Minutes

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Minutes of the ECO4 Innovation Technical Advisory Panel 10

From: Reuben Privett	Date: 11 September 2024 Time: 09:00 – 13:30	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

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

Ross Holleron, TrustMark

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.

3. Innovation Measure Application: InstaGen Solar PV

3.1. 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 an existing measure to be awarded a substantial uplift.

3.2. The chair noted the history of the application, including that application was previously considered at TAP 8a. The TAP recognised the differences between the previous applications for substantial innovation measures and this one, including that the other measures contained factory-fitted optimisers and offered a single point of contact for the end-user when making a claim against their warranty.

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

3.4. The TAP discussed the claimed increase in annual cost savings and was of the view that some level of cost saving was demonstrated. However, the TAP noted that further

evidence would be required to demonstrate the extent of the cost savings to the end-user in practice, particularly with evidence derived from real world installations on domestic premises in the UK.

3.5. The TAP discussed the claimed increase in durability of the measure, and was of the view that the durability of the panels is likely to be increased although given the increased number of components this is unlikely to be a significant improvement.

3.6. The TAP discussed the other improvements, including the safety features. They were of the view that additional evidence should be provided to explain how these functioned in practice.

3.7. The TAP noted that the application had not demonstrated a straightforward approach for the end-user to contact the warranty provider should there be an issue with their system. Additionally, given there are a range of components to be fitted, the TAP was of the view that the applicant must demonstrate a robust process to ensure that the entire system is covered by the warranty and in particular that failures of connections between the components would not lead to the warranties becoming invalidated.

3.8. The TAP noted that the system under application was a series of parts installed together. As such, a robust mechanism to ensure that the proper installation of the measure occurs must be demonstrated, rather than solely using photos to demonstrate the measure has been installed.

3.9. The TAP noted that for the benefits of the system to be consistently felt, the end-user would need to continue to have broadband or the data plan. They questioned if there was a process in place to ensure that if the end-user ceases to have broadband that the data plan will subsequently be provided.

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

3.11. The TAP recommended that the measure could be approved for a substantial innovation measure if adequate clarifications are provided, particularly in relation to the point of contact for claims against the warranty, a robust process for ensuring the system has been installed and is operating effectively, detail on the safety features, and ensuring that the end-user is put at the centre of the process. The TAP confirmed that they were content that without this detail the measure had demonstrated a reasonable explanation of an improvement and the previously awarded standard innovation measure was justified.

4. Innovation Measure Application: EBAC ASHP

4.1. The application is for an ASHP incorporating a passive defrost logic to reduce energy consumption during defrosting cycles. The application is for a substantial uplift.

4.2. No previous history related to the application was raised by the chair.

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 claimed increase in annual cost savings at length and was of the view that the figures were unlikely to reflect cost savings achieved in real installations. The TAP noted that the electricity prices on which the savings were based were significantly higher than real costs.

4.5. Additionally, the TAP was of the view the data provided was unclear about the temperature ranges at which a benefit will occur. While the application states that the

defrost logic will provide benefits between 2-7°C, the data indicated that some saving would also occur between -10-2°C.

4.6. The TAP noted that the evidence related to the installation of the measure in a 3-bed detached house, which is unlikely to reflect actual installations under the scheme.

4.7. The TAP noted that the heat pump was only offered at 5kW and 9kW variants and highlighted that correct sizing of the heat pump in the property would help ensure that the cost savings delivered by the defrost logic were not outweighed by an inefficiently sized heat pump.

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

4.9. The panel recommended that the measure be rejected for a substantial innovation measure on the basis that the claimed increased annual bill savings were not significant. The TAP was of the view that there is a reasonable explanation of an improvement and the measure may be awarded a standard uplift, subject to adequate responses being provided to clarifications.

5. Innovation Measure Application: Daikin ASHP with Mixergy VBS

5.1. The application is for a Daikin ASHP installed in combination with the Mixergy Virtual Buffer System (VBS). The Mixergy tank functions as a bi-directional heat store intended to reduce the running costs of the ASHP, as well as removing the need for a central heating buffer vessel and expansion tank. The application is for a substantial innovation measure.

5.2. No previous history related to the application was raised by the chair.

5.3. The TAP noted that the installation standards related to the ASHP with which the VBS would be installed and requested clarification as to whether the additional product was MCS certified.

5.4. No concerns were raised in relation to the comparable measure.

5.5. The TAP discussed the claimed increase in annual cost savings. They commented on the data collection methodologies for the field trial and lab tests and noted that they are unlikely to reflect real life savings. For instance, they noted that the field trial made use of two different models of heat pump with different performances and therefore the extent to which the Mixergy VBS contributed to the data could not be determined. The TAP commented that the lab test methodology did not include hot water provision and therefore the results are unlikely to reflect in-situ performance.

5.6. Equally, the TAP was of the view that the results of the trial did not conclusively demonstrate a difference in performance.

5.7. The TAP was of the view that there was a reasonable explanation of a mechanism to achieve some cost savings in relation to thermal inertia reducing losses given this may reduce the frequency of on/off cycling. However, they questioned whether this was the most effective way to achieve these results given some controllers are also able to reduce on/off cycling at a lower cost.

5.8. The TAP also questioned whether the heat plate exchanger was located outside the tank and therefore left uninsulated. If this is the case, they questioned whether the heat losses associated with this have been included in the calculations provided.

5.9. The TAP was of the view that the functionality which predicts the volume of water to heat was a benefit. They agreed there was a reasonable mechanism for savings although

additional detail would be needed to evaluate the extent of this improvement over the comparable measure.

5.10. The TAP commented on the flexibility benefit where the end-user is rewarded if they sign up to a specific energy provider's tariff. The TAP was of the view that tying an end-user into a tariff with a supplier in this way may not be appropriate and should not be awarded.

5.11. The TAP noted that the measure was a high temperature heat pump with a lower SCOP than comparable low temperature models. They commented that an unintended consequence of this may be that less efficient heat pumps are installed in circumstances where a more efficient heat pump could feasibly be installed.

5.12. The TAP noted that the data collection has been completed by the applicant, while a third party provided external validation. The TAP felt fully independent testing would lead to more reliable evidence.

5.13. The TAP discussed the reduced installation costs and questioned the figures provided. They felt that insufficient evidence was provided to demonstrate that the comparable measure would take significantly longer to install and that the cost estimate for the expansion vessel was unrealistic. Additionally, the TAP felt that while there may be fewer components to install, the measure includes software which would have to be set up and there was not evidence to conclusively demonstrate that this process would be quicker than the comparable measure.

5.14. The TAP discussed the increased durability claims and accepted that fewer cycles for the ASHP would likely have a positive impact on the system as a whole.

5.15. The TAP discussed how the COP of the system is measured in-situ and noted that using inbuilt instrumentation rather than a heat meter means that there will be a high level of

uncertainty. Additionally, limited detail has been given to explain the process for remediation when the efficiency of the system is reduced. For example, how is the issue remediated, who is liable, how much does the end-user need to be engaged, how do the alerts appear to the end-user? A robust approach would need to be provided to demonstrate that this is an improvement.

5.16. The TAP discussed the reduced disruption to the homeowner and felt that any improvement would be marginal.

5.17. The TAP discussed the claims included in the other criteria and agreed that there may be some benefit from enabling radiators to reach a higher temperature more quickly after being set back overnight. However, this claim was not strongly supported by evidence.

5.18. In the Q&A, the TAP asked what information the end-user is required to input in the app to achieve the claimed benefits. The representative gave an overview of the two primary options; either inputting their own schedule for hot water provision, or delegating to the system to learn when hot water is required and at what volume. Both of these are available via their app, and the representative offered to provide screenshots after the meeting to show the user interface.

5.19. In the Q&A, the TAP questioned the benefits of efficiency versus tariff arbitrage. The representative stated that using energy to store heat when the tariff was low would enable considerable savings, given the system would automatically chose the optimum heating frequency within predetermined parameters to reduce the cost of heating. However, they noted that should a consumer not be on a specific tariff they would continue to experience efficiency benefits from thermal inertia and the control strategy. Where static tariffs are in place, the system will use weather data to predict the best heating times for efficiency.

5.20. 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. Innovation Measure Application: Atlas EWI

6.1. The application is for an EWI system using EPS slabs which are adhesively and mechanically fixed to the substrate. The formula of the adhesive means that mechanical fixings can be installed 24 hours after the adhesive. Inspections and maintenance are conducted every five years for a 25-year period at no cost to the end-user and the warranty has been extended to 60 years. The application is for a standard innovation measure.

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

6.3. The TAP raised no concerns around installation standards selected or the comparable measure selected. However, they noted that insufficient information was provided to demonstrate how the product is installed, including evidence that it meets building regulations. No appropriate certification was provided, or evidence that a qualified individual had assessed the measure in relation to building regulations compliance or compliance with appropriate standards.

6.4. The TAP was of the view that they would require evidence of a certification or that testing has been carried out by an independent and appropriately qualified individual to ensure that the measure can be safely installed, particularly in relation to Building Regulations.

The TAP did not feel that solutions and details to overcome thermal bridging and therefore meet compliance with PAS 2035 had been adequately covered in the application. The TAP was of the view that the UKTA provided did not provide this level of evidence and is not equivalent to an agrément certificate.

6.5. The TAP noted that detail was not provided on the application methodology, including the fixing pattern, and this would ordinarily be found in the product certification.

6.6. The TAP was of the view that additional detail should be provided in relation to the warranty. This should include demonstration of how the end-user can make a claim, who they would need to contact, what the warranty would cover, how the warranty is transferred when a new end-user moves in, and what the maintenance requirements would be for the end-user once the maintenance regime elapses.

6.7. The TAP was of the view that the maintenance and renovation document provided a good level of detail about these requirements.

6.8. The TAP commented on the claimed improvements. In relation to durability, the TAP acknowledged that the data demonstrated the render was more resistant to cracks but there was no detail on how this translates to increased durability. Ordinarily a certification would provide detail on the lifetime of the measure and this would help to satisfy the TAP that the measure has an increased lifetime.

6.9. In relation to claims around cost-effectiveness of the installation, the TAP noted that no timed studies have been provided to demonstrate the time savings in practice. Equally, the TAP suggested that there are unlikely to be cost savings associated with requiring scaffolding for a shorter period of time given scaffolding tends to be costed based on construction and dismantling rather than time in use.

6.10. The TAP accepted that the inspection and maintenance regime was positive and similar to previous applications approved as standard innovation measures. However, they noted that the application suggested inspection and maintenance would only be carried out at 50% of installations, where other applications would provide the inspection and maintenance to all installations. As such, this cannot be considered an improvement.

6.11. The TAP also mentioned roof line closure systems and their interaction with the warranty length. If systems are designed to be installed with roof line closure systems, the TAP would expect to see specifics on their requirements and the interaction of these systems with the warranty.

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

6.13. The TAP recommended the application be rejected with substantial clarifications.

7. Innovation Measure Application: Vaillant ASHP

7.1. The application is for an ASHP which includes a 12-year maintenance programme and extended warranty at no cost to the end-user. The application is for an existing standard innovation measure to be approved as a substantial innovation measure.

7.2. The chair highlighted the history of the application including that the measure had been approved as a standard innovation measure.

7.3. No concerns were raised around the installation standards or comparable measure.

7.4. The TAP was of the view that the maintenance cost savings provided would be significant for the end-user. Additionally, strong information had been provided on the handover process between occupants, a process for ensuring that the maintenance is carried out,

and that finance was in place to ensure that the service would continue to be carried out in the future.

7.5. The TAP noted that there were some elements not included in the annual service, including full visual checks of the pipework, checking condensation removal, and checking the electrical wiring. They queried why these are not included and if there is an impact on the warranty should there subsequently be a failure in these areas.

7.6. The TAP recommended that the application could be approved for a substantial uplift subject to clarifications.

8. AOBs

8.1. The TAP discussed whether letters of comfort from certification providers would be considered satisfactory evidence that measures have been tested in relation to safety and performance. The TAP was of the view that a letter of comfort would likely be specific to a single element and questioned whether this would constitute a complete check of the measure's safety and compliance with building regulations. The TAP stated that they would not be comfortable approving an innovation measure which had not had a qualified independent technical assessment of the system against UK requirements.

9. Date of next meeting

9.1. The next meeting of the TAP is scheduled for 20 November 2024. The dates of future TAP meetings will be available on our website in due course.