Programme Area: Buildings

Project: Building Supply Chain for Mass Refurbishment of Houses

Title: Appendix 5 – Workshop Presentation 13th September 2011

Abstract:

Please note this report was produced in 2011/2012 and its contents may be out of date. This document is an appendix of Deliverable 4.2 – Draft Supply Chain Scenarios.

Context:

This project looked at designing a supply chain solution to improve the energy efficiency of the vast majority of the 26 million UK homes which will still be in use by 2050.It looked to identify ways in which the refurbishment and retrofitting of existing residential properties can be accelerated by industrialising the processes of design, supply and implementation, while stimulating demand from householders by exploiting additional opportunities that come with extensive building refurbishment.The project developed a top-to-bottom process, using a method of analysing the most cost-effective package of measures suitable for a particular property, through to how these will be installed with the minimum disruption to the householder. This includes identifying the skills required of the people on the ground as well as the optimum material distribution networks to supply them with exactly what is required and when.

The Energy Zone Consortium

Whole House Retrofit For Thermal Efficiency. "Costing Workshop"

Paul Cook 13th September 2011

Total Flow Ltd.

Summary of WP 4.0 and 4.1

Work Package 4.0 delivered a summary of the existing supply chain

Work Package 4.1 delivered :

- Draft Value propositions for 10 customer segments
- Draft “Ideal state” supply chain design to deliver the needs of mass scale whole house retrofit.
- Gaps between the ideal and current state supply chains
- Contrasts with France and Germany
- Lessons from previous national roll out programmes

Work Package 3 and Costs Summary

In Work Package 3 the team is developing technical solutions to whole house retrofit, outcomes are:

•Detailed interventions for the various elements of existing properties

•Technical interventions which give the greatest energy savings for the capital outlay

WP 4.1 Highlights

Key ingredients to a successful value proposition

- Trusted brand / delivery / support is essential – Single provider
- Disruption must be minimised – one team for installation
- Effective processes to minimise time and cost and maximise quality
- Evaluating potential for energy savings - visible / measurable benefits
- linking retrofit to other value adding works in the home (ie. Loft conversion)
- Providing information to customer and the supply chain
- Providing robust standard work for retrofit works - no surprises

WP 4.2 Costing- Workshop

Understanding the cost build up in whole house retrofit.

Hypothesis

•Retrofitting a whole house will be more effective (performance, quality and cost) than installing measure by measure

•Synergies between measures will make installing value adding measures more attractive and deliver greater energy saving. Eg. Voltage optimisation / whole house control systems.

•An integrated supply chain will be more effective than the existing silo based approach to retrofit

Process For Today

Step 1.

Agree a house type as the basis for comparative costing

"1930's 3 bedroom semi detached house"

Step 2.

For a whole house retrofit what are the costs for each measure ?

Split this into Labour, Materials, Prelims, Distribution, Contingency……

Required outputs

Table of whole house retrofit costs as below

Measure	Material cost	Labour cost	Distribution cost	Consolidation cost
EWI				
IWI				
Roof				
Wall				
Heat source				
Windows /doors				
Floors				

Process for today Cont.

- **Step 3**
- Work out the economies for a whole house retrofit Vs measure by measure
- **Step 4**
- Discuss how the cost of whole house retrofit will decay over time and the reasons for this

Part 2

Consider risks in the installaion process

- What Tasks are hard to carry out and hence prone to errors ?
- How can these tasks be simplified or mechanised ?
- How can the process be mechanised or systematised to prevent errors?

Measure	Material cost	Labour cost	Distribution cost	Consolidation cost
EWI				
IWI				
Roof				
Wall				
Heat source				
Windows /doors				
Floors				
Totals				
Whole house costs				

Challenges

What are the main challenges in controlling and reducing?

What kind of organisation is capable of carrying out the retrofit installation?

What are the barriers to entry?

How can the overall cost of retrofit be minimised / reduced ?

Review

- Review of the day and Comments.

Thank You