



Each Home Counts Implementation Plan

26th February 2018

1. Name of Workstream

Measurement, Monitoring & Verification

2. Purpose and Objectives

Establishing the performance of candidate buildings before and after improvement to ensure and verify that the improvement measure(s) and work(s) undertaken deliver, and where appropriate continue to deliver, the intended improvement outcomes. The overall objective is therefore to provide stakeholders with data at system, individual building and building stock level to inform actions and decisions and track progress.

Carrying out appropriate MM&V will enable the financial, carbon and perhaps social (e.g. in terms of health and comfort improvements for fuel poor) return on investment to be assessed for individual dwellings and/or improvement programmes across multiple dwellings.

Individual building performance data would be held in data repositories according to common protocols to provide a basis for progressive and long term planned improvement programmes for specific properties and to enable meta-data to be assembled to track overall improvements in building energy and carbon emissions improvements across the domestic building stock. Cutting data another way would enable the installed success of technologies to be established, informing learning for installers and providing confidence to financiers and insurers.

The primary impact of this workstream will be felt in addressing three of the key areas for improvement listed in Table 1 of the EHC review report. These are:

- Better use of property assessments
- Ensuring consistent and robust monitoring (especially in relation to building performance)
- Making better use and availability of data

It also contributes to delivering Recommendations 1 and 4, Recommendations 5, 6 and 7, Recommendation 16, Recommendation 18, Recommendation 22 and Recommendation 27.

3. Workstream Lead

Dr Kerry J Mashford, National Energy Foundation (Kerry.mashford@nef.org.uk)

4. Members of the Workstream

The members of the core working group (CWG) for MM&V remain unchanged and comprise the workstream lead Kerry Mashford, together with:

Richard Fitton, University of Salford & Building Performance Network

Simon Green, VRM Tech
Andrew Pease, Energy Systems Catapult
Alan Cochrane, Retrofit Design Services (observer member)
Martyn Reed, Elmhurst Energy
David Glew, Leeds Beckett
Vasileios Sougkakis, Nottingham University

A wider consultation group stands ready to comment on and contribute to the work of the CWG.

5. Connection with other workstreams

As work on this workstream has progressed, the focus of intersection had sharpened. Current work under this workstream has strong intersection with **Quality Mark, Compliance & Enforcement and Standards**.

Interaction with **Energy Technologies, Insulation and Fabric Technologies** continues to ensure alignment. Since the Grenfell tragedy, MM&V has not been able to engage meaningfully with **Design & Installation**, although the workstream lead for D&I remains a (observer) member of MM&V.

Strong recommendations have been made in relation to **Smart Meters**, the data from which underpins MM&V activity. The installation of smart meters also has potential to impact fabric performance so recommendations have been made in this regard also.

In respect of the skills required to undertake MM&V, discussions with **Skills & Training** has informed direction.

Early contact with **Finance & Insurance** ensured MM&V could take the concerns of that workstream into account as MM&V work has continued.

Engagement has also occurred with **Advice & Guidance (Information Hub and Data Warehouse)** and will continue.

6. Key Activities (with timings and outputs)

1. Work with **Quality Mark** (and including interaction with Compliance and Enforcement, and data) to ensure that the Universally Applicable MM&V Framework that has been developed by the group is embedded in Quality Mark with appropriate mechanisms for its execution. Timing to align with development of QM.
2. Work with **Standards** group to determine the most appropriate mechanism for structuring MM&V activity in retrofit, either as process doc/guidance doc under PAS2035 or as a stand-alone standard referenced in PAS2035. Prepare scope of document / standard and method/cost to deliver – by end Q1 2018.
3. Propose programme to pilot test and refine the MM&V framework to ensure it delivers the information required on outcome performance to support compliance and enforcement, evaluation and learning. Funding will be required and timing may depend on availability of funding.
4. Finalise compilation of list of techniques and methods (including standards where in existence) to be approved for MM&V by end Q1 2018 to include consultation with wider MM&V group.
5. Determine method for approving/qualifying MM&V professionals to undertake four levels of MM&V as set out in the Universal framework. Develop proposal for

accreditation of professionals if required - April 2018. Implement accreditation/approval mechanism - Q2/Q3 2018

7. Resourcing

Whilst the Core working group continues to progress the work elements outlined above, some aspects of the work described above require external funding. This may present a barrier to timely progress.

8. Risk Management

1) Resources available in the core working group are insufficient to progress at required pace – mitigation is that the wider consultation group may be able to provide secondees or other human resources to improve progress.

2) Execution of a pilot project to test and refine the Universal Framework and ensure it provides the expected information will require funding. To ensure this is carried out in time for the launch of the Quality Mark, it should be 'bolted on' to an existing retrofit project. Feelers are about to be sent out amongst the wider consulting group to identify such a project. It is unlikely this will come with funding so some funds will also need to be found.

9. Activities in the last two months

Continued work on skills and accreditation of MM&V professionals; alignment with Quality Mark; incorporation in PAS2035 and compiling list of MM&V methods.

Strong recommendation made on Smart meter installation and access to smart meter data made to Implementation Board.

10. Activities in the next month

Continuation of work to ensure MM&V is fully and appropriately embedded in Quality Mark.

Reach decision on how best to reference MM&V in PAS2035, if a separate standard is required and, scoping of the process doc or standard as appropriate.

Consultation with wider MM&V community on possible pilot projects and on MM&V methods to be adopted for specific categories of measures.