



# Retrofit Retrospective

from frozen bodies to warm homes



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1973 first 'oil crisis'

1974 Department of Energy set up

1977 Home Insulation Scheme

## From frozen bodies to warm homes

- **Project Engineer – Prestcold Refrigeration**
  - Beer cellars, mortuaries and frozen food
  - Lack of communication between teams
  - Engineers lacking practical experience
- **Electrician – Bloomsbury, Soho, Covent Garden**
  - Learning the detail of how buildings are made
  - How building trades work and under what conditions
  - The relationships between trades, and with architects etc
- **Intermediate Technology Development Group**
  - Recycler's Guide to Greater London
- **Fuel Poverty – National Right to Fuel Campaign**

# Energy Conservation & Solar Centre

1983 Energy Efficiency Office

- Tenant Energy Advice Service
- Energy audits of estates
- Comparative heating costs
- Heating additions to welfare benefits
- Heating Advice Handbook
- Draught-proofing Handbook
- NEA, PARLIGAES, National Right to Fuel Campaign
- Community action.....

1986 gas privatisation

1986 Energy Efficiency Year – ‘Monergy’

1986 Social Security Act

1987 Brundtland Report ‘Our Common Future’

1989 electricity privatisation

1991 'Fuel Poverty' – Brenda Boardman

## Birmingham – inner city regeneration

1991 Home Energy Efficiency Scheme

- Getting energy improvements into renewal schemes
- Community awareness and outreach
- Condensation awareness
- Over 1,000 trained in energy awareness
- Basic skills, literacy and numeracy
- Home improvement agencies
- Age Concern
- HECA and fuel poverty strategy for LAs

1992 Energy Saving Trust

1992 Dept Energy to DTI and DoE

1992 Energy Labelling Directive

1993 SAVE Directive

1994 EESOPs (until 2002)

1995 Home Energy Conservation Act

## Some learning.....

- Intricacies of local economy and community
- Predominance of very small building trades companies, active at very local level
- All change faces resistance, even in programmes about change...
- All homes and households are different
- Basic skills and managing home energy use



# Severn Wye Energy Agency

- SAVE Agency, local and EU links
- Gloucester and mid Wales
- Charity, technology neutral
- Normaliser – breaking down barriers
- Partnerships, x-sector and countries
- Homes, businesses, schools, LAs, RSLs, community groups, prisons.....
- Strategy, feasibility, advice, retrofit, awareness, training, action research...
- Grew to 45 people over 16 years



2000 Royal Commission on Environmental Pollution

2001 UK Fuel Poverty Strategy

2002 Energy Efficiency Commitment

2006 Stern Review

2006 Energy Services Directive

2008 DECC established

2008 Climate Change Act & Committee

2009 EPBD implementation

2011 En Eff Deployment Office

2012 ECO

2012 Energy Efficiency Directive

2013 Green Deal launched

# How the retrofit ideas evolved

2005 The 40% House - ECI

- 15 years of local energy advice - 45,000 homes improved
- But...mainly quick return measures and limited savings
- Stroud feasibility study 2007 – deep carbon cuts to existing homes:
  - 248 full SAP assessments, range of local house types
  - Average potential energy and CO<sub>2</sub> savings 55-60%
  - Needs full range of measures to reach potential
    - Thermal insulation of all building elements
    - Heating and lighting upgrades
    - Renewable heat and power



# How the retrofit ideas evolved

- Some measures easy to install and quick return, but...
  - Many of major measures:
    - Disruptive, intrusive, require new finish
    - Expensive if done in isolation
    - Good general building skills needed
  - So...ideally included when other work done = RMI market
  - RMI mostly done by locally active SME & microenterprises
- So ...need to engage local general building trades





## Example: tenanted stone cottage



- Leaky flat roof, so contacted local builder
- Builder suggested insulating at same time
- ..and why not loft area too? Landlady said 'yes'



- Builder then suggested PV too
- Contacted PV company, and arranged for tree trimming
- Local advice hub did EPC and nudged when FIT about to reduce
- Builder also put in TRVs and chimney balloon to raise EPC (new rules)
- Completed March – cold leaky house now warm, dry and generating....

# local retrofit delivery model

## Countdown to Low Carbon Homes

[www.countdowntolowcarbonhomes.eu](http://www.countdowntolowcarbonhomes.eu)



## Researching building trades in home energy improvements

- PhD, Welsh School of Architecture, Cardiff University, 2015-18
- SFCT supported project – Installer Power – 2015
- What are the opportunities and barriers in practice
- What would make a difference, make it work better
- Getting the views of the building trades themselves



# Installer power research – some early insights

- Building SMEs tending to be replaced by micros working with informal networks of sole trader sub contractors
- Word of mouth recommendations preferred to marketing
- Need for clear indicator of savings vs costs on EE measures
- Importance of Building Regs as main driver, but.....
- Reduced power and capacity of Building Control
- More accreditations and memberships a nuisance/mistrusted
- Bureaucracy: cost and time limits range of techs

## Barriers to progress .....

- Stranglehold of corporate power, profit above all
- Centralisation of power and influence
- Social divisions – remoteness of decision makers
- Low status of building trades
- Division of labour
- Poor communication between functions
- Lack of ownership of whole product/outcome
- Drive for quality evolved into increased bureaucracy and cost

## Message for the future

- Make energy improvements accessible to all
- Make it normal, not 'alternative'
- Build on what works
- Build on the strong trends:
  - Small business
  - Independence
  - Local social networks
- Stay positive and focus on the best not the worst



Thank you for listening

**Make it normal, make it mainstream,  
make it work**