


# Optimising the delivery of an effective nationwide retrofit programme



INCA is the recognised trade association for the UK External Wall Insulation (EWI) industry representing system designers, specialist installers and key component suppliers. INCA has proven longevity as a trade body dating back for more than 40 years. Please refer to the [INCA website](#)  for a current breakdown of our membership which is made up of key EWI manufacturers alongside a national network of specialist contractors and closely associated organisations.

**OUR OBJECTIVE:** To introduce INCA's three core messages, our areas of focus designed to support the UK Government in its energy security and carbon reduction strategy in order to meet net zero targets by 2050.

## 1: Prioritise a focus on the Fabric First approach:

INCA supports a robust Fabric First approach to retrofit which prioritises the energy efficiency of a building envelope over all other energy efficiency measures to maximise the positive impact of all current and future retrofit programmes to 2050.

- EWI: As a Fabric First measure supported by renewable energy initiatives enables greatest bill savings and carbon reduction.
- EWI: Has the greatest cost saving impact on fuel bills of all energy efficiency measures (EEMs).
- EWI: Delivers significant bill savings and carbon savings in comparison to all other insulation EEMs.
- EWI: Helps to deliver significant health benefits.

## 2: Simplification of PAS 2035 and ECO4:

INCA supports the continued simplification and reduction in administrative restrictions of PAS 2035 in order to deliver retrofit efficiently and at scale but without compromising quality, compliance or risk.

- Simplified PAS 2035 enables more install measures to be carried out sooner.
- Saving on costs – greater delivery on investment.
- Reduced administration – increased delivery / lower costs.
- Funding value per £ spent on the measure rather than its administration.

## 3: Continuity of funding obligations:

INCA supports the increase of funding timescales from the current four years to a minimum of eight years.

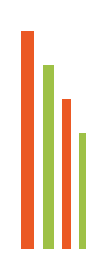
- Avoid peaks and troughs from one obligation to the next.
- Industry confidence and assurance to drive investment.
- Secure investment in skills, education and training.
- Greater employment and opportunities in our sector.

**Meeting the Government's carbon goals will require the vast majority of the UK's 27 million homes to be virtually carbon zero by 2050. INCA believe that taking action on these key points will bring investment into the sector and scale up the delivery of efficient, optimised retrofit to make this goal achievable.**

**Data:** Verified and unverified data related to core messages can be supplied on request.

**Verified data:** Sourced from OFGEM, BEIS, DESNEZ, Chief Construction Advisor to UK Government and the Energy Saving Trust.

**Unverified but live data:** Sourced from live contract works undertaken on a wide range of obligations, with actual utility client charges and Trustmark registered retrofit individual cost breakdown of charges.



# GLOSSARY OF TERMS

<b>EWI</b>	External Wall Insulation
<b>CWI</b>	Cavity Wall Insulation
<b>EEMs</b>	Energy Efficiency Measures
<b>ASHP</b>	Air Source Heat Pumps
<b>EPC</b>	Energy Performance Certificate
<b>PAS 2035</b>	Publicly Available Specification 2035
<b>ECO4</b>	Energy Company Obligation 4
<b>RICS</b>	Royal Institution of Chartered Surveyors
<b>LA Flex</b>	Local Authority Flexible Eligibility
<b>SHDF</b>	Social Housing Decarbonisation Fund
<b>HUG2</b>	Home Upgrade Fund Grant 2
<b>LAD</b>	Local Authority Delivery Scheme
<b>GBIS</b>	Great British Insulation Scheme
<b>EST</b>	Energy Saving Trust
<b>DESNZ</b>	Department for Energy Security and Net Zero
<b>BEIS</b>	Department for Business, Energy and Industrial Strategy
<b>OFGEM</b>	Office of Gas and Electricity Markets
<b>BSI</b>	British Standards Institution
<b>CITB</b>	Construction Industry Training Board



## Core message 1 back up information details

# Prioritise a focus on the Fabric First approach:



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- EWI: As a Fabric First measure supported by renewable energy initiatives enables greatest bill savings and carbon reduction.
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Energy bill and carbon dioxide savings generated in an average three bedroomed semi-detached property utilising the UK Government's policy of Fabric First approach and installing EWI measures compared with CWI measures enables the following savings.

### Energy bill savings and carbon dioxide savings (kgco<sub>2</sub>/per year)

#### EWI versus CWI insulation measures

Property type	Energy bill savings/per year		Carbon dioxide savings (kgco <sub>2</sub> / per year)	
	EWI	CWI	EWI	CWI
Detached house	£620.00	£455.00	1500kg	1100kg
Semi-detached house	£366.00	£265.00	880kg	650kg
Mid terrace house	£210.00	£155.00	520kg	380kg
Bungalow	£270.00	£200.00	660kg	485kg
Mid floor flat	£170.00	£125.00	415kg	305kg

Estimates based on gas heated homes. Figures are based on fuel prices as of October 2023.

Verified data supplied by the EST dated October 2023, [EWI figures](#) and [CWI figures](#).

EWI does have a significant benefit but installing both EWI/ASHP has an even greater energy bill and carbon saving benefit. See the tables overleaf for an average sized three bedroomed semi-detached property.

Swapping to a heat pump from fossil fuel has the biggest impact on energy bill and carbon saving benefit. However, EWI insulation has the biggest positive impact on energy cost and improvement of EPC rating as a result.





ASHP energy bill and carbon savings are highlighted in the following chart but must be installed after Fabric First insulation measures have been undertaken to maximise the energy bill and carbon dioxide savings within the property and to optimise the technical specification requirements of the renewable.


**ASHP fuel bill and carbon dioxide savings taken in a three bedroomed semi-detached property**

Replacing current system with ASHP	ASHP fuel savings	Carbon dioxide savings
Replacing old G rated gas boiler	£295 per year	2900kg
Replacing new A rated gas boiler	-£35 per year	1900kg
Replacing old G rated oil boiler	£550 per year	4400kg
Replacing new A rated oil boiler	£115 per year	2900kg

Figures are based on fuel prices as of October 2023.

The running cost you can expect will depend on the size of your home, any heating system upgrade and any savings will also depend on the fuel type being replaced.

You can expect the saving to range between old and new, depending on the age of your current heating system.

Verified data supplied by the [EST dated October 2023](#). 

EWI can deliver the following identified benefits of improved resident comfort, with resultant health and financial benefits:

- Reduced or eliminated condensation and mould risks, which leads to respiratory problems.
- EWI aids the reduction in damp and mould growth.
- Reduced number of winter deaths and hospital admissions.
- Supporting fuel security.
- Reduced energy demand.
- Addressing fuel poverty.
- Reduced utility bills.
- Reduced risk of fuel poverty and number of vulnerable households for rented and private households.
- Reduced risk of rent arrears.

Householder and community benefits are increased by the improvement of conditions within the home as well as the kerb appeal of a Fabric First approach with EWI installed on all suitable properties throughout the UK.

A significant finding of this review is a clear endorsement from all key stakeholders that INCA has liaised with, its members which includes manufacturers, contractors and associate members throughout the UK.

This indicates that EWI on a Fabric First approach is a key area to be fully endorsed on all suitable property types over all other insulation measures, including all UK Government funded obligations: ECO, SHDF, HUG2, LAD, GBIS and future obligations to follow.



## Core message 2 back up information details

# Simplification of PAS 2035 and ECO4:



**INCA supports the continued simplification and reduction in administrative restrictions of PAS 2035 in order to deliver retrofit efficiently and at scale but without compromising quality, compliance or risk.**

- Simplified PAS 2035 enables more install measures to be carried out sooner.
- Saving on costs – greater delivery on investment.
- Reduced administration – increased delivery / lower costs.
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**We acknowledge and welcome the newly revised PAS 2035: 2023 published by the British Standards Institute (BSI) in October 2023 the potential impact of which is currently under review by INCA.**

PAS 2035 simplification and delivery timescales are reduced using PAS 2030/19 requirements. With simplified tweaks to 2035, for example, timescales are reduced from 40 to 70 days on PAS 2035 requirements against PAS 2030/19 taking on average between 7/10 days.

See below details supplied by INCA members and outside contractors, with the average cost and timescales taken from members throughout the UK, who have all delivered within all ECO funding obligations since 2013:

### PAS 2030-19/PAS 2035 Average m<sup>2</sup> price and delivery information pathway

EWI system (Avg semi-detached property)	PAS 2030-19	Install time	PAS 2035	Install time
Scotland	£85-£90 m <sup>2</sup>	7 days avg	£100-£140 m <sup>2</sup>	40/70 days avg
Scotland rural (1 off property)	£125-£145 m <sup>2</sup>	7 days avg	£200 m <sup>2</sup>	40/70 days avg
England	£95-£120 m <sup>2</sup>	7 days avg	£160-£175 m <sup>2</sup>	40/70 days avg
Wales	£90 m <sup>2</sup>	10 days avg	£178 m <sup>2</sup> (60yr Inno system)	40/70 days avg
Big 6 utility	£135-£165 m <sup>2</sup>	14-21 days avg	£250 m <sup>2</sup>	60 days avg
Retrofit cost (assessor/co-ord/design), client's own design/asset management team	NIL		£30-£50 m <sup>2</sup> avg	

**Current ECO figures suggest only 35p in the £ is spent on the wall.**

Unverified data has been gathered from a range of live on site contracts using a range of Trustmark registered installers and retrofit assessors/coordinators.





## ECO / PAS 2035 administration costs

The current impact of ECO / PAS 2035 delivery is costing too much against the benefits created in terms of energy efficiency, fuel poverty, carbon reduction and the attainment of a Net Zero UK. Current ECO figures suggest only **35p** in the £ is spent on the home.

The following chart highlights the measures installed between ECO1 and ECO4 to date, which clearly highlights the reduction in measures over the timeframe and PAS 2030-19 versus PAS 2035 requirements within ECO4.

ECO4 administration costs	
ECO delivery costs to end March 2023 =	£6.11 billion
ECO delivery administration costs to end March 2023 =	£547 million
ECO4 costs (ECO3 Interim) to end of March 2023 =	£490.6 million
ECO4 delivery administration costs to end March 2023 =	£32.9 million
<b>ECO administration costs to individuals, communities and industry =</b>	<b>£579.9 million</b>
Verified data from a range of UK Government departments, OFGEM 2023.	

The cost of administration is reducing the amount and type of measures being installed under PAS 2035 requirements and needs to stop as less is being spent on the wall than is being spent on administration of the obligation.



## Continuity of funding obligations:



**INCA supports the increase of funding timescales from the current four years to a minimum of eight years.**

- Avoid peaks and troughs from one obligation to the next.
- Industry confidence and assurance to drive investment.
- Secure investment in skills, education and training.
- Greater employment and opportunities in our sector.

Greater consistency of funding from four years to eight years minimum would counter the peaks and troughs of demand and encourage much needed investment in training and development to address the recognised skills shortage in the sector and hence scale up delivery. It would also result in greater investment in research and product development. Currently with the stop start nature of ECO and other funding mechanisms and with the way schemes are funded, there are distinct peaks and troughs of work. This lack of consistency of demand is not conducive to investing in, or ramping up, our industry's supply chain.

Continuity and certainty of funding throughout the year would encourage investment and help avoid rushes to get work completed at adverse times of the year from both a budgeting and weather perspective, followed by fallow periods with less or no work. Budgets are set in April of each year, followed by the time taken to generate contract opportunities. These are released to the marketplace in September with contract start dates in October. This results in more EWI installed during the winter than summer months, as the landscape stands.

Verified data from local authorities throughout the UK.

SWI insulation contractors share the same view of the importance of funding continuity with no peaks or troughs over longer obligation timeframes of eight years. Here is a verbatim quote we wish to share:

**“ What we don't need is a one or two-year programme again. They're incredibly inefficient. You've got to hire and train people, buy loads of kit and then you end up having to lay them off again. ”**

Unverified data supplied by a contractor in Scotland who has been active throughout all of the funded obligations.

The following chart highlights the timeframes of ECO obligation since its creation:

UK Government Obligation timeframes for ECO1, 2, 2T, 3, 4		
ECO Obligation	Timescale	Measure install period
ECO1	2013-15	18 months
ECO2	2015-17	21 months
ECO2T	Sept 2018-Oct 2018	1 month
ECO3	Dec 2018-Mar 2022	39 months
ECO4	Jul 2022- Mar 2026	48 months

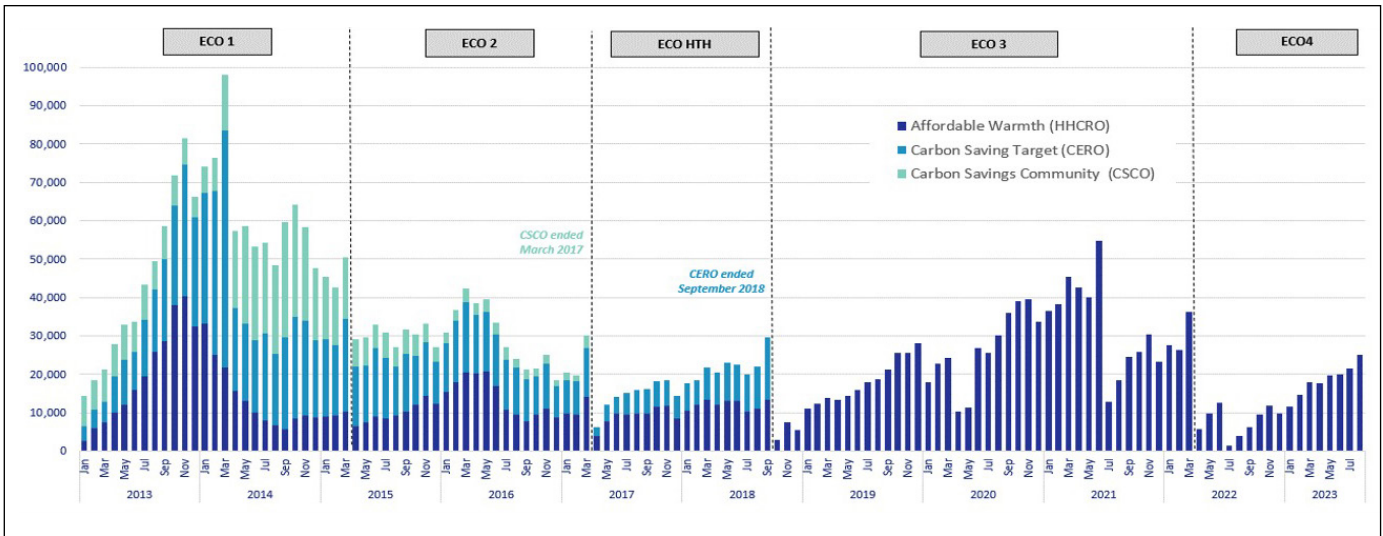
Verified data source OFGEM (Energy Company Obligation (ECO) report).



### ECO1-4 funding windows

The seasonal misalignment in funding windows has similarly caused problems. The availability of funding has, on occasion, driven the installation of external cladding during inclement seasons, rather than at a more conducive time of year from a weather viewpoint.

This pressure would be alleviated by the creation of longer-term funding windows or policy drivers. This inconsistency of demand can also adversely affect cost and quality with increased completion times.



Verified data sourced from [Household Energy Efficiency Statistics](#) issued by the Department for Energy Security and Net Zero.



Following delays to the introduction of the fourth phase of ECO, the scheme is yet to reach its full potential. The number of installations made under ECO have fallen off a cliff-edge.







### Obligation EWI install numbers 2013-2023

Year dates	EWI installs completed		ECO Obligation type
Jan-Dec 2013	27549		ECO1 2013-2015
Jan-Dec 2014	48966	Increase	
Jan-Dec 2015	32501	Decrease	
Jan-Dec 2016	29858	Decrease	ECO2 2017-2018
Jan-Dec 2017	17740	Decrease	
Jan-Dec 2018	19339	Increase	ECO3 2018-2022
Jan-Dec 2019	11923	Decrease	
Jan-Dec 2020	9217	Decrease	
Jan-Dec 2021	9387	Increase	
Jan-Dec 2022	6282	Decrease	
Jan-May 2023	2509	TBC	ECO4
<b>Total</b>	<b>215271</b>		
<b>%</b>	<b>6%</b>		
Increased numbers year on year 3 years. Decreased numbers year on year 6 years.			
Verified data sourced from OFGEM ECO Obligation reports.			

There were nearly 80,000 measures in 30,000 homes by the end of January including ECO3 Interim delivery. To date, under ECO4 124,600 measures have been delivered to 30,800 households.

ECO4 was estimated to support 450,000 homes (see chart above) – representing around 6.8% of that ambition in the first year of the scheme. 33,000 homes have been supported so far but measures include only 17,000 loft installs, 7,000 cavity wall installs and 9,000 heating control measures.

**Lowest cost energy efficiency measures are being installed first, which contradicts the UK Government's Fabric First directive.**

50% of ECO was meant to be delivered through LA Flex but so far, it has only been around 10%. There are key issues around limited local authority capacity to engage, as well as confusion around the complexity of the scheme.





There is a need for clarity on delivery. The delay in ECO4 delivery is creating new risks for supply chains.

The following chart indicates the lack of apprenticeship training in the UK undertaken by CITB and its respective college infrastructure:

CITB apprenticeships 2017-2023 (EWI & rendering installs)
2017-2018: <b>Zero</b>
2018-2019: <b>Zero</b>
2019-2020: <b>Zero</b>
2020-2021: <b>Zero</b>
2021-2022: <b>Zero</b>
2022-2023: <b>Zero</b>
IfATE: <b>Zero</b>
Contractor/college apprenticeships in Scotland: 75 apprentices.
Verified data sourced from CITB 2023.

UK Government statistics highlight that pre Brexit there were 54,000 individuals installing energy efficiency measures throughout the UK but in 2023 there are 10,000 individuals.

The following chart highlights the issue detailing retrofit assessor/coordinator organisations throughout the UK and indicates the shortfall in delivery installer organisations within the UK:

Trustmark registered organisations involved in PAS 2035	
Role	Number of organisations in UK
Retrofit assessors	2171
Retrofit coordinators	963
Energy efficiency inspectors	40
Contractors	1142
Verified data sourced from <a href="#">Trustmark registered companies.</a> 