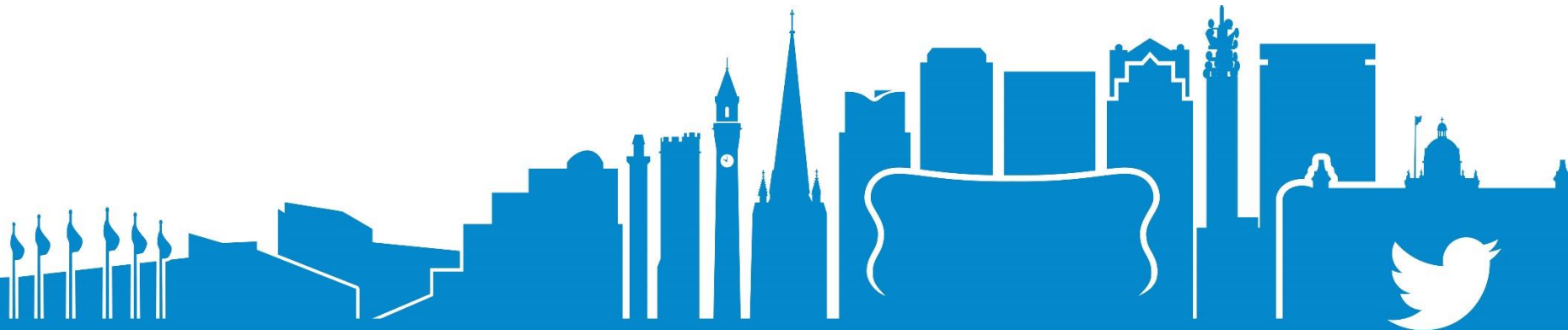


Workshop 2d:

Solid wall insulation: getting it right

Speakers: Charlie Baker (Red Co-op)
Russell Smith (Parity Eco Solutions)

Chaired by:
Room: Cambridge Room



NHMF Conference 2016
Workshop

Solid Wall Insulation – Getting it right

Concurrent Working

26th January 2016

Russell Smith

Parity Projects

www.parityprojects.com



Introduction

- 🌱 About Parity Projects
- 🌱 Start at the end – is solid wall insulation really a standalone measure?
- 🌱 Savings available across stocks
- 🌱 Systematising concurrent works

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Making your house an eco house

By William Mach

Last Updated: 12:01am BST 18/06/2007

Have your say Read comments

Much of Britain's new housing stock is being made more environmentally friendly but what about older properties?

Can similar high standards and specifications be applied when renovating existing and older houses and flats?

The trouble is not many people have the know how or the inclination to take such projects on.

But turning a 19th Century end of terrace £200,000 house into an ecohome of the future was



Russell Smith outside his Victorian eco-house in Sutton, Surrey; Making your house an eco house



Winners of Building Magazine's 2007 Award for Sustainable Refurbishment



// Sustainable Housing
AWARDS 2011
WINNER

// Sustainable Housing
AWARDS 2011
WINNER

// Sustainable Housing
AWARDS 2011
WINNER

www.parityprojects.com

Who we are

- We are **award-winning** experts serving the retrofit industry
- Core activity is working with **both household and housing managers** to plan and design effective retrofit
- Company culture of **independence, rigorous analysis** and **client-specific solutions**

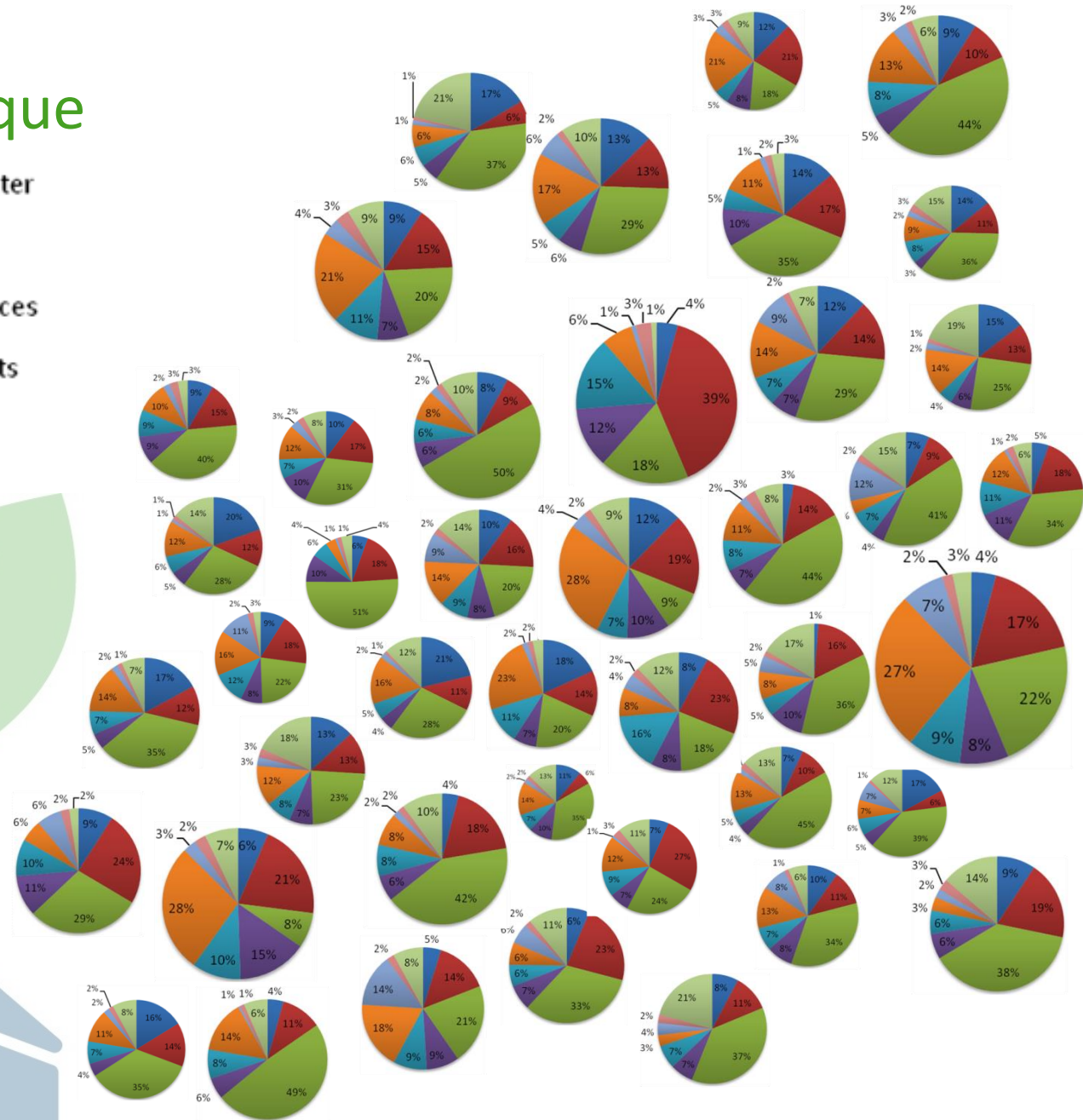
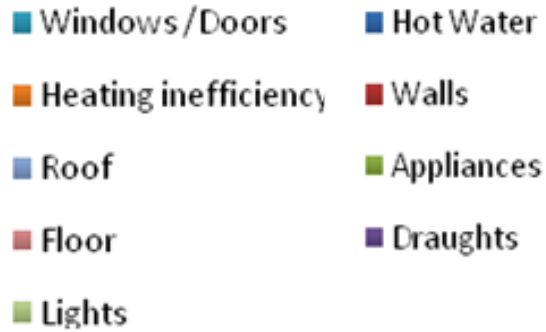


Our recent CV

- Individual “Masterplan” assessment of over 1200+ homes
- “CROHM” stock assessments covering 1,250,000+ properties
- Training 100s of SMEs on retrofit theory & practice
- Member of various Gov’t working groups including Bonfield Review, Green Construction Board



Every home is unique



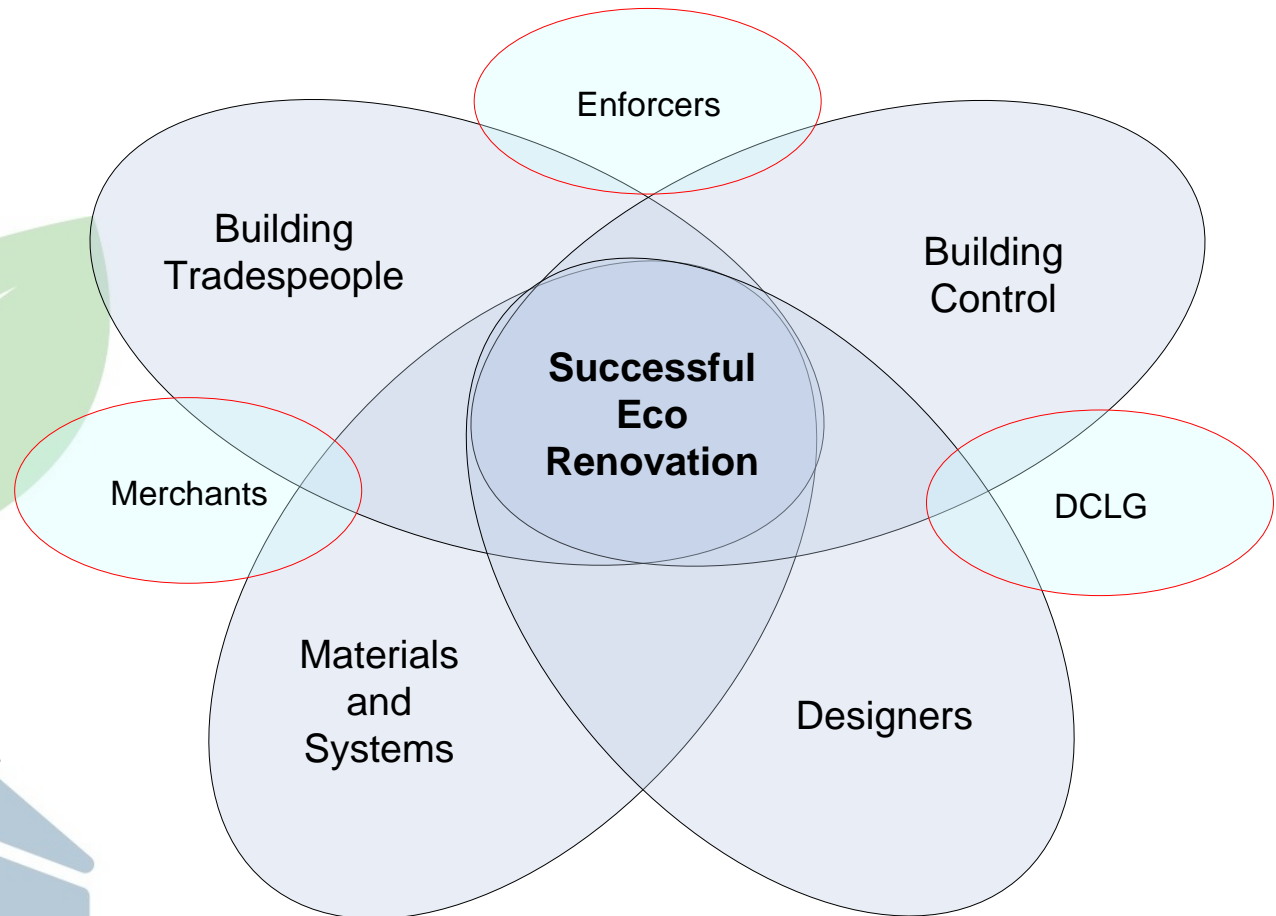
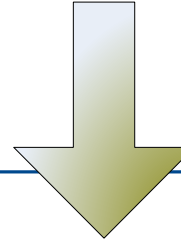
Motivating Concurrent Working



A Whole House Plan

Who Influences Change?

Motivated
Client

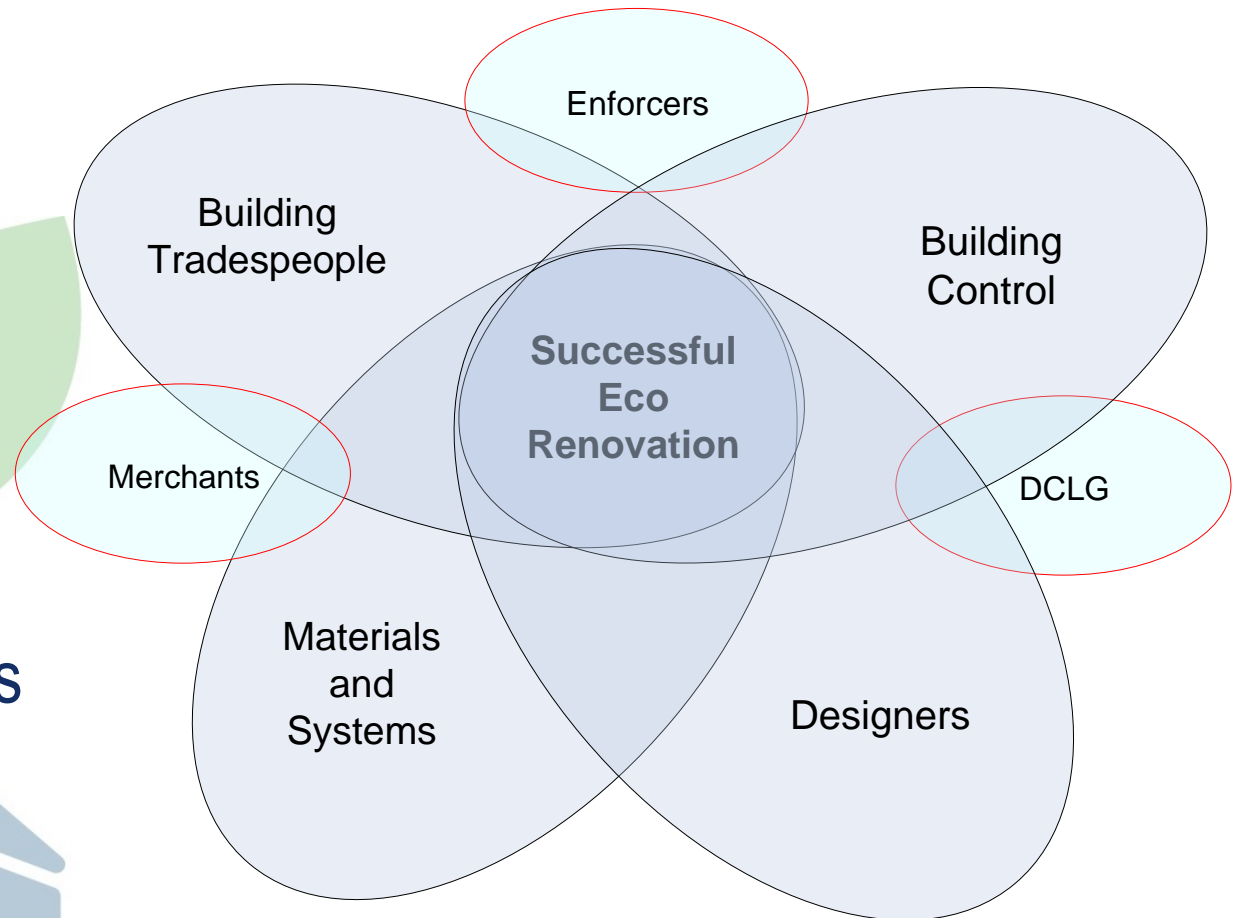
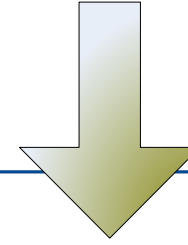


Major Works

- Development
- Extensions
- Insurance Work

Who Influences Change?

Motivated
Client



Minor Works

- Faults, Repairs
- Redecoration
- Obsolescence
- Fashion

Stock modelling:

Most cost effective way to get to your standard:

- Additions to planned works
- Integrated programmes reduce overall cost
- Changes to planned works
- Speeding up planned works
- Funding – how can this be leveraged



				All Applicable Initiatives	
Address	SAP2dp		Initiative Type	Initiative Name	Cost
9	58.81			STARTING POINT / CURRENT SCORE	
All applicable initiatives individually applied					
9	64.79	5.98	ROOF	Insulate loft from 25mm to 300mm	£400
9	59.67	0.86	LIGHTING	Upgrade remaining inefficient lighting	£50
9	66.51	7.7	WALLS	Insulate 1900-1929 solid main walls internally	£5,000
9	66.51	7.7	WALLS	Insulate 1900-1929 solid main walls externally	£6,000
9	70.47	11.66	SOLAR PV	Add 2.5kWp PV panel on S facing roof	£5,000
9	64.54	5.73	HEATING SYSTEM	Upgrade E rated gas combi	£2,400
9	61.17	2.36	HEATING SYSTEM	Upgrade E rated gas boiler to ASHP	£6,000
9	60.87	2.06	GLAZING	Replace single glazing with new double glazing	£4,500
9	60.9	2.09	GLAZING	Replace single glazing with new triple glazing	£5,500
9	65.74	6.93	HEATING SYSTEM	Upgrade E rated gas combi and FGHRs	£2,700
9	60.06	1.25	WWHRS	WWHRS Mixer With Bath	£900
9	61.25	2.44	HEATING DATA	Add real boiler data	£0
9	59.04	0.23	DOORS	Replace uninsulated doors with insulated doors	£1,200
9	59.5	0.69	OPENING DRAUGHTS	Draughtproof all doors and windows	£300
Initiatives applied in order of cost effect					Cumulative
9	61.25	2.44	HEATING DATA	Add real boiler data	£0
9	66.74	5.49	ROOF	Insulate loft from 25mm to 300mm	£400
9	67.43	0.69	OPENING DRAUGHTS	Draughtproof all doors and windows	£700
9	68.29	0.86	LIGHTING	Upgrade remaining inefficient lighting	£350
9	79.95	11.66	SOLAR PV	Add 2.5kWp PV panel on S facing roof	£5,050
9	83.73	3.78	HEATING SYSTEM	Upgrade E rated gas combi and FGHRs	£7,700
9	90.67	6.94	WALLS	Insulate 1900-1929 solid main walls externally	£8,700
9	91.51	0.84	WWHRS	WWHRS Mixer With Bath	£6,900
9	93.73	2.22	GLAZING	Replace single glazing with new double glazing	£5,400
9	93.97	0.24	DOORS	Replace uninsulated doors with insulated doors	£5,700

Concurrent working at stock level:

Hexagon HA
stock modelling
exercise using
CROHM with
partners **M3H**

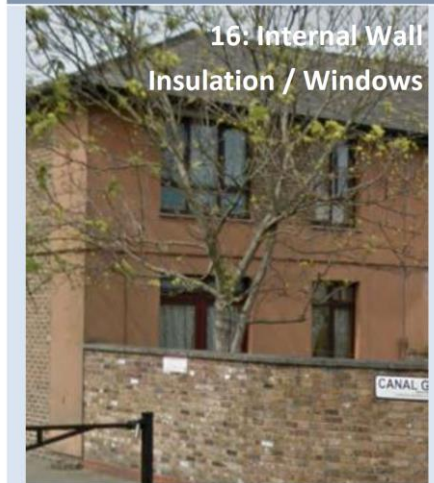
No.	Measure 1	Measure 2	Measure 3	Measure 4	No. of relevant properties in Hexagon stock
1	Electric storage heaters	Cylinder			0
2	Boiler	Cylinder			0
3	Boiler	Programmer	TRVs	Room Stat	313
4	Boiler	Programmer	TRVs	Room Stat	0
5	External wall insulation	Windows			83
6	Pitched roof	External walls	Windows		35
7	Pitched roof	PV			0
8	Pitched roof	Windows			1,572
9	Pitched roof	Windows	PV		0
10	Pitched roof	External wall insulation	Windows	PV	0
11	Flat roof	Walls	Windows	PV	0
12	Flat roof	Walls	Windows		16
13	Flat roof	Walls			20
14	Internal wall insulation	Solid floors			194
15	Internal wall insulation	Suspended floors			399
16	Internal wall insulation	Windows			966

Table 4: Measure combinations highlighted for concurrent working scenario with number of relevant properties in Hexagon Housing Association's stock

Ref No.			Quantities	UOM	Rate	Total
CANG0007	7 Canal Grove , Peckham, SE15 1LB Flat: 74+					
	PARITY IDENTIFIED WORKS - Internal Wall Insulation / Windows					
	External Wall Insulation	40m ²				
	Silicone Textured	40	M2		£41.14	£1,646
	Extra Thickness	120	M2		£22.51	£2,701
	Extend Roof	7	LM		£103.54	£725
	Downpipe	1	Item		£89.95	£90
	Gutter	7	LM		£27.31	£191
	Internal Wall Insulation	100	M2		£37.75	£3,775
	Double Glazed Windows	10	M2		£241.32	£2,413
	Remove refix kitchen units	5	No		£12.97	£65
	Remove refix sink units	1	No		£20.07	£20
	Remove refix wall units	5	No		£11.54	£58
	Remove refix worktop	4	LM		£10.77	£43
	Remove refix whb	1	No		£45.71	£46
	Remove refix wc	1	No		£40.57	£41
	Remove refix bath	1	No		£77.10	£77
	Redecorate 3 Bed House	1	No		£1,063.75	£1,064
	Total at NHF Retrofit					£7,061
	Quantity Discount		Less:		5%	£380
						£7,221
	Scaffolding	Deemed to be included				

Modelled 12.5% saving

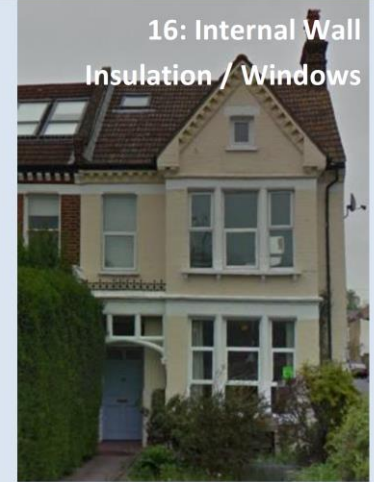
CANG0007



7 Canal Grove Peckham London
SE15 1LB

					Total Price	£7,221
HEXAGON IDENTIFIED WORKS						
Kitchen to 3 Bed		1	Item	£4,000.00		£4,000
Bathroom		1	Item	£1,850.00		£1,850
Total at Hexagon						£5,850
Quantity Discount			Less:		5%	£293
					Total Price	£5,558
Reduction for Duplicated Costs						
Remove refix kitchen units		5	No	£12.97		£65
Remove refix sink units		1	No	£20.07		£20
Remove refix wall units		5	No	£11.54		£58
Remove refix worktop		4	LM	£10.77		£43
Remove refix whb		1	No	£45.71		£46
Remove refix wc		1	No	£40.57		£41
Remove refix bath		1	No	£77.10		£77
Decoration to Kitchen , Bathroom and Toilet		2	NO	£133.50		£267
			Total			£616
REVISED HEXAGON IDENTIFIED WORKS						£4,941

PECK017302

16: Internal Wall
Insulation / Windows

173 Peckham Rye - - SE15 3HZ

Ref No.			Quantities	UOM	Rate	Total
	173 Peckham Rye, , SE15 3HZ house : Pre 1919					
	PARITY IDENTIFIED WORKS - Internal Wall Insulation / Windows					
	External Wall Insulation	40m ²				
	Silicone Textured	40	M2	£41.14		£1,646
	Extra Thickness	120	M2	£22.51		£2,701
	Extend Roof	7	LM	£103.54		£725
	Downpipe	1	Item	£89.95		£90
	Gutter	7	LM	£27.31		£191
	Internal Wall Insulation	100	M2	£37.75		£3,775
	Double Glazed Windows	16	M2	£241.32		£3,861
	Remove refix kitchen units	8	No	£12.97		£104
	Remove refix sink units	2	No	£20.07		£40
	Remove refix wall units	8	No	£11.54		£92
	Remove refix worktop	8	LM	£10.77		£86
	Remove refix whb	2	No	£45.71		£91
	Remove refix wc	2	No	£40.57		£81
	Remove refix bath	2	No	£77.10		£154
	Redecorate 1 Bed Flats	2	No	£550.39		£1,101
	Redecorate Hall/stairs	1	No	£396.25		£396
	Total at NHF Retrofit					£9,386
	Quantity Discount		Less:	5%		£469
						£8,917
	Scaffolding		Deemed to be included			

Modelled 13.2% saving

				Total Price	£8,917
HEXAGON IDENTIFIED WORKS					
Kitchen to 1 Bed Flat	2	Item	£3,500.00		£7,000
Bathroom	2	Item	£1,850.00		£3,700
Total at Hexagon					£10,700
Quantity Discount		Less:	5%		£535
				Total Price	£10,165
Reduction for Duplicated Costs					
Remove refix kitchen units	8	No	£12.97		£104
Remove refix sink units	2	No	£20.07		£40
Remove refix wall units	8	No	£11.54		£92
Remove refix worktop	8	LM	£10.77		£86
Remove refix whb	2	No	£45.71		£91
Remove refix wc	2	No	£40.57		£81
Remove refix bath	2	No	£77.10		£154
Decoration to Kitchen and Bathroom	4	NO	£133.50		£534
		Total			£1,183
REVISED HEXAGON IDENTIFIED WORKS					
					£8,982

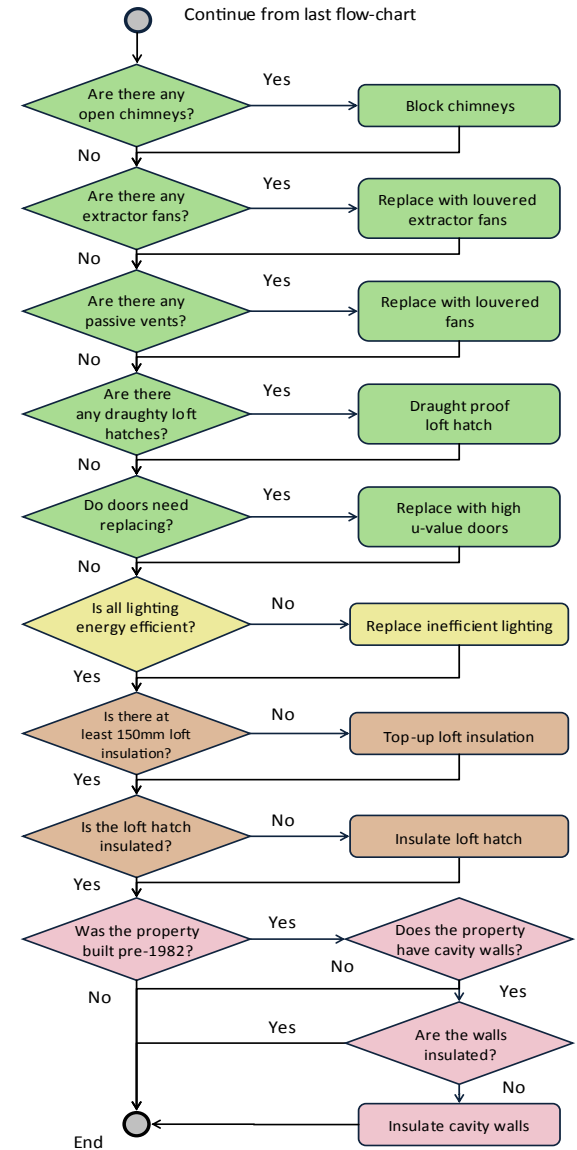
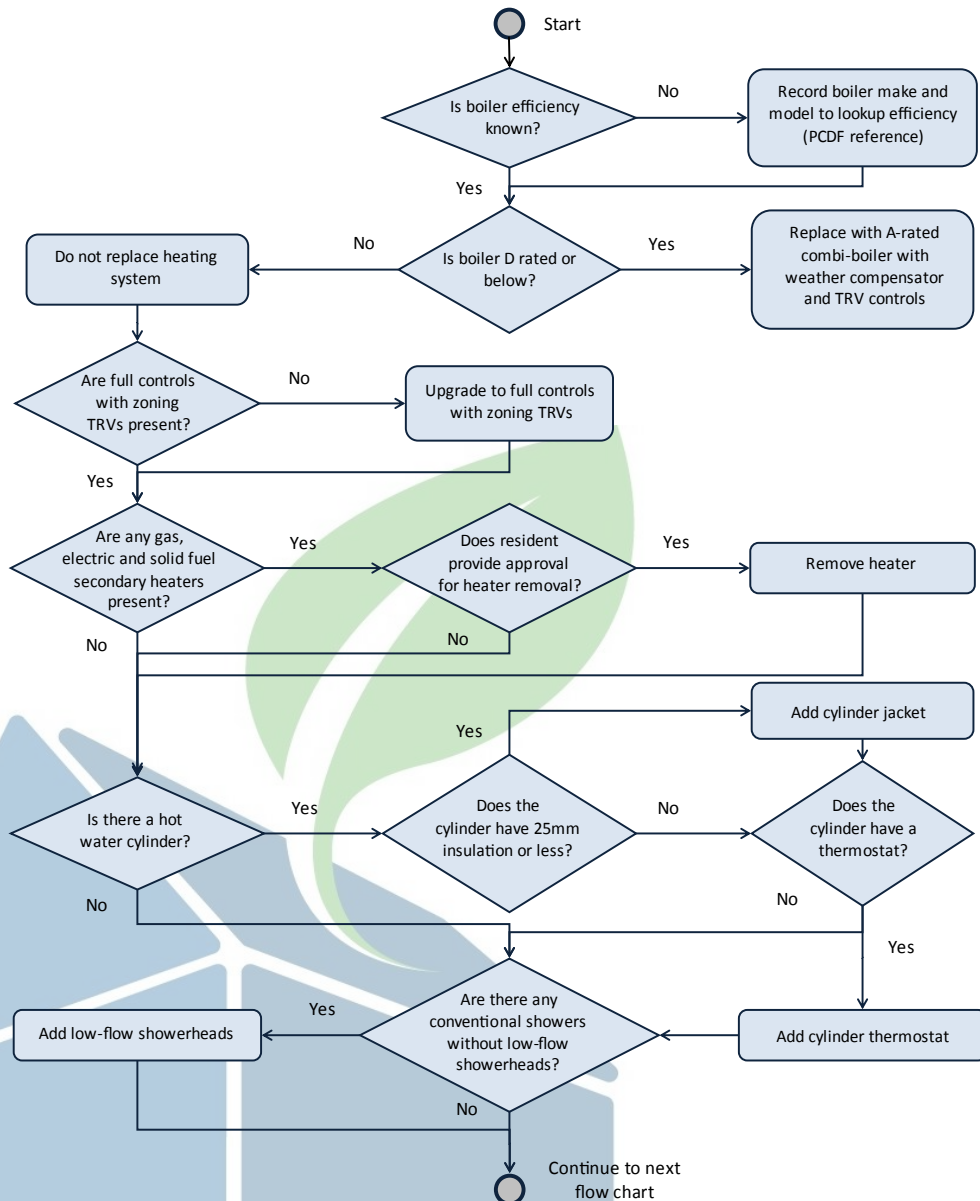
Case Study:

Raven Energy Standard

- Analysis to develop a cost effective set of measure that would represent a minimum standard for all properties
- Create checklist for every property
- Site visits to verify installed measures
- Create a plan for each home
- Requirement to justify where standard not applied



Practical Application



Systematising decisions:

- Contractors pre-agreed process:
 - Agreed rates for opportunistic installs
 - Agreed decision-making process
 - QA framework
- **Concurrent works cost savings**
- **Reduced disruption**
- **Slicker process, focussed staffing**

Thank you

Russell Smith, Managing Director

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