed that such a plan must not place costs on the household.

- 5.6. The TAP agreed that an application should include additional evidence for the claimed cost savings and reduced disruption to the householder, as well as costings for an inspection and maintenance regime.
- 5.7. The TAP agreed that another way to support a claimed improvement of longer durability would be to offer a guarantee for the full period of the claimed lifetime.
- 5.8. The TAP highlighted the current measure listed under IM 011 offered remedial works to maintain system life and warranty integrity, with a bespoke customer relationship management (CRM) system which maintains a record of required system maintenance and notifies householders annually whether these were required. Back up contacts were also noted as having been employed to ensure continuity of communications and the maintenance regime.
- 5.9. In the Q&A, the TAP queried whether there were additional costs associated with the fixings for the product under application; whether additional costs were incurred on the householder for measure maintenance and upkeep following delivery; what would occur in the case of accidental damage of the system; required measure maintenance following delivery; the length of the guarantee provided; condensation and thermal bridging.
- 5.10. The TAP raised concerns around safeguarding for the householder, particularly considering the long lifetime of the product.
- 5.11. BEIS highlighted that ECO is a Scheme for fuel-poor and vulnerable households, and as such, that any maintenance plan should be carefully considered to ensure unfair obligations and costs are not placed on householders.
- 5.12. The TAP was of the view the applications should be submitted to be considered for inclusion under the existing IM 011.
- 5.13. The TAP Members indicated that in scoring an application for a substantial innovation measure, they would look to the robustness of the inspection and

maintenance plan, what procedures are in place to ensure it is delivered, and at the number of years for which inspection and repairs are carried out at no cost to the householder.

5.14. TAP members noted, it would be better to use the high-performance grey EPS boards every time rather than inferior white boards. Grey boards provide better insulation and also have better compressive strength.

6. Innovation Measure Application: STO EWI

6.1. The application is for an EWI system of EPS boards, adhesively fixed directly to external masonry employing a cementitious adhesive to maintain the system in place.

6.2. Previous history related to the application was outlined by Ofgem as being a delivery format originally conceived by STO in the 1960s and has been applied to thousands of buildings across Europe.

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

6.4. The TAP discussed at length the usage of adhesive fixings without mechanical fixings and the impact that may have on measure durability and the range of archetypes to which deliverable. The TAP also discussed the effect of wind loading on EWI systems and the role of fixtures as fire breaks.

6.5. The TAP agreed the employment of adhesive only for delivery of EWI would require additional preparations, such as cleaning and the external walls would need to be levelled out. A step for testing and recording external wall substrate integrity and strength, was noted by the TAP as missing within the installation process for the product.

6.6. The comparable measure outlined by the applicant was agreed as suitable.

- 6.7. The TAP discussed that the application provided an explanation of a slight decreased cost of installing the measure. However, the TAP was in consensus that the application did not rigorously evidence a saving it was confident would lead to any benefit to householders over comparable measures being installed, as the savings in delivery time vs project costing would likely not be strongly impacted. The TAP agreed the costs and time required for testing, preparing, and levelling out of the external wall should be included within the evidence submitted within the application.
- 6.8. The TAP discussed whether an environmental improvement had been demonstrated. The TAP was of the view the claimed improvements against the environmental impact criterion required the provision of a holistic, product/system wide analysis of environmental benefits, with a clear comparison against a comparable product.
- 6.9. The TAP was of the view that the application did not evidence reduced disruption to the householder. The TAP noted that householder disruption would remain high for this measure, and that reduced noise and vibrations from drilling, as well as any dust produced, offered only slight benefits.
- 6.10. The TAP was of the view that the greater risk with silicosis was during the mixing of the raw product rather than drilling and considered that health and safety should ordinarily be covered for all measures by clear controls.
- 6.11. The adhesive amount and pattern employed for delivery was highlighted by the TAP as being a pivotal element for quality assurance, alongside the determination of suitable archetype wall substrates.
- 6.12. The TAP recommended the applicant updates the product installation manuals for compliance with the most recent building standards and regulations.
- 6.13. The TAP was of the view the product under application should be rejected with feedback.

7. Innovation Measure Application: Allume Energy's SolShare

- 7.1. The application is for a solar PV system comprised of hardware able to connect multiple flats to a single rooftop solar PV array. Each flat connected to the system receives a set proportion of the generated electricity. The system can dynamically distribute electricity to flats, within the overall set proportions, according to when each flat is consuming electricity.
- 7.2. No previous history related to the product under application was outlined by Ofgem.
- 7.3. The TrustMark representative did not raise concerns about PAS compliance and lodgement through TrustMark.
- 7.4. The TAP discussed at length the ownership models for the system outlined within the application.
- 7.5. The functioning of the system and mechanism for an improvement was discussed at length by the TAP. The TAP wanted further information on how occupancy and typical household demand would impact savings, and wanted UK data on actual typical savings.
- 7.6. The TAP discussed the processes in place for when faults occur and who would be responsible for amending the issue. It was noted the solar array could be left non-functioning without an adequate system in place. The TAP wanted more information on this.
- 7.7. The TAP was concerned that without a battery, the system's potential to benefit householders may be limited. However, the TAP considered the application demonstrated an improvement even without a battery.
- 7.8. The TAP discussed how energy export would function, noting the application would benefit from additional information on how smart export guarantee (SEG) profits would be distributed and required householder interaction. The TAP also wanted to know more about MCS certification.

- 7.9. The TAP wanted to know whether time of use data would be available to householders, and discussed what the stated data feed may provide householders.
- 7.10. The TAP was of the view that individual solar PV systems or communal shared solar PV were both possible comparable measures. The TAP agreed that in both cases, these systems were typically expensive and hard to install in flats.
- 7.11. The TAP agreed that the application demonstrated the mechanism of a substantial improvement under 'Increase in the annual cost savings of the measure', but wanted the applicant to provide further in-situ UK data.
- 7.12. The TAP was of the view that the application could show an improvement under cost of installation, but they noted issues with the costings provided, with some costs missing. It was agreed new costings should be provided.
- 7.13. The TAP considered that an improvement was present under durability in terms of increasing the range of properties in which solar PV could be installed. The TAP did not agree with the claim that fewer components meant increased durability.
- 7.14. The TAP agreed that fewer inverters was a slight environmental improvement.
- 7.15. In the Q&A, the TAP queried the costing in different scenarios and energy generation evidence. The representative outlined GB installs have occurred, and that they could provide data.
- 7.16. In the Q&A, the TAP queried MCS compliance; the mechanism for energy exports; and whether households would be able to access generated data and how system faults would be approached.
- 7.17. The TAP was of the view, that subject to further data on performance and additional costing evidence, the product may be recommended for a substantial innovation measure.

8. Additional Discussion:

8.1. The TAP discussed with Ofgem the scoring matrix and its usage when assessing claimed substantial improvements.

9. Date of next meeting

9.1. The next meeting of the TAP is scheduled for 30 November 2022, this additional meeting has been scheduled in addition to the planned TAP meetings published on our [website](#), due to the large volume of applications received for this application round.