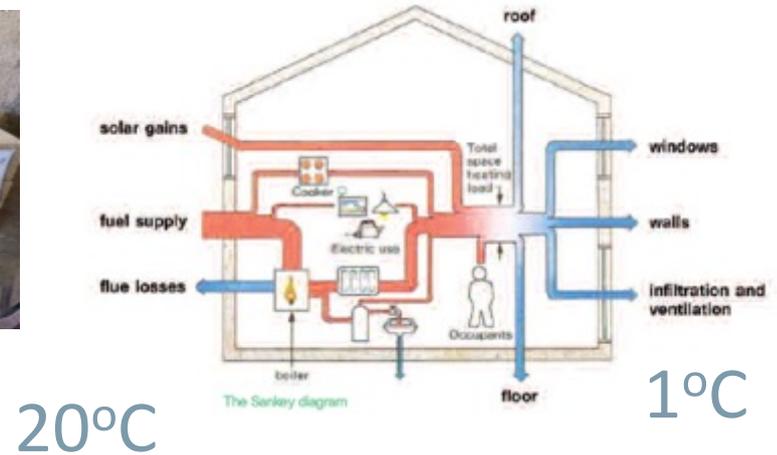


# Construction vocational education and training (VET) and retrofitting

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## Expertise needed for retrofitting

- **Need for ‘knowledge’** (e.g. how to eliminate thermal bridges, physics, new materials, climate literacy), **‘know how’** and **competences** (e.g. communication, data processing) not generally in curriculum for building envelope and building services occupations
- → **Transformation of VET to develop occupational capacity** to understand whole building and occupational interfaces
- **Bridge professional-operative divide** and create permeability
- **Integrated teamworking** through regulating subcontract chain and ideally direct employment
- **Involving and valuing labour**, including educationalists, employees, trade unions

# Constraints on transition to NZEB: Construction sector labour market

- Domination and mushrooming of **small/micro firms** (95-98%) → weak training infrastructure
- Significance of **self-employment**: UK = 49% of workforce
- Severe **skill shortages**, reliance on **migrant workforce**
- **Recruitment crisis**: Aging, male workforce; few young people; reliance on migrant workforce
- **Construction industry factional** with professional silos, divided trades, and fragmented labour process
- **Contractual divisions**: agency labour/ self-employed, labour-only subcontracting, long chains →
  - reinforcing trade/ sectoral divisions
  - impeding integrated teamwork needed

# The need for radical transformation of VET and construction labour process

- **Decline in construction apprenticeships** and increase in full-time college construction training e.g. CONEL 1,300 construction trainees up to Level 2, c70 apprentices – but changing pattern
- **Employer disengagement** though employer-based system
- **Performance gap** e.g. heat pump installation
- **Comprehensive, broad and recognised VET programme** incorporating climate literacy, at least Level 3, not just short private training courses
- **Revised occupational/qualification profiles** e.g. domestic electrician, retrofit coordinator (Level 5), assessors, electro-technical apprenticeship framework (to include solar/photovoltaics), insulation?
- **Possibility of career progression** overcoming professional silos, divided trades, and fragmented labour process

# Adaptation to NZEB

- **Trainees need high quality** workplace, workshop and classroom experience
- **Trainees depend on quality support** in college and workplace from experienced trainers/ colleagues
- **Support depends on existing workforce** well equipped for NZEB, depends on good continuing VET (CVET)
- **Potential 'benign circle'** of good CVET → good work experience for trainees  
→ up to date workforce to support future trainees



Photos: Irish training  
workshop and class for  
existing workforce on  
insulation

# Examples from Ireland and Wales



*Photos: NZEB Training Centre in Enniscorthy with airtight house, and insulation*

## Waterford and Wexford Education and Training Board (above)

- NZEB retrofit Centre and Technology Institute in Waterford
- NZEB Centre of Excellence in Enniscorthy

## Cardiff and Vale College (CAVC) (right)





## Training in DLOs

- Since 1890s, **major source of good quality construction training** for whole industry
- **Large workforces** e.g. 1970s GLC 5,000; Glasgow City Building 2020 = 2,200
- **High levels of training** e.g. Lambeth 1978 1,000 operatives, 100 apprentices
- **Glasgow City Builders:** 1997 305 apprentices, 70pa + apprentice projects; 2020 = 250 apprentices, 60pa
- **Cost-saving** e.g. GLC 1978 DLO 90% of maintenance, saving £millions



*DLOs provide facilities for proper training, and help create conditions where planned job training programmes can become a reality. Above: a training display given by GLC direct labour force, 1976. Picture: GLC.*

# Significance of local authority building departments (DLOs)

- **Maintaining social housing** when private sector putting in exorbitant tenders or bankrupt e.g. Islington insourcing
- **Check on private contractors**
- **Providing complete service**, from planning to manufacture to retrofit
- **Carrying out comprehensive good quality retrofit programme** beginning with fuel poverty estates under stable employment, safe working conditions and decent wage
- **Direct employment of labour**, reduced subcontracting, no labour-only subcontracting, and high levels of union organisation
- **Good quality and high levels of training** in partnership with FE colleges
- **Inclusive**, challenging white male exclusivity of construction sector
- **Politically and economically accountable**