

## Minutes of the ECO4 Innovation Technical Advisory Panel 8a

From: Reuben Privett

Date: 24 April 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

Eric Baster, 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.

## **3. Innovation Measure Application: Trianco Activair ASHP**

3.1. The application is for an air source heat pump (ASHP) with a built in SIM with free-to-end-user data and free manufacturer diagnostic and configuration support for 10 years. The product also comes with a 10 year parts and labour warranty and uses the R290 refrigerant. The application is for a substantial uplift.

3.2. Previous history related to the application was raised by the chair, including the rejection at TAP7, the amendments which have been made to the application, and the acknowledgement after TAP7 that the use of the R290 refrigerant in ASHPs does offer an environmental improvement.

3.3. No issues were raised in relation to the installation standards.

3.4. The TAP recognised that the adoption of R290 refrigerant was beneficial. The TAP was clear that the use of R290 alone would not be sufficient for an innovation measure uplift, and other improvements would also have to be present.

3.5. The TAP discussed the areas which had been changed from the previous application, including where claimed improvements were removed.

- 3.6. The TAP accepted the benefit of an extended warranty over the comparable measure, and noted that the extent of the improvement increases the longer the warranty is valid given issues are likely to arise more frequently as the ASHP gets older. Additional detail was provided to highlight what was covered by the warranty. The TAP was unsure what would happen once the initial 10 year warranty expires, and whether there is an opportunity for the end-user to extend the warranty. They questioned what the cost of this might be.
- 3.7. The TAP questioned whether there were limits to the number of times the end-user could call Trianco in order to make changes to the system.
- 3.8. The TAP noted that the adhesive label provided to highlight the free functionality provided with the product could be clearer to ensure that the end-user is able to make use of the improvements over the lifetime of the product, particularly where the tenant changes within the initial 10 year period. The TAP was not clear that there was a robust process to ensure that a new tenant would continue to receive the benefits described in the application.
- 3.9. The TAP noted that the end-user would still be required to pay for an annual service of the product in order to maintain the warranty.
- 3.10. The TAP discussed the value of the additional commissioning check and noted that this would likely add to the robustness of the installation process described.
- 3.11. The TAP was of the view that providing functionality for the end-user to have support with the functioning of their ASHP would be beneficial. They questioned the extent to which the end-user interacts with this functionality in practice. The TAP was of the view that the remote monitoring described would provide a benefit to the end-user.

- 3.12. In the Q&A, the TAP questioned whether an incoming tenant would be contacted to ensure that the benefits described in the application would continue to be realised by a new end-user. The representative stated that an adhesive label would be applied to the outdoor unit and indoor water tank with information about the product, as well as contacting the homeowner annually to book a service with a push notification sent 30 days before the service is due which will appear on the homeowner's inhouse display.
- 3.13. In the Q&A, the TAP questioned the trigger points signalling any problems with the heat pump and how these would be highlighted to the manufacturer and remediated. The representative explained how the alerts would be presented to the manufacturer, and that they would be able to remediate remotely in most circumstances. Where this was not possible, the manufacturer will arrange at no cost to the homeowner for the fault to be remediated in person, usually by the installing engineer.
- 3.14. In the Q&A, the TAP questioned whether the warranty is invalidated where the annual service is not completed, and if there would be an option for the end-user to extend their warranty beyond year 10. The representative stated that an annual service would be required to maintain the warranty, with some flexibility where the service is missed on occasion. They highlighted the push notifications sent to the in-room display which highlight that the service is due. A further push notification would be made once the service due date has passed, to warn the resident that the warranty may become invalidated if the service is not completed. They also confirmed that extending the warranty would be possible but could not give an answer as to the cost given uncertainty over the next 10 years.
- 3.15. In the Q&A, the TAP questioned whether there are any limits to the number of requests for changes an end-user can make, how the manufacturer is able to continue to provide remote monitoring if the number of installations increases, and when the remote

monitoring service is provided. The representative confirmed there are no limits to the number of requests that can be made. The representative highlighted how the business would be able to deliver the monitoring on a practical level. They confirmed that the monitoring would be available in normal working hours, and any alerts received outside of these times would be remediated in the normal working hours after.

3.16. After clarification during the Q&A, the TAP recommended that the product is approved with a standard uplift given a reasonable explanation of an improvement was provided. This improvement is derived from the R290 refrigerant, the monitoring and support for 10 years, and the extended warranty. The improvements included in the application were not considered substantial.

#### **4. Innovation Measure Application: InstaGen Solar PV**

4.1. The application is for a solar PV panel with Tigo optimiser which aims to increase generation efficiency and reduce degradation caused by shading. The application includes the TAP/CCA module with the associated remote monitoring and safety features. The application is for a standard uplift.

4.2. The chair highlighted similarities between this application and existing approved innovation measures.

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

4.4. The TAP noted that further evidence would be required to demonstrate additional cost savings to the homeowner in practice, particularly with evidence derived from real world

installations on domestic premises in the UK. They acknowledged that there was a reasonable explanation of an improvement in relation to this claim.

- 4.5. The TAP was concerned by the length of the product guarantee compared to the product warranty. The TAP felt that the information was unclear about the warranties for the product, panel, optimiser and other associated features. The TAP was of the opinion that the guarantee should match the product warranty of 25 years.
- 4.6. The TAP raised the issue that households without Wi-Fi are unable to realise the benefits of remote monitoring that the CCA provides. They further raised the problem that an internet connection is likely to be necessary as part of the commissioning process, so households without Wi-Fi may not only lack the remote monitoring services but may be unable to receive commissioning and thus invalidate the warranty. The TAP was of the view that a data plan should be provided to households without internet access, so that the claimed benefits of the application can be felt in these instances.
- 4.7. The TAP questioned the level of detail and evidence provided by the applicant about the safety features associated with the product. They also felt the application lacked details on the overall operation of the system. They noted that should additional evidence be provided on these points in the future, the application may be considered equivalent to innovation measures previously approved for a substantial uplift.
- 4.8. In the Q&A, the TAP questioned the length of the warranty and the product guarantee, as well as what these warranties covered. The representative outlined the services they provide.
- 4.9. In the Q&A, the TAP questioned the situation where households don't have access to Wi-Fi and whether a data plan could be provided. The representative confirmed they can provide a data SIM to households without Wi-Fi.

- 4.10. In the Q&A, the TAP questioned the handover process when the homeowner/tenant changes. The representative explained that they create a Dropbox for each customer containing all the important documentation, such as MCS certification, warranties, data sheets and information on outgoing tariffs. They explained that they don't have a system in place for tenant turnover but are looking into providing a label or Hologram adhesive label with the company contact information to allow new tenants to get in touch about the product.
- 4.11. 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. Innovation Measure Application: Ezy-Fit IWI**

- 5.1. The application is for an IWI system using high density mineral wool slabs and comprising of fewer component parts than the comparable IWI system.
- 5.2. Previous history related to the application was outlined by the chair, including highlighting the reasons for rejection in TAP 1.
- 5.3. The TAP raised no concerns around installation standards and raised no issue with the comparable measure selected.
- 5.4. The TAP questioned the improvement claim that the product was faster to install than the comparable measure, highlighting several important steps that were missed from the installation comparison, including the application of a parge coat where necessary, and the removal of wallpaper and skirting boards. However, the TAP acknowledged that there is likely to be some amount of time saving achieved due to the removal of studs from the

installation process. The TAP recognised that the reduced complexity of this system would be a benefit.

5.5. The TAP noted that the fungicidal wash is essential for this measure but not the comparable measure, which may negatively impact the time saving achieved but ultimately provide a benefit.

5.6. The TAP highlighted that an important clarification requested when rejecting the product in TAP1 was for the applicant to provide information on whether and how the floor voids under suspended timber floors will be insulated (both ground floor and intermediate floors). The TAP felt that the evidence provided to address this clarification was inadequate and would like to see a comprehensive installation guide which includes a protocol for dealing with this situation.

5.7. The TAP questioned the type of sealant being used to achieve air tightness, as the trial data showed an IWI sealant rather than a high mortality sealant. The TAP highlighted the importance of a comprehensive installation guide to address these questions.

5.8. The TAP identified that installation of this product could create multiple potential thermal bridges at every point where a steel screw is fixed directly through the plasterboard and into the wall. Furthermore, the TAP raised concerns about spot point thermal bridging and what happens when the continuity of the insulation is broken. The TAP highlighted that these questions should be addressed in any reapplication.

5.9. The TAP would like to see additional detail on the thermal performance of the product, and questioned how thermal performance would be impacted when the substrate is uneven and the insulation is compressed. The TAP wanted to see U-value calculations.



5.10. The TAP questioned whether this product would be suitable in situations with high wattage exposed cables, such as kitchens and bathrooms, and questioned whether all wiring and pipework would need to be surface mounted in these scenarios. However, the TAP recognised that kitchens and bathrooms may not be suitable for any type of IWI product due to room space.

5.11. The TAP was of the opinion that there was insufficient evidence describing the installation process and the consequential impact on the claimed improvements, as well as a lack of detail about thermal performance and u-values. The TAP recommended that the product be rejected with substantial clarifications, acknowledging that a reapplication may be worthwhile should the additional information be provided.

## **6. Innovation Measure Application: Energystore Superbead 33+ IWI**

6.1. The application is for an injected EPS bead IWI system which uses EPS beads produced in the supply chain using independently verified biofuels to reduce the associated CO2 emissions. The application is for a substantial uplift.

6.2. Previous history related to the application was outlined by the chair, including that the application combines the methodology from an existing innovation measure, with the EPS bead from another existing innovation measure.

6.3. The TAP noted that the product uses the same methodology as the product approved under ECO3, and wished to understand how this was done in practice. The TAP noted that building regulations and fire safety standards have changed since the previous application was reviewed and saw merit in a fresh assessment of the installation methodology.

- 6.4. The TAP raised concerns around whether drilling through the internal walls would compromise the VCL where this is attached to the back of the plasterboard, and there was no detail around how the VCL would be reinstated. Additionally, concerns were raised around fire resistance where plasterboard is penetrated, and the void is filled with a material with fire rating E. The TAP queried whether an existing internal wall that doesn't meet current building regulations in relation to fire would need to be brought up to standard when this product is applied. Finally, the TAP noted that no information was provided in relation to thermal bridging risks where the product is installed around window reveals.
- 6.5. The TAP would like to understand how frequently there are cavities which are 100mm deep to enable installation of the product in the way described. Additionally, detail on the specific archetype this product would be installed in, demonstrating that no thermal bridging risks are present would add value to the application.
- 6.6. The TAP was concerned that no information was provided in relation to the borescope procedure prior to installation in order to understand if there are any barriers present within the wall. The TAP noted that the application stated the product could not be applied where there are bridges within the walls, and suggested that this may be extremely common in the building archetypes the product is designed to be used in.
- 6.7. The TAP was of the view that additional information on the installation procedure was needed to understand how ventilation through airbricks would be maintained. Additionally, they questioned how the installation procedure guards against unintentionally blowing EPS beads into other areas of the building.
- 6.8. The TAP noted that no detailed thermal performance calculations had been provided to demonstrate whether the product would meet the required U-values in practice.

- 6.9. The TAP was of the view that the data provided in relation to the cost savings of installing the measure was not sufficient to assess the improvement. Additional detail would be required which breaks down the claimed cost savings. The TAP questioned the procedure for installing where cables and services are within the existing cavity and the impact this would have on installation times and the cost of installing the measure.
- 6.10. The TAP discussed extensively the claimed environmental improvements derived from producing the EPS beads using biofuels. The TAP acknowledged that there was a slight improvement related to the reduced embodied carbon emissions derived from producing the EPS bead with biofuels. However, they were of the view that the relative carbon densities of fuels have substantially changed since the LCA was undertaken and new evidence would be needed using up to date carbon factors.
- 6.11. The TAP was of the view that the combined improvements presented in the application did not warrant a substantial improvement. This is in line with the assessment methodology set out in Ofgem's guidance which states that substantial innovation uplifts are not intended to be awarded to measures which offer moderate improvements across multiple criteria. The TAP recommended that additional detail demonstrating how the requirements of the KIWA certification would be met in practice should be provided for the product to be included under the existing IM description.

## **7. Date of next meeting**

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