RISE | Retrofit information, support & expertise

Procuring for Retrofit: Cost and Programme

Supply Chain Advice Pack

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www.riseretrofit.org.uk

Overview

Effective supply chain engagement is essential for successful retrofit project procurement. Supply chain partners will need to evidence both cost and program management skills and competence. A thorough appreciation and understanding of the procurement strategy will enable full, detailed and complete responses to be provided by the supply chain, providing the best opportunity of securing cost-effective and deliverable solutions, combined with programme certainty.

Having established a proposed procurement strategy, what needs to be developed to achieve cost and programme certainty?

Define stage: Project preparation and planning

An initial task is to clearly **define** the scope of the retrofit work that is required. Once developed, this clear brief will aid in monitoring design development, the management of costs and avoid scope creep and unexpected changes. Where an organisation does not hold in-house expertise, it is normal practice for an expert to be appointed to support with this task.

There are standards developed to aid the assessment of the extent of design and delivery of retrofit projects. The most common of these is PAS 2035. There is also the Royal Institution of Chartered Surveyors (RICS) Residential Retrofit Standard. PAS 2035 introduces certain roles on projects, including the Retrofit Coordinator, Assessor and Designer.

PAS 2035 provides a framework for the entire retrofit process, from assessment to post-installation monitoring. It ensures a whole-house approach to retrofitting, addressing the following key areas:

- **Assessment:** Comprehensive evaluation of the building's current condition and energy performance. Undertake the surveys and inspections needed to complete the assessment of your buildings.
- **Design:** Development of a retrofit plan that considers the building's specific needs and characteristics, including ventilation and moisture control strategies.
- **Installation:** Implementation of the retrofit measures according to the design plan.
- **Testing and Commissioning:** Ensuring that the installed measures perform as expected.
- **Handover:** Providing the building owner with all necessary information and documentation.
- **Monitoring:** Ongoing monitoring to ensure the long-term performance of the retrofit measures.

There is the need to develop a realistic project **timeline** with milestones and deadlines, and establish a detailed **budget**, including contingencies for unforeseen expenses.

Many clients develop a strategy, aligning the delivery stages of a project, with key tasks and activities across the Royal Institution of British Architects (RIBA) plan of work stages (Figure 1).

	STAGE 0	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGE 7
RIBA Plan of Work Stage	**Strategic Definition**	**Preparation and Brief**	**Concept Design**	**Developed Design**	**Technical Design**	**Construction**	**Handover and Close-Out**	**In-Use**
PAS 2035 Work Stage	**Preliminary Stage**	**Intended Outcomes**	**Dwelling Assessment** **Improvement Option Evaluation** **Risk Assessment**	**Improvement Option Evaluation**	**Retrofit Design**	**Installation** **Testing and Commissioning**	**Handover** **Claims of compliance**	**Monitoring and evaluation**
PAS 2035 Core Tasks		The PAS 2035 roles (Retrofit Coordinator, Assessor, and Designer) are appointed. The Intended Outcomes are defined and agreed.	The dwelling assessment is undertaken, including an RDSAP assessment, condition report, ventilation assessment and occupancy assessment. Air permeability tests are undertaken.	Energy modelling is undertaken to analyse Energy Efficiency Measures. Production of the Improvement Option Evaluation and Medium Term Plan. Production of the ventilation strategy.	Production of the Retrofit Design for the energy efficiency measures and ventilation upgrades. Analysis and design to manage thermal bridging risk. Analysis of overheating risk.	PIBI completion. Delivery of the installation meeting the PAS 2030 standard. Completion of testing and commissioning.	Handover of the installed measures to the client and occupant following a soft landings approach. Completion of lodgement process to TrustMark.	Undertake Basic Evaluation. Evaluate the Intended Outcomes. Undertake Intermediate Evaluation (where required). Undertake Advanced Evaluation (where required).
Retrofit Project Manager Core Tasks	Strategic Advisor appointment. Development of a Retrofit Strategy. Development of programme of works.	Undertaking archetyping exercises and studies. Data gathering and sample inspections to verify data. Development of technical compliance documentation. Development of resident and occupant strategy. Financial modelling. Production of a project execution plan.	Administration of Project Execution Plan Activities.	Administration of Project Execution Plan Activities. Archetyping design exercise and identification of property constraints.	Administration of Project Execution Plan Activities.	Administration of Project Execution Plan Activities. Quality assurance protocols. Programme management and reporting requirements.	Administration of Project Execution Plan Activities. Handover protocol.	Administration of Project Execution Plan Activities. Property data monitoring. Lessons learnt and feedback.

Figure 1: RIBA Plan of Work with Key Activities

Source: Baily Garner, 2024

A well designed strategy, based upon sound data of the existing homes, combined with a well thought out and managed programme, will provide the best opportunity of securing **competitive pricing**, and a programme that can be relied upon.

A programme of retrofit works is likely to involve many properties, and frequently these homes are reviewed and assessed as to whether they can be categorised into **archetypes**, to enable increased levels of efficiency and consistency regarding design and pricing.

A robust **resident engagement strategy** is essential for successful retrofit. If residents do not permit access to their homes, retrofit improvement works simply will not be installed. Residents must be suitably and properly engaged at key points of the retrofit works: at initial inception and advice, survey and design development, during the works, at handover and beyond. Early engagement and stakeholder mapping, as well as development of a coherent and tailored resident strategy must serve as an early milestone in the retrofit journey.

Refine Stage

Following completion of the archetype-based design, the delivery of the detailed design can then take place. **Risk** has been mitigated through the earlier stages, which means this process should be streamlined.

Continued **engagement** should take place with stakeholders to revalidate and test programme assumptions. This involved completing a 'Pre-installation Building Inspection'. The purpose of this is to ensure the energy efficiency measure can be installed safely and effectively in the home. The inspection is typically undertaken by the organisation that will be undertaking the installation and is regularly the Main Contractor. Feedback from these visits should be captured to assist with the delivery of the works. A robust inspection process, combined with effective resident engagement provides the best opportunity of cost and programme certainty.

Delivery

The PAS 2035 standard now includes enhanced transparency on the requirements for the Retrofit Coordinator to visit site and monitor the installations. Regular **progress reviews** on site combined with effective programme management is a critical requirement of any construction project but particularly important for one that includes multiple stages, gateways and hold points. Effective programme management enables the project team to anticipate and mitigate risks, allocate resources effectively and ensure different teams work together. Communication links can also be effectively managed without loss of momentum.

Combined with this vigilance on site is the production of record information, forming the **golden thread**. This is the digital record of crucial building information from the design phase continuing throughout the building's life cycle.

A well thought out and tested design will mitigate the need to make changes and incur additional costs.

Feedback

The handover protocol should be defined in detail through the documents established at the initial project planning stage. The process is likely to include the management of the transfer of documentation, process for completing final on-site inspections, resident demonstration and training, and completion of any lodgement activities to the TrustMark data portal. TrustMark is a government endorsed quality mark for tradespeople and businesses working in home improvement and energy efficiency sectors. Having a clear and robust inspection and testing structure will minimise the likelihood of defects and provide confidence that the works comply with the brief and specification.

Prior to the formal handover, all testing and commissioning should have been undertaken to demonstrate that the installed measures function as intended, which of course should not be left to the day of the intended handover.

This will also trigger the defects period under a typical construction contract and the monitoring and evaluation period under PAS 2035.

The completed works will provide a valuable source of data for future projects. Products, components, processes and cost data will all be available to enable assessment and interrogation for the planning of any future works.

In addition to the challenges noted above, many organisations will now need to deliver retrofit programmes at scale. The challenges this presents, with a commentary on the potential response solutions, are detailed in the table below.

Challenges	Solution
Procurement and cost control Lack of understanding of procurement delivery models to better control costs. Capacity of consultants, clients and contractors.	**Procurement and cost control** Need for more partnership based procurement models, approved industry schedules of rates, oversight of delivery models led by government and industry partners to achieve the scale of delivery required
Scheme programming/organisation Issues associated with scheme delivery, scattergun approach to surveys, inadequate preparation/master programming, design led entirely by retrofit assessments with little or no application of professional discretion, Local Authority Planning constraints/challenges. Develop knowledge around visibility of contractor delivery proposals and structures.	**Scheme programming/organisation** Need for lead Retrofit Coordinator to have building surveying and project management skills. Need for upskilling. Ability for professional team to apply discretion in design based on Client brief and intended outcomes. Industry code to enshrine fairness, transparency and accountability
Supply chain and economies of scale Supply chain infancy and lack of accredited professionals/installers. Need for upskilling and economies of scale to be achieved. Bottleneck in current programmes.	**Supply chain and economies of scale** Mass training scheme and regional structures for either community interest or partnership based delivery models. Training, skills and funding schemes to be revamped. Adequate long-term planning, visibility and coordination to avoid bottlenecks.

Challenges	Solution
Resident engagement fatigue Getting residents on side is crucial, but the fatigue resulting from the survey stage through the delivery of works is a real challenge. Requires carefully sequencing measures installation works to ensure compliance	**Resident engagement fatigue** Appointment of resident engagement specialist for their input. Finish with elements that residents want. Role for citizen assemblies to drive better understanding of benefits in terms of bill savings and thermal comfort.