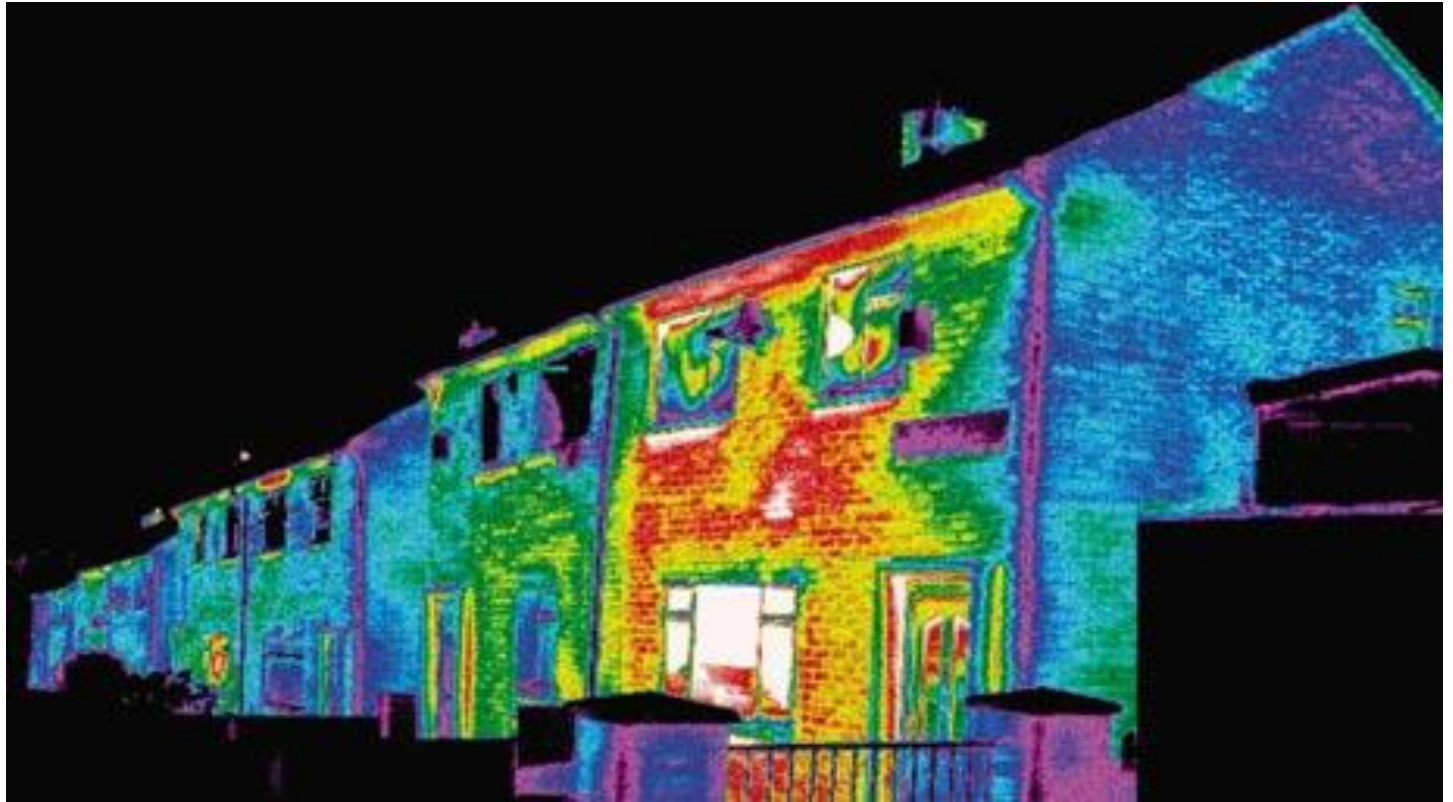


Sean Watters



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Retro-fitting our housing for a low carbon future

Where we are...

Twin drivers

1) Energy supply

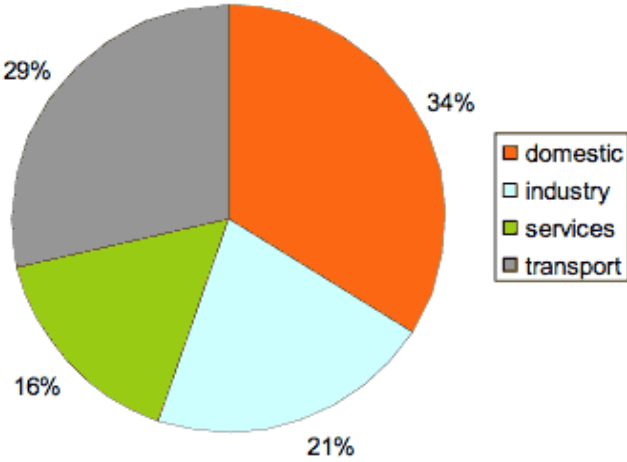
2) Climate Change

Where we are...

Twin drivers

1) Energy supply

2) Climate Change



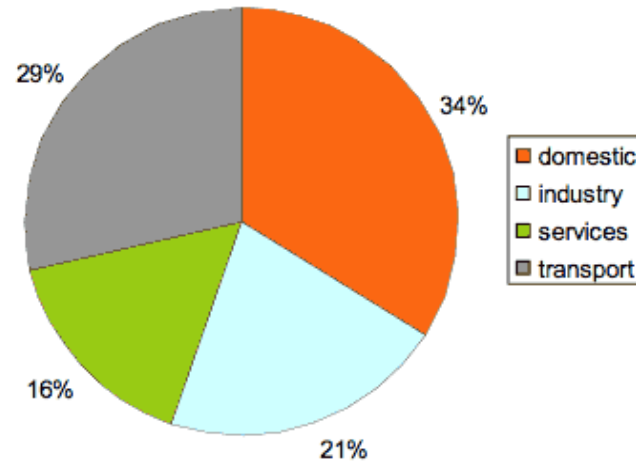
Energy demand by sector

Where we are...

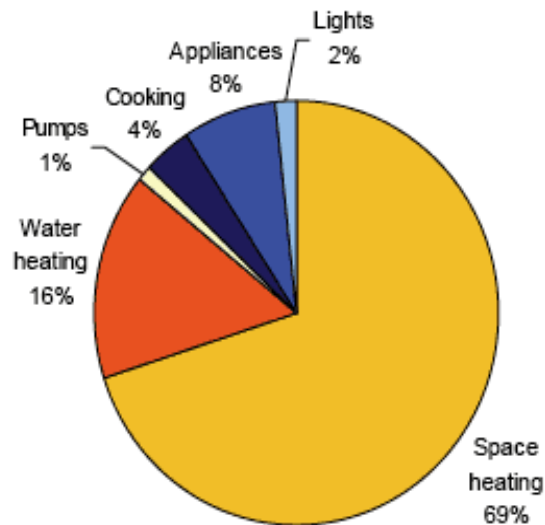
Twin drivers

1) Energy supply

2) Climate Change

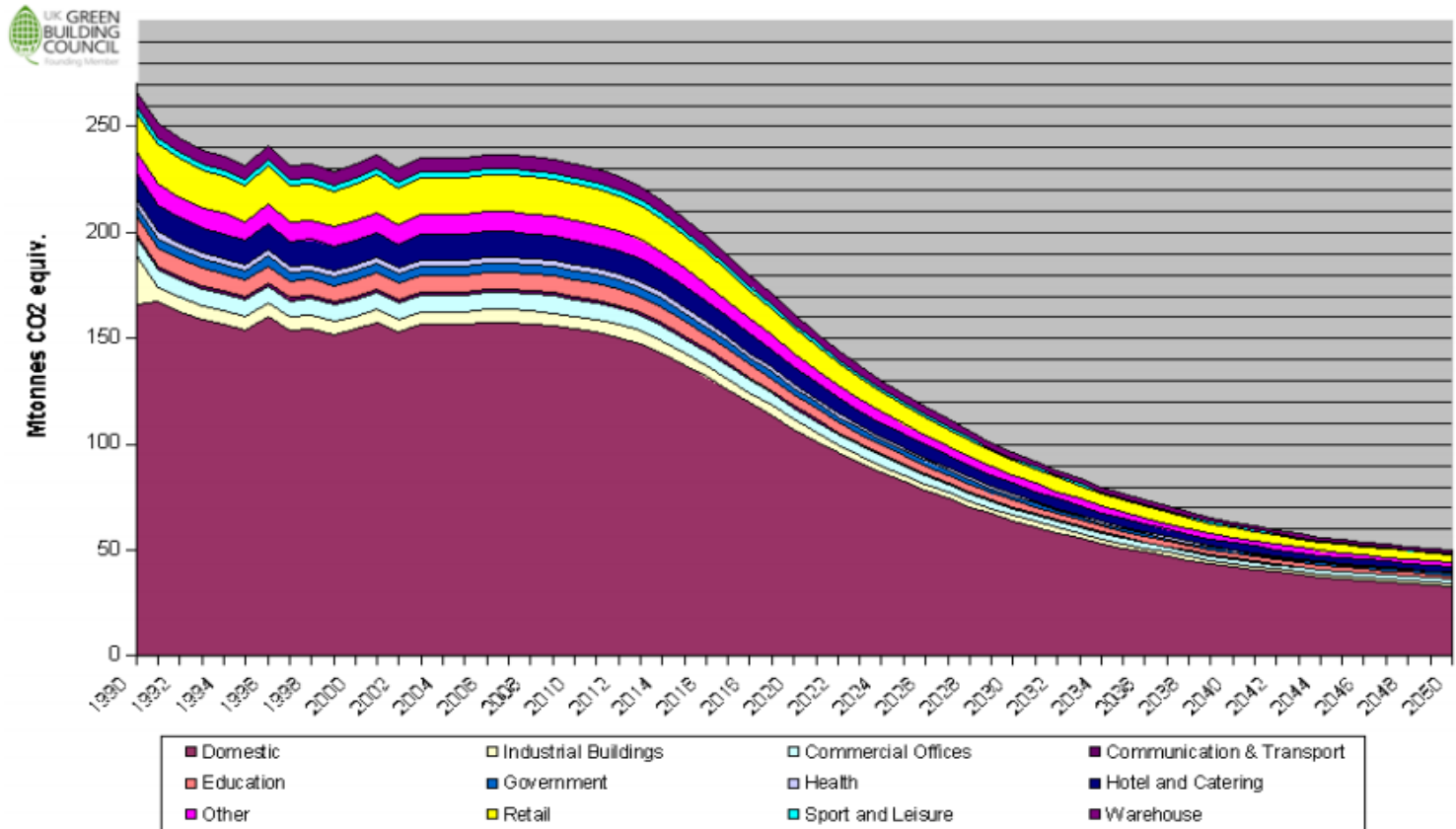


Energy demand by sector



- Over three quarters of energy consumption in existing buildings is used for heating.
- This energy consumption accounts for a large proportion of the Scottish emissions, providing a clear signal we need to radically reduce energy consumption alongside de-carbonising the energy we use.

Where we need to be...



Projected greenhouse gas emissions from the UK built environment.

Reduction of 180m tonnes CO₂e to 50m tonnes CO₂e between now and 2050.

What we need to do...

60 - 80 % reduction in energy demand

New build 1%, demolition 0.1%, refurb
2%

1000 years to replace the complete
housing stock

80% of the buildings that will be
around in 2050 are standing today

Massive re-furb programme required

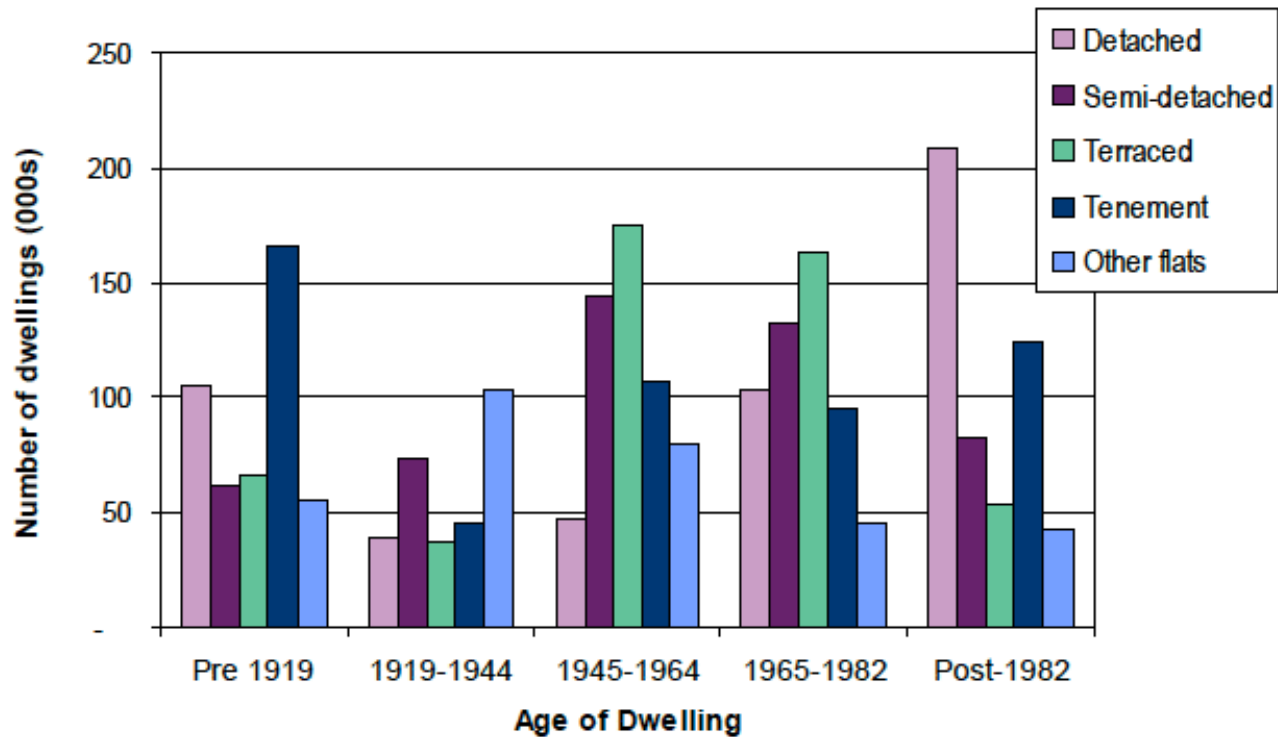


What needs refurbishing?

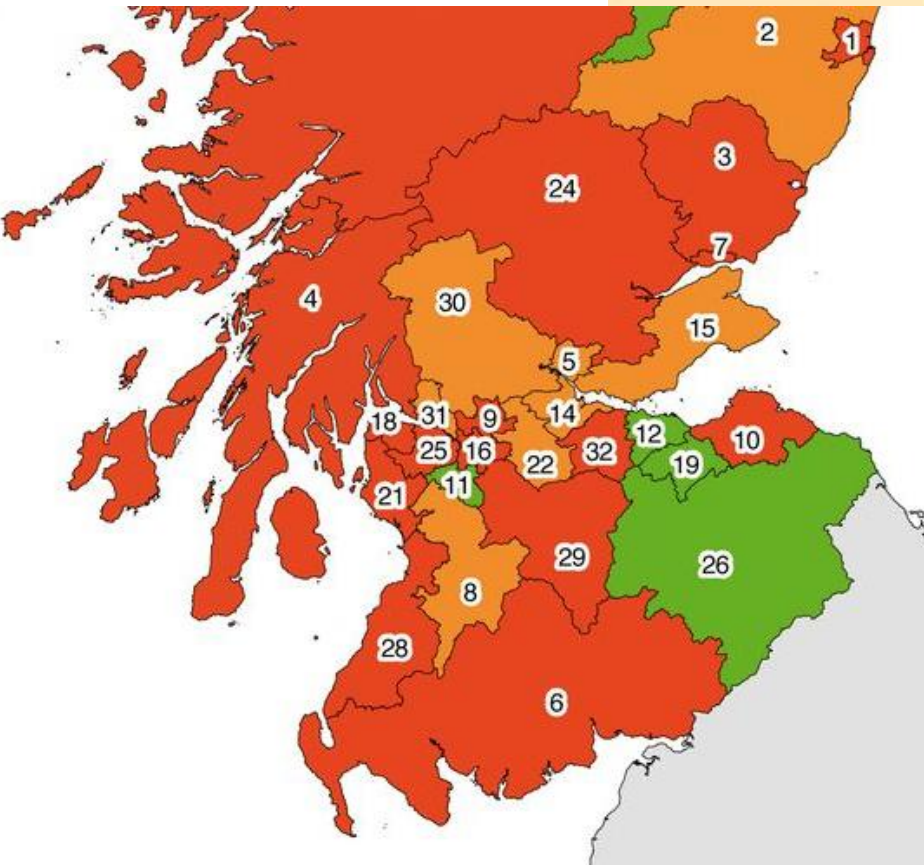
Scotland wide - 80% of the building stock is more than 30 years old

Hard To Treat

- Solid walls 25%
- Tenements/flats 23%
- Timber frame 5%
- Other 5%



The scale of the task



- 38,157 households in East Lothian
- 35,000 refurbishments over the next 35 years?
- £25,000 per household?
- £25 million/per year ?

A challenge

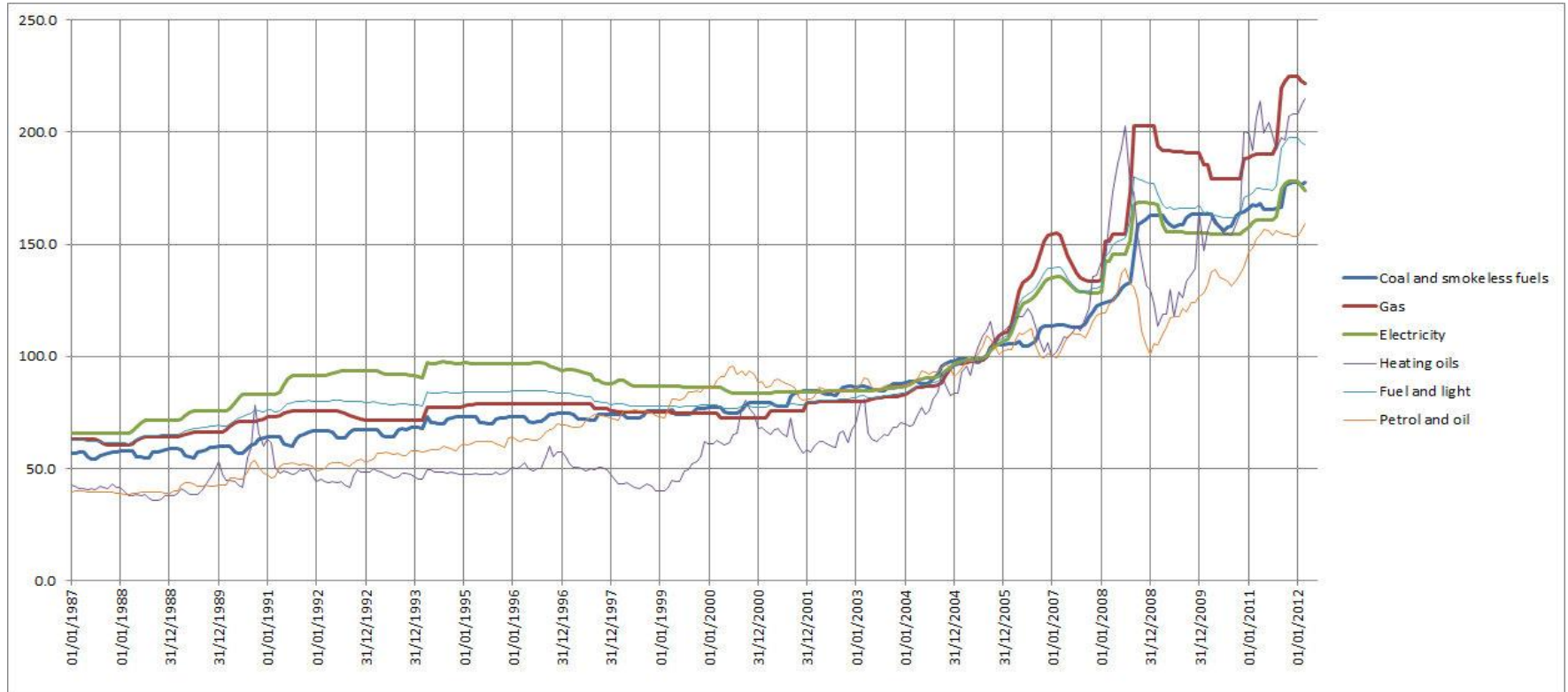
Massive investment required. Scotland wide - £50 billion?

but...

A challenge

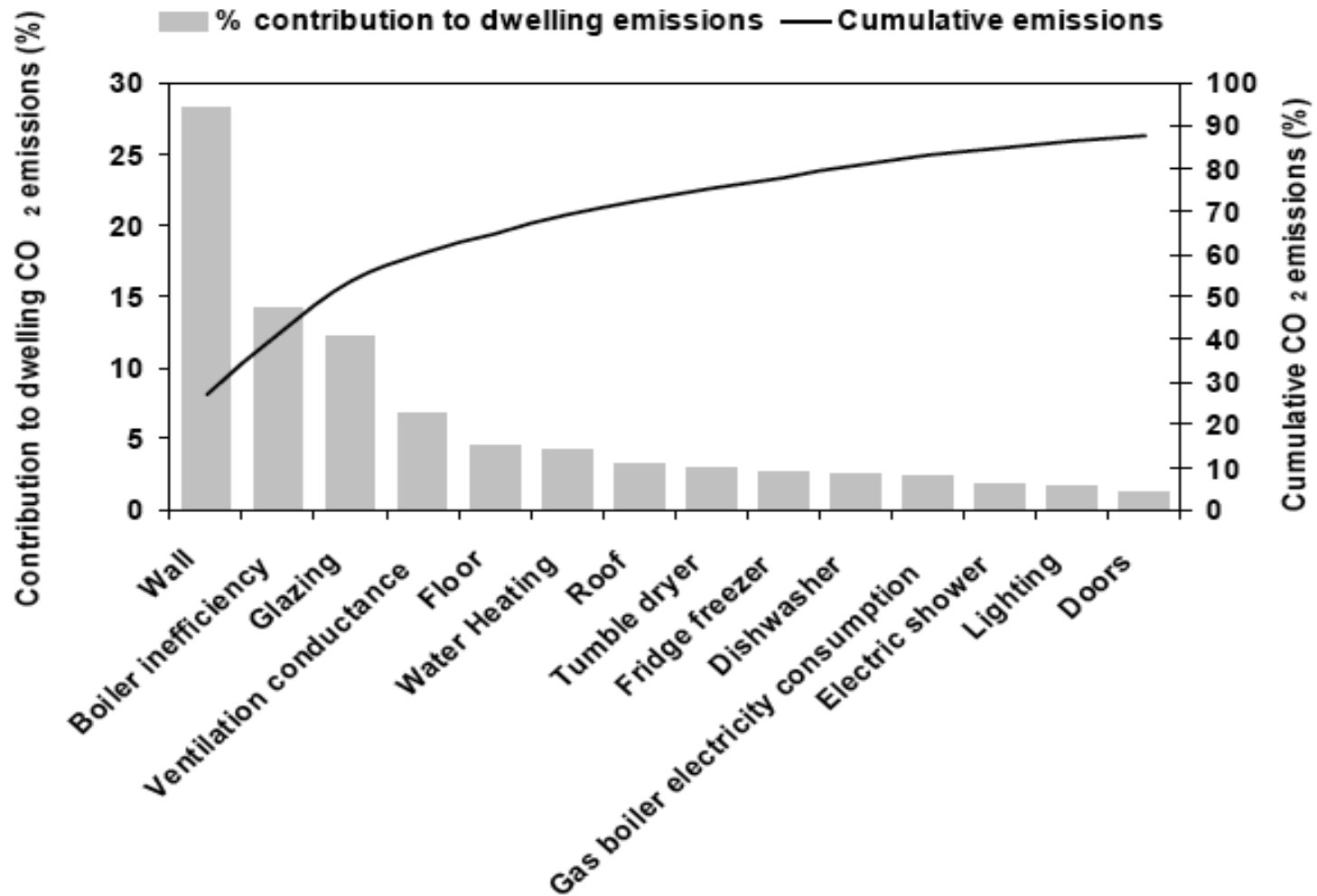
Massive investment required. Scotland wide - £50 billion?

but...



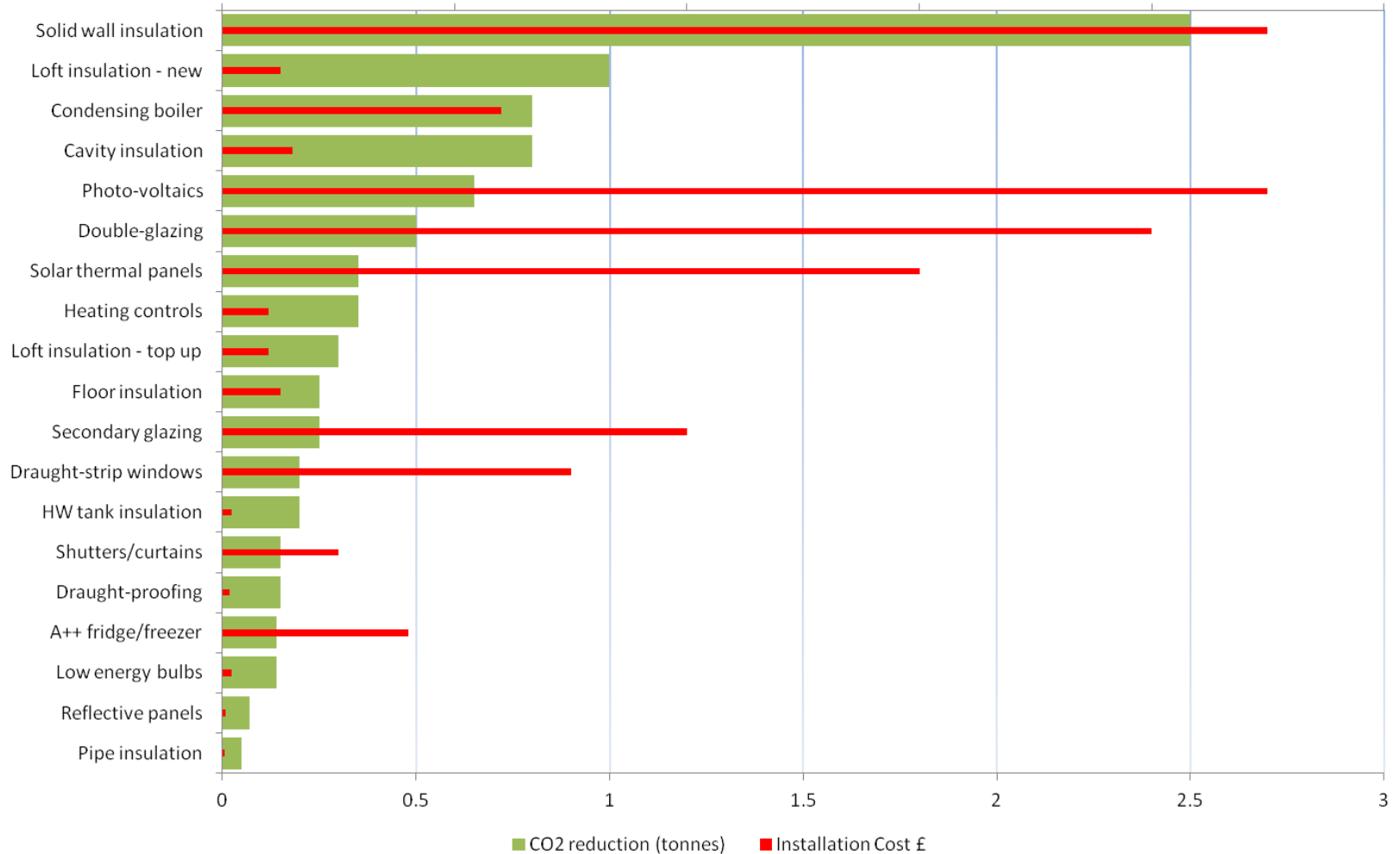
...more expensive not to do it.

Energy efficiency measures



Evidence on Tackling Hard To Treat Properties, Prof Susan Roaf, Dr Keith Baker and Andrew Peacock, Heriot Watt University, October 2008.

Energy efficiency measures



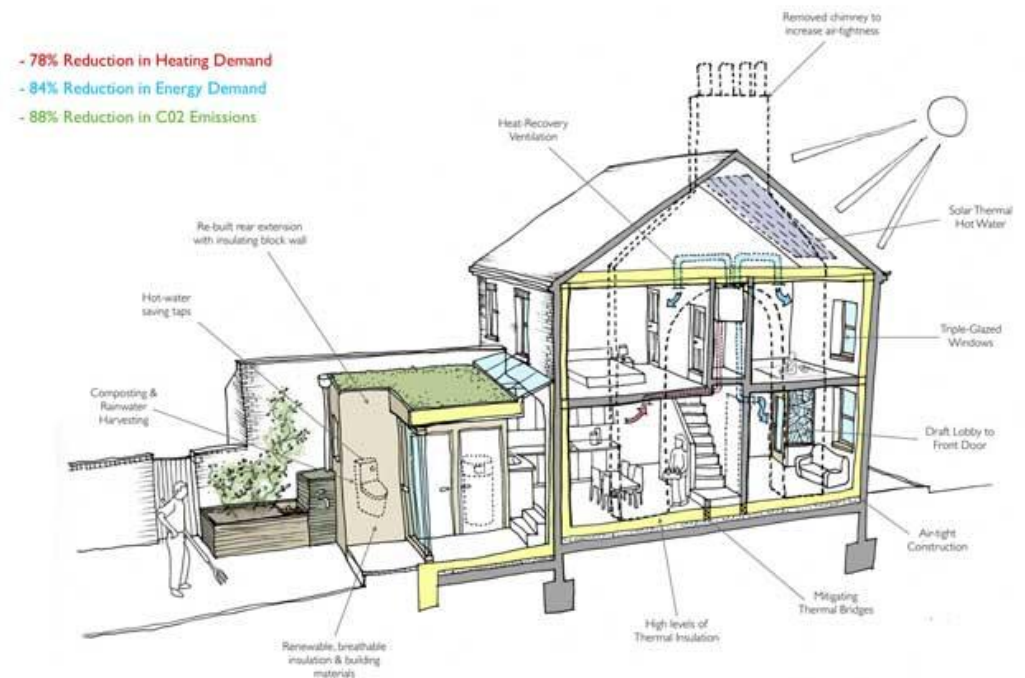
Opportunities

Employment

Training – new skills and industries

Local industries and production

Money retained within local economy



Benefits

Improved homes – greater comfort

Eliminate fuel poverty

Increased energy security

Greater resilience

Reduced Co2e emissions



Huge transformation, **but it needs to be done.**

