

Bioenergy, Fuel Poverty and Rural Development

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Introduction

- Task 29 of the Bioenergy Agreement
- What is fuel poverty?
- Is it getting worse? Why?
- How can renewable energy help?
- Some solutions



Fundamental Policy Drivers

- Energy/ fuel security
- Emissions reduction/ climate change/ environment
- **Affordability**



Change and the Importance of Public Perception

- People have to understand and 'sign up' to the need for change
- If not, resistance increases and can prevent progress being made

Public attitudes matter and need to be addressed



**“Poor people pay a
disproportionate price for
change”**

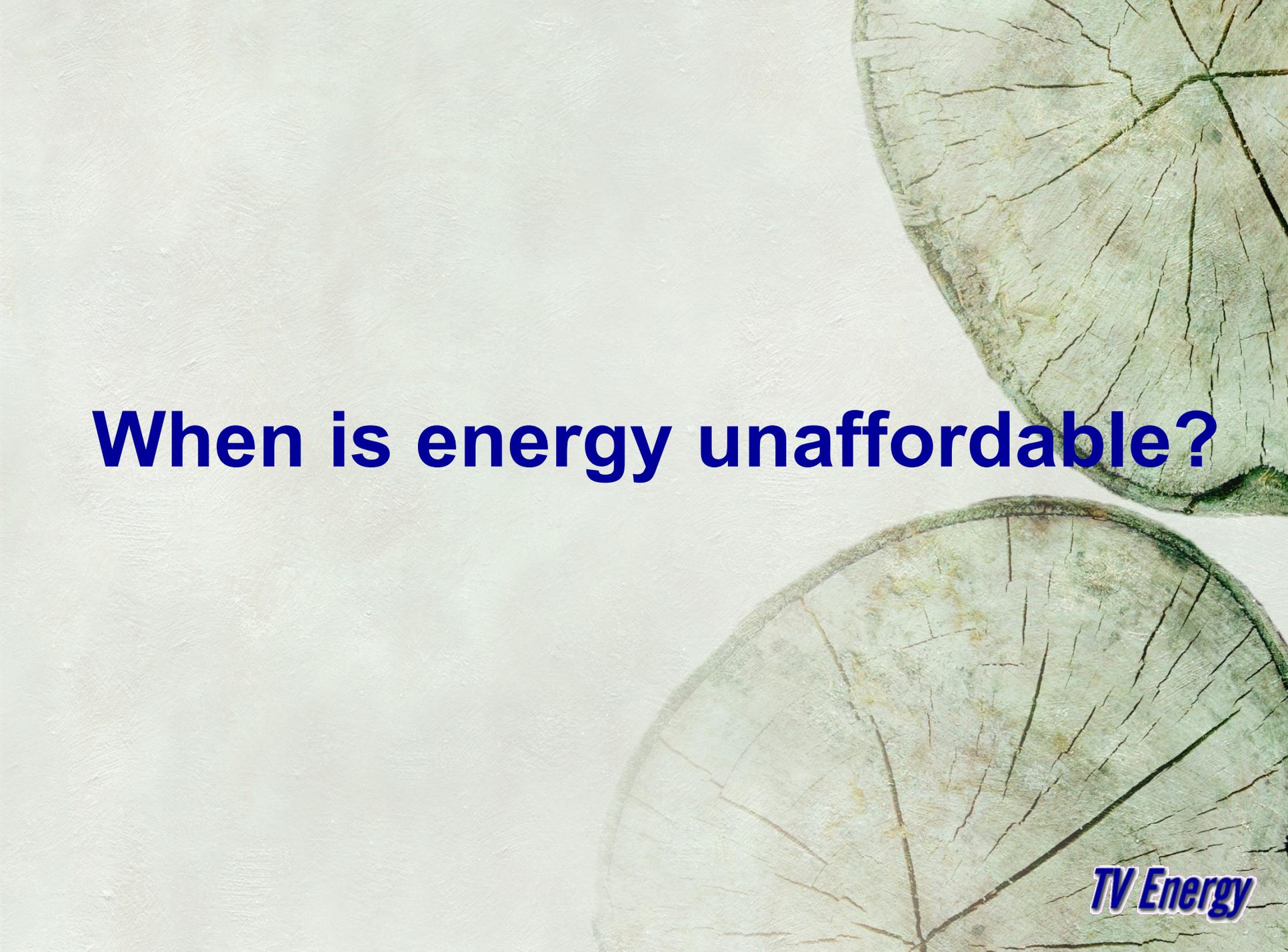
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“Renewable energy is just for rich people”



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When is energy unaffordable?

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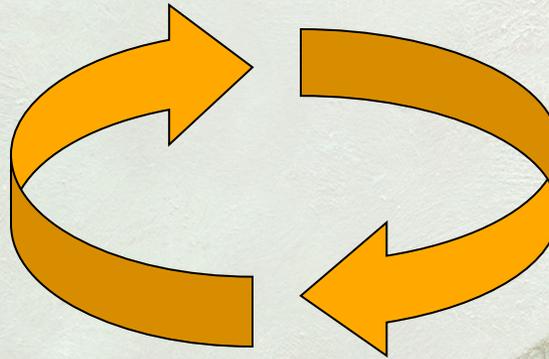
Fuel poverty

- When a large part of your 'disposable income' is used to maintain a satisfactory heating regime
- In the UK this is set at 10%
- In many (EC/ IEA) countries there is no definition: Germany, Croatia, Norway, Canada
- However, there is undisputed evidence that fuel poverty exists leading to
- Inadequate access to energy sources and an inability to pay for those resources

A vicious circle of poverty

Poor people live in cheap and inefficient houses

Low income therefore: no money for moving to better houses or improving conditions



Due to the leaky houses, energy costs are high

A large share of the low income goes to energy supply companies

What are the social and economic consequences?

New rules promised after man freezes

Postmedia News
CALGARY

The province's utility regulator is promising tough new rules on disconnecting natural gas customers who are behind on their bills and reconnecting those who pay up in the wake of a fatality inquiry report released Tuesday into a Calgary man's death from hypothermia.

Provincial court Judge Bruce Millar was sharply critical of the fact the Alberta Utility Commission was unaware that John Davis died in his unheated home until three years after the November 2006 incident.

"There is a fundamental problem," Millar said.

"The AUC should be in a position to initiate a review, make changes if needed, and communicate with Albertans within a time frame that is more responsive to an accident

than this."

With the city in the grips of a deep chill, Davis froze to death in his Beddington Heights residence because the heat remained cut off months after his overdue bill, a reconnection fee and a security deposit had been paid by his mother.

Doreen Davis said she's still upset that her repeated calls to have her chronically ill and depressed son's gas turned back on yielded no results.

"People tell me I should sue the companies over what happened, but I don't want any money," Davis said. "I just want to make sure that no one else dies alone in the cold."

Another person died in 2006 in northern Alberta after the utility turned off his heat. That year, the fatality report said there were 33,000 disconnections among the one million-plus Alberta customers.



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“Excess winter Deaths are almost three times higher in the coldest quarter of housing than in the warmest.”

The Health Impacts of Cold Homes and Fuel Poverty

Marmot Review Team



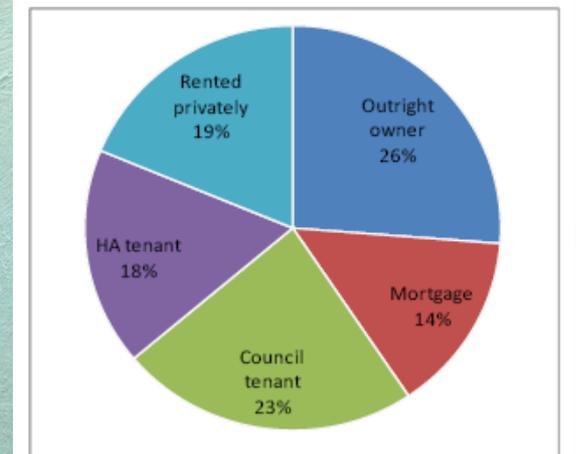
Marmot Review Team

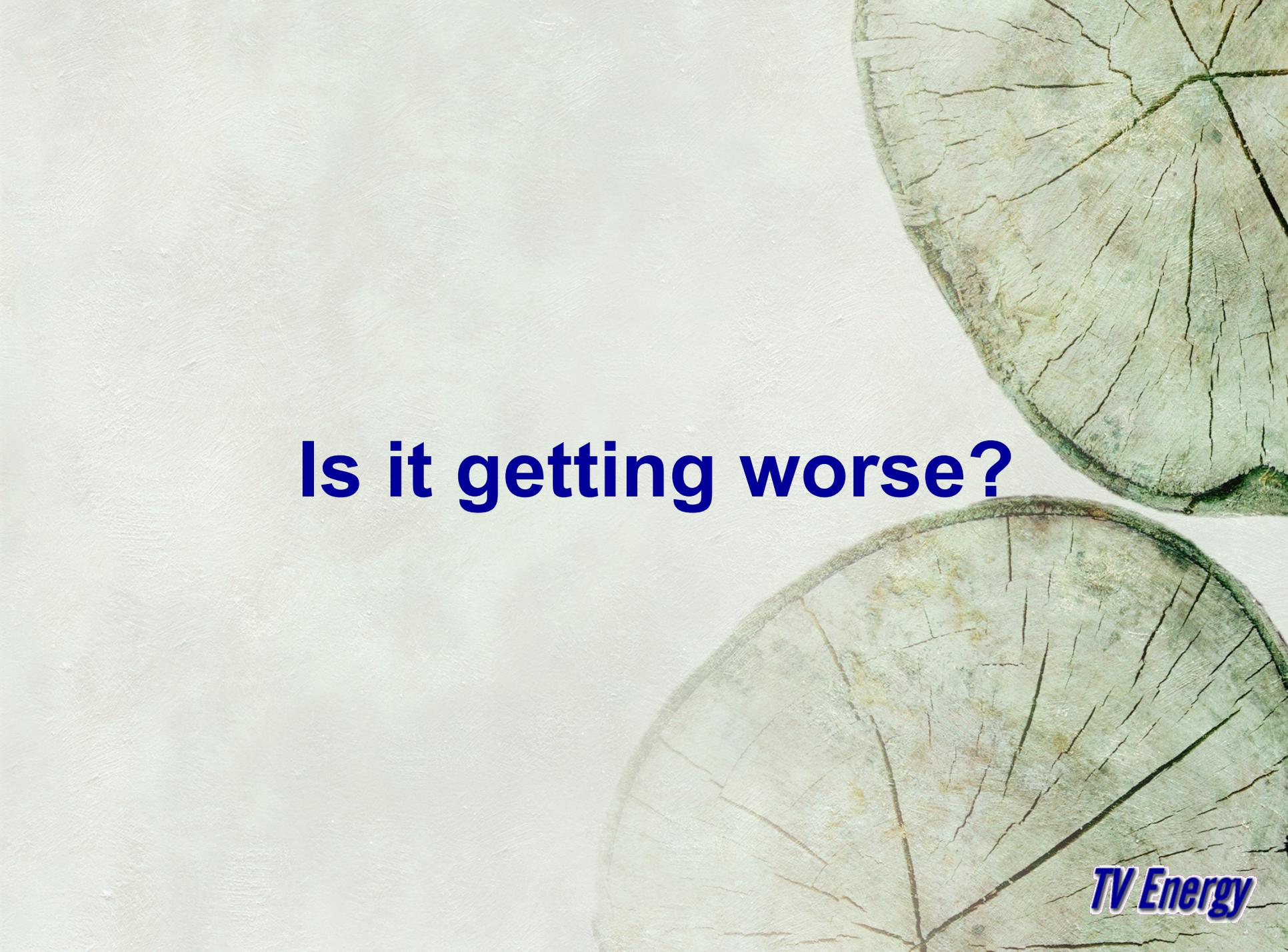
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Coping with low incomes and cold homes (UK survey 699 households)

- Half on incomes of less than £9,000 (€9,900) pa., a quarter on less than £6,000 (€6,600)
- Particular issues for
- Single people
- Single parents with children
- Old and infirm
- Disabled

Figure 3.1 Tenure of surveyed households

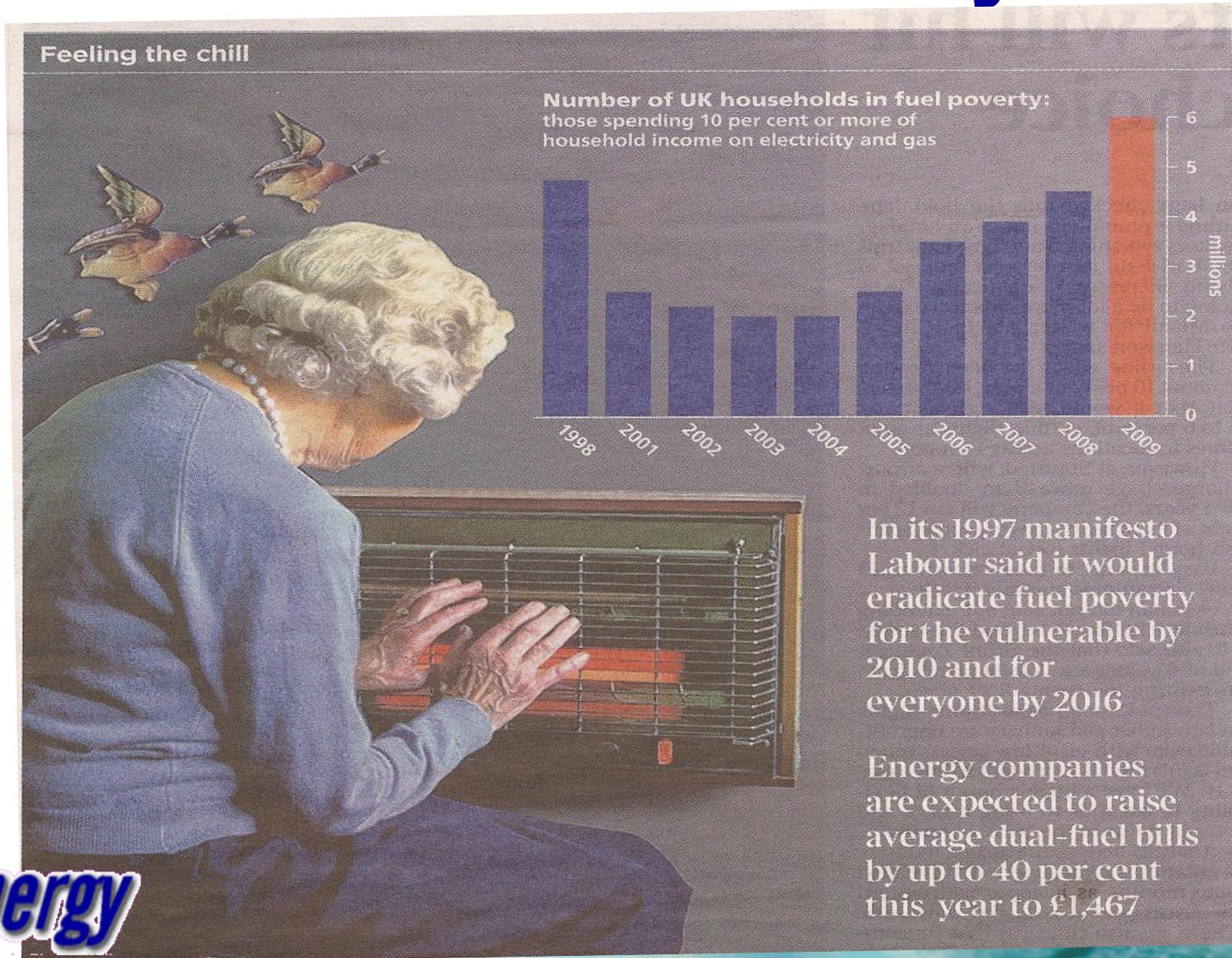




Is it getting worse?

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6 Million in Fuel Poverty in UK



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**Energy prices may rise
between 40 – 60% more
by 2020**



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What can be done?

- Identify those most in need
- Help them manage their energy needs
- Provide financial support if necessary
- Make more energy efficient and climate resilient homes (retrofit and new)
- **Seek cheaper and low carbon alternatives for heating and power**
- **HOLISTIC solutions**



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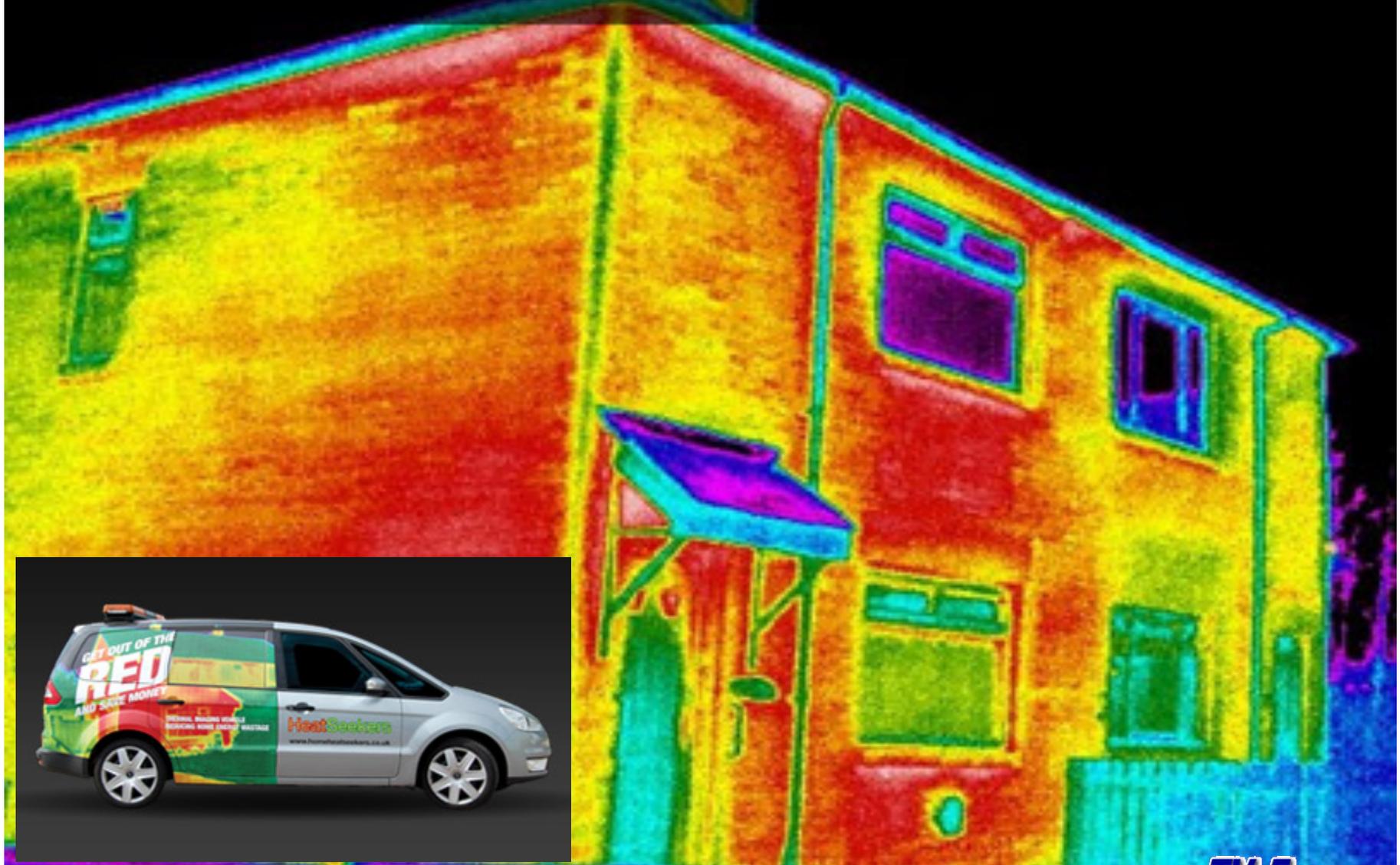
The 'Green Deal' on its way

- Energy efficiency improvements with no upfront costs
- Also microgen: solar, heat pumps, biomass, micro-CHP
- Owner-occupiers, rented and business premises
- Local Authority role to insist action taken with poorest properties
- Business provides capital, repaid through energy bills
- Rule: value of energy savings must be equal or greater than costs of work undertaken
- Starts autumn 2012



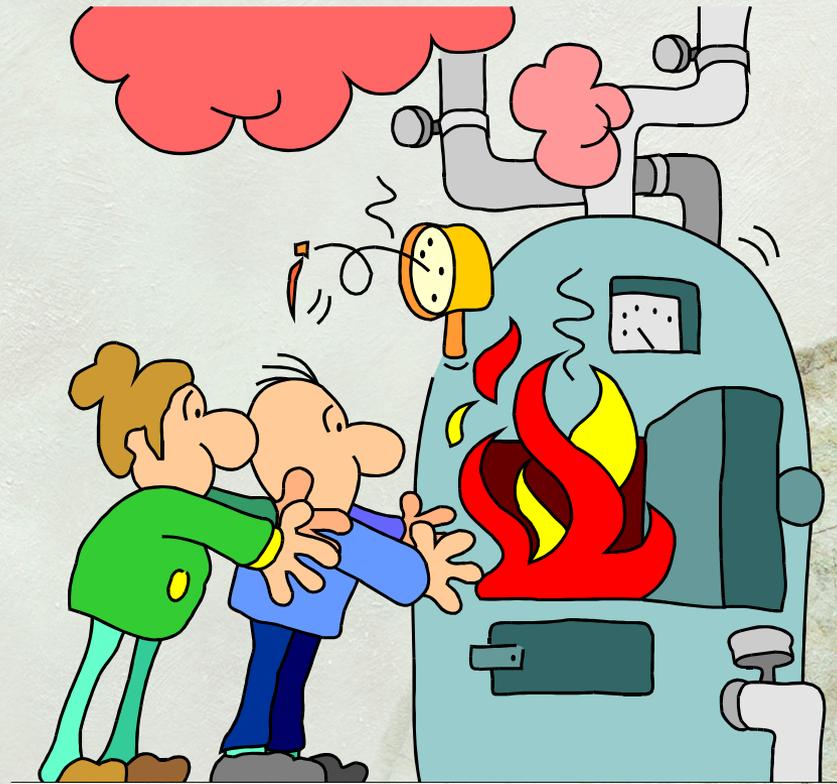
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Un-insulated house



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Where does Bioenergy fit in?



New build

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Zero Carbon Homes



Retrofit



There is money available to help you install renewable heat technologies in your home

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Working with social landlords

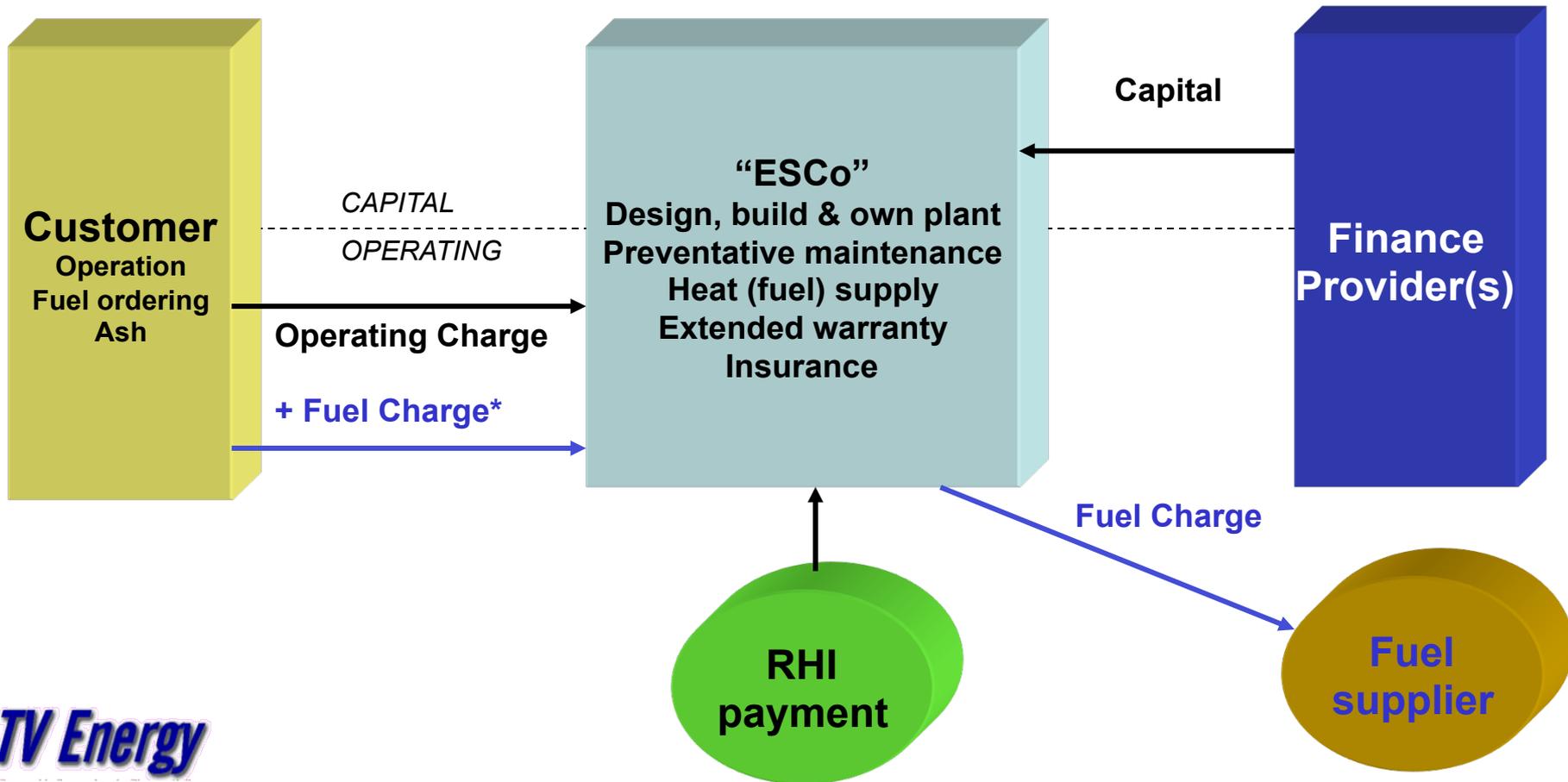
- Seek solutions that provide a benefit to the landlord as well as the tenant
- Rural solutions particularly important (off-gas)
- Address ALL energy needs
- Use hybrid renewable energy solutions for optimal results
- Consider local ESCo's or social enterprises

Case Study: A Thames Valley HA

- Installing several MWp of PV on communal, sheltered housing and tenanted housing
- Tenants get 'free electricity' during the day when being generated
- HA keep the FIT, ring fence for more energy efficiency measures AND to reinvest in new properties (income used for gearing investment)
- Possible discount for all tenants via DNO
- Some roofs to have solar thermal fitted if a poor prospect for PV



Energy Service Companies



A Utility Operated Deal

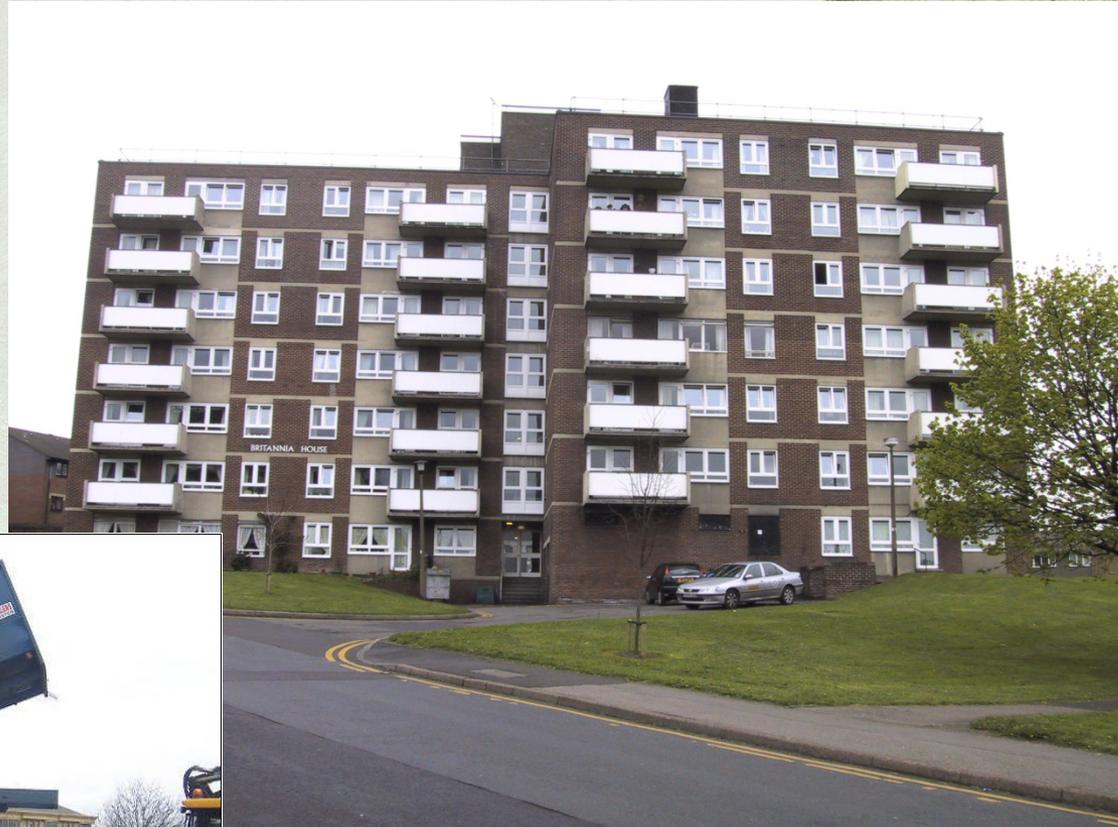
- Principle is that customer costs cheaper than gas
- Typically 10-15% saving
- Benchmarked on domestic gas: transparent
- Dual-fuel benefits (as with gas and electric customers)
- Additional 10% saving on electricity
- Individuals in “fuel poverty” can qualify for further reductions

Retrofit Domestic Tower Blocks

- 120 units
- No current insulation
- Current heating
 - electric storage
 - Gas/oil/coal communal
 - Gas individual
- Upgrade package
 - Cavity / solid wall insulation + windows
 - Biomass community heating
 - Single plant room with biomass & back-up gas feeding two tower blocks
 - Individual flat metering & controls



Barnsley biomass community heating (166 units)



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Ludlow: biomass community heating



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“Treading lightly”

- Bracknell store to be 2nd to have an energy centre
- Using woodchip
- Small scale gasifier produces syngas, drives engine and generates electricity
- Heat generated/ absorption chiller to provide cooling
- Use as an ‘energy hub’ for a community scheme/ ESCo



Waitrose

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Conclusions

- Single bioenergy technologies as well as hybrid solutions can be effective in the fight against fuel poverty
- Particularly relevant in rural areas creating many socio-economic benefits
- Local actions with social enterprises (ESCo's) allowing community responsibility is good
- Leading to long term fuel and price security
- Addressing energy efficiency too is a must, apply HOLISTIC solutions not just parachute in technology



**Thank you for your
attention**

