



Retrofit

Fabric First, Ventilation, EPC's, & Government Grants

By Ben Smith Director Target Co2

Domestic Energy Assessor

PAS 2035 Retrofit Assessor

PAS2035 Retrofit Coordinator



Agenda



Retrofit

- Fabric First
- Ventilation
- Condition

Understanding EPC's

- Data used/captured
- Software assumptions
- Why are EPC's important
- Home Packs

Air Testing

Government Grants



Fabric first approach

You should always insulate before looking at other energy improvements, minimizing heat loss is the biggest heat gain

- Loft insulation
- Wall insulation



Condition

It is critical to do a condition report to :

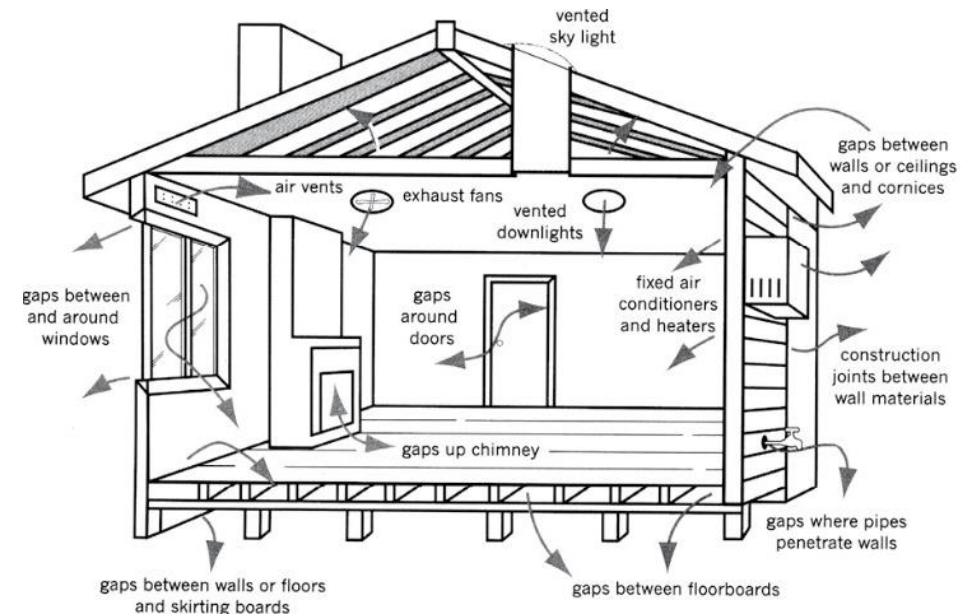
- Highlight maintenance needed
- Find existing signs of damp
- Identify defects which could cause a product to not be suitable
- Determine the correct materials
- Consider the long term health of the building



Ventilation

All buildings need air movement – it is vital that you ventilate where you insulate. Without ventilation, you get

- Humidity
- Stale Air
- Condensation
- Mould
- Poor energy performance
- **Insulation without ventilation creates a bad situation**



Air testing PAS 2035

Port Isaac [Redacted] [Redacted]		Whole Building	Air Changes per Hour @ 4Pa 2.20 1/h
Report Date 18 September 2024	Unique Reference DD5291AF-EEED-4A2C-BE39-2788ECBC87E0		
Test Date	18 Sep 2024 - 09:39	Test Method	Low Pressure Pulse
Test Reference	7 the barton		
Lifecycle / Purpose	Retrofit Project (PAS 2035)		
Airtightness Standard	IAA Background Ventilation Assessment (LPP)		
Building Info			
House / Band G (1983-1990)	Envelope Area		
-	211.7 m ²		
Openings Preparation	Ventilation Preparation		
-	251.7 m ³		
Geometry Source	-		



Air changes per hour

Ventilation and air infiltration

Heat loss calcs for ASHP

PAS2035 compliance

New builds and retrofits

CIBSE June -2022

ATTMA Pre 2016



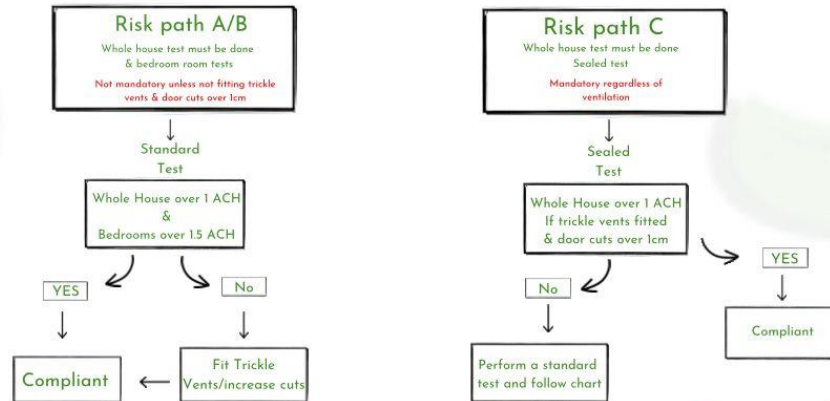
Air test process flow chart PAS2035/TrustMark

Test Types

Standard - All trickle vents in closed positions, water traps filled, windows closed & internal doors open

Sealed - Same as above but all vents taped, core vents, extractor fans taped.

Individual room tests - internal door to that room closed, windows closed, trickle vents closed, a window outside of that room opened for air balance (envelope calculated for that room)



All Pre & post tests require the build test solutions reports & the certificates provided from your CPS accreditation body for the lodged tests



Ventilation Advice

All surveyors at Target CO2 are fully qualified Cert DEA's, PAS2035 retrofit Assessors, Hold a Level 3 Retrofit Old & Traditional Buildings, and every report is put together by a Qualified Retrofit Coordinator following PAS2035 ventilation approaches to minimise condensation & damp.

	What is it?	Where should this be?	Options?
Intermittent/Continuous mechanical Extract Ventilation	Mechanical vents are used to remove damp/stale air. They extract air from inside to outside.	All wet rooms e.g bathrooms, w/c's Kitchens and utility rooms.	Intermittent Extract - comes on normally when a light is turned on. Continuous - can run constantly or even automatically turn on based on moisture detection.
Background Ventilation	Background ventilation is a non-electrical natural ventilation approach that uses natural air leakage and pressure to cause air movement.	Every habitable room e.g bedrooms, living rooms, kitchens, dining rooms, and wet rooms if no continuous extraction is present	Trickle vents - can be retrofitted to windows. Core vents can also be retrofitted
Purge ventilation	This is an opening within the building such as windows and doors - if a room doesn't have an opening window a mechanical extract is recommended	Every habitable room	Opening windows or doors
Air Circulation	Movement of air - this creates a surface buffer on surfaces reducing the risk of air condensating when it hits, also reduces humidity and improved air quality	Every room within the building	Under door cuts - every internal door cut should be at least 1cm

What is an EPC?

- An energy score of A – G, specific to a property
- 'A' = most efficient and 'G' = least efficient
- Lists key items such as construction type of walls, insulation, etc.
- Lists environmental impact
- Gives recommendations of how to improve the energy score
- All EPC's are public information and lodged with the central register <https://www.gov.uk/find-energy-certificate>

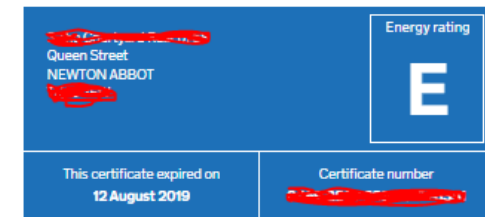
Energy performance certificate (EPC)

Certificate contents

- Rules on letting this property
- Energy performance rating for this property
- Breakdown of property's energy performance
- Environmental impact of this property
- Improve this property's energy performance
- Estimated energy use and potential savings
- Contacting the assessor and accreditation scheme
- Other certificates for this property

Share this certificate

- [Email](#)
- [Copy link to clipboard](#)
- [Print](#)



Total floor area Not recorded

Rules on letting this property

Properties can be let if they have an energy rating from A to E.

You can read [guidance for landlords on the regulations and exemptions](#).

Energy efficiency rating for this property

This property's current energy rating is E. It has the potential to be D.

[See how to improve this property's energy performance.](#)

Score	Energy rating	Current	Potential
92+	A		
81-91	B		
69-80	C		
55-68	D		58 D
39-54	E	50 E	
21-38	F		
1-20	G		

Data used / captured

Every selection below also has sub menus – this info is also inputted

- Building age
- Wall construction (solid/cavity)
- Floor type (solid/suspended)
- Heating type
- Heating controls
- Water storage
- Window type
- Insulation thicknesses



Defaults & assumptions

RdSAP software is used by all EPC assessors to input data captured. This software uses preloaded/set U-values & defaults to determine the energy rating/score

Build years trigger default U-values using building regs. of that period. If a retrofit measure is not visible or written evidence has not been provided, an assessor must select "AS BUILT" on RdSAP

This will revert to a preset default and an assumption is made as to whether or not it is insulated based on building regs. of that build period

For example :

Cavity wall, 1930, as built, will assume not insulated

Cavity wall 1976-1982, as built, assumes partially insulated

Cavity wall 1983-1990, as built, will assume insulated

Feature	Description	Rating
Wall	Cavity wall, as built, no insulation (assumed)	Poor
Wall	Cavity wall, as built, insulated (assumed)	Good



Why is an EPC important

EPC's are already being looked at by mortgage lenders

- Landlords/ Letting agents remain compliant
- Reduce your energy bills saving you money
- Keep the value in your property
- Get a better mortgage rate
- Maintain a good level of comfort

Green mortgage deal for landlords buying good EPCs

[NEXT ARTICLE >](#)



Lower interest rate for investors in A-to-C EPC rated homes

Specialist buy to let lender Fleet Mortgages new Green Mortgage is available across its three core products: standard, limited company and LLP, and HM Land Registry approved freehold.

The new Green products are available to those landlord borrowers seeking to purchase or remortgage properties which have an EPC rating of A to C, and are five-year fixes available at 75 per cent LTV.

They come with a 10-basis points reduction off Fleet's core rate. The standard and limited company/LLP offered at 4.85 per cent and the LLP/MUFB offered at 4.99 per cent.

Selling a low-EPC Buy To Let? You may have to slash the price...

SEARCH ARTICLES BY KEYWORD



How to improve your EPC

Products available

There are many products that effect an EPC

- Cavity wall insulation
- Loft insulation
- Solid wall insulation
- Upgrade windows
- Upgrade heating systems
- Upgrade heating controls
- Solar panels
- Cylinder water jackets



Please note : You should seek expert advice before carrying out works to avoid unnecessary expense. Recommendations on EPC's are also set defaults and not always the most effective way to improve your EPC.

Where do I start?

Pitfalls & mistakes

- How do I know what product to fit?
- Which product do I try first?
- How do I know how much a product will increase by EPC by?
- Is following the EPC recommendations the best way?
- Will making all the light bulbs LED be enough?
- Do I need a EPC after every change to see how much more I need to do?
- Can I just use a EPC assessor to help me?
- What help is there to guide landlords?



Solution

Home Energy Survey Pack

- A start to finish plan for improving your property's energy efficiency
- Bespoke advice
- Expert guidance from a qualified Retrofit expert
- Target Co2 can manage the project
- Prices provided for recommended works
- Peace of mind and stress-free

The advertisement for the Home Energy Saving Pack features a black background with the targetco2 logo at the top left. The main title "Home Energy Saving Pack" is in large white font, with the tagline "Know what to fit that's best for you" below it. A stylized white hand is shown holding a stack of gold coins. To the right, a house silhouette is shown with a green roof and a vertical energy efficiency scale with levels A, B, C, D, and E. The scale is color-coded: A (green), B (light green), C (yellow-green), D (yellow), and E (orange). At the bottom, there are logos for Google Reviews (4.5 stars), Trustpilot (5.0 stars), TRUSTMARK (Government Endorsed Quality), Energy Saving Trust (Approved), and ecmk (Accredited Member). The text "All you need to save £" is written in a cursive font with a large pound sign.

A photograph of a family of four—a father, a mother, and two young children—hugging each other in a warm embrace. The image is partially obscured by a large, tilted orange rectangle that contains the title text.

Home Energy Saving Pack

ECO₄ & GBIS

ECO₄

- EPC jump of 2 bands: High / Low
- Fabric First, ASHP, Solar PV
- Contribution if shortfall
- Household income less than £31k, on benefits, GP Route 2/3
- PAS2035
- Ends March 2026

GBIS / ECO+

- Council tax A – D (A-E Wales & Scotland)
- EPC D,E,F,G
- Fabric, heating controls, Low IWI m² otherwise contribution
- PAS2035
- Ends March 2026

Questions



www.targetco2.com

0800 999 1251

