

Environmental *Change* Institute

Tackling energy poverty

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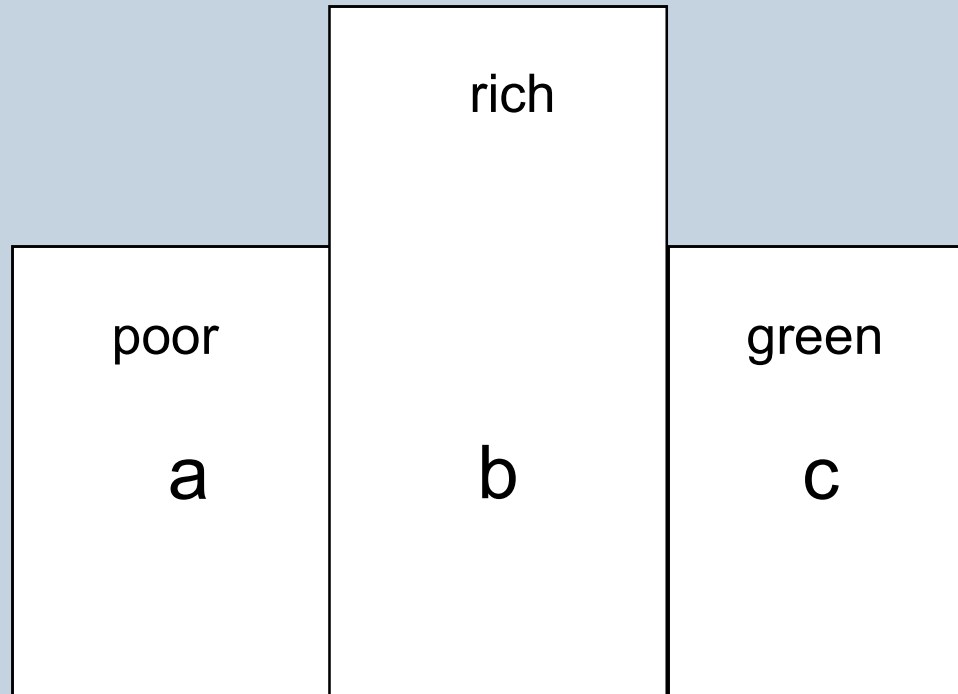


Givens

This is about:

- low-income households, many are cold
- improving the energy efficiency of their homes
- ie capital investment
- the poor do not have capital
- all energy, not just heating / cooling
- all tenures





Energy use

low

high

low

Efficiency

low

medium

high

Energy services

low

high

high

Carbon emissions

high

medium

low

Affordable warmth

10% of
income
for all
energy
services



Energy
efficiency
of the
dwelling



24 hour mean
internal
temperature of
18° C
(+ other
energy
services)

Weekly heating expenditure: low-income, pensioner couple

Present, cold £6.65

For adequate warmth

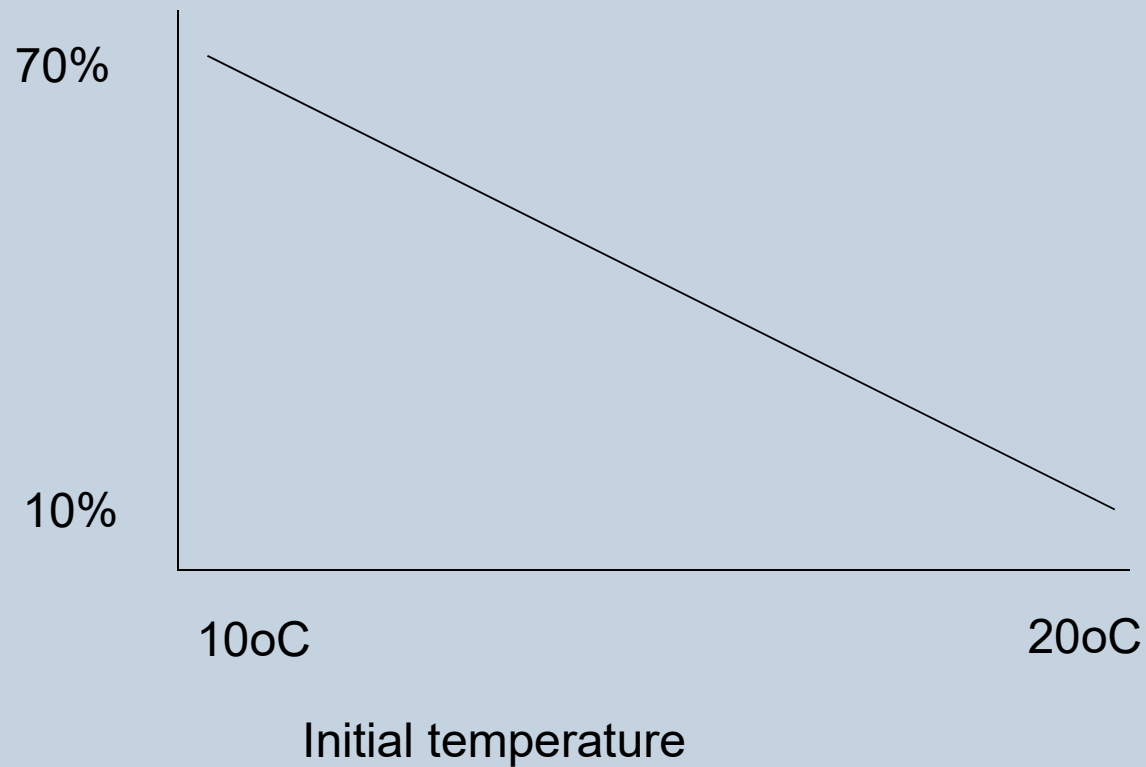
a) existing, poorly-insulated home

○ poor heating system £16.15 + £9.50

b) well insulated home

○ efficient heating system £5.65 - £1.00

Benefit of energy efficiency improvement taken as extra warmth, not money saving



Milne & Boardman 2000, p420

Recent energy policies = energy poverty worse

- Decentralised, renewable energy – for those with capital, subsidy paid by those without
- Liberalised market – competition for customers: discounts to switchers, paid by the loyal (& poorer)
- Product policy – more energy-efficient appliances for those who buy new, the poor buy second-hand

Risk of energy poverty: income + housing

	Low income		High income		
Energy inefficient housing	Red	Red	Orange	Yellow	Light Blue
	Red	Orange	Yellow	Light Blue	Light Blue
	Orange	Yellow	Light Blue	Light Blue	Light Blue
Energy efficient housing	Yellow	Light Blue	Light Blue	Light Blue	Light Blue

Identifying an energy-poor household

- Most proxies are inadequate, but easy, eg pensioner
- Vulnerable – has to be defined tightly, or too big a group
- Includes the hidden and chaotic: will not self-identify
- Energy poor are hard to find
- Should combine, on an address-specific basis:
 - Income level (below the poverty line)
 - Energy efficiency of the home (audit)



Monitoring vs delivery

Two very different tasks, that have to relate to each other

- Monitoring = academic, uses sophisticated national data, useless on the doorstep
 - Relative or absolute?
 - Includes 'affordability'?
 - What data have you already got?
- Delivery – visit the home for energy efficiency improvements
 - Define minimum 'need to know' on the doorstep – have 20 seconds
 - Energy inefficient
 - Less than €20,000 annual household income?
- Can only monitor change if there is action



Two possible good solutions

Monitoring – twice the median expenditure on fuel

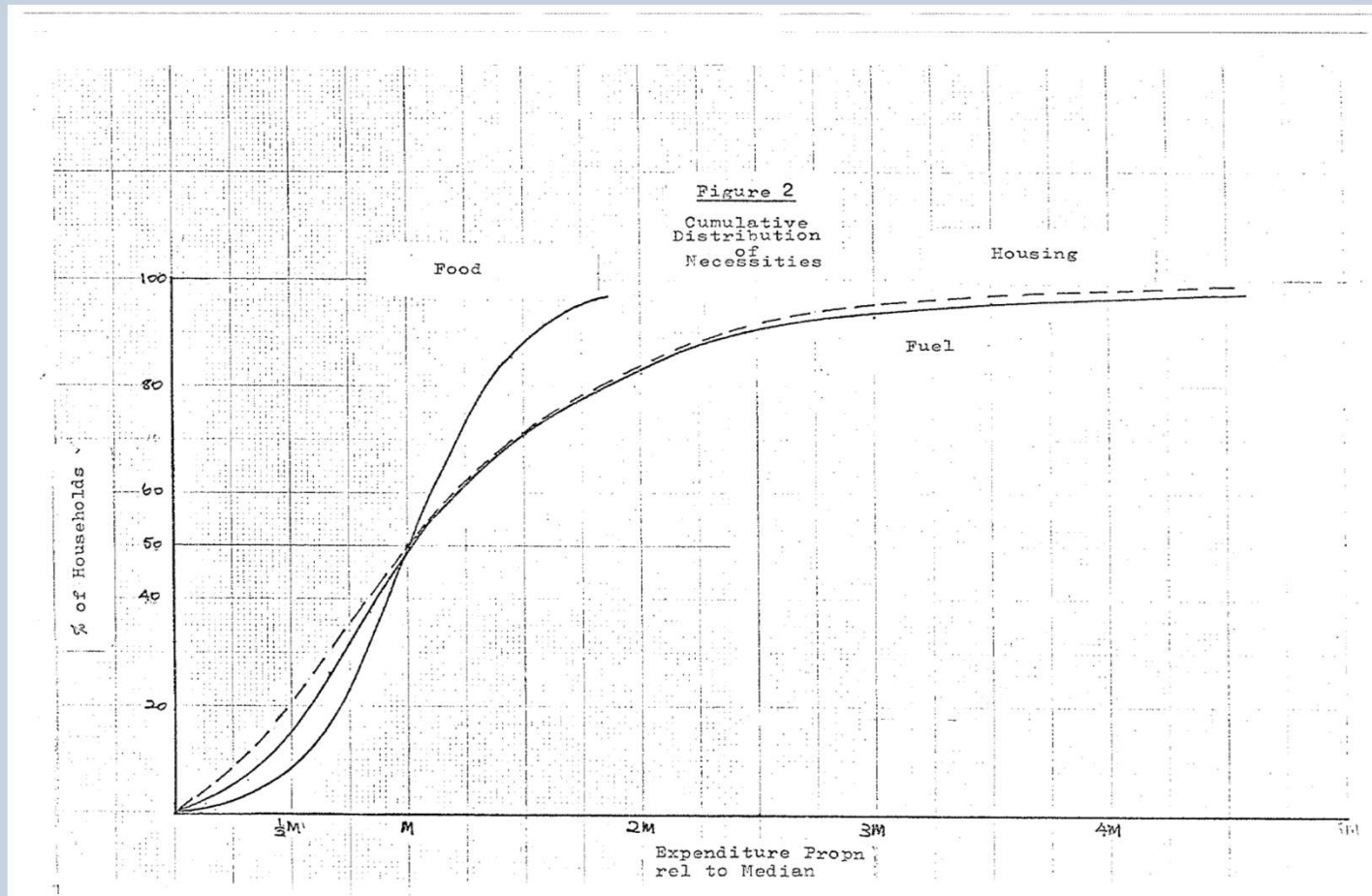
- If average is 5%
- If need to spend $\geq 10\%$, the household is energy poor

Delivery – area-based, every house brought to a minimum energy-efficiency standard

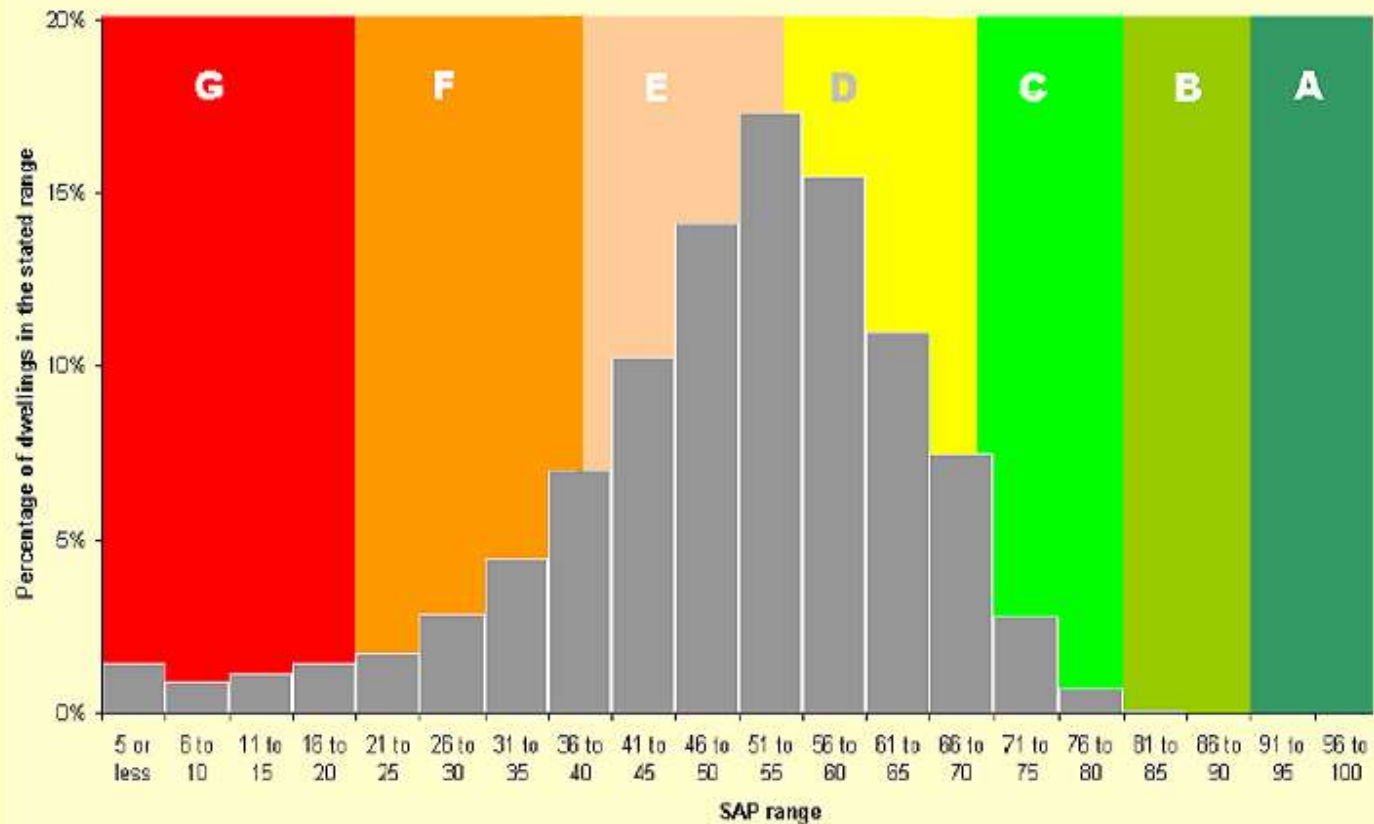
- Start where energy poverty concentrated, progress systematically to more affluent areas. Takes years

Not a clear relationship between them

Defining disproportionate expenditure

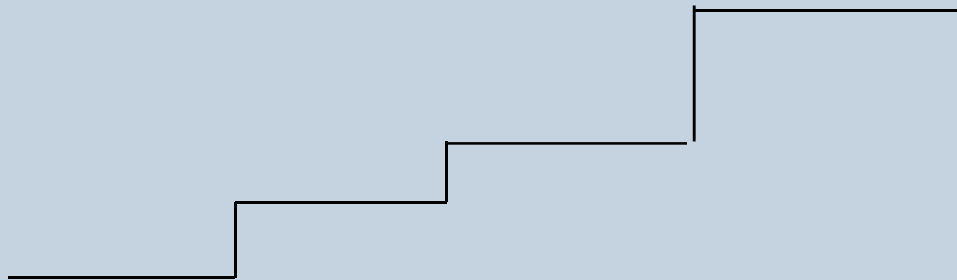


A better solution? Distribution of housing stock, by energy efficiency and income group



Energy-efficiency trajectory

- Major refurbishment to a high standard in one go?
- Or several small interventions, over the years?



- Choice is with home owner and occupant?
- Trajectory to 2050 set by Government

Challenges and consistency

- Same definition of income:
 - After deducting for housing costs or not?
 - Equivalised for household size or not?
 - 2 x yes = families not pensioners
- Actual expenditure vs needs
 - Cold people need to spend more, so actual expenditure under-estimates the problem
 - Asking if people are cold = no scale (1 or 100 days?)

Whose money?

- The energy poor have no capital / savings of their own
- If landlord legally responsible for the energy efficiency of the dwelling, no cost to the state
- Financial help for low-income owner occupiers only
- Grants or loans?
 - energy poor are warmer, don't save energy, so cannot repay a loan
 - or zero-interest loan repayable when property sold

Government's cost is minimal with tough regulations



Value of other benefits

- More comfortable, happier people
- Less physical and mental ill health among fuel poor
- Cost of refurbishing a cold home recovered through reduced health costs in 7 years
- Children have better school attendance
- Less debts with utilities and housing providers

Summary

- Need a strategy for all energy use in all buildings, to deliver carbon reduction targets
- Start with the worst homes occupied by the poorest people
- Get to high standard of energy efficiency
- Do systematically, on an area basis, 125 households
- At no cost to the energy-poor household
- Lot of co-benefits: physical and mental health
- Focus on delivery and then on definition



Good source of information and networking:

The Energy Poverty Observatory (EPOV)

<https://www.energypoverty.eu/>

Thank you

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