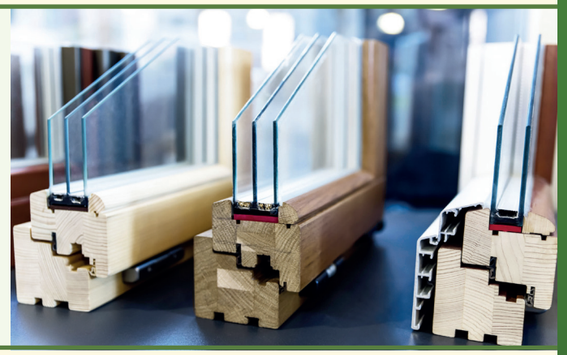
insulation

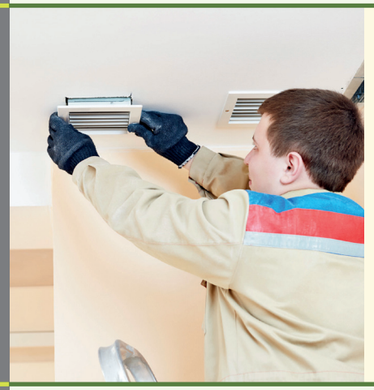
What? • Roof: loft, attic coomb or flat roofs
• Wall: internal, external & cavity • Floor: above or below structure
• Pipes and tanks for heating/hot water system
Why? • keeps the heat inside in winter, outside in summer, so reduces energy demand for heating/hot water
• makes a home more comfortable and healthier
Where? • all existing buildings, whether starting from scratch or top-up of existing insulation
When? • building being refurbished generally
• building being extended, where all insulation will be included in energy calculations for building warrant
• anytime funds are available for individual tasks

windows+doors

What? • Windows: double or triple glazed
• Doors: insulated external doors • Secondary glazing
• Blinds, shutters and shading devices
Why? • improves both insulation and air-tightness
• well functioning windows are important for daylighting, solar heat gains, and natural ventilation
• shading devices and blinds help prevent overheating
• modern units require less ongoing maintenance
Where? • all existing buildings, especially pre-1990's
When? • existing windows/doors broken or near end-of-life
• building being refurbished generally
• anytime funds are available for individual tasks



ventilation



What? • Mechanical ventilation with/without heat recovery
• Trickle vents and other natural ventilation controls
• Improving air-tightness of building fabric
• Draught proofing windows, doors, chimneys etc.
• Creation of air-locks with lobbies or porches
Why? • making buildings more airtight keeps the heat inside so reduces energy demand for heating
• airtight buildings are more at risk of dampness/air quality issues so adequate ventilation is essential • makes a home more comfortable and healthier
Where? • all existing buildings
When? • must be considered if insulation and/or air-tightness is being improved
• building being refurbished generally
• some tasks can even be done during redecoration
• anytime funds are available for individual tasks, especially draught proofing which is inexpensive

heating

What? • high efficiency gas/oil boilers to replace old ones
• central heating instead of room heaters/open fires
• heat pumps whether air, ground or water source
• biomass boilers and high efficiency wood stoves
• high efficiency electric storage heaters
• controls and fittings for central heating/hot water
• solar thermal hot water or air pre-heat
• waste water heat recovery
• district heating systems
Why? • higher efficiency meaning lower energy bills
• reduce carbon emissions
Where? • all buildings, existing or new
• remote/off-grid locations have particular benefits
When? • existing system broken or at replacement stage
• building being refurbished generally
• building being extended and old system too small
• anytime funds are available for individual tasks
• larger amount of funds available for an investment
• as part of new building construction

electrics

What? • Solar PV panels
• wind turbines
• battery storage
• low energy light fittings and appliances
Why? • generate electricity for self-sufficiency/ resilience
• higher efficiency equals lower energy bills
• reduce carbon emissions
Where? • all buildings, existing or new
• remote/off-grid locations have particular benefits
When? • anytime funds are available for individual tasks
• larger amount of funds available for an investment
• as part of new building construction
• light fittings/appliances during redecoration

The **Borders Construction Sector and Supply Chain Forum** has been set up to discover how best to help and assist Borders Trades People, Local Businesses and Trade Suppliers (as individuals or collectively) to make more of the opportunities that the transition into energy efficiency will offer. We want to support local people to work locally and to benefit from the opportunities that energy efficiency will bring.

Scottish Borders Council declared a **Climate Emergency** on 25th September 2020 and are committed to **net zero by 2045**.

The **Scottish Borders** needs to ensure that it is able to take the necessary steps to **meet this target** and support the changes this will require.

The region will need to have access to **local trades, skills,** training resources and an open and cooperative market **to achieve net zero.**

TO DELIVER THIS AMBITION THERE NEEDS TO BE A COHESIVE AND SUCCESSFUL LOCAL SUPPLY CHAIN

There is an urgent need to look ahead and establish how to best prepare for future opportunities, especially with regard to the impacts of climate change on the construction sector.

Exciting times ahead for the Construction sector!

The forum's role is to enable and facilitate the sharing of ideas, identify opportunities, provide updates and data to support and develop the construction sector and supply chain, provide better networking opportunities and member support across the Scottish Borders. Such a forum existed before, and its loss has left a noticeable vacuum.

As more energy efficiency measures and government guidelines on carbon reduction come into force, the way you currently work may need to change. This could mean that you will require additional training or certification to undertake some types of work.

The indications are that demand for this type of work is going to grow significantly and there are real opportunities for local businesses in the following specialised areas:

- Insulation of all types
- Draught-proofing and air-tightness
- Double/triple and secondary glazing
- Ventilation and heat-recovery
- High-efficiency electric systems
- Biomass boilers
- District heating systems
- Heat pumps (ground, air or water source)
- Heating controls/thermostats
- Solar PV and battery storage
- Solar thermal hot water
- Low energy appliances and lighting

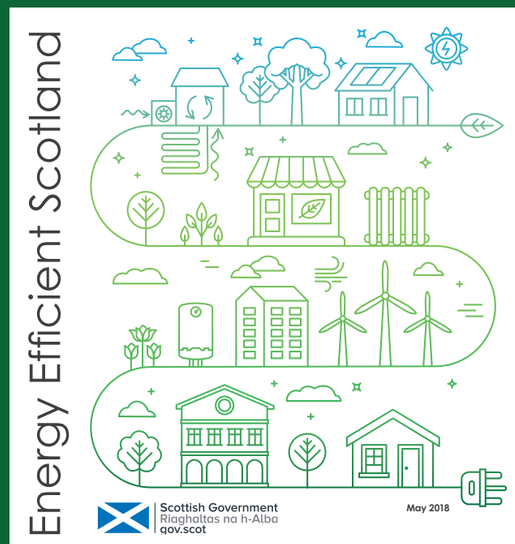
To find out more or get involved please get in touch! – Julie Nock, Southern Uplands Partnership
Whatsapp/Mobile 07726 603379 or email julienock@sup.org.uk https://www.facebook.com/BordersConstructionForum

This Scottish Borders Council project has been funded through the new enterprise agency SoSE (South of Scotland Enterprise)

SCOTTISH BORDERS ROUTE MAP TO NET ZERO

Legal and regulatory framework being put in place.

drivers



- 2022: private rented homes EPC: E
- 2032: social rented homes EPC: B
- 2040: all private homes EPC: C

Radical & rapid step change in scale of work.

challenge

Houses
Borders: 58,000 houses
- RSL: 20%
- PRS: 15%
- Owner: 59%
- Vacant/2nd: 6%

Businesses
Borders: 6,000+ businesses

Construction sector: 2,500+ jobs

Vast majority are small businesses:
- sole trader: 36%
- micro SME (<10): 56%
- SME (10-250): 7%
- Large Enterprise (>250): 1%

Cost
Retrofit: £26,000/house*

Scottish Borders: **£1.5B**

Complete by 2045 = 2,320 houses/y

Cost = **£60M/y 25 years**

current industry output: **+50%**
- Significant market opportunity
- More than just "another apprentice"
- Demand will depend on funding
- Activity period limited to 25 years
- Doesn't suit current business model

Carbon
Household: 8 tCO^2e/y*
- Heating: 29%
- Electricity: 21%
- Transport: 34%
- Aviation 12%
- Waste: 4%

Energy saving: £430/y*

Financial Payback = **60 years**

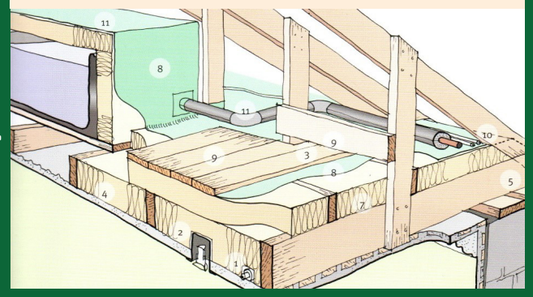
Embodied carbon: 24t CO2e/house*

Carbon Payback = **6 years**

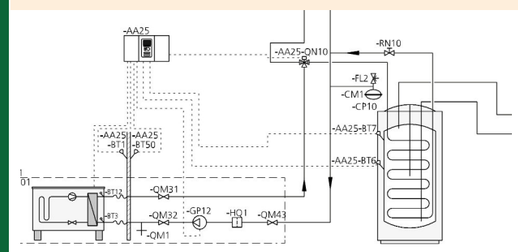
Upgrade in skills required across all trades.

tasks

Building Fabric / Energy Efficiency
- Insulation to Fabric & Pipes
- Windows & Doors
- Airtightness & Ventilation



Building Services / Renewables
- Electricity / solar PV
- Heating / heat-pumps / biomass
- Energy storage / controls



Skills
Training:
- National training strategy
- Colleges & Industry
- Supported by Trade Associations
- Public funding is available

Accreditation:
- PAS 2030 standard coming in
- MCS for micro-renewables

To meet the challenge:
- Raise awareness within Trades
- Provide clear path to accreditation
- Look at fast track/hybrid options
- Reskill workers from other sectors

Required actions are possible but are complex and need coordination.

needs

Construction Sector
To meet the scale of challenge:

1. Upskill existing trades
2. Encourage new businesses
3. Support social enterprises

To provide confidence:
- Confirmation of funding

Cost = **£60M/y 25 years**
- Start with social housing
- Knowledge flow to private sector
- Coordination and support
- Establish Construction Forum

Training Sector
All need the same type of training.
- Courses and Places do exist
- Getting commitment in lieu of working time hard for small traders
- Shared apprenticeships
- Retrain redundant workers

Alternative routes:
- Digital Learning v hands-on
- Mobile classrooms
- Fast track training courses
- Maintenance and handyman

Supply Chain
Integration with broader supply chain:
- Designers (architects & engineers)
- Builders Merchants • Manufacturers
- Planning & Building Approvals

Economic benefits:
- Encourage local manufacturing
- Enhance social outcomes
- Increase employment

Carbon benefits:
- Natural low-carbon materials
- Insulation: plant fibre/wool
- Timber: structural/cladding

Renewables

Reviewed MCS micro-renewables:
- 78,000+ installations in Scotland
- 3,600+ installations in Borders
- 7.6kw average capacity

For the different technologies:
- Solar PV: 2,606 units / 11,384kw
- Biomass: 353 units / 10,390kw
- Heat Pumps: 558 units / 5,285 kw

Carbon savings:
- 10,000+ t CO^2 saved per year*
- 3 x Scotland average CO^2 saving*
- 50% of CO^2 saving from biomass off-setting fossil fuel (oil/gas) heating