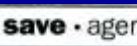




Tackling Fuel Poverty

DASH series of 5 events for East Midlands Landlords

Hinkley, Nottingham, Derby, Lincoln, Northampton
15th September 2009 to 19th October 2009



David Pickles OBE Architect
Sustainable Energy Manager
Housing & Environmental Services



Newark & Sherwood Housing



A “rural provincial” housing stock

51,033 Dwellings 1st April 2009

7,347 Social for rent

4,300 Private rented sector

- 48% detached
- 42% semi / end terrace
- 35% harder-to-heat
- 10% no mains gas supply

15,000 dwelling Growth Point



Our 4 most common house shell types



2001 Stock Condition Energy Surveys

4,830 of householders in fuel poverty were from private housing tenures
12.5% of private sector households

The English House Condition Survey figures for '2003' indicated that 6.9% of householders were in fuel poverty



2006 Stock Condition Energy Surveys

21.3% of private sector householders in fuel poverty
..... and 65% are pensioners

SAP₀₁ Profiles in Private Sector

Proxy SAP₀₁70 as Risk of Fuel Poverty:
Not Capable of Delivering Affordable
Energy to a vulnerable householder

2007 fuel costs
within the 2001
Private Sector
Stock Condition
Housing Survey

SAP₀₁70:
2007 Proxy for 'Risk
of Fuel Poverty' for
for East Pennines

2007 fuel costs
within the 2006
Private Sector
Stock Condition
Housing Survey



2006 : 16% of NSH Council owned dwellings present risk of fuel poverty

2006-2020 Energy Performance Opportunity

All Tenures: Assume all cost effective energy upgrading works

All cavity walls prior to 1982 insulated and all roofs with 270mm insulation
 Grade-A boilers and good controls as part of central heating Repair & Renewal
 All windows post-1900 replaced with double glazed low-E argon filled windows
 Simple measures as CFL lighting, Grade-A appliances, draught-proofing
 Solid-fuel & electric heating replaced with gas or oil

Stock modelled to "fuel poverty proof" with NSD default occupancy

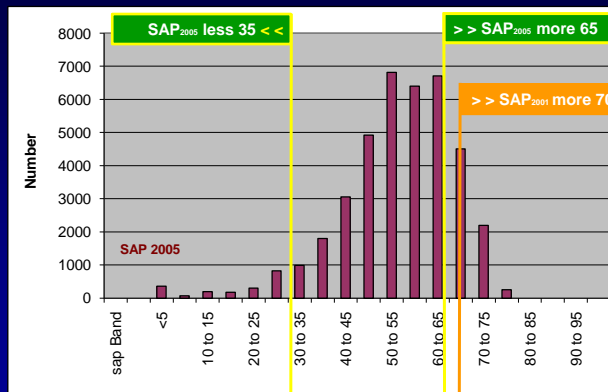
	Av SAP ₀₅	% SAP less 70	Av NHER	Av CO ₂ per household	DECC NI-186 Av CO ₂ per household
DEC 2006	56.6	79.6	6.2		
2020	82.3	17.4	8.6		

Dec-06 Stock Condition Survey: private tenures

NI-187 Tackling Fuel Poverty : SAP Performance Thresholds

7.5% with a "SAP₂₀₀₅ less 35"

17.7% have "SAP₂₀₀₅ less 65"



30.6% households in fuel poverty - 65% have a pensioner in the household

This is purely on the sample of those who gave an income to the surveyor

Of the total survey sample with income declared & a SAP result, 42% contain at least one over-60 person.

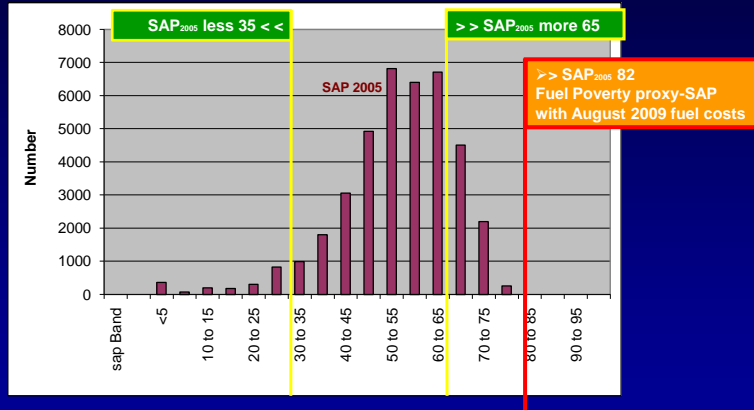
Those not divulging an income (around 20% of the total) are often in a higher income band, so this may skew the numbers

Dec-06 Stock Condition Survey: private tenures

August-09 fuel costs

7.5% with a "SAP₂₀₀₅ less 35"

17.7% "SAP₂₀₀₅ more 65"



Fuel Poverty Proofing the Housing Stock:
 Worst case of 80m² of property 'occupied' by 1 pensioner on minimum income heated for 16 hours a day, and spending no more than 10% of their income

2005-2009: SAP₆₅ to SAP₈₂ reflects a 50% increase in energy costs

The Fuel Poverty Proxy-SAP for East Midlands region is now "SAP₀₅82"!

2009 ACE report calculates 'SAP-81' needed to retro-fit of the UK housing stock
 "Raising the SAP. Tackling fuel poverty by investing in energy efficiency"



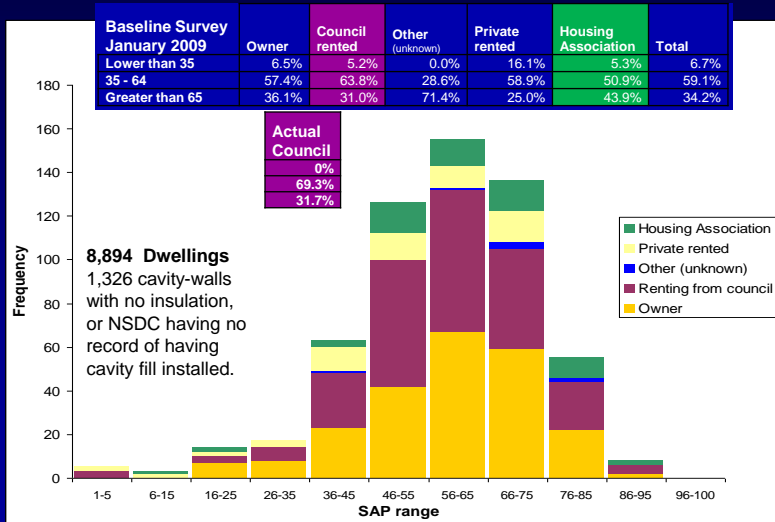
80m² retrofit challenge to SAP₀₅ 82

- roof with U-value of 0.1 ~ 400mm+
- wall U value below 0.3 ~ *solid-wall insulation** attend to thermal bridging
- new windows with high performance glazing & insulated doors
- Gas Grade-A combi for heating & hot water
- 100% low energy lights with gas cooker

If retaining cavity filled walls without any additional insulated cladding, then would need solar thermal, or a small PV panel.

* *Solid wall insulation*: when last calculated for all tenures in 2005, this was a cost of £170.9m for 77% of the NSD solid walled dwellings.

NI-187 Tackling Fuel Poverty: households in receipt of benefit – EST baseline postal sample survey



Council Owned: 2009 SAP profile



SAP	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-80	81-85	86-90	91-95	96-100
COUNT	0	0	0	0	0	52	381	2569	2628	0	0	0	0	0	0	0	0	0	0	0

STATUS		REPORTS MENU	
Records Selected:	5457	1. General Summary	
Incomplete Data:	128	2. Stock Profile - Standard Assessment Procedure	
Complete Data:	5329	3. Stock Profile - National Home Energy Rating	
Processed:	5329	4. Stock Profile - CO2 Output: Total Energy	
Unprocessed:	128	5. Stock Profile - Total Energy Use - kWh/yr	
		6. Stock Profile - Total Annual Running Costs	
		7. Stock Profile - Fuel Poverty Report	
		8. Stock Reports - Built Form / Age Distribution	
		9. Stock Reports - Glazing / Insulation	
		10. Stock Reports - Heating Fuel / Systems	

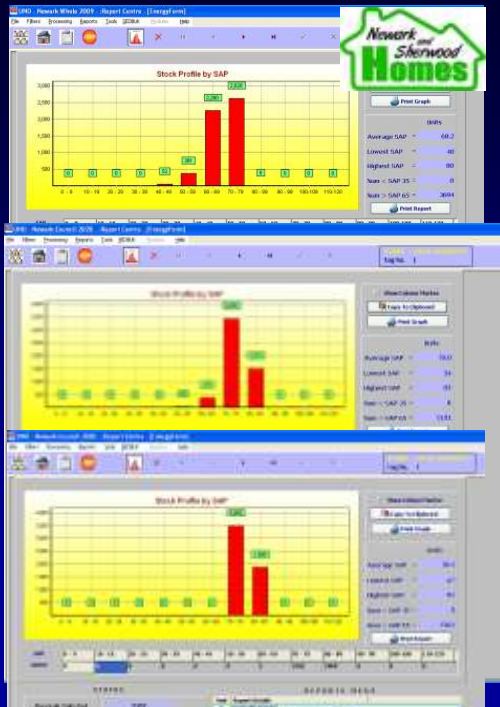


SAP profiles: 2009-20 what-ifs

2009 Average SAP₀₅ 68.2

2020 Average SAP₀₅ 76.8
all cost effective measures

2020 Average SAP₀₅ 78.2
Solid walls insulated
For Average SAP-82 some cavity filled walls/dwellings will need external wall insulation or renewable installations



7,500 Council owned dwellings 1985



1985: only 6% of dwellings
'capable of delivering affordable energy'
to a vulnerable householder

Supplementary Benefit national allowance for heating

Addressing Fuel Poverty within Newark & Sherwood



Defining what is affordable: 1992-2002

- Total household energy bill to be no greater than 10% of income excluding housing costs.
- Dwellings of 2-bedrooms or less to be affordable to a single pensioner
- Dwellings of 3-bedrooms or more to be affordable to a single parent + 2 children, a 100m² heated area cut off

As at April 2009, the fuel expenditure targets are :

- £681 pa for single pensioner: 10% pension + 10% xmas bonus + 10% winter fuel allowance
- £1,011 pa for single parent + 2 children

“Eradicating” fuel poverty from the housing stock



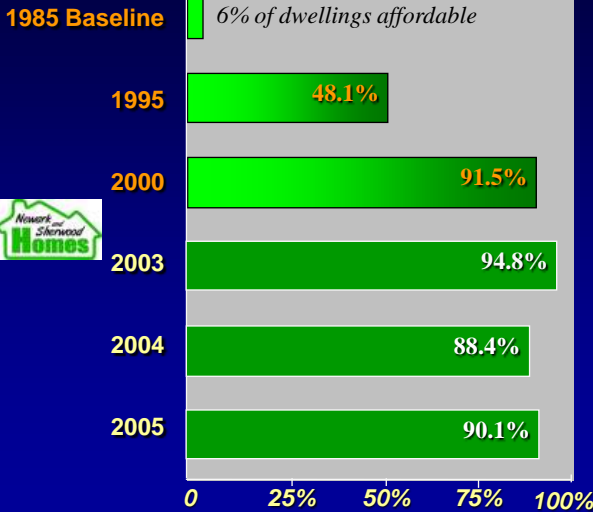
Defining what is affordable: 2003 - 2009

- To “eradicate” fuel poverty then **all dwellings** will need to be “Capable of Delivering Affordable Energy” (CODAE)
- All dwellings energy affordable to the *most* vulnerable householder ~ a single pensioner on minimum income
- For the private sector there is a reasonable floor area cut off for heating ~ 100m²

As at April 2009, the fuel expenditure target is :

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Council-Owned Housing Energy Strategy Progress with Affordable Energy



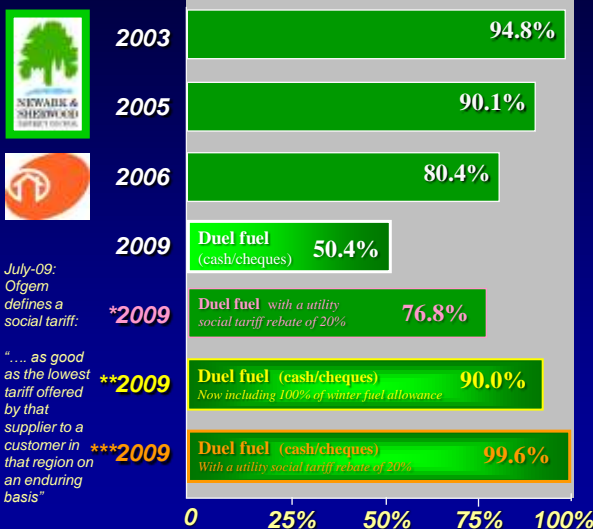
1985-2002

£213.50 pa into tenants pockets after the betterment of extra warmth.

An extra £1.248m additional spending power into the local economy

30.2 jobs for 20 years

Council-Owned Housing Energy Strategy Progress with Affordable Energy



July-09:
Ofgem
defines a
social tariff:

"... as good
as the lowest
tariff offered
by that
supplier to a
customer in
that region on
an enduring
basis"

100% less 80-year old single pensioner occupancy: duel fuel tariff paid cash/ cheque

2009: as above with 10% income (pension+xmas bonus) £681 budget target

*2009: as above and if can secure a 20% social tariff rebate = £851 budget target


**2009: as above but 100% of winter fuel allowance = £921 budget target

***June-2009: as above and "if can secure" a 20% social tariff contribution = £1151 budget target

2009: Capable of Delivering Affordable Energy (CoDEA)



Mitigating single-pensioner 'high energy costs' now!

- Take up of benefit entitlement  £800k during 2008-9
- Encourage pensioners to spend their winter fuel allowance on their own fuel bills, and not the grandkids xmas presents
- Encourage take up of dual fuel tariffs & £-favourable ways to pay
- Encourage take up of social tariff rebates
- Consider fuel supplier switching, but do not risk loss of a social tariff of existing provider

Address these issues with 25.08.09 energy costs, and the budget target for a single vulnerable pensioner is:

- £1151 pa on the basis of 10% pension & Christmas bonus + 100% winter fuel allowance + 20% utility social tariff rebate

Hardest to Heat No-Fines Energy Upgrade

- "Cost effective" insulation, insulate energy design defects.
- whole house gas central heating
- controlled ventilation, and
- 'education, advice & guidance'^{10%save}



Single pensioner targets ~ 85m² house

£681 pa for single pensioner: 10% income + 10% winter fuel allowance

..... £921 pa when also include 100% of the £250 winter fuel allowance

£1,151 pa target with a 20% social tariff rebate

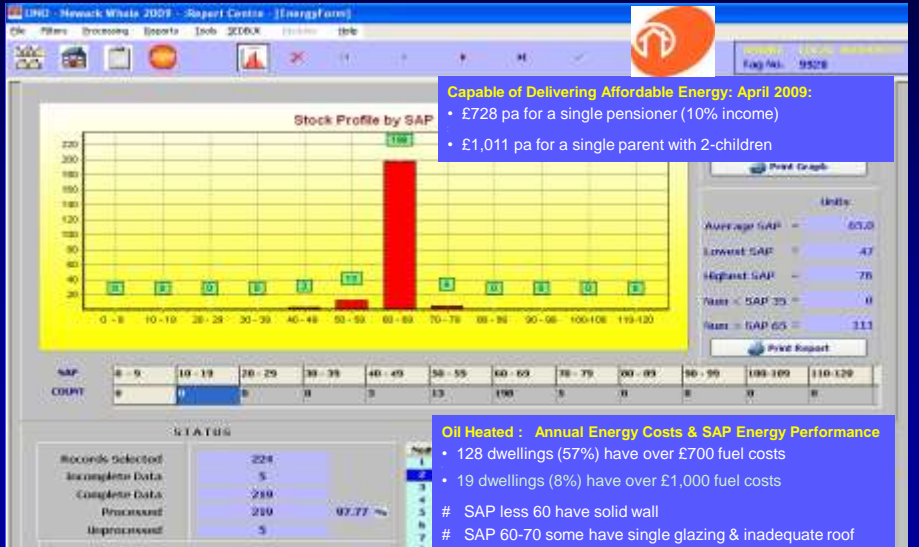
- £1,117 pa spend with gas heating paid by cash/cheque

Annual 18,390 kWh gas and 2,445 kWh electric assuming gas hob & electric oven

£1,011 pa 'target' for single parent with 2 children

- £1,218 pa spend needing a £107 social tariff rebate, 10.6%

2009: Single pensioner occupation No 'social tariff' for Coal & Oil



Hardest to Heat 2009 Fuel Costs compared

£1,011 target for a Single Parent with 2 children
plus social tariff opportunities

www.nottenergy.com/energy-costs-comparison

		gas	oil	lpg	electric storage	solid fuel smokeless	
1	baseline	SAP	41	34	5	10% on-peak 24 optimistic	23
			£1,750	£1,661	£2,419	£1,690	£1,963
SAP2005 analysis using kWh costs from Nottingham Energy Partnership					electric ASHP <small>needs a better suitable tariff</small>	wood pellet fuel	
2	add to 1: new heating, double glazing/doors & 'cost effective' measures	SAP	69	64	36	39	38
			£1,218	£1,183	£1,602	£1,779	£1,563
micro Combined Heat & Power			£1,100	available from 2011?			
3	add to 2: £2k solar thermal as add-on to a central heating upgrade	SAP	70	66	38	43	41
			£1,175	£1,156	£1,559	£1,673	£1,495
4	add to 3: £13k internal or external wall insulation – reduce costs if an add-on to repairs & improvements	SAP	81	81	64	69	70
			£819	£809	£1,106	£1,127	£1,020

Affordable Sustainable Energy

Action Plan : 7 key issues NSDC and NSH



1. Education, advice and guidance
2. EE – insulation, heating & controlled ventilation
3. EE – a lighting, appliances & entertainment
4. Maximise grants / discounts ~ soft loans?



Marginalise costs - link to voids, repairs, improvements

<http://www.newark-sherwooddc.gov.uk/fuelpoverty> and go to paragraph-2

Affordable Sustainable Energy

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5. Income maximisation First Contact

6. Best-deal fuel purchase - social tariffs

Energy Best Deal Campaign DECC fund Ofgem and CAB provides advice to difficult to reach vulnerable energy consumers

7. Consider lower CO₂ fuels & renewable fuels



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DEC 2006	56.6	79.6	6.2	7.17t	5.76t ²⁰⁰⁶ (5.54t ²⁰⁰⁷)
2020	82.3	17.4	8.6	4.77t	3.83t

33.5% reduction in CO₂ emissions (existing electric mix)

2020 CO₂ assumes 'no growth' : excludes betterment that includes new dwellings-extensions,
 no growth of lighting-appliances-entertainment , and no improved thermal comfort

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