Passivhoos

Passivhaus and the Scottish Context

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1 in 3 households struggle to pay fuel bills in Scotland. An estimated 2,521 people died from cold homes in Scotland in 2014/5...

The Scottish Government aims to eradicate fuel poverty by 2016...

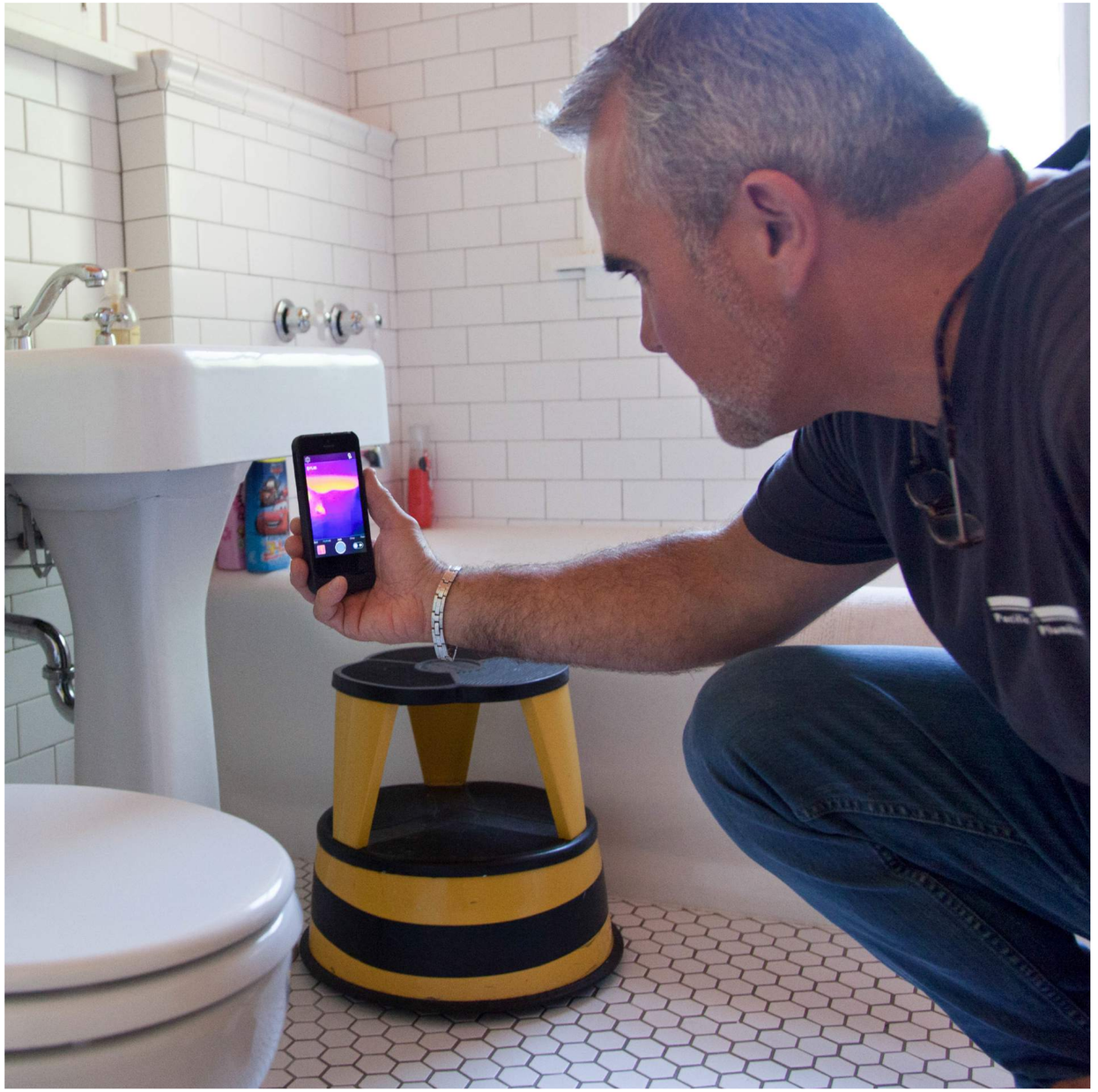
We’re not making enough of our skills and resources...?

Ingredients

Strong timber industry

Off-site construction expertise

Retrofit expertise



Ingredients

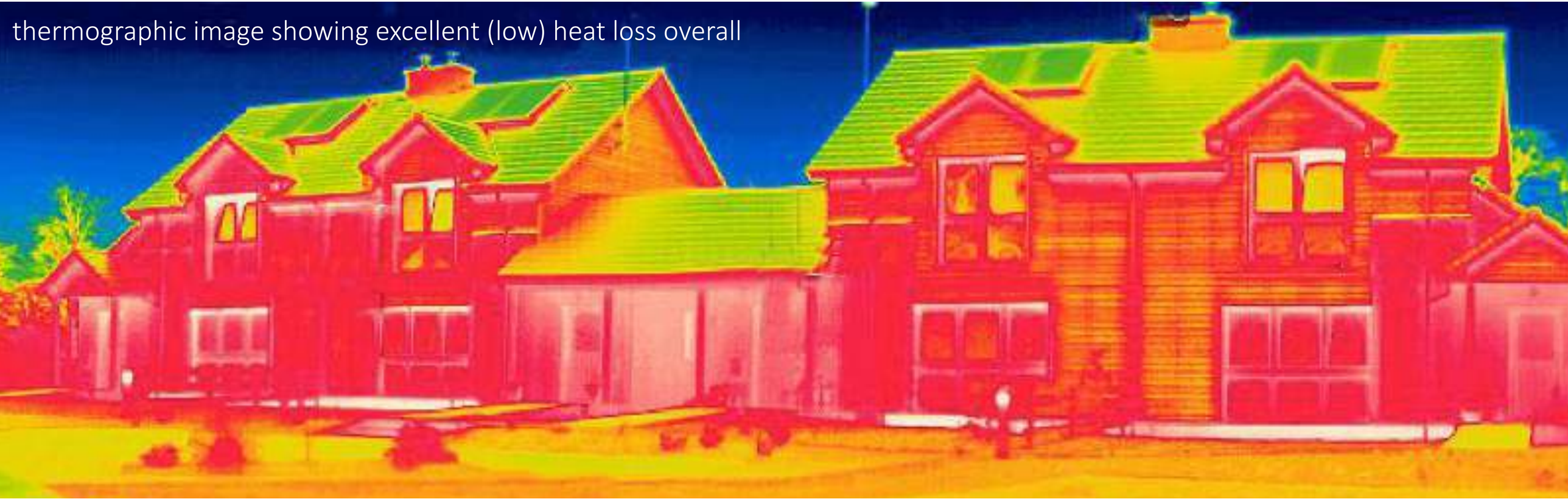
Strong timber industry

Off-site construction expertise

Retrofit expertise

Scotland’s largest Passivhaus development - 8x units

Built in a factory in Glasgow, capable of 100’s homes per year

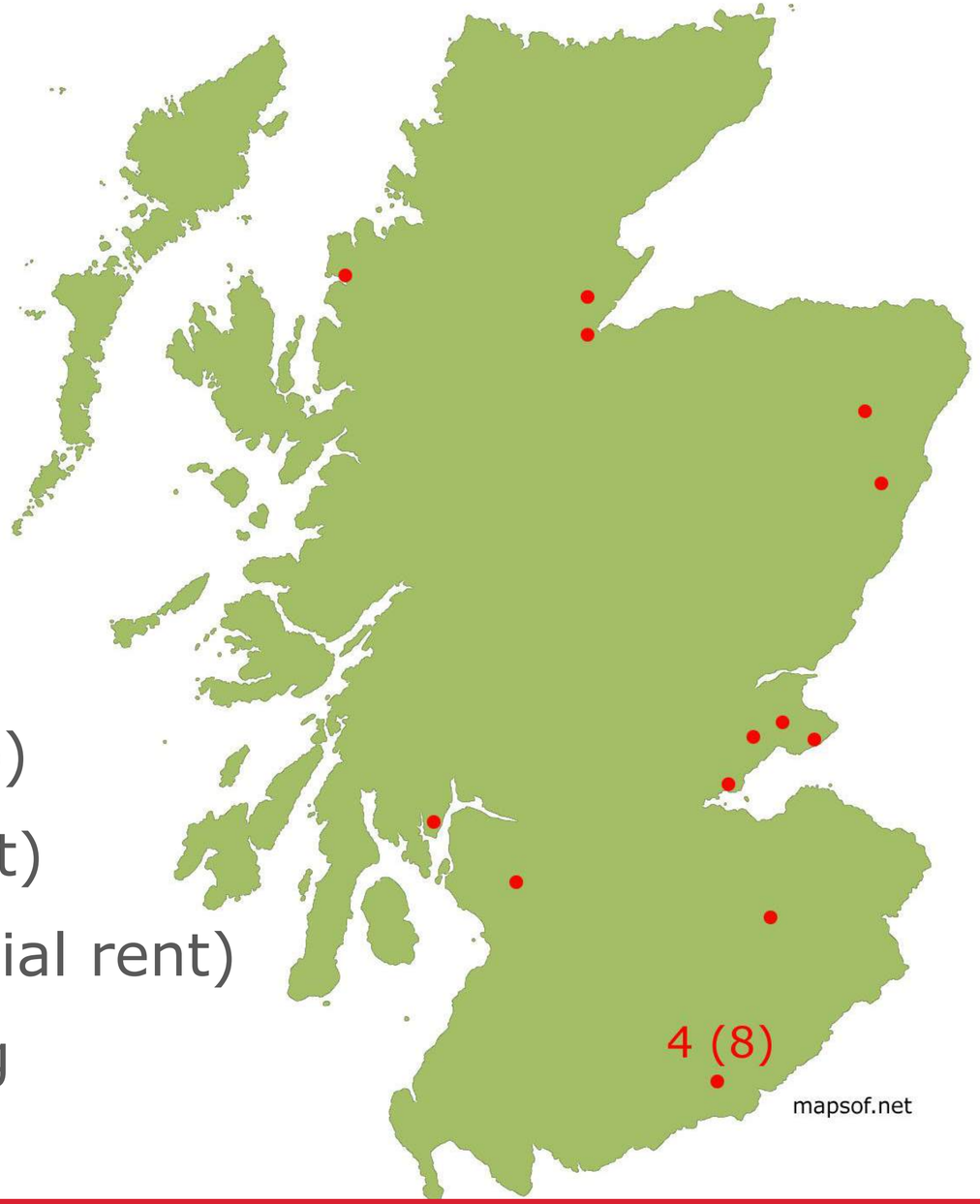


Project has been monitored and lessons published

certified:

16 “units”

April 2014



7 one-off homes (o/o)

9 homes (private rent)

3 one-off homes (social rent)

1 community building

near Lockerbie
Dormont Estate (8 homes)
White Hill Design Studio

Pittenweem
Kingdom HA
Oliver + Robb Architects

near Dunoon (1 unit)
Fyne Homes HA
G Deveci Architect

HOUSING INNOVATION SHOWCASE 2012
affordable ~ sustainable ~ construction

Dunfermline (HIS)
Kingdom HA
Oliver + Robb Architects

Graham Drummond (Passivhaus Associates)
Social hsg completions to 2014

Growing array of one-off new homes

Predominantly Timber construction

Rural and suburban

Can Scotland deliver large scale passivhaus construction?

Architype delivering new archive building (20,000m²)

Four social houses by Lomond Group and Beattie Passive

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10x homes in a collective self build

Timber frame construction

Scottish Timber Cladding

Within social housing benchmarks

On-site 2015

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PassivTEN

Large scale tenement retrofit

Developing phased approach for HA’s

Eliminating fuel poverty in traditional central belt types.

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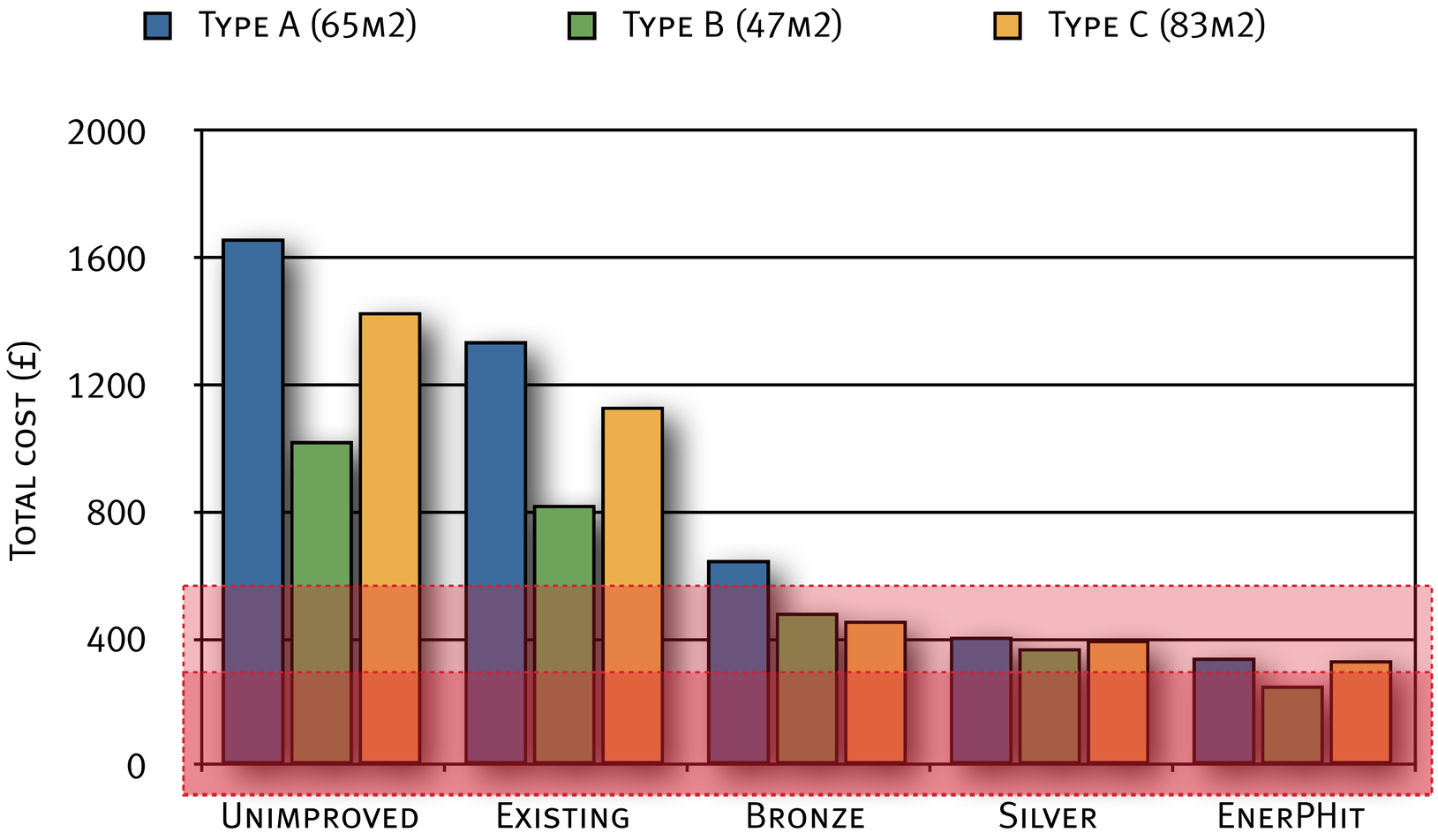
Estimated Annual Cost



John Gilbert ARCHITECTS

COLLECTIVEARCHITECTURE

EnerPHit: High rise, Glasgow

- 4000 residents
- 32 languages
- Tenants consist of single people, families, asylum seekers, young people from the care system, those who have been homeless, elderly, disabled.
- Community has issues with high unemployment, poverty, isolation, mental health and people with addictions

COLLECTIVEARCHITECTURE

EnerPHit: High rise, Glasgow

- 80% Energy improvement!
- Additional insulation
- Triple glazing
- Solar thermal
- Air Source Heat Pump
- Improved form factor
- Mitigate thermal bridging
- Improve Air tightness
- Recover heat from ventilation system.
- Communal lighting changed to LED.

COLLECTIVEARCHITECTURE

Passivhaus is gaining traction and visibility in Scotland, but we've got a lot of work to do before 2016...

Thank You:-

Passivhaus Associates
Locate Architects
MEARU at GSA
Collective Architecture