

Home Energy Conservation Report
2005

CONTENTS

	Foreword	3
1.0	Introduction	4
2.0	The 2004 Interim House Condition Survey	8
3.0	Fuel Poverty	13
4.0	Implementation of Energy Efficiency Measures	15
5.0	Promotional Budget	28
6.0	Conclusion	31
	Glossary of Abbreviations	32
Appendix 1	Fuel Poverty Baseline Figures	33
Appendix 2	Warm Homes Scheme 2004/05	34
Appendix 3	Energy Efficiency Programme 2005/06 (NIE)	35

FOREWORD



This is the ninth annual progress report on the Northern Ireland Housing Executive's Home Energy Conservation Strategy. I am delighted to report that since 1996, when the Home Energy Conservation Act came into effect, there has been a 17.2% improvement, measured as a reduction in fuel consumption, in the energy efficiency of the

pre-1996 housing stock. Over the same period the average SAP rating of the housing stock has increased from 44 to 57. This is largely due to the large scale of fuel switching, from solid fuel to natural gas and oil, across all housing tenures since 1996 and to huge increases in all types of insulation over the same period.

The 17.2% improvement has been achieved as a result of considerable investment in the housing stock through a range of organisations and, of course, by individual home owners themselves. The main investment programmes include the Housing Executive's improvement schemes for its own stock, the DSD's Warm Homes programme managed by Eaga Partnership, and the Energy Efficiency Programme managed by NIE. There are, of course many other organisations that make considerable investments within their particular niche of the market. Individual home owners have also contributed significantly to the 17.2% improvement through investing in energy efficiency measures themselves, in some cases availing of financial assistance from various sources.

The 2004 Interim House Condition Survey provided the data from which the Housing Executive was able to measure the 17.2% energy efficiency improvement since 1996. The Home Energy Conservation Act set a target of a 34% improvement in energy efficiency. Whilst it did not set any deadline for the achievement of the 34% target, the guidance did state that substantial progress towards the target is expected within 10 years. By this standard, a 17.2% improvement after 8 years can be considered to be substantial progress.

Whilst much has been achieved since 1996, it is imperative that this rate of progress continues to ensure that all homes in Northern Ireland are made as energy efficient as possible. This is particularly important in these times of rising fuel prices which can push households on modest incomes into fuel poverty.

The improvements made to date have been achieved collectively by a wide range of organisations working towards a common objective. Once again, I would like to sincerely thank all of the organisations with whom we work and I look forward to continuing with the very successful partnership arrangements that have delivered the progress we are making.

A handwritten signature in black ink, reading "Brian Rowntree". The signature is written in a cursive style with a long horizontal stroke at the end.

Brian Rowntree
Chairman

INTRODUCTION

1.0 Introduction

1.1 Under the Home Energy Conservation Act (1995), the Housing Executive was designated as Northern Ireland's sole Home Energy Conservation Authority. In Great Britain this role was given to the 408 local authorities. The Act required the Housing Executive, in 1996, to develop a strategy to significantly improve the energy efficiency of the entire housing stock and to submit annual progress reports thereafter. This is the ninth annual progress report required under the terms of the Home Energy Conservation Act (1995) (HECA).

1.2 As HECA Authority for Northern Ireland the Housing Executive had to identify measures that it considered practicable, cost-effective and likely to result in a significant improvement in the energy efficiency of the residential accommodation. The term "significant improvement" is defined in Great Britain (GB) as 30% although it has been revised upwards to 34% in Northern Ireland as fuel switching is permitted as a contribution towards our target. Unlike GB, where natural gas was the predominant fuel, in Northern Ireland there was greater scope for switching from less efficient fuels like coal to more efficient and less polluting fuels like natural gas or oil. The measures identified do not necessarily have to be implemented or financed by the Housing Executive although we are required to report annually on progress, irrespective of who carries out or

finances the work. The target applies to existing stock as at 1st April 1996 as building regulations are deemed to ensure that new housing built after that date meets energy efficiency standards. Although no deadline has been set for the achievement of the target, guidance issued by the Department for Social Development (DSD) stated that substantial progress towards it is expected over a 10 year period. The target is measured as a reduction in fuel consumption within the housing stock.

1.3 The most cost-effective way of measuring progress towards the target is through House Condition Surveys, which are normally carried out every five years, the last major one in 2001. For various reasons a smaller interim survey has been carried out in 2004 with the next major one planned for 2006. It is not possible to set annual targets on energy efficiency because, in order to find out what is happening in private sector dwellings, major surveys would be required on an annual basis which would be prohibitively expensive. In the 2002 annual HECA Progress Report, the Housing Executive recorded that between 1996 and 2001 the energy efficiency of the pre-1996 housing stock had improved by 13%. It also recorded that the average SAP (Standard Assessment Procedure) rating or energy efficiency rating had increased from 44 in 1996 to 53 in 2001. These findings were based on data from the respective House Condition Surveys of 1996 and 2001 which was input into energy rating software (HECA Profiler).

1.4 Applying data from the interim 2004 House Condition Survey (HCS) to HECA Profiler software, we found that the overall energy efficiency improvement from 1996 to 2004 was 17.2%. This figure increases slightly to 17.35% if vacant dwellings are excluded. Over the same period the average SAP rating has increased from 44 to 57. In terms of actual fuel consumption, this represents a decrease from 79,600 Terajoules in 1996 to 65,900 Terajoules in 2004. Key findings from the 2004 HCS are;

- Over 97% of dwellings now have full central heating (87% in 1996) - many of those without are vacant properties.
- Solid fuel's share of the domestic heating market has reduced from 40.4 % in 1996 to 8.4% in 2004; oil has increased from 36% to 65% and natural gas from 0% to 8%.



- 95% of dwellings with lofts have loft insulation.
- 77% of dwellings now have some form of wall insulation (mainly cavity insulation) compared to 36% in 1996. Many of those without are of solid wall construction.
- 80% of dwellings now have either full or partial double glazing in 2004 compared to 40% in 1996.
- 38% of households used low energy lightbulbs in 2004 compared to 32% in 2001.

1.5 One of the overall aims of HECA is to reduce emissions of greenhouse gases. It is therefore important to record that the above improvements mean recurrent annual savings of 2.26 million tonnes of carbon dioxide per year from the domestic sector over 1996 levels. In terms of individual dwellings this means that the average emission of carbon dioxide has reduced from 10.7 tonnes to 7.5 tonnes per year since 1996.

1.6 Whilst all of the above improvements are encouraging, they also show that the scope for significant further improvements around the physical fabric of dwellings is diminishing. Of course there are still many dwellings that can benefit from wall insulation, additional loft insulation or a change of heating, with significant benefits for individual householders. However, whilst it is essential that these benefits are delivered to such households, the impact of these improvements on the HECA target and on the alleviation of fuel poverty at Provincial level will not be as marked. Our analysis also suggests

that as energy required to meet heating demand decreases due to physical improvements to the housing stock, a greater proportion of domestic energy consumption is due to a huge increase in the use of modern household appliances (e.g., televisions, computers, kitchen appliances, etc.).

1.7 The Building Research Establishment are currently assessing, on behalf of DSD and the Housing Executive, levels of fuel poverty in Northern Ireland using 2004 House Condition Survey data. It is important to record that improvements in energy efficiency do not necessarily translate proportionately into reductions in levels of fuel poverty. This is because energy savings arising from improvements in energy efficiency within dwellings can be offset by increases in fuel prices or reductions in household income. Whilst the prices of all domestic fuels have increased in the last year, overall household income can also decrease for many people (due to loss of employment, retirement, young adults leaving home, marriage break up, death of a spouse/partner etc.). Whilst energy efficiency improvements alone may not significantly reduce overall levels of fuel poverty, it will however, reduce its impact at an individual level. It is expected that 2004 fuel poverty figures will be available by the end of 2005.

1.8 Apart from the publication of energy efficiency figures from the 2004 House Condition Survey, other key highlights of the past year have been;

- An investment by the Housing Executive in 2004/05 in excess of

£25m on heating, insulation and double glazing.

- A further 5,256 heating conversions in Housing Executive stock in 2004/05.
- Increased improvements in the energy efficiency of private sector housing through the DSD's Warm Homes grant, managed by Eaga Partnership (see Appendix 2 for details).
- Major progress towards the completion of the Housing Executive's heating policy review.
- Launch of the DSD's Fuel Poverty Strategy for Northern Ireland
- Amalgamation of Northern Ireland's three Energy Efficiency Advice Centres into the Energy Saving Trust's Advice Centre.
- Completion by BGE (NI) of the north-west gas pipeline and advancement of plans for the south-north gas pipeline in 2006.
- Range of projects developed under the Energy Efficiency Programme, managed by NIE.
- Development of a number of projects under various Energy Saving Trust (EST) programmes.
- Completion of a number of renewable and innovative energy systems in the domestic sector.
- Development of pilot projects for new and emerging technologies such as micro - CHP systems and heat pumps.

- Delivery of a Housing Executive funded energy efficiency programme by the EST Advice Centre to P6 classes in 150 schools.
- Development of a number of fuel poverty projects involving the health sector.
- Successful implementation of the energy efficiency marketing plan including TV advertising.

1.8 The 17.2% energy efficiency improvement within the domestic sector since 1996 has been achieved by a range of organisations and indeed individual householders. Collectively this has contributed to improvements in air quality, reduced emissions of greenhouse gases and for many households, removed poor energy efficiency as a cause of fuel poverty.



THE 2004 INTERIM HOUSE CONDITION SURVEY

2.0 The 2004 Interim House Condition Survey

- 2.1 The most cost effective and practical method of measuring progress towards the 34% HECA targets is through comprehensive House Condition Surveys (HCS). These involve both physical surveys of dwellings and a socio-economic survey among householders. As such, these surveys are very expensive and normally only take place every five years. They do, however, provide valuable data from which the Housing Executive and various Government departments can develop housing policy for various tenures over subsequent years.
- 2.2 Although the next major House Condition Survey was not due to take place until 2006, for a variety of reasons, an interim HCS was undertaken in 2004. The sample size for this survey was 3000 dwellings across all tenures and the surveyors gained access to 2292 properties, a success rate of 76.4%.
- 2.3 The 1996 HCS established that 79,600 terajoules of energy was being used within the domestic sector and that the average SAP rating for the local housing stock was 44. This energy consumption figure of 79,600 terajoules was the baseline against which future progress would be measured. Under the Home Energy Conservation Act, the Housing Executive had to measure progress towards a 34% reduction in this energy figure. Using data from the 2004 HCS and HECA Profiler software, the Housing Executive is able to report a 17.2% improvement in the energy

efficiency of the housing stock (pre-1996 stock) since 1996. This improvement would be 17.35% if vacant dwellings are excluded. The average SAP rating has increased from 44 in 1996 to 57 in 2004.

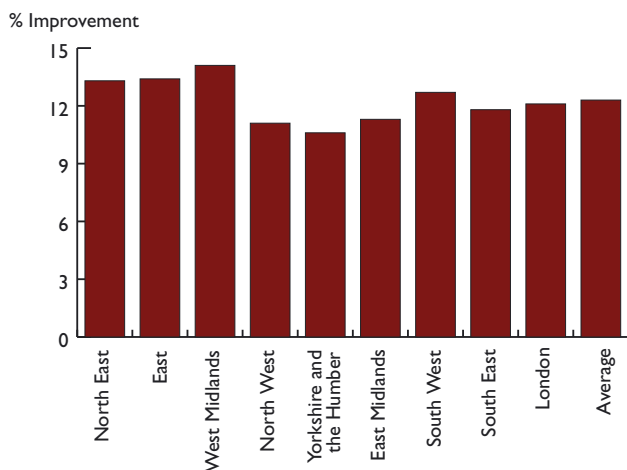


- 2.4 The guidance to the 1995 Act does not state whether or not vacant properties should be included or excluded. However, it defined residential accommodation as “premises occupied or intended to be occupied as a separate dwelling and forming the whole or part of a building”. Whilst some of the 36,780 vacant dwellings in 2004 may have been vacant pending demolition, many (over 50%) were vacant pending sale, renovation or letting to new tenants, and will, at some future stage be re-occupied.
- 2.5 As outlined above, no deadline was set for the achievement of the overall HECA target of 34% but DSD guidance to the Act stated that substantial progress towards the target is expected

within 10 years. Against this yardstick, a 17.2% energy efficiency improvement after 8 years, just over half way towards the target is a significant achievement. It should also be viewed in the context that neither the Housing Executive nor any other organisation has any statutory enforcement powers to compel owner occupiers or landlords to invest in energy efficiency.

- 2.6 The most recent reported results from English HECA Authorities were for the period April 1996 until March 2003. These have been averaged out by region in the table below:

Home Energy Conservation Authorities - England 1996-2003



- 2.7 The overall improvement in England from 1996 to 2003 was 12.3%. However, whilst the average Regional improvement is 12.3%, the range of improvements, reported to DEFRA by the 354 HECA Authorities in England,

varies from 2.2% to 31.5%. Whilst these figures are interesting to note, DEFRA strongly advise against using them to compare performance between authorities due to the considerable differences between monitoring techniques from one area to another.

- 2.8 The HCS estimated that there were 680,000 dwellings in Northern Ireland in 2004 (mid year), a net increase of 77,500 on the 1996 figures. The survey also recorded that 68% of the total housing stock is owner occupied which has increased due to sustained activity in the private house building market and the sale of Housing Executive dwellings to sitting tenants. There has also been continued growth in both the Housing Association and Private Rented Sectors.

Table I: Dwelling Stock by Tenure

	1996		2001		2004	
	No	%	No	%	No	%
Owner Occupier	381,200	63.3	433,200	66.9	462,200	68
Private Rented/Other	38,000	6.3	50,000	7.7	62,500	9.2
Housing Executive	141,200	23.4	116,200	18	99,600	14.6
Housing Association	13,000	2.2	16,100	2.5	19,400	2.9
Vacant	29,100	4.8	32,000	4.9	36,300	5.3
Total	602,500	100	647,500	100	680,000	100

- 2.9 There have been changes in the age profile of the housing stock in recent years, with reductions in the number of older dwellings due to demolitions, but substantial increases in the number of properties built since 1980.

Table 2: Dwelling Stock by Age

	1996		2001		2004	
	No	%	No	%	No	%
Pre 1919	120,800	20	116,400	18	110,200	16.2
1919-44	69,400	11.5	69,000	10.7	69,900	10.3
1945-64	128,800	21.4	127,800	19.7	125,400	18.4
1965-80	158,400	26.3	159,900	24.7	147,000	21.6
Post 1980	125,000	20.8	174,400	26.9	227,500	33.4
Total	602,500	100	647,500	100	680,000	100

2.10 There have also been changes in the dwelling stock by house type since 1996 with a relatively small decrease in the number of bungalows but huge increases in the numbers of detached and semi detached houses. The decrease in bungalows may be partly explained by the fact that many single storey dwellings have had loft spaces converted to provide additional rooms, which for HCS purposes means the bungalow is reclassified as a house. Most modern private sector new build properties tend to be detached or semi detached which explains the substantial increase in this dwelling type. There has also been a relatively small increase in the number of flats, both purpose built and converted.



Table 3: Dwelling Stock by Type

	1996		2001		2004	
	No	%	No	%	No	%
Bungalows	145,230	24.1	157,010	24.2	138,730	20.4
Terraced Houses	201,850	33.5	200,320	30.9	200,560	29.5
Semi Detached	110,440	18.3	123,500	19.1	143,160	21.1
Detached	93,420	15.5	115,050	17.8	140,140	20.6
Flats	51,560	8.6	51,650	7.9	57,410	8.4
Total	602,500	100	647,530	100	680,000	100

2.11 Some of the most significant changes within the domestic sector in recent years have been in the way dwellings are heated (See table 4 below). Since 1996 the percentage of dwellings with full central heating has increased from 86.9% to 97.3%. Of the 18,300 dwellings that did not have central heating in 2004, nearly half were vacant properties and unlikely to be re-occupied as residential accommodation.

2.12 However, the most dramatic changes have been within the types of fuel used to heat homes. The use of solid fuel has decreased substantially from having 40.4% of the home heating market in 1996 to 8.4% in 2004. Over the same period the use of oil as a main heating source has increased from 35.7% to 65.3% with many other households also using it where they have recorded the use of dual fuels for heating. The use of electricity as a main heating source has decreased from 8.8% to 6.9%. From its arrival in Northern Ireland in late 1996, natural gas had developed an 8% share of the home heating market by 2004. The use of LPG and other forms of heating has also decreased significantly over the same period.

Table 4: Heating Types

	1996		2001		2004	
	No	%	No	%	No	%
Central						
Mains Gas	0	0	20,140	3.1	54,190	8
Solid Fuel	183,060	30.4	92,060	14.2	42,780	6.3
Oil	215,100	35.7	376,170	58.1	443,830	65.3
Electric	52,770	8.8	53,960	8.3	46,640	6.9
Dual	56,020	9.3	61,510	9.5	66,280	9.7
LPG & Other	16,380	2.7	11,590	1.8	7,980	1.2
Sub Total	523,330	86.9	615,430	95	661,700	97.3
Non Central						
Solid Fuel	60,400	10	27,100	4.2	14,350	2.1
Other	18,770	3.1	4,970	0.8	3,950	0.6
Sub Total	79,170	13.1	32,070	5.2	18,300	2.7
Total	602,500	100	647,500	100	680,000	100

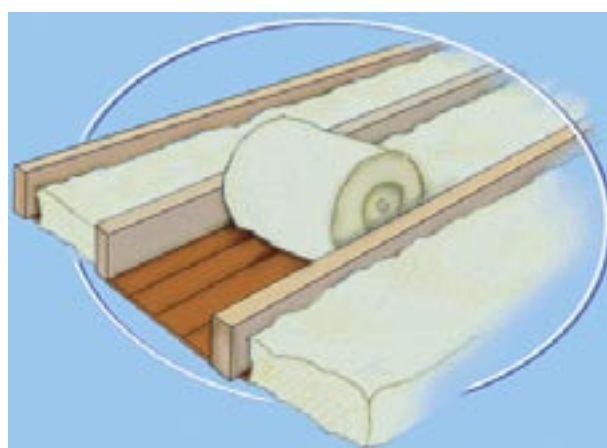
2.13 There have been further advances in both the numbers of dwellings with loft insulation (see table 5) and increased depths of insulation within them. Since 1996 the percentage of dwellings with loft insulation has increased from 76.0% to 83.3% in 2004. The percentage of dwellings without loft insulation has decreased from 12.0% to 4.7% over the same period. Many of the 31,800 dwellings with no loft insulation are likely to be vacant properties which will never be re-occupied.

Table 5: Loft Insulation

	1996		2001		2004	
	No	%	No	%	No	%
Loft Insulation	460,400	76	526,700	81.3	566,400	83.3
No loft insulation	70,000	12	34,700	5.4	31,800	4.7
Not applicable	72,100	12	86,100	13.3	81,800	12
	602,500	100	647,500	100	680,000	100

2.14 There have also been improvements in the depth of insulation in lofts. Whilst the depth of insulation was not recorded in the 1996 survey, both the 2001 and 2004 surveys did measure this. From 2001 to 2004 the number of dwellings with less than 100mm of loft insulation decreased from 135,800

to 116,700 or 24.2% to 19.5% of those dwellings with lofts. Over the same period the number with between 100 and 150mm increased from 343,500 to 385,500 or 61.2% to 64.5% of dwellings with lofts. The number of dwellings having over 150mm of loft insulation increased from 22,500 to 48,300 (4% to 8.1% of dwellings with lofts). These improvements reflect the various loft insulation grant schemes, marketing initiatives promoting energy efficiency and higher standard of insulation in new build properties.



2.15 The number of dwellings with wall insulation has also increased dramatically since 1996 (see table 6). The percentage of the housing stock with no form of wall insulation has decreased from 64% in 1996 to 22.3% in 2004. Many of the 151,500 dwellings with no wall insulation are of solid wall construction and are therefore incapable of availing of the traditional and cost effective remedy, cavity wall insulation. The alternatives, dry lining or external insulation, tend to be much more expensive. There has also been a significant increase in the number of dwellings with partial

cavity wall insulation which tend to be solid wall properties with insulated cavity wall extensions. Overall the percentage of dwellings with some form of wall insulation increased from 60.6% in 2001 to 77.7% in 2004. This huge improvement is due to a combination of new build, the various grant and discount schemes available to finance the work and the very successful marketing campaigns by a number of organisations promoting energy efficiency.

Table 6: Wall Insulation

	1996		2001		2004	
	No	%	No	%	No	%
Full cavity wall insulation	219,600	36	324,300	50	406,500	59.8
Partial cavity wall insulation	-	-	37,900	6	77,100	11.3
Dry lining/external insulation	-	-	29,800	4.6	44,900	6.6
No wall insulation	382,900	64	255,500	39.4	151,500	22.3
	602,500	100	647,500	100	680,000	100

2.16 The percentage of the housing stock with full double glazing has increased from 24% in 1996 to 61% in 2004, whilst the percentage with partial double glazing has increased from 16% to 19% over the same period (see table 7). Only 20% of the housing stock had



single glazing throughout in 2004. These changes are due to large scale home improvements across all tenures and to the fact that all new build projects in recent years include full double glazing as a standard item.

Table 7: Double Glazing

	1996		2001		2004	
	No	%	No	%	No	%
Full double glazing	146,600	24	369,300	57	416,800	61
Partial double glazing	95,400	16	75,700	12	129,000	19
None	360,500	60	202,500	31	134,200	20
Total	602,500	100	647,500	100	680,000	100

2.17 Around 94% of Northern Ireland's dwellings had hot water cylinders in 2004. This amounted to 636,300 dwellings of which 89% have some form of insulation on the cylinder. The vast majority of houses without such insulation were owner-occupied. Dwellings without hot water cylinders include those with communal heating systems and vacant dwellings where the cylinder has been removed. Almost 78% of occupied dwellings had draughtproofing on external doors in 2004 compared to 67% in 2001 and 38% of households used low energy light bulbs in 2004 compared to 32% in 2001.

Table 8: Other Energy Efficiency Measures

	1996	
	No	%
Hot Water Cylinder Insulation	568,300	89
No HWC Insulation	68,000	11
Draughtproofing on External Doors	498,600	78
Low Energy Light Bulbs	241,500	38

FUEL POVERTY

3.0 Fuel Poverty

3.1 The DSD's Fuel Poverty Strategy for Northern Ireland states that the definition of fuel poverty that will be used by all Departments is:

“A household is in fuel poverty if, in order to maintain an acceptable level of temperature throughout the home, it would have to spend more than 10% of its income on all household fuel”.

The term “all household fuel use” includes all fuel of any type, used for space heating and all electricity used for other purposes, such as water heating, cooking, lighting and use of appliances. Fuel poverty is therefore not simply about the ability to pay heating bills but also electricity bills.

3.2 Fuel poverty has three main causes:

- Poor thermal efficiency of dwellings
- Low household income
- High fuel prices

In last year's Annual Progress Report the Housing Executive gave a detailed breakdown of the fuel poverty baseline figures of 203,000 households (33% within this category), derived from the 2001 House Condition Survey. The report gave a detailed breakdown in terms of household income and the energy efficiency of these dwellings (see Appendix I for key tables). It also demonstrated the impact of various fuel price rises on the figures and the impact of completing all standard energy efficiency measures on the housing stock. This latter exercise showed that

after completing energy efficiency works, Northern Ireland will continue to have a fuel poverty problem with 104,000 households (17%) remaining in fuel poverty due to low incomes or high fuel prices.

3.3 The Housing Executive has for many years advocated that the eradication of fuel poverty requires action on all three of its causes. Despite this, many fuel poverty initiatives have focussed only on the energy efficiency dimension. The impact of low income and high fuel prices is likely to have a much greater effect in the future. The 2004 House Condition Survey has shown that massive improvements have been made in energy efficiency in recent years. However, whilst there is still a lot of work to be done, the scope for significant further improvements on both the HECA target and fuel poverty figures, as a result of energy efficiency has decreased. Insulation and heating improvements must continue, where required, but as a long term solution to fuel poverty, without action on fuel prices and incomes, they will not solve the problem on their own.

3.4 As the above message begins to filter through, more recent fuel poverty initiatives are beginning to focus on both the fuel price and incomes dimension. A number of health based organisations (Trusts, Health Action Zones, etc.) are developing local projects in partnership with others. The DSD is implementing its Fuel Poverty Strategy. During 2005 it established both an Inter-Departmental Group of senior officials from the main Departments with a role in addressing

fuel poverty and a Fuel Poverty Advisory Group consisting of a range of individuals with a background and interest in tackling the problem.

- 3.5 Data from the 2004 House Condition Survey is currently being analysed by BRE. When the figures are available we will be in a position to compare them to the 2001 baseline figures of 203,000 households. Whilst it is likely that fuel poverty caused by poor energy efficiency will have decreased, these gains may be offset to a certain degree by the high fuel price increases experienced in recent times.

IMPLEMENTATION OF ENERGY EFFICIENCY MEASURES

4.0 Implementation of Energy Efficiency Measures

OWNER OCCUPIED SECTOR

4.1 The Housing Executive's strategy in this sector remains one of encouraging owner-occupiers to carry out energy efficiency works to their own dwellings, where they can afford to do so. Where financial assistance is required the various grants and cashback schemes are promoted in partnership with other organisations. The owner-occupied sector continues to grow and currently represents over 68% of the housing market.

Housing Executive Grants

- 4.2 Housing Executive grants, are primarily aimed at reducing dwelling unfitness and preventing disrepair. In meeting this objective they do contribute to improving energy efficiency in the private sector. In 2004/05 the following contributions were made through Housing Executive grants;
- Renovation grants included 128 dwellings that, in addition to a wide range of other improvements, also had cavity wall insulation installed.
 - 191 Replacement Grants were completed in 2004/05. This means that since April 1996, a total of 2,872 new dwellings were built in rural areas to current energy efficiency standards and replacing old and unfit houses.
 - 203 heating systems were provided in 2004/05 under Disabled Facilities Grants. Since April 1996, Disabled Facilities Grants have funded 2,856 fully controlled natural gas or oil heating systems in private dwellings.

Warm Homes Scheme

4.3 The Warm Homes Scheme, funded by DSD and managed by Eaga Partnership, is the main grant for energy efficiency works for low income households in the private sector. It grant aids a range of insulation and other energy efficiency measures for eligible households (those in receipt of qualifying benefits). Where additional funds, above the maximum grant level, are needed to complete the package of measures, it is topped-up from the Energy Efficiency Fund managed by NIE Supply. The range of measures provided includes;

- loft insulation
- cavity wall insulation
- draughtproofing
- central heating for people aged 60 or more (includes new natural gas or oil system, whether a first time installation or conversion from solid fuel or Economy 7 and, where appropriate, an upgrade or repair to an existing oil system).





4.4 During 2004/05, a total of 2,448 owner-occupiers had a change of heating under the Warm Homes scheme whilst 3,061 had cavity wall insulation and 4,030 had loft insulation installed. Activity levels for both these and other measures such as draughtproofing, radiator reflector panels, hot water tank jackets and low energy light bulbs increased in 2004/05 under Warm Homes. See Appendix 2 for more details.

Wall Insulation

4.5 There have been considerable improvements in the numbers of owner occupied dwellings with some form of wall insulation as shown in the table below. Such improvements are due to various grant and cashback schemes funded by a range of organisations,

general awareness and advertising campaigns and Building Regulation requirements for new dwellings and extensions. A proportion of these properties will also be ex-Housing Executive dwellings that were insulated prior to being bought by sitting tenants. The vast majority of dwellings with no wall insulation are solid wall properties that cannot be cavity insulated and, the alternatives, such as dry lining or external insulation are relatively quite expensive.

Table 8: Wall Insulation - Owner-Occupied Stock

	2001		2004	
	No	%	No	%
Full cavity wall insulation	213,320	49.4	278,860	60.3
Partial cavity wall insulation	24,040	5.6	53,750	11.6
Dry lining/external insulation	18,900	4.4	26,140	5.7
No wall insulation	176,010	40.6	103,420	22.4
	432,270	100	462,170	100

Loft Insulation

4.6 The number of owner-occupied houses with lofts where insulation has been provided has increased from 310,380 (81%) in 1996 to 405,360 (96%) in 2004. The table below shows that there has also been a significant improvement in the number of owner-occupied dwellings where loft insulation has been topped up between 2001 and 2004.

Table 9: Loft Insulation - Owner-Occupied Stock (with lofts)

	2001		2004	
	No	%	No	%
Less than 100mm	95,920	24.5	89,680	21.2
100-150mm	242,570	61.8	270,050	63.9
150mm +	14,850	3.8	35,280	8.3
None	22,520	5.7	17,290	4.1
Don't know thickness	16,420	4.2	10,340	2.4
	392,280	100	422,640	100

Double-Glazing

- 4.7 The percentage of owner-occupied homes with double-glazing increased between 1996 and 2004 from 55.5% to 87.3%. Almost 67% of owner-occupied homes had full double glazing and 20.5% had partial double glazing.

Central Heating

- 4.8 The 2004 Interim House Condition Survey shows further improvements in the number of owner-occupied dwellings with full central heating. It increased from 341,920 (89.7%) in 1996 to 456,240 (98.7%) in 2004. Over the same period the number of owner-occupied dwellings without central heating decreased from 39,270 (10.3%) to 5,940 (1.3%). Some of these works were financed through various grant or cashback schemes, referred to elsewhere in this report, with many others funded by householders themselves.
- 4.9 Analysis of the 418,760 owner-occupied properties with full central heating in 2004 shows that the main fuel sources were:
- 77% - oil
 - 4% - natural gas
 - 3% - solid fuel
 - 13% - dual systems
 - 3% - electricity

Micro Combined Heat & Power (CHP) Field Trial

- 4.10 In early 2004, the Housing Executive, NIE, the Energy Saving Trust and Phoenix Natural Gas jointly funded the installation of the first two micro-CHP

systems in Northern Ireland in two owner-occupied dwellings. Micro-CHP boilers produce electricity when the gas heating system is in use. Following the success of the initial pilot, the 4 original partner organisations were joined by DETI in funding an extended field trial of 50 units, 30 of which are proposed for private sector dwellings (see below for further details).



Gas Boiler Scheme

- 4.11 For a number of years Phoenix Natural Gas has developed initiatives to encourage homes owners, who wish to use gas heating, to install the most energy efficient boilers. The Housing Executive and others have partly funded these schemes. In 2004/05, a free condensing boiler offer was funded by Phoenix Natural Gas, NIE and the Housing Executive, resulting in 778 installations. In September 2005 a scheme was launched which offers a £400 grant towards a condensing or combi-condensing gas boiler. It is funded by Phoenix Natural Gas, boiler manufacturers and the Housing Executive.

NORTHERN IRELAND HOUSING EXECUTIVE STOCK

Heating Policy

4.12 The Housing Executive's heating policy for its own stock is now in its sixth year of implementation and aims to convert existing coal or electric heating systems to natural gas, where available, and to oil elsewhere. Heating conversions are carried out under planned improvement programmes but tenants are also able to apply to have this work done earlier than planned, under the Disabled Adaptations programme, if this is deemed necessary on medical grounds. For the first three years up to March 2003, the Housing Executive completed an average of 9,000 conversions per year. In 2003/04, a total of 8,726 heating conversions were completed but in 2004/05 this fell to 5,256 conversions, mainly due to the fact that fewer tenants were requesting heating conversions under the Disabled Adaptations programme.

4.13 Approximately 24,000 Housing Executive properties are currently, using natural gas and 39,000 using oil. The Housing Executive has funded many more gas or oil installations than this but over 10,000 of these houses have since been sold to sitting tenants. As natural gas becomes available in the towns along the route of the recently developed North-West gas pipeline, the Housing Executive's heating policy is likely to follow, subject to clarification on tariffs. This will also be the case along the route of the South-North gas pipeline.

4.14 The Housing Executive is currently reviewing its heating policy in light of a recommendation from the Northern Ireland Audit Office. A secondary reason for this review arose in March 2004 with the announcement by Phoenix Natural Gas of a higher than expected increase in the price of natural gas. This was quickly followed by substantial increases in the price of all domestic heating fuels due to increased global demand for coal, oil and gas. The Housing Executive agreed to re-examine the economic appraisal on which its heating policy was based, in light of these developments. The heating policy review is ongoing against a background of price increases for all of the main domestic heating fuels.

4.15 In 2004, the breakdown of domestic heating fuels in Housing Executive stock was;

• Natural Gas	21%
• Oil	39%
• Solid Fuel	25%
• Electricity	13%
• Other	2%

Insulation

4.16 By 2004, some 78% of Housing Executive dwellings had full cavity wall insulation, a significant increase on the 1996 figure of 57%. The table below shows a breakdown of the Housing Executive's stock in terms of wall insulation in 2001 and 2004. The decrease in the number of dwellings with full cavity wall insulation is due to house sales. There has been a huge decrease in the number of properties

with no wall insulation. The bulk of those without wall insulation are likely to be solid wall properties where alternative solutions tend to be very expensive or very disruptive for tenants.

Table 10: Wall Insulation - Housing Executive Stock

	2001		2004	
	No	%	No	%
Full cavity wall insulation	79,820	68.8	77,720	78.0
Partial cavity wall insulation	7,260	6.3	8,440	8.5
Dry lining/external insulation	3,880	3.4	4,317	4.3
No wall insulation	25,020	21.5	9,106	9.1
	115,980	100	99,583	100

4.17 The interim 2004 House Condition Survey reported that 89,150 Housing Executive properties had lofts, the remainder being flats. Of those dwellings with lofts, 99.3% had insulation, the greatest proportion (nearly 80%) having between 100-150mm. Since 1996 Housing Executive cyclical maintenance programmes included a provision to top-up existing loft insulation to the current standard (150mm was the standard that applied during that period). The reduction in total Housing Executive stock since 2001 is largely due to house sales.

Table 11: Loft Insulation - Housing Executive Stock With Lofts

	2001		2004	
	No	%	No	%
Less than 100mm	22,240	22.6	11,900	13.3
100-150mm	68,030	69.2	70,990	79.6
More than 150mm	5,060	5.1	4,500	5.0
No insulation	720	0.7	610	0.7
Don't know thickness	2,290	2.3	1,150	1.3
	98,340	100	89,150	100

Double-Glazing

4.18 The Housing Executive policy of replacing windows with double-glazing

units has continued. By 2004, some 43% of Housing Executive stock had full double-glazing and 17.9% had partial double-glazing, increasing from 27% and 12.5% respectively since 2001.

Renewable or Innovative Energy Projects

4.19 The Housing Executive has, in partnership with others, taken part in a number of renewable or innovative energy demonstration projects to help assess the effectiveness of these technologies and to provide local case studies to encourage further uptake by others. A number of other schemes are at the development stage. Such projects include:

- solar water heating projects (Bangor)
- solar photovoltaic (PV) project (Castlereagh)
- energy efficient window system (Tandragee)
- micro-CHP field trial (see below for further details)
- Hard to Heat Homes project (aimed at rural solid wall dwellings where conventional measures are impractical - see below for details).



Hard to Heat Homes

4.20 Hard to heat homes have been defined by the EST as “properties that will never be on the gas network and have solid walls.” The Housing Executive, in partnership with Bryson House (project managers), NIE, DSD, DETI and the Northern Health Board are monitoring the performance of renewable energy technologies, as part of a research project on “Hard to Heat” homes. Its aim is to pilot the integration of standard energy efficiency measures with different forms of household renewables (solar water heating collectors, photovoltaic panels (PV), ground source heat pumps and wind turbines) in four rural dwellings. The results are being monitored and a case study developed to assist future policy development for all organisations with an interest in energy matters. Details of the four houses and the measures being installed are as follows;

- Killyleagh - a single storey, detached cottage with oil fired central heating. It has had a flat plate solar water



heating collector and photovoltaic (PV) panels installed to complement the domestic hot water and reduce electricity bills. As the solar water circulating pump is powered by the PV panels, the system is totally renewable.

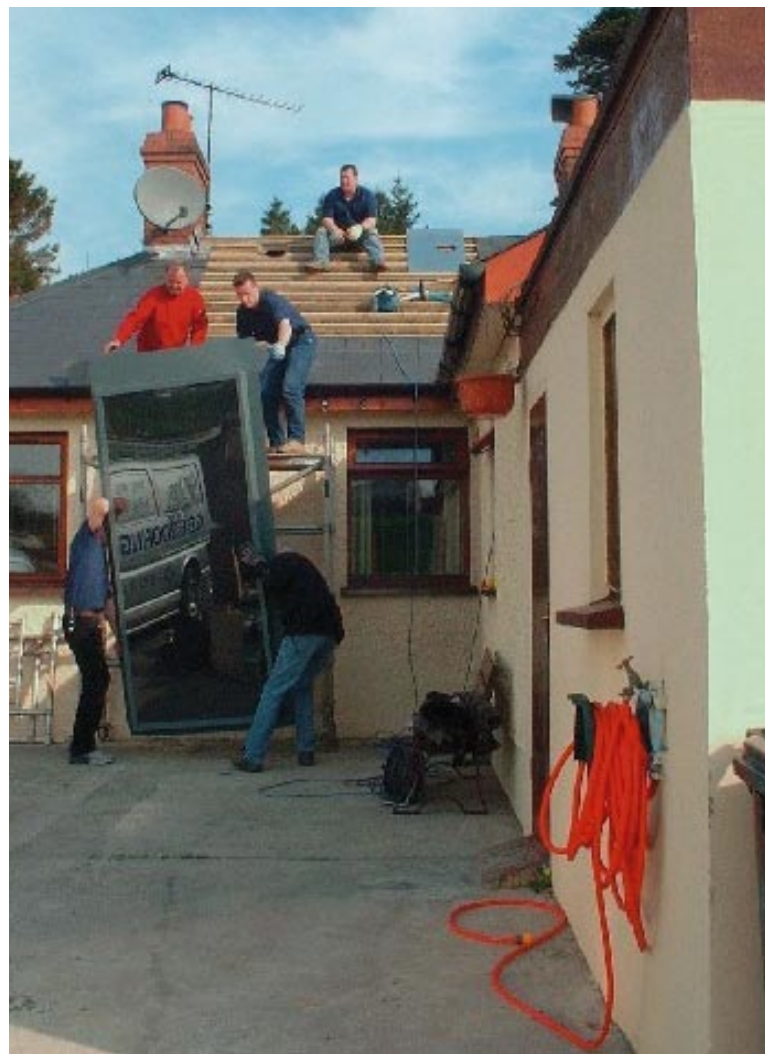
- Portrush - a two storey semi-detached property which had 11m² of photovoltaic panels on the roof to reduce electricity consumption. The solid fuel central heating has been replaced by a prototype oil fired condensing boiler, developed by Warmflow, which has a very high efficiency, reported as 97%. A 2.5kw wind turbine was installed in the garden, but has since been removed, due to problems with noise. A replacement site for the turbine has been identified in Cushendall.



- Ballycastle - a 2 storey semi detached house. The solid fuel open fire and back boiler has been replaced by a ground source heat pump, which provides central heating. It has also received an evacuated tube solar collector to provide domestic hot water. A “Windsave” micro wind turbine will be installed on the roof when available from the supplier.



- Markethill - a single storey detached cottage with oil fired central heating. It was fitted with a heat recovery, whole house ventilation system which incorporates a solar collector on the roof. The system operates by absorbing heat through the solar collectors and transferring it to air that is passed through them. This heated air is used to help heat the home. Excess heated air is used to heat water via a heat exchanger to provide domestic hot water.



- 4.21 Alongside the renewable technologies, various other energy saving measures are being provided in the four houses. Roofspace insulation has been topped up to a depth of 270mm and radiator foils installed behind radiators on external walls. Low energy light bulbs and jug kettles have been provided. Existing fridges and freezers are being replaced with “A” rated appliances. A fifth house has since been identified as a replacement site for the 2.5kw wind turbine that had to be removed from the Portrush site.



Biomass Pilot Scheme

4.22 The Housing Executive considered a pilot scheme for the installation of wood pellet boilers in a small number of dwellings in the west of Northern Ireland. With the development of the wood pellet production facility in Fermanagh, a local supply of this fuel is available. The Housing Executive has looked at a number of wood pellet boilers but some barriers remain such as the large size of boilers relative to the dwelling, storage space for pellets and securing the agreement of tenants to participate in a trial. Where suitable properties and boilers can be found, the Housing Executive will consider progressing a pilot scheme using this technology.

Air Source Heat Pumps

4.23 An air source heat pump is a new technology that uses the same basic principle as that employed in a refrigerator, but in reverse. The system can generate sufficient hot water to provide full central heating and hot

water for domestic purposes. Whilst it uses some electricity, thereby slightly increasing electric bills, it totally displaces reliance on any other type of fuel for heating. There have been a small number of pilot installations in Great Britain and at least one in a private dwelling in Northern Ireland. The Housing Executive is considering the use of this technology in a small number of dwellings where it is not technically possible to install oil systems.



Heatsmart

4.24 The Housing Executive has funded Bryson House, the Charity to administer an independent advice service for Housing Executive tenants. The service, Heatsmart, delivered through the EST Advice Centre, provides independent advice on the efficient use of heating systems to new tenants, to elderly tenants or to those existing tenants having a new oil or natural gas heating system installed. The service, now in its sixth year is essential not only in terms of advising tenants how to get the most out of their heating system but also because various surveys have shown

that many elderly tenants find it difficult to manage the controls, programmers and timers on their systems. From April 2004 to March 2005, Heatsmart has:

- had 37,484 contacts with tenants
- carried out 11,761 home visits
- mailed 9,362 advice letters
- dealt with 8,311 telephone enquiries.



Energy Brokering Scheme

4.25 A consultation paper was issued earlier this year by the N.I. Authority for Energy Regulation on the opening of the electricity market to competition for domestic customers in 2007. The developing domestic gas supply market in Northern Ireland will also eventually be opened up to competition. In 1999 the Housing Executive considered developing a scheme to procure electricity for its tenants, similar to schemes developed in GB by local authorities. The scheme did not proceed primarily because there was

no legislative provision to enable the Housing Executive to act as a broker on behalf of tenants. A secondary but no less important reason was because, ahead of full market opening, it could have forced prices up for private householders if the Housing Executive secured a deal with an alternative supplier.

4.26 DSD were approached to bring forward the necessary legislative provision to allow the Housing Executive to act as a broker to “bulk buy” energy on behalf of tenants. It is not the intention of the Housing Executive to become an energy supplier and sell energy to tenants, but simply to act as a broker on their behalf to secure the best deal from suppliers in the energy market. The DSD are currently progressing the matter.

PRIVATE RENTED STOCK

4.27 The private rented sector continued to grow from 38,000 dwellings in 1996 to 62,500 in 2004. It has also continued to change in terms of make-up with more modern properties entering the sector through growing interest by investors who buy to let. Private landlords have been investing in more modern heating systems with fewer dwellings in the sector now relying on coal or electric heating. The key characteristics of the 62,500 dwellings in the sector in 2004 from an energy point of view were:

- 95.4% of private rented dwellings had full central heating compared to 71% in 1996.
- The fuel mix is natural gas 11.3%, oil 54.5%, solid fuel 7.6%, electric 14.6% and others 12% .

- 64.2% of dwellings had some form of wall insulation in 2004 compared to 35% in 2001 and only 2% in 1996;
- the majority of the remaining 35.8% of dwellings with no wall insulation were older solid wall dwellings;
- 89.7% of the 47,830 private rented dwellings with lofts had some loft insulation, 60% of which exceeded 100mm (in 1996 only 53% of dwellings with lofts had loft insulation);
- 70.6% of dwellings had full/partial double-glazing compared to 57% in 2001 and only 30% in 1996.

Warm Homes Grant

4.28 In 2004/05, a total of 222 private sector tenants had a change of heating in their dwellings under the DSD's Warm Homes scheme, managed by Eaga Partnership. There were also 197 cavity wall insulation and 332 loft insulation installations completed in 2004/05 in the private rented sector under Warm Homes. More details of activity levels for 2004/05 are given in Appendix 2.

HOUSING ASSOCIATION STOCK

4.29 As stated in previous annual reports, the Housing Association sector generally has a good standard of housing in terms of its energy efficiency with an average SAP (or energy rating) of 67 compared to the Northern Ireland average of 57. One of the main reasons why Housing Association stock has such a good energy rating is that most of it is of relatively modern construction. In 2004 the number of Housing Association properties was 19,450, of which over 55% were flats.

4.30 A number of Housing Associations that have used renewable or emerging energy efficient technologies were highlighted in last years report. Since then, other Housing Associations have embraced this type of initiative, such as;

- Rural Housing Association which recently completed a newbuild project of 25 dwellings with solar water heating panels built into the roofs.
- Belfast Community Housing Association have put forward properties for the Micro-CHP field trial.

4.31 In terms of basic energy efficiency measures, in 2004 the situation with Housing Association stock of 19,453 dwellings was;

- 100% of the stock had full central heating (22.5% natural gas, 21.3% oil, 32.3% electric, 21.4% other and 2.5% solid fuel)
- 85.8% of the stock had full cavity wall insulation and 6.6% had partial
- Of the 12,620 dwellings with lofts, 100% had insulation with 45% having insulation in excess of 150mm.
- 78.2% of the stock had full double glazing and 9.8% had partial



Cosy Homes Programme

- 4.32 The Belfast Energy Agency (a Bryson House project), supported by the Housing Executive, obtained funding in 2003 from the Energy Saving Trust to work with Housing Associations on energy efficiency matters. This funding obtained by the Belfast Energy Agency has, in turn, levered in further funds from other bodies including the DSD and NIE. The project, Cosy Homes provided grants to help finance the replacement of Economy 7 which is a key priority for many housing associations. Under this programme 854 central heating upgrades have been completed of which 568 were natural gas conversions and 286 were oil conversions. Insulation works were also carried out under the scheme to 495 properties. Although 24 Housing Associations applied for funding, 21 proceeded with works.
- 4.33 The above programme completed in March 2005 and a second phase (Cosy Homes - Phase 2) was launched in the same month. It included similar measures to the first phase but also funding towards solid fuel heating replacements. To date 15 Housing Associations have applied for funding to replace 460 heating systems, with 191 gas conversions and 269 oil conversions.

MULTI-TENURE INITIATIVES

- 4.34 There are a wide range of energy efficiency initiatives carried out which cover various housing tenures. Some of these are funded by specific organisations whilst others are funded through partnership arrangements

involving one or more bodies. These include;

- Clear Skies Programme. This DTI grant is aimed at stimulating the market for renewable energy technologies. It offered a range of grants on solar water heating panels, wind turbines, hydro electric systems, ground source heat pumps and wood pellet boilers.
- NIE's SMART programme. The SMART programme also provides assistance for specific renewable technologies.
- Action Renewables. This is a joint initiative by the Department of Enterprise, Trade & Investment (DETI) and Viridian to encourage the use of renewable technologies across all sectors including the domestic sector.
- Breathe Easy. The multi-agency scheme, provides a range of energy efficiency improvements in the homes of eligible householders, referred through an asthma clinic. The aim is to monitor whether there is any improvement on health as a result of these measures.
- Energy Shareholders Club. The club offers a range of domestic energy efficiency products to members of staff within a range of organisations.



All products are at a discounted rate and can be purchased through the club or through participating retailers and installers.

- CLEVER Homes. This project (€901,000) involves the installation of ventilation systems which utilise solar energy to various degrees in 120 dwellings.



- EST's Innovation Programme. This provides support for Local Authorities, Housing Associations and partner organisations to promote and implement innovative approaches to reducing carbon emissions in their area. There are currently a number of schemes in Northern Ireland which are being managed by Bryson House, Help the Aged and Homewrap Ltd.
- EST's Northern Ireland Projects Fund. This provides support to a number of projects currently underway in Northern Ireland.
- Energy Efficiency Programme (managed by NIE). This programme, previously funded by the Customer Energy Efficiency Levy, continues to support an extensive range of projects. Further details on these are provided in Appendix 3.

Consultation Papers

4.35 The Housing Executive, as HECA Authority, has responded to a number of Consultation Documents on energy issues. Our responses involve presenting our analysis of the domestic energy market, putting forward our own proposals or confirming our support for those put forward in the paper. The Housing Executive deals with many consultation documents from public sector and voluntary organisations outlining proposed strategies, policies and programmes. Whilst the list below is not exhaustive, some of the key Consultation Documents dealt with during the year have been;

- DSD - Energy Performance Certificates for Residential Buildings Regulation (NI) 2006
- N.I. Authority for Energy Regulation
 - Beyond CCGTs - The Next Carbon Reduction Strategy
 - Draft Towns Gas Supply & Distribution Licences
 - Supply Competition for Domestic (Electricity) Customers
 - Proposed Acquisition of East Surrey Holdings
 - Energy Efficiency; The Most Best Options
- DEFRA - Review of UK Climate Change Programme

Schools Project

4.36 Since April 2003, the N.I. Housing Executive funded the three local Energy Efficiency Advice Centres (EEACs) to provide a unique interactive presentation on energy efficiency in primary schools. A key element of the presentation involves the children

in role-playing scenarios, completing worksheets and a Question & Answer session. It complements the current key stage 2 curriculum in relation to energy and is offered free to all primary schools. The presentation covers a range of areas beginning with sources of energy, its impact on the environment and most importantly what the children can do to save energy in the home and at school. In 2004/05 the presentation was delivered to 166 schools across Northern Ireland. From April to July 2005 the EST Advice Centre (formerly EEACs) delivered the presentation to primary schools.

Micro Combined Heat and Power (CHP) Project

- 4.37 In May 2004, the Housing Executive was approached by NIE to participate in an extended domestic Micro-CHP field trial in Northern Ireland. Earlier in 2004, as outlined above, the Housing Executive had made a contribution towards the cost of installing prototype Whisper Tech Micro CHP systems in two private properties as part of a research project. Conventional CHP systems provide heat, hot water and electricity from the same primary fuel input, (e.g., oil or natural gas) for a number of buildings or dwellings. Micro CHP, however, is an emerging technology that provides heat and power for a single dwelling only. The extended field trial involves the installation of 50 units across all housing tenures.
- 4.38 The 50 dwellings include 10 from Housing Executive stock, 10 from Housing Associations stock and the remaining 30 from the Private Sector (both new build and existing stock). A steering group comprising various partners is overseeing the project.

The first ten installations in Housing Executive properties were completed earlier this year with Housing Association installations completed recently. Recipient organisations or individual householders will be expected to make a contribution. Whilst the partners organisations paid for the purchase of the units, the Housing Executive paid for their installation within its stock. The total budget for the project initially was £460,000 made up of contributions from NIE (£100K), Phoenix Natural Gas (£100k), DETI (£100K), EST (£90K) and the Housing Executive (£70k). The Housing Executive's contribution is likely to increase to almost £100k.

Training Programme

- 4.39 The Housing Executive has continued to provide training to staff throughout the organisation in relation to energy efficiency and renewable technologies. In addition to including it as a standard item in induction training for new staff, the Housing Executive continues to provide training to City & Guilds standard for existing staff. Specific courses have also been designed and delivered in relation to renewable and emerging energy technologies.



PROMOTIONAL BUDGET

5.0 Promotional Budget

5.1 In 2004/05 the Housing Executive continued to invest substantially (in excess of £25m) in energy efficiency through its improvement and maintenance programmes for its own stock and through grants to the private sector. The main programme is the heating conversion programme which is supplemented by investment in enhanced levels of insulation and replacement of windows by double-glazed units in Housing Executive stock. Energy efficiency measures are also included in Renovation Grants and Disabled Facilities Grants. The Housing Executive also had a promotional budget of £415,000 in 2004/05 which was used to fund;

- voluntary sector bodies.
- specific energy efficiency projects (referred to elsewhere in this report).
- annual marketing plan.

Voluntary Bodies

5.2 The Housing Executive has funded a number of voluntary bodies in the energy efficiency sector since 1996;

- National Energy Action (NI). NEA(NI) is a local charity that campaigns for the eradication of fuel poverty. Its activities include participation in a number of inter-agency groups set up to tackle the problem, providing training services and lobbying government departments and politicians in relation to new policies to deal with fuel poverty.
- Belfast Energy Efficiency Advice Centre which in 2004/05 processed

12,536 Home Energy Checks and dealt with 7,782 enquiries. They also managed a number of projects delivering energy efficiency measures.

- Foyle Regional Energy Agency (FREA) which processed 5,304 Home Energy Checks and dealt with 1,168 enquiries. They also managed a number of projects delivering energy efficiency measures.
- Western Regional Energy Agency & Network (WREAN) which processed 11,674 Home Energy Checks and dealt with 2,285 enquiries. They also managed projects delivering energy efficiency measures.

The Belfast EEAC, FREA and WREAN formally amalgamated as one organisation in April 2005 and are now known as the EST's Advice Centre. It will continue to provide a Province-wide energy advice service and to manage specific projects on behalf of both the EST and other funders including the Housing Executive.

Marketing Plan 2005/06

5.3 Since becoming a HECA Authority in 1996, the Housing Executive has developed annual marketing plans to promote the concept of energy efficiency to the general public. It has developed and implemented these plans in consultation with the EST's Advice Centre (formerly EEACs) and uses their freephone number as the key contact point. The Housing Executive still holds the view that changing behaviour in terms of energy use within the home will be a long term process. The aim of the 2005/06 marketing strategy is

to use all elements of the media mix to communicate and reinforce key messages. The key elements of the 2004/05 Marketing Plan were;

- TV and radio campaign across Northern Ireland.
- Provision of face to face advice at exhibitions, shows, etc. in conjunction with the EST Advice Centre. This included an extremely successful presence at the 2005 Ideal Home Exhibition.



- Part-funding community renewable advisers in conjunction with Action Renewables.
- Promotion of energy efficiency message in the schools programme delivered through the EST Advice Centre.
- Promotion of message at political and government level.
- Promotion of various energy efficient products through financial incentives.
- Partnership working with various other bodies to promote the energy efficiency message.

5.5 In August 2005 the Housing Executive's marketing proposals for 2005/06 received a major boost when the Energy Saving Trust and the EST's Advice Centre agreed to work more closely with the Housing Executive on advertising campaigns. Both organisations already worked very closely with the Housing Executive but under these new proposals all three organisations will co-fund advertising which will result in pooled resources being more effective in buying more air time and advertising space. All three organisations agreed that this was a logical step given that they were, effectively, targeting the same audience within the domestic sector with similar messages.

5.5 The marketing campaign for 2005/2006 will include all of the elements of the 2004/05 campaign. It places equal emphasis on "above the line" activities, e.g., TV and Radio advertising and "below the line" individual projects and programmes. Proposed "above the line" activities include;



- A saturated TV and Radio campaign. The 'Emma' award winning series of 3 advertisements giving clear and simple advice on energy saving measures has had a 75.09% reach with Northern Ireland adults.
- A province wide campaign to reinforce the TV/Radio advertising using Bus Shelter Advertising, Bus Advertising, Adbikes in Belfast, Londonderry and Enniskillen, and website property news advertising.

In addition to the above, it is proposed to carry out a major piece of market research on peoples' attitudes to energy efficiency. It has been noted that, in recent months with fuel prices escalating, people are much more receptive to the need to conserve energy and save money. It is intended to assess current attitudes through a research project that will assist in the development of future marketing campaigns.



CONCLUSION

6.0 Conclusion

6.1 The interim House Condition Survey (2004) found that there has been further substantial progress (17.2%) in improving the energy efficiency of Northern Ireland's housing stock since 1996. The average SAP rating of the housing stock has increased from 44 in 1996 to 57 in 2004. This also has an impact on alleviating fuel poverty by removing one of its primary causes, namely poor thermal efficiency of the dwelling. However, some of these gains may have been eroded to a certain extent by recent increases in the price of all domestic heating fuels. Nevertheless, the consequences of fuel poverty caused by price rises would be much worse if energy efficiency investments had not taken place.

6.2 Key highlights of the past year have been:

- An investment by the Housing Executive in 2004/05 in excess of £25m on heating, insulation and double glazing.
- 5,256 heating conversions in Housing Executive stock in 2004/05.
- Housing Executive's heating policy review undertaken.
- Launch of the DSD's Fuel Poverty Strategy for Northern Ireland.
- Amalgamation of Northern Ireland's three Energy Efficiency Advice Centres into the EST Advice Centre.
- Completion by BGE (NI) of the north-west gas pipeline and advancement of plans for the south-north gas pipeline in 2006.
- Further progress in private sector stock under the DSD's Warm Homes grant and various area based initiatives.
- Range of projects developed under the Energy Efficiency Programme,

managed by NIE (see Appendix 3 for details).

- Completion of a number of renewable and innovative energy schemes in the domestic sector.
- Development of pilot projects for new and emerging technologies such as micro-CHP systems and heat pumps.
- Range of projects funded from various EST programmes.
- Successful implementation of the energy efficiency marketing plan including TV advertising.
- Delivery of a Housing Executive funded energy efficiency programme by the EST Advice Centre to P6 classes in over 150 primary schools.

6.3 As highlighted throughout this report the Housing Executive is involved in a wide range of partnership projects with various organisations who share common objectives on energy conservation and fuel poverty. Much has been achieved and there is still a lot of work to be carried out around traditional energy efficiency measures such as fuel switching and insulation works. However, as the 2004 House Condition Survey demonstrates, the number of dwellings requiring such measures is reducing. Whilst it is important to complete these traditional programmes, increasingly in the future a greater emphasis will need to be placed on behavioural issues such as how people use energy within the home. For example, as energy required to meet space heating is minimised due to more efficient heating systems and insulation levels, a greater proportion of domestic energy consumption will be due to the multitude of domestic electrical appliances used within modern homes.

GLOSSARY OF ABBREVIATIONS

BMA	Belfast Metropolitan Area	HAZ	Health Action Zone
BRE	Building Research Establishment	HCS	House Condition Survey
CHP	Combined Heat and Power	HECA	Home Energy Conservation Act 1995
CWI	Cavity Wall Insulation	Kw	Kilo watt
DEFRA	Department of Environment, Food and Rural Affairs	LI	Loft Insulation
DETI	Department of Enterprise, Trade and Investment (NI)	LPG	Liquid Petroleum Gas
DFP	Department of Finance and Personnel (NI)	NEA	National Energy Action
DOE	Department of the Environment (NI)	NI	Northern Ireland
DSD	Department for Social Development (NI)	NIE	Northern Ireland Electricity
DTI	Department of Trade and Industry (London)	OFTEC	Oil Firing Technical Association for the Petroleum Industry
EAGA	EAGA Partnership Ltd	PV	Photovoltaic
EEAC	Energy Efficiency Advice Centre	SAP	Standard Assessment Procedure
EST	Energy Saving Trust	SIHP	Southern Investing for Health Partnership
EU	European Union	SMART	Sustainable Management of Assets and Renewable Technologies
GB	Great Britain	UK	United Kingdom

APPENDIX ONE

FUEL POVERTY BASELINE FIGURES - 2001

Fuel Poverty by Tenure: Table A

Tenure	No	%
Owner-Occupier	104,708	51.5
Private Rented Sector	23,291	11.5
Housing Executive	70,484	34.7
Housing Association	4,779	2.4
TOTAL	203,262	100

Fuel Poverty - Urban/Rural Split: Table B

	No	%
Urban	135,438	66.6
Rural	67,824	33.4
TOTAL	203,262	100

Fuel Poverty by age of head of household: Table C

Age	No	%
18-24	9,403	4.6
25-39	39,115	19.2
40-59	52,714	25.9
60-74	57,893	28.5
75+	44,137	21.7
TOTAL	203,262	100

Fuel Poverty by Employment Status of head of household: Table D

Status	No	%
Employed	38,082	18.7
Unemployed	29,515	14.5
Retired	85,456	42.0
Student	2,581	1.3
Perm sick/disabled	23,543	11.6
Other	24,085	11.9
TOTAL	203,262	100

Fuel Poverty by Income: Table E

Income	No	%
Under £3,000 pa	12,369	6.1
£3,000-£4,999 pa	49,307	24.3
£5,000-£6,999 pa	66,981	33
£7,000-£9,999 pa	47,605	23.4
£10,000-£14,999 pa	19,909	9.8
£15,000-£19,999 pa	6,112	3
£20,000+ pa	978	0.5
TOTAL	202,261	100

Fuel Poor Households and Loft Insulation: Table F

	No	%
Less than 100mm	46,053	25.4
100-150mm	100,846	55.5
150mm+	7,088	3.9
Thickness Unknown	8,323	4.6
No Insulation	19,336	10.6
TOTAL	181,646	100

Fuel Poor and Wall Insulation: Table G

	No	%
Cavity Wall Insulation	81,402	40.0
Partial Cavity Wall Insulation	14,247	7.0
Dry Lining/External Insulation	13,769	6.8
No Wall Insulation	93,844	46.2
TOTAL	203,262	100

Fuel Poor and Central Heating (CH) Type: Table H

Income	No	%
CH Mains Gas	7,701	3.8
CH LPG/Bottled Gas	2,520	1.2
CH Solid Fuel	55,242	27.2
CH Oil	81,744	40.2
CH Electric	23,586	11.6
CH Dual	15,120	7.4
CH Other	1,297	0.6
Non Central Heating	16,052	7.9
TOTAL	203,262	100

APPENDIX TWO

Warm Homes Scheme: Completions from April 2004 to March 2005

Measure	Tenure	Number
Heating Installations	Owner-Occupied	2,448
	Private Rented	222
		2,670
Cavity Wall Insulation	Owner-Occupied	3,061
	Private Rented	197
		3,258
Loft Insulation	Owner-Occupied	4,030
	Private Rented	333
		4,363
Draughtproofing	Owner-Occupied	2,568
	Private Rented	277
		2,845
Hot Water Tank Jackets	Owner-Occupied	2,731
	Private Rented	190
		2,921
Reflective Radiator Panels	Owner-Occupied	889
	Private Rented	122
		1,011
Low Energy Lightbulbs	Owner-Occupied	6,902
	Private Rented	978
		7,880

APPENDIX THREE

Energy Efficiency Programme (Managed by NIE) Domestic Schemes 2005 - 2006

Full Package of Measures*

Scheme	Area	Eligible to apply
Help The Aged	All NI	Old people outside Warm Homes Criteria
HAZ Cross Border	South Tyrone/Markethill	Households in receipt of benefit outside warm homes remit
NEA Warm Start	Inner East Belfast	Home with young children
Cosy Homes	All NI	Housing Associations
Cosy Homes for Sheltered Housing	All NI	Housing Associations
Near Benefits	All NI	Over 60 within £20 of Income Support
Northern Investing for health	All NI	Homeowners/private tenants
Warm Homes	All NI	Over 60 or with child under 16 on eligible benefit
Strabane Smokeless	Strabane District Council	Home owners/private tenants outside warm homes remit

*** Full package of measures includes new heating system, cavity wall insulation, loft insulation, energy saving light bulbs, radiator foils and draught proofing**

Heating System and Insulation

Phoenix Boiler and Insulation Scheme	All NI	Open to all
Oil Boiler and Insulation scheme	All areas in NI	Open to all
Fuel Stretcher Intelligent Boiler controller	Belfast	Belfast Housing Associations

Insulation and draught proofing only

Co-Ownership Insulation	All NI	Properties bought through co-ownership
HAZ Insulation Scheme	Altmore Ward and Markethill	Households outside warm homes remit
Farm House Scheme	All NI	Owner occupied farm dwellings
Cavity wall and loft insulation cashback	All NI	Owner occupiers

Appliances and Lighting

Osram low energy light bulb	All NI	Open to all
Osram classic light bulb	All NI	Open to all
Dulux sensor lamp	All NI	Open to all
Philips light bulb	All NI	Open to all
Energy Shareholders	All NI	Open to employees of specified organisations