Minutes

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Minutes of the ECO4 Innovation Technical Advisory Panel 16b

From: Reuben Privett	Date: 3 December 2025 Time: 09:00 – 11:30	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

Hunter Danskin, DESNZ

Andy Morrall, 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: UKSOL ACFS Solar PV

3.1. The application is for a solar PV system with manufacturer-fitted microinverters on every panel. The system has panel level optimisation and remote monitoring, and comes with a 10-year data plan where the homeowner does not have access to wi-fi, and a 25-year warranty including the microinverters. The application is for a substantial uplift.

3.2. The chair noted that the application has been assessed in TAP15 and rejected with clarifications. This new version of the application is distinct from the previous version in that the microinverters are installed on every panel. The application details the same remote monitoring and safety features as had been approved as a substantial innovation measure with other solar PV systems, with similar claims relating to increased cost savings as a result of optimisation.

3.3. No issues were raised with the standards.

3.4. The chair highlighted the reasons for rejection from the previous application and the TAP discussed whether the new information provided addressed these concerns.

3.5. Given the microinverter is now installed on every panel, the TAP was satisfied that the increase in annual cost savings set out in the application were more reasonable.

3.6. The TAP was of the view that given the conversion to AC at panel level, evidence must be provided to demonstrate that increased cable losses do not outweigh any improvements in generation from the microinverter. They also noted that even where the cable losses do reduce the extent of the improvement, this may be accepted because of the improvements offered elsewhere.

3.7. The TAP discussed the decreased cost of installing the measure criterion and the previous reason for rejection which focused on the requirement for a smoke alarm or canopy. They accepted that the evidence showed a smoke alarm would be required where the inverter is not in a regularly accessed room and so the improvement would not apply in all cases. The TAP also noted that a canopy would not be required where there is sufficient overhang from the eaves or where it is on the correct side of a house to prevent wind-driven rain. While in some circumstances this may make a difference, the TAP was of the view that any improvement was marginal. Equally, the installation of a wired smoke alarm in the loft is not something the TAP would want to discourage.

3.8. The TAP discussed the durability claims and whether the previous reasons for rejection in relation to this had been addressed sufficiently.

3.9. The TAP noted that there was limited evidence specific to the microinverter employed in this system which showed that it was as durable as claimed. The TAP accepted that microinverters would intrinsically be more robust given the lower voltage and power running through them. However, they were concerned that it is possible to value-engineer a microinverter such that the durability is not consistent between manufacturers. They noted that this is a problem where the warranty does not cover all aspects of their replacement and evidence relates to different microinverters.

3.10. The TAP noted that there was 2 years of labour warranty provision, and that this would cover the more frequent failures within the first 2 years on installation. However, they noted that there is limited evidence more broadly which shows that the failure rates follow the curve set out in the application pack. This would only become apparent over time, and the TAP was cautious that this may mean failure could be possible at any point in the product lifecycle. That also noted that this 2-year labour warranty would be a standard requirement on the scheme. The TAP was of the view that at least 12-years of index-linked labour warranty should be provided and this should make the replacement of a damaged microinverter free to the end-user. They were of the view that if the failure rate does follow the curve in the application, then the risk to the manufacturer is minimal.

3.11. The TAP noted that including the cabling does strengthen the warranty, although they questioned if this covered only factory-fitted cables, or cables installed during installation as well.

3.12. The TAP noted that there was still not warranty coverage for access costs and highlighted that costs of scaffolding may be prohibitively expensive.

3.13. The TAP accepted that having a microinverter on every panel would mean that a single inverter failing would not lead to the whole system going off-line.

3.14. The TAP discussed the other criterion. They noted that a manufacturer specification sheet was not provided for the microinverters and felt that this would be required in order to demonstrate the safety functionality. They also questioned whether there were any additional safety risks where a microinverter fails and is not replaced, where the system is installed as a string. In these instances, would current be passing through the panel and not have the benefit of all of the safety features?

3.15. The TAP discussed the provision of a data plan. They noted that the system was highly reliant on access to data in order to make an alert when the microinverter has failed and that this was not the case on a normal system with an accessible string inverter, which would produce a visible error code when it failed. The TAP was of the view that a data plan should be provided for the lifetime of the product, and certainly at least 15 years. They also requested additional detail on how the plan could be extended beyond the initial period.

3.16. The TAP accepted that there was a QR code which provided access to the relevant information.

3.17. The TAP accepted that there are not a significant number more connections involved with this system.

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

3.19. The panel recommended that the measure could be approved as a substantial innovation measure, subject to clarifications relating to the warranty, data plan, and safety features.

4. Innovation Measure Application: REA Power AC Solar PV

4.1. The application is for a solar PV system with factory-fitted microinverters installed on each panel. The system has panel level optimisation, remote monitoring functionality, and a 25-year warranty including the microinverters. The application is for a substantial uplift.

4.2. The chair noted the application contained the similar improvement claims to the previous application.

4.3. No issues were raised with the standards.

4.4. The TAP discussed the increased annual cost saving claim. They noted that the evidence provided to demonstrate increased generation from bifacial cells related to situations where the panels were installed in the open, and not on a roof. The evidence shows the impact of ground albedo effect and this would not be the same when installed on the roof. Additionally, the capacity of the microinverter is not great enough to enable any significant extra generation from the back of the panel. Equally, the TAP was of the view that lower performance losses caused by component failures is a duplicated claim which should be under durability. However, they accepted that there would be some increased generation as a result of the microinverters.

4.5. The TAP was of the view that given the conversion to AC at panel level, evidence must be provided to demonstrate that cable losses do not outweigh any improvements in generation from the microinverter. They also noted that even where the cable losses do reduce the extent of the improvement, this may be accepted because of the improvements offered elsewhere.

4.6. The TAP discussed the decreased cost of installation criterion. They were of the view that there was no evidence to support the claim that it has a reduced installation cost or that the simplified installation methodology would lead to reduced costs. They noted that the evidence did not show the time taken to attach the connector to the cable during installation and that this would be a time-consuming task.

4.7. The TAP discussed the increased durability claim. They were of the view that insufficient evidence was provided to support the claim that the tempered glass leads to an increase in durability, and no evidence that the incumbent system has a weakness at this point.

4.8. The TAP discussed the warranty. They commented on the exclusions and limitations of the labour warranty. They noted that the warranty is not specific to the UK and refers to Euros rather than pounds. As such, it does not seem to be relevant to UK installations. Equally, they were of the view that there was a de facto €225 limit on compensation, but that evidence provided elsewhere showed that the labour costs for replacement are likely to be significantly greater. As a result, if the end-user needed to use the warranty, they would still have to pay a significant amount of money, and it would not be cost effective to pay for this replacement given the limited additional cost savings. Therefore, the warranty was not considered a significant improvement. Equally, the evidence provided suggests that labour and replacement of the microinverter is only covered for 2 years.

4.9. The TAP noted that there was limited cover for access costs, including scaffolding where necessary, and they felt that this must be covered completely given the need to access panels on the roof, and the cost of this to the end-user would likely be prohibitively expensive to continue to receive the benefits.

4.10. The TAP noted that the warranty is split between the panel manufacturer and microinverter manufacturer. The TAP was concerned that this could lead to ambiguity as to whose responsibility replacement falls to, to the detriment of the end-user. The TAP was of the view that there should be a single point of contact for the end-user for all warranty issues. They also questioned why the warranty would be split when the system is factory assembled.

4.11. The TAP felt that to be considered a significant improvement, the labour warranty should cover at least 12 years, and this should be index-linked. The TAP clarified that this is distinct from other solar PV systems with string inverters which would be more easily and cheaply replaced given they are likely to be more accessible.

4.12. The TAP accepted that if the microinverter failed then the whole system would not be affected, although more detail is needed to show the impact of this on the safety features. They noted that if that panel continues to have AC flowing through because it is part of a chain, does it lose its safety protection?

4.13. The TAP discussed the environmental improvements. They did not accept the environmental improvement set out by the higher lifetime generation given this is incorporated in the annual cost savings criterion. They felt that the LCA did not incorporate the full lifecycle and therefore did not accept the claims.

4.14. The TAP discussed the reduced disruption criterion and felt that no robust evidence had been provided to support these claims.

4.15. The TAP discussed the other criterion. They questioned whether there are safety implications where the microinverter fails and is not replaced.

4.16. The TAP also questioned whether there is a difference depending on whether the system is installed in series or parallel. They noted that in the UK context, solar PV installations would not need a high voltage specialist. The TAP questioned how the system could be installed at less than 30 volts if it were installed in series. Equally, if the system is installed in parallel then the system may be equally complex to install as other solar PV systems.

4.17. The TAP accepted that, subject to clarification about the impact of the microinverter failure on the safety features, the safety features are the same as have otherwise been approved.

4.18. The TAP was of the view that there were no improvements in relation to broader installer access or that a high voltage specialist is not required. They noted that this was not applicable to the UK context.

4.19. The TAP was of the view that a QR code sticker should be included somewhere visible inside the home to give detail of the remote monitoring and warranty.

4.20. The TAP noted that no detail was provided in relation to the provision of a data sim, and felt that this should be included for at least 15-years given the impact of a microinverter going down, and that this was not possible to easily ascertain without the remote monitoring.

4.21. The TAP was of the view that this system used a very similar installation methodology to the previous application and that the claims are mostly the same.

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

4.23. The panel recommended that the measure could be approved as a substantial innovation measure, subject to clarifications relating to the warranty, data plan, and safety features.

5. AOBs

5.1. The TAP asked about the implication of the budget announcement at the end of November on the future of the scheme and innovation within it. The chair stated that in relation to the announcement in the 2025 Budget that the Government is not continuing the funding of ECO on bills, Ofgem are working closely with DESNZ to understand what this means in practice. We are still awaiting a Government decision on the outcome of the ECO4

extension consultation. However, there are no plans to cancel the TAP meeting due to take place on 25th February 2026.

6. Date of next meeting

6.1. The next meeting of the TAP is scheduled for 25 February 2026. The dates of future TAP meetings are available on our website.