

Recommendations to improve the
**Innovator route to market
within the retrofit sector**



2026



Introduction

The Sustainable Energy Association (SEA) takes a holistic and technology agnostic approach to delivering buildings fit for the future. One of our key principles is to **ensure innovators have a smoother route to market**. The SEA previously published resources to support manufacturers looking to navigate innovation for retrofit ([Information and Tips for Manufacturers and Innovators](#) and [Incorporating Innovative Products in Retrofit Programmes](#)), providing helpful information and tips. These papers are available to support manufacturers going through the current innovation process; however, barriers are still prevalent and need to be overcome.

This paper summarises the key barriers innovators within the (domestic) retrofit market face and recommendations for government and other key influencing stakeholders.

THE BENEFITS OF INNOVATION FOR RETROFIT

Innovation supports the developing energy efficiency agenda for homes and buildings. Manufacturers and the wider supply chain play key roles in developing innovations for the retrofit market and must be supported throughout the innovator journey. New products are regularly entering the market that are able to aid in solving key issues, including:

- **Lowering bills and upfront costs for consumers**
- **Improving energy efficiency and decarbonisation**
- **Reducing damp and mould**
- **Increasing consumer comfort**
- **Smoother installation**
- **Simpler consumer use of technology.**

Innovation is an integral part of the transition to net zero and the prosperity of our journey there. Creating more efficient, smaller, quieter, cheaper (to make and run), easier to install, more comfortable, less carbon intensive solutions is how we will deliver the best outcomes for every person and building in the UK. Without innovation, the majority of technologies we use today would not have existed. This is why it is critically important to support innovators to ensure that suitable products can be successful and accessible to consumers.

Innovative measures are the keystone to a more technology-agnostic approach. As the UK's manufacturing base and service offerings for technologies as part of the transition expand, so will the number of new measures that will contribute to accelerating the transition and providing the best value. Further, this includes measures that may be commonly used in other countries, but are yet to have entered the UK market, ergo, UK policies and schemes for funding low carbon installations.

It is important to note at this stage that the definition of innovation needs to be understood to ensure that new products are being handled appropriately. A minor iteration of a product would not be treated as a true innovation, versus the creation of a new solution that brings about improved performance. If innovations are not categorised in the same way it could lead to issues during the innovator journey, such as being placed in the wrong product category.

BARRIERS TO INNOVATORS & RECOMMENDATIONS

Innovative products and services are not well supported into government policies for heat and buildings and face many barriers to participation. The SEA are advocating for the creation of a transparent and effective process for the adoption of innovation and any funding options to progress applications.

Current government policies sit alongside rules and regulations that protect consumers from measures that are either poorly installed or cause unintended consequences. However, these protections, despite their necessity, are a cause for concern and create barriers to innovative measures entering the market. Those undertaking retrofits in the regulated market are required to conform to standards underpinning their methods, training, and choice of products and materials. Others tend to specify products that have this perceived government backing to provide a degree of customer assurance. Innovators therefore need to get their retrofit products “accepted” by government to be able to sell them more widely.

Innovation is often penalised due to the slow-moving nature of the sector and barriers are created for SMEs to compete in this growing market. Innovations and small businesses are agile and fast moving. Retrofit innovations are in a market where policy is not currently geared up to support them, nor can it shift quickly enough to accommodate for new and improved technologies and techniques. These businesses will struggle to get their solutions to market, reducing opportunities to expand manufacturing and reduce competition overall.

We welcome the recent announcements in the Warm Homes Plan: *“We [government] will look to remove barriers that companies face when gathering the relevant approvals and certifications to allow their innovative products to access government grant-funded retrofit programmes”¹*. The recommendation the SEA sets out in this paper aim to support this ambition.



COMPLEX PROCESS & STAKEHOLDER RELATIONSHIPS

Many innovators find the process complex and confusing. Figure 1 below shows the range of steps a new product needs to overcome and the potential barriers.

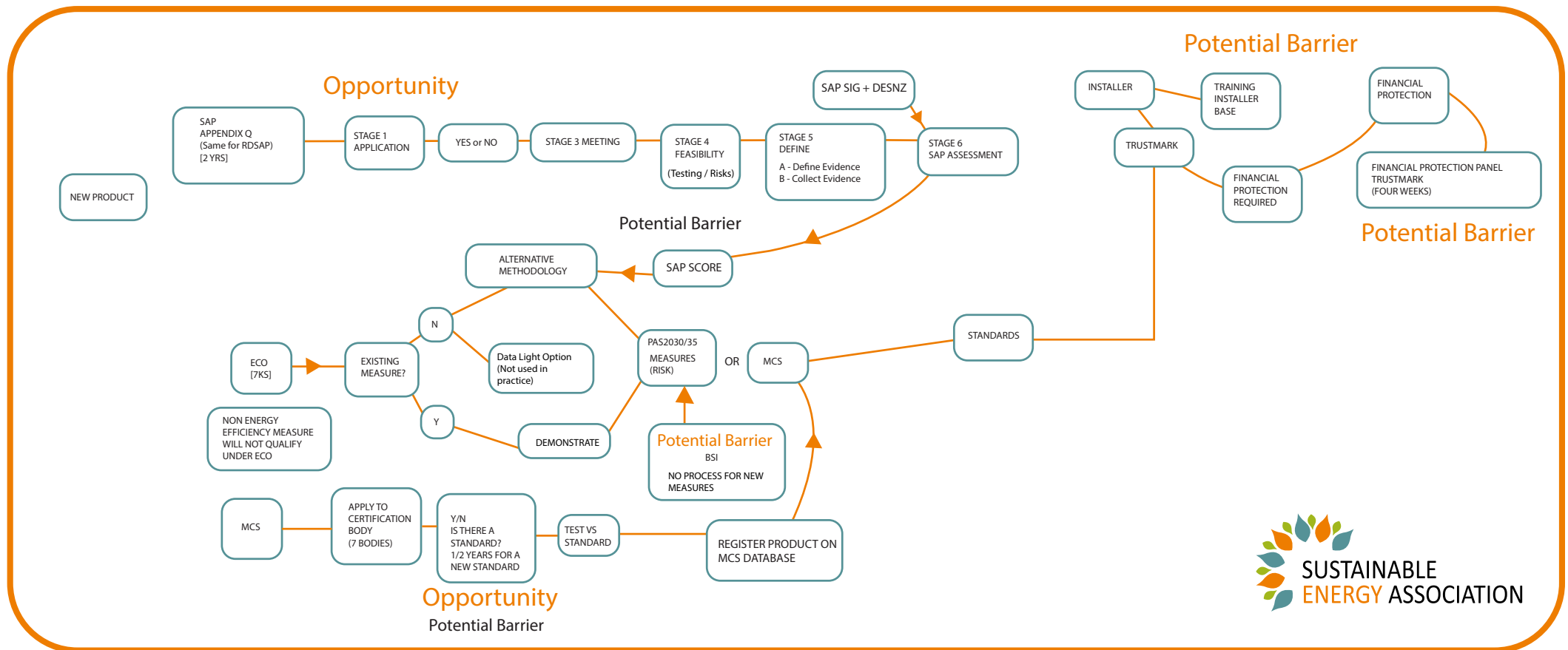


Figure 1: Flowchart indicating the route for innovators to enter the retrofit market, including the opportunities and potential barriers.

Excessive time and resources are required to identify who the key decision makers are, and understand the processes involved when a manufacturer wishes their products to be eligible for installation within government schemes. Given the number of organisations involved in regulating the sector, it is unclear who is responsible for what. See our previous paper on innovation tips for the variety of stakeholders involved in the process and how they interact². Through lack of clarity, there are examples where manufacturers have gained approval in one area only to be blocked in another, making them ineligible for schemes such as the Warm Homes: Social Housing Fund.

To add to this, the Warm Homes Plan announced the creation of the Warm Homes Agency which will oversee home upgrades. The Agency will play a role in ensuring consumers benefit from innovation and use collated data to support innovation, but their interaction with the market is not yet clear.

SOLUTION: A clear and concise stakeholder map is needed, to indicate the roles of each stakeholder in relation to the innovation process, that can be updated regularly.

SOLUTION: There should be a regular process of assessing these organisations to ensure they operate effectively, and consider who takes responsibility to amend existing standards, continuing to improve quality and maintain customer confidence in new technologies and government schemes.

POLICY LANDSCAPE & FUNDING PROGRAMMES

The policy landscape for driving low carbon technologies into new and existing buildings is not only fragmented and not long-term, but they often do not place enough importance on finding the most appropriate solutions by using innovations and alternative technologies. In certain instances, a range of different technologies may be the correct solution. For example, many policies/schemes create short lists of eligible technologies (e.g., the Boiler Upgrade Scheme, Clean Heat Market Mechanism, and Great British Insulation Scheme) or prioritise specific technologies into grades or hierarchies of importance (e.g. Warm Homes Local Grant and Social Housing Fund), and do not regularly or drastically update their scopes. Although some level of prioritisation/incentivisation for the most efficient and cheapest technologies needs to be made, the lists with support schemes often have a limited scope do not drive alternative technologies into the market. The industry would also like to see market certainty for innovations and wider products looking to enter government funding programmes, which are often only available for short periods (i.e. 3-4 years) before new schemes enter the policy market with different eligibility criteria.

In order to get their products installed under a government policy, a technology or service-providing business will need to overcome a number of obstacles (usually entirely financially unsupported), like obtaining insurance-backed guarantees, obtaining a SAP score and complying with PAS 2035 which is designed for installers rather than products (to be explored later in this paper), and more. And even if an innovative product becomes eligible under a government policy scheme, there is no further support, in the form of tax reliefs, credits or other incentives for further scaling or commercialising. This leaves them financially exposed and without certainty of demand, in what is usually a critical time for these types of businesses. This actively disincentivises a technology-agnostic approach through innovation routes. Underpinning these issues there is a key theme: there is a lack of a clear roadmap for the delivery of innovation via the Government's funded schemes.

SOLUTION: Clear, realistic timescales are needed for innovators looking to access government schemes – available through published roadmaps. This should be supported by a single resource to make companies aware of what schemes are available (e.g. difference between non-domestic and domestic programmes / requirements; various local schemes changing the landscape), and where these are updated more regularly to include innovative products.

Key to supporting innovative product development, whilst managing consumer risk, is the ability to test products for performance and safety whilst allowing the formal process of full product development standards to evolve. Many product test houses will be able to provide bespoke testing, which will give the confidence of third-party assurance that manufacturer claims may lack. If government policies were to increase the variety of technologies installed and take a more evidence-led approach to decarbonising heat, then huge benefits would be reaped for the innovation process, paving the route to market for new solutions.

The barriers innovations face in getting to market and into government schemes create immense pressures on these small businesses. Additionally, the data needed to satisfy the many product regulations, consumer protections, and installation standards is often not clear and not financially assisted in any way. It is even more important for SMEs that have developed solutions with government innovation funding that they are supported to complete the whole process and a clear pathway to doing so created. Therefore, without the necessary data, new and innovative solutions will be effectively barred from entering the mass market and specifying these products for new buildings and retrofits made difficult or impossible.

SOLUTION: Innovation sandboxes should be introduced. Policies/schemes should be augmented with an innovation sandbox and a work in a 'test-and-learn' mindset, which will drive a more technology-agnostic approach. This will help to fund innovation installations and testing, and support innovation into the mass market, with suitable consumer protections. The Welsh Optimised RetroFit Programme³ takes this approach with measuring and monitoring innovations in holistic social housing retrofits, and learning can be taken from this policy structure to drive UK reform.

THE OPTIMISED RETROFIT PROGRAMME

The Optimised RetroFit Programme in Wales allows for 10% of the total grant allocation to be used for "innovation and research linked to the decarbonisation of your housing stock", alongside other activities. Social landlords and local authorities have partnered with manufacturers of innovative low carbon technologies to install them as part of their grant allocation through a 'test and learn' approach. This allows for a greater understanding of how these technologies work and how the market interacts with them. It can also lead to evidence generation that can be used to calculate SAP scores, sometimes interim, to allow for access into other government grant programmes.

The recent scrapping of the Energy Company Obligation (ECO) has caused great uncertainty for the supply chain, as well as the loss of the ECO Innovation route for new products⁴. The loss of this initiative causes additional barriers for innovative products looking to get into funding programmes, as this was often a valuable tool for innovators who had not yet obtained a SAP score. Innovation sandboxes are therefore even more important as a tool to implement into wider programmes to support innovative products.

SAP / HEM

The Standard Assessment Procedure (SAP) is the current methodology used by the Government to estimate the energy performance of homes, and is used for Part L of the Building Regulations, to generate Energy Performance Certificates (EPCs), and thus underpins government retrofit schemes that change the EPC of a home.

Many of the associated steps required for getting products recognised within SAP are not designed with innovation in mind. Innovations can fall between existing measure types and categories, and in order to be accurately modelled in SAP, they will have to be supplemented with a new measure category – namely the SAP Appendix Q process. As a new technology or innovation, getting an entry within SAP is a time-intensive and costly process – things many SME's do not have an abundance of. This process can result in the measure being lodged in the wrong category, and modelled using unsuitable parameters, eventually leading to inaccurate representation in a building design or EPC.



Regulatory bodies are typically slow to make decisions over the inclusion of innovative products within SAP, or changes to existing frameworks. The infrequent periodic review of SAP means there are long waits for approval into accreditation schemes, as well as for amendments.

SOLUTION: Additional resources need to be assigned to the SAP innovation application processes to reduce the time needed.

The Home Energy Model (HEM) will soon replace SAP, as a more up-to-date methodology with government recognising issues around the delivery of climate change objectives, effectively evaluating energy use and other improvements to the methodology. Improvements include modelling energy performance for each half-hour of the day (as compared to each month for SAP), enabling a better representation of smart technologies and systems.

HEM is still under development and will be implemented alongside the Future Homes Standard in 2026, as noted by government. However, this is a pivotal moment to ensure that HEM is fit for purpose, and is flexible enough to be updated with innovative products through a new HEM 'Appendix Q'. The SEA would like to see the right processes for innovative technologies addressed in the new regime.

SOLUTION: HEM should more accurately reflect the wide scope of technologies appropriate for transitioning buildings and allow integration with and show the real value of time-of-use tariffs and flexible energy storage/generation.

SOLUTION: Appendix Q and the route for new measure entries should be reformed and new funding supported to create a less costly, confusing and time-consuming route into HEM (particularly for innovations and new measure types), as well as a process for entry of innovation into government policies.

PAS 2035 / 2030

Understanding the implications of installer standards, like PAS 2035/2030, is difficult. PAS 2035/2030 ensures a whole house, and whole project, approach to managing the installation process and provides services to the customer before, during and after installation is undertaken. It is therefore aiming to move away from the single measure solutions of the past; however, it has been noted by SEA members that the monitoring and evaluation process assessing this whole house approach is inconsistent through enforcement approaches. PAS 2030 certification is required for a range of government retrofit schemes. The significant issue around using innovative measures, is that while you may be able to demonstrate it is safe to use and will save energy (as claimed and proven) it is less easy to demonstrate what happens when it is used in combination with other measures (whole house approach), which is a key requirement.

Installer standards can have significant impact, and yet, are aimed at those delivering energy retrofit projects or installing products, as is the available guidance. The requirement for installers is clear in that they must be PAS 2030 certified for the installation of a specific measure. For innovative measures, there can be initial uncertainty as to which PAS 2030 measure type is most appropriate for a given product. Product manufacturers are often asked if they are PAS compliant, despite the standards not being intended for products.

DESNZ confirmed it is the role of retrofit professionals (Retrofit Coordinators and Installers) to determine how this is best achieved for manufacturers: *"It is up to retrofit professionals working within the standard to determine if they can install any product compliantly in line with the existing annexes within PAS 2035/2030 and/or their certification schemes/liability insurance."*⁵ However, the SEA and its innovator members have observed that these decisions are not being made effectively. SEA innovator members have experienced issues around determining which PAS Annex their innovative measure falls under, when an existing product category may not in fact be suitable. This issue around the initial product categorisation lies within the Building Regulations and the Office for Product Safety & Standards (OPSS), where we note potential changes are currently being considered. Cross governmental Construction Products Regulations also hold some responsibility, where greater direction is needed, alongside the identification of suitable testing standards.

SOLUTION: Innovators/manufacturers need clear guidance and support when engaging with PAS 2035/2030. The process should also be much better regulated through the OPSS and cross governmental departments, through the Building Regulations and Construction Products Regulations.

GOVERNMENT SUPPORT

Government obviously plays a key role in supporting innovators within the retrofit sector, and have provided some of this through access to government retrofit schemes, funding opportunities and wider programmes. However, additional guidance and support is needed to provide clarity and ease the journey for all innovators. Funding has been available for field trials and product testing, to support manufacturers and progress their innovative products in the market. We note that there are risks around field trials and the viability of innovative products, but these risks need to therefore be addressed and appropriately managed. This is particularly an issue as innovators are often SMEs with limited capital to completely self-fund product testing needs for entry into SAP, EPCs and government retrofit schemes.



Funding for innovation has seen recent cuts with limited government investment, despite the Government's own Modern Industrial Strategy noting that one of the Government's key aims is to drive innovation through increased funding and speed up the innovation process⁶. This includes previous initiatives such as DESNZ's Innovation Portfolio the Green Finance Accelerator which have not received any new funding for the last 2-3 years, which will negatively impact the development of innovation. However, we are pleased to see the commitments made in the Warm Homes Plan for the Heat Pump Ready Programme with an additional £30 million in funding.

SOLUTION: Government should look to increase available long-term investment to fund field trials and create product standards, categories and testing for innovators in the retrofit space, to provide stability and investor certainty.

We welcome the recent announcements in the Warm Homes Plan around the creation of a pilot retrofit innovation panel that will support with signposting for innovators, with the outputs feeding into wider government policy. This panel will interface with UKRI's 'sherpa' service, supporting organisations throughout the innovation process and enhancing learnings for government. These initiatives are a positive step in supporting innovative products, but must go further to assist a larger number of innovators.

The Government should ensure it is setting a level playing field for valuing technologies of all types and provide clear support for innovation. This means giving equal opportunity for technologies to be adequately supported in government policy, receive help as an innovative solution, and be guided through the complexities of the policy landscape. It also means being agnostic in communication with the sector about what technologies are appropriate where and using evidence to drive the many different pathways and solutions buildings can use to transition.

SOLUTION: Government needs a credible, central, independently funded resource to support innovators. This should go beyond the pilot retrofit innovation panel to support a wider range of innovators.



Recommendations summary

To summarise, the SEA are putting forward the following recommendation that would enable a smoother route to market for innovators in the retrofit sector:

- A clear and concise **stakeholder map** is needed, to indicate the roles of each stakeholder in relation to the innovation process, that can be updated regularly.
- There should be a regular process of **assessing these organisations** to ensure they operate effectively, and consider who takes responsibility to amend existing standards, continuing to improve quality and maintain customer confidence in new technologies and government schemes.
- **Clear, realistic timescales** are needed for innovators looking to access government schemes – available through published roadmaps, supported by a **single resource** to make companies aware of what schemes are available and where these are updated more regularly to include innovative products.
- **Innovation sandboxes** should be introduced to help to fund innovation installations and testing and support innovation into the mass market, with suitable consumer protections.
- Additional **resources** need to be assigned to the **SAP innovation application processes** to reduce the time needed.
- HEM should more accurately reflect the wide scope of technologies appropriate for transitioning buildings and allow integration with and show the real value of time-of-use tariffs and flexible energy storage/generation.
- **Appendix Q** and the route for new measure entries should be **reformed** and new funding supported to create a less costly, confusing and time-consuming route into HEM (particularly for innovations and new measure types), as well as a process for entry of innovation into government policies.
- Innovators/manufacturers need clear **guidance and support** when engaging with **PAS 2035/2030**. The process should also be much better **regulated** through the OPSS and cross governmental departments, through the Building Regulations and Construction Products Regulations.
- Government should look to increase available long-term **investment** to fund field trials and create product standards, categories and testing for innovators in the retrofit space, to provide stability and investor certainty.
- Government needs a credible, central, **independently funded resource** to support innovators.

We would also highlight available resources to support innovators looking to navigate the complex roadmap for domestic retrofit innovation. The RetroNetZero website includes useful resources that highlight a series of 'pathways' to help innovators understand the requirements and steps needed for their product to be accepted / adopted in a number of key UK schemes⁷. The previous SEA papers are also useful resources for navigating this landscape: 'Helpful Information and Tips for Manufacturers and Innovators on Gaining Access to Government Energy Efficiency Schemes'⁸ and 'Briefing Note: Incorporating Innovative Products in Retrofit Programmes'⁹.



REFERENCES

1. DESNZ. 2026. Warm Homes Plan. Available at: <https://www.gov.uk/government/publications/warm-homes-plan>
2. SEA. 2022. Helpful Information and Tips for Manufacturers and Innovators on Gaining Access to Government Energy Efficiency Schemes. Available at: <https://sustainableenergyassociation.com/publications/helpful-information-and-tips-for-manufacturers-and-innovators-on-gaining-access-to-government-energy-efficiency-schemes/>
3. Welsh Government. 2025. Optimised RetroFit Programme. Available at: <https://www.gov.wales/optimised-retrofit-programme>
4. Ofgem. N.D. ECO4 Innovation: New Measures and Products. Available at: <https://www.ofgem.gov.uk/eco4-innovation-new-measures-and-products>
5. SEA. 2024. Briefing Note: Incorporating Innovative Products in Retrofit Programmes. Available at: <https://sustainableenergyassociation.com/publications/briefing-note-incorporating-innovative-products-in-retrofit-programmes/>
6. DBT. 2025. Industrial Strategy. Available at: <https://www.gov.uk/government/publications/industrial-strategy>
7. RetroNetZero RS&IN. 2025. Innovation Adoption Pathways. Available at: <https://retronetzero.uk/innovation-adoption-pathways/>
8. SEA. 2022. Helpful Information and Tips for Manufacturers and Innovators on Gaining Access to Government Energy Efficiency Schemes. Available at: <https://sustainableenergyassociation.com/publications/helpful-information-and-tips-for-manufacturers-and-innovators-on-gaining-access-to-government-energy-efficiency-schemes/>
9. SEA. 2024. Briefing Note: Incorporating Innovative Products in Retrofit Programmes. Available at: <https://sustainableenergyassociation.com/publications/briefing-note-incorporating-innovative-products-in-retrofit-programmes/>