

## Minutes of the ECO Innovation Technical Advisory Panel

From: Roisin Curran

Date: 12 May 2020

Location: Conference call

Time: 9:00am

The technical advisory panel (TAP) has been set up to review ECO demonstration and innovation 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 certain ECO 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.

### Present

David Glew, Leeds Beckett University

Jason Palmer, Cambridge Energy

Neil Cutland, Cutland Consulting Ltd

Andrej Miller, BEIS

Kay Popoola, BEIS

Hunter Danskin, BEIS

Eric Baster, Ofgem

John Shiell, Ofgem

Christopher Mack (Chair), Ofgem

Roisin Curran (Secretariat), Ofgem

## **Introductory remarks by the Chair**

The Chair welcomed all panel members to the meeting.

### **1. Demonstration Action Application: Energiesprong**

- 1.1. The application relates to a 'whole house' retrofit system. Applications were previously made for the July and October TAP. These were rejected with merit in a fresh application.
- 1.2. One member of the panel was involved with the project, and did not take part in the review of the application.
- 1.3. The panel were satisfied from previous applications that the product is materially different, has a significant renewable aspect, and is reasonably expected to result in cost savings. The panel were also satisfied that the credentials of relevant testing and research bodies were appropriate, as was the TRL of the product, and relevant safety measures included in previous applications. These areas were not discussed during the meeting, as they remained unchanged from the previous applications.
- 1.4. The panel noted that although the new application provided more information and seemed to address the points raised at the October TAP, it lacked sufficient clarity for the panel to be confident in their assumptions of what was proposed. This was mainly due to it being unclear if the information in the application related to this DA, other projects, or future intentions for Energiesprong in general. The panel suggested the key details in the application are clarified with the applicant to prevent incorrect assumptions being made.
- 1.5. The panel recommended that the responses received prior to the TAP be confirmed with the applicant. They also wished to ensure that, for this project specifically, no costs will be passed on to the householders in relation to the provision and maintenance of the product; and that householders will continue to arrange and pay their own energy bills

with suppliers. The applicant should also be asked to confirm whether any performance guarantee will apply in this project and what its key details will be.

- 1.6. The panel had concerns that while 3 weeks of pre and post installation data may not be sufficient to obtain a meaningful result for a HTC, it seems unlikely to be sufficient for deducing heating bill savings (ie. LBS). See also 1.8 below. The panel were also unclear which method is to be used in each property.
- 1.7. The panel suggested a detailed Gantt chart for the DA would be helpful to show when each phase in the DA is expected to begin, and the duration.
- 1.8. It was unclear what method will be used to calculate and report energy savings. The panel asked for a detailed description of how the results will be presented for additional clarity.
- 1.9. The panel previously questioned the proposed sample size given the expected cost savings for the product, and the use of non-traditional architypes. The panel agreed the proposed sample size in the new application was reasonable, and were satisfied with the explanation for the chosen property architypes.
- 1.10. The panel recommended the application is approved subject to clarifications on the details of the proposal, aspects such as the performance guarantee, how cost savings will be measured and reported, and a detailed timeline for the project.

## **2. Demonstration Action Application: Hydromx**

- 2.1. The application relates to a fluid for central heating systems, which contains Nano technology aimed at increasing the rate of heat transfer.
- 2.2. The panel agreed the product was materially different to those currently delivered under ECO as part of boiler installations, and is at TRL9, as it is currently deployed on the market.
- 2.3. The panel did not agree the product is reasonably expected to achieve cost savings, or that the estimated cost saving was reasonable. The case studies provided as evidence were not considered sufficiently robust to assure the panel members a cost saving could be achieved. One panel member speculated that although increased heat transfer

may help condensing boilers operate in condensing mode for longer, any potential saving may be tiny as a proportion of total gas use.

- 2.4. The panel noted the product is currently under-going testing aimed at achieving inclusion in SAP Appendix Q and suggested that, once concluded, the results could be used to demonstrate the product is reasonably expected to result in a cost saving.
- 2.5. The panel appreciated the detail in the proposed methodology, which was well thought out, and accounted for any cost savings resulting from flushing the central heating system. They also recognised the consideration for social distancing in the proposal by enabling the monitoring equipment to be posted, and installed by the householder. The panel suggested a few amendments and considerations for further improvement in relation to the monitoring plan, and proportionate size of the control group.
- 2.6. The panel noted that recruitment relied on access to various databases, and raised concerns over GDPR, which may reduce the ability to gain access to information.
- 2.7. The panel questioned the credentials of the test house in analysing and monitoring energy data from a large number of homes, and requested clarification on the experience held by NEA in physical monitoring of energy interventions.
- 2.8. The panel felt the proposed sample size was not sufficient to determine if a cost saving could be achieved with the product, and suggested this was based on a more realistic estimate of the potential cost saving using the sample size tool on the Ofgem website. For example, a potential cost saving of 1% would require a sample size of approximately 1100, and a cost saving of 2% would require a sample size of approximately 400.
- 2.9. The application stated that drop outs were accounted for in the sample size, with no additional information provided. The panel queried the number of drop outs anticipated, and if this accounted for potential issues with householders being unable to install monitoring equipment, or equipment being installed incorrectly.
- 2.10. The panel noted inconsistencies in the project costs, and questioned why the estimated number of litres required for two and three bed properties was significantly less on the product website than stated in the application.

- 2.11. The panel agreed the equipment and installation safety arrangements were largely reasonable, although questioned how the product would interact with a magnetic filter fitted on the central heating system. The panel also noted the application did not elaborate on the 5% of the product that was non-recyclable, and asked for assurance that it was not toxic, and can be flushed into a standard drainage system with no environmental implications.
- 2.12. The panel broadly agreed the aftercare arrangements were reasonable, but were unclear if the performance of the product would be affected by reduced quantities of the fluid following a routine (ie. unrelated to this project) drain down of the system. The panel also queried if the guarantee remained in place if the householder has to flush, or drain the central heating system for maintenance or repairs.
- 2.13. The panel were curious if the product cost is expected to fall with economies of scale, and the anticipated future cost.
- 2.14. The panel recommended the application is rejected, with merit in fresh application once the product has concluded the current testing for inclusion in SAP Appendix Q.

### **3. Innovation Measure Application: ARP CWI**

- 3.1. The application is for an installation technique using rope access to install mineral wool CWI to high rise buildings.
- 3.2. The panel agreed the installation technique was materially different and an improvement on current methods of installing mineral wool CWI, with increased speed and reduced cost of installation due to the lack of scaffolding required. The panel also noted that the use of mineral wool helps to address fire safety concerns in high rise buildings.
- 3.3. The panel agreed the product is capable of achieving cost savings.
- 3.4. The panel discussed the importance of suitable technical and score monitoring questions to ensure any innovation uplift is applied correctly. The panel were supportive of the ideas for evidencing the installation method and insulation used, such as photographs and head cams for mid-install inspections. The panel recommended the

applicant propose suitable questions to ensure the appropriate evidence is checked during technical monitoring.

- 3.5. The panel requested sight of the advice received from the independent safety consultant to the effect that the IRATA safety certification standards for the installation method are appropriate and sufficient.
- 3.6. The panel agreed this product could have a positive impact on Fuel Poverty and those vulnerable to the effects of cold.
- 3.7. The panel recommended the application is approved subject to clarifications on the safety of the installation method.

#### **4. Innovation Measure Application: Beanbag Smart Thermostat**

- 4.1. The application relates to a smart thermostat, which uses "z wave" technology for device compatibility.
- 4.2. The panel did not agree the product was materially different or an improvement on other smart thermostats currently on the market. Some features, such as geolocation and the thermostat being wireless, are common features of smart thermostats. Other features, such as identifying properties at risk of mould or condensation, are only present when additional compatible equipment is purchased and do not form part of the product being applied for.
- 4.3. The panel also noted that the product was aimed partly at benefiting landlords rather than householders, and did not feel these benefits are appropriate for ECO – which is aimed at helping householders in fuel poverty and those vulnerable to the effects of the cold.
- 4.4. The panel agreed the product was capable of achieving a cost saving similar to other smart thermostats.
- 4.5. The panel had some concerns over the installation and safety aspects of the product. One of the key benefits listed was the ability for the product to be installed in empty properties, or where the householder was not present. In such cases, there may be difficulty in completing the required handover of the product to the householder, and evidencing householder eligibility in unoccupied properties.

- 4.6. The property owner holds the master account with full control of the system and data obtained, and can give the householder varying levels of access to the system. The panel questioned the implications for consent, data protection, and personal liberties with this feature. It was also unclear if the landlord was able to alter temperatures or schedules set by the householder.
- 4.7. The panel recommended the application is rejected absolutely.

## **5. Innovation Measure Application: MI RIRI**

- 5.1. The application is for a certified room-in-roof insulation system (RIRI) by a singular system designer with responsibility for training, and on-going quality assurance.
- 5.2. The panel agreed the product is materially different and an improvement on current RIRI insulation methods. The panel felt the systemised approach and high level of detail combined with independent certification of the system are likely to provide higher quality installations.
- 5.3. The panel agreed the product was capable of achieving cost savings.
- 5.4. The panel were content with the current technical monitoring question set for this product, and suggested an additional question could be proposed to ensure only the approved system would receive an uplift.
- 5.5. The panel were unclear on whether the masonry product 'Stormdry' would be applied to the entire exterior wall, or only the exterior portion of the RIRI. It was also unclear if the product would be applied using scaffolding, a ladder, or alternative method, and what the safety implications of this would be.
- 5.6. One panel member was interested in how rooms with unsupported purlins would be treated, and the standard procedure for preventing unusably low height rooms following installation of the product.
- 5.7. The panel agreed the product would have a positive impact on fuel poverty and those vulnerable to the effects of the cold.
- 5.8. The panel recommended the application was approved subject to clarifications on the application of 'Stormdry', and treatment of low height rooms or rooms with a purlin.

## **6. Demonstration Action Amendment Applications**

- 6.1. Two amendment applications for previously approved demonstration actions were also reviewed by the panel.
- 6.2. One application was for a retrospective amendment, as the applicant had not completed the agreed monitoring methodology, and was therefore at risk of not the DA not being approved. The panel were not confident that the newly proposed methodology would collect sufficiently robust data to determine the effectiveness of the product at achieving cost savings, and therefore did not accept the proposal. In order to achieve the outcomes outlined in the original approved application, the panel suggested the applicant submits a creative proposal on how they will rescue the DA, and ensure sufficient data is collected.
- 6.3. The second application was for a delay to the project start date due to COVID-19, and an increase in project costs. The panel were content with the proposal to delay monitoring. The panel were of the opinion that the increase in costs were not due to unforeseen circumstances, and recommended these were rejected.

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

- 7.1. The next meeting of the TAP is on Tuesday 14 July 2020 via conference call.