



Rochford District Council

Home Energy Conservation Act 1995

HECA report and Energy Strategy

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Rochford District Council

HECA Report and Energy Strategy - October 1996

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APPENDICES

1. Home Energy Conservation Act 1995

The Home Energy Conservation Act 1995 (HECA) requires local authorities to prepare and publish a report which shall set out :

"energy conservation measures that the authority considers practicable, cost-effective and likely to result in a significant improvement in the energy efficiency of [all] residential accommodation in its area".

This new responsibility covers *all* dwellings within the local authority area, i.e. both public sector dwellings and those in the private sector - owner occupied, private rented and housing association dwellings. It also includes mobile homes but not homes in multiple occupation (HMOs), these will be considered at a later stage.

The Department of the Environment guidance published in Circular 2/96 has defined the required target as a reduction in energy usage of 30% over the next ten to fifteen years. Within the terms of the Act, energy conservation measures have been defined as including the following :

- advice and information
- training
- education
- publicity and promotion
- making grants and loans
- improvement works directly

The first HECA report must be submitted to the Secretary of State by 30 November 1996. Subsequently, reports (which monitor and evaluate progress towards achieving the set targets, and enhance the Council's energy strategy in the light of this) must be submitted annually, along with the Council's annual Housing Investment Programme submissions.

The second HECA report will therefore be due in mid-1997.

The report *must* include : an assessment of the area's current position with regard to energy efficiency, details of the practicable and cost-effective measures likely to achieve a 30% improvement in energy efficiency, the cost of improvement measures and carbon dioxide (CO₂) reductions.

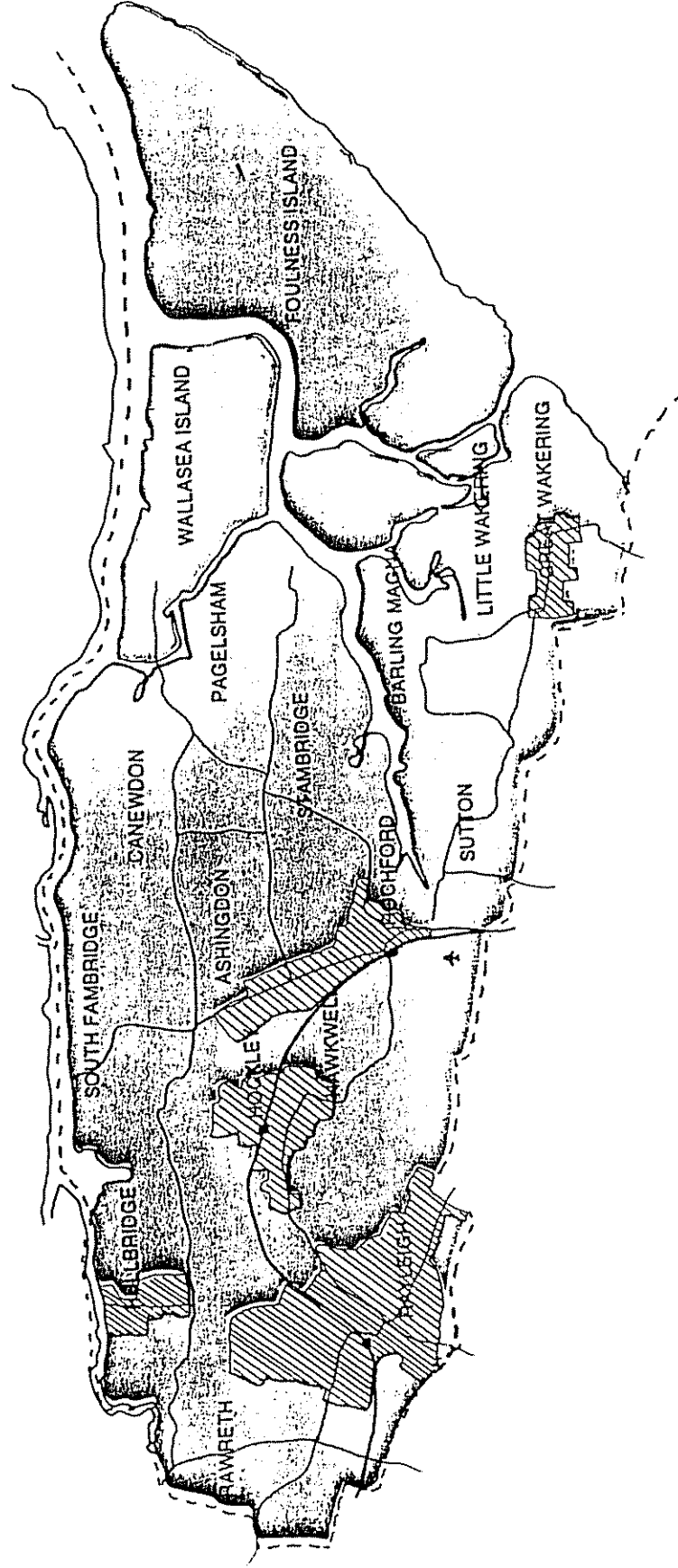
The report *may* include SO₂ and NO_x reductions, details on job creation, average energy use savings, a personal circumstances policy, and anything else felt appropriate.

2. Background to the District

2.1 LOCATION

Set apart from its neighbours to the south, the District is an area that has retained its own identity, with green fields and salt marshes, ancient woodlands and open river banks, while other Districts have changed beyond recognition in the past hundred years. With its main town of Rayleigh and many smaller towns and village communities, the modern Rochford District takes its heritage seriously yet continually reviews its plans for the future.

ROCHFORD DISTRICT COUNCIL



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2.2 POPULATION

The latest figure for the population of the District is 75,900.

It is predicted that there will be substantial increase in one person households, the number of frail elderly and the population groups with the potential for car ownership. It is also envisaged that school rolls will fall and consequently the numbers of school leavers available for work. Over the last fifty years the population of the District has increased through inward migration as the area has been developed. Latest indications are that the bulk of the population increase 1981 and 1991 has, in fact, been the result of natural change with immigration only contributing a small element to the increase.

The population trends are expected to continue in the years ahead as shown in the table below but the Council has been careful to take account to these projections in preparing the Corporate Plan.

1941	1951	1961	1971	1981	1991	2001	2011
26,881	28,997	49,350	68,469	73,783	75,900	77,969	78,652

2.3 HOUSING

Rochford District Council's 1997/98 latest housing information shows the following dwelling stock position for 1 April 1996 :

Figure 2.3.i

Dwellings within the authority's own area					Authority's dwellings outside its own area
Local Authority	Housing Association	Owner occupied	Private rented	Total	
2,077	866	27,117	1,200	31,260	0
6.6%	2.8%	86.7%	3.9%	100%	

The table in Figure 2.3.i shows the total stock in Rochford District Council area to be estimated at 31,260 dwellings as at 1 April 1996, of which almost 87% are owner occupied. The Council's own stock accounts for 6.6% of the total stock.

The table below (Figure 2.3 ii) shows the distribution of dwellings within Rochford DC area by built form and age. Overleaf, the distribution of dwellings is shown broken down by tenure, built form and age - as used in the HECA spreadsheet.

Figure 2.3.ii

Age	Built Form					Total
	Detach	Semi	Terrace	Bung	Flat	
Pre 1919	871	1305	4231	40	466	6913
1919-1944	1067	3750	2005	650	563	8035
1945-1964	865	2566	923	860	755	5969
1965-1980	1470	1547	1129	1044	1110	6300
Post 1980	1392	977	549	483	642	4043
Total	5665	10145	8837	3077	3536	31260

Figure 2.3.iii

Number of dwellings in each category							
Total number of dwellings							
	Built form	Detach	Semi	Terrace	Bung	Flat	Total
Owner Occupied	Pre 1919	820	1214	3895	37	291	6257
	1919-1944	1044	3464	1631	606	308	7053
	1945-1964	845	2312	715	782	404	5058
	1965-1980	1438	1449	896	961	539	5283
	Post 1980	1357	889	443	407	370	3466
Owner Occupied	Total	5504	9328	7580	2793	1912	27117
Local Authority	Pre 1919	2	8	43	0	27	80
	1919-1944	4	201	173	28	123	529
	1945-1964	3	180	137	57	267	644
	1965-1980	1	51	155	60	398	665
	Post 1980	0	60	18	14	67	159
Local Authority	Total	10	500	526	159	882	2077
Private Rented	Pre 1919	44	72	234	2	129	481
	1919-1944	11	50	163	10	100	334
	1945-1964	8	27	51	12	63	161
	1965-1980	20	20	25	16	51	132
	Post 1980	28	5	10	8	41	92
Private Rented	Total	111	174	483	48	384	1200
HA/Others	Pre 1919	5	11	59	1	19	95
	1919-1944	8	35	38	6	32	119
	1945-1964	9	47	20	9	21	106
	1965-1980	11	27	53	7	122	220
	Post 1980	7	23	78	54	164	326
HA/Others	Total	40	143	248	77	358	866
All tenures		5665	10145	8837	3077	3536	31260

2.4 CONTEXT

Rochford District Council, through the activities of its various departments and agencies, has become increasingly involved in monitoring, assessing and improving the energy efficiency of its council house stock and of residential development in general. Indeed, energy efficiency now represents an important element of housing policy embracing not only the physical and environmental issues of fuel efficiency but also the social issues associated with affordable warmth.

In addition to the work already done and in progress, the Council recognises that opportunities exist to develop a more co-ordinated and focused approach to this wide range of activities, and that these activities should be set within an authority-wide framework of aims and objectives, backed up by well defined targets, the achievement of which is carefully monitored and reviewed. In this way, such important activities as the work required as part of the Home Energy Conservation Act and Rochford DC's annual Housing Investment Programme submissions, may be seen as an integral part of a wider energy efficiency strategy framework.

Rochford District Council understands that improving the energy efficiency of the public and private housing stock is a long-term, incremental process, requiring integrated and co-ordinated action both within the authority and with external agencies. It also requires a considerable investment in resources over a long period of time - particularly within the owner occupied sector which makes up 86.7% of the total stock.

Rochford DC therefore intends to set its Home Energy Conservation Act report within the context of an overall housing energy strategy. In the light of the analysis contained in the HECA report, the authority will begin to develop a strategy based on both the medium five year term the longer ten year period which will, for example, influence annual HIP work programmes.

The framework should take account of all relevant legislation, regulations and other requirements upon the Council, in particular requirements and guidance related to the Home Energy Conservation Act, the authority's annual Housing Investment Programme (HIP) submissions, Agenda 21 and the 1995 Building Regulations. The development of aims and objectives should also be viewed within the context of activities already taking place within the District by both the Council itself and other external agencies.

2.5 LEGISLATIVE FRAMEWORK

Home Energy Conservation Act 1995

This legislation requires Rochford District Council to develop an overall housing energy strategy for all residential properties within its District. Opportunities have been identified to co-ordinate and enable energy efficiency improvements to be made to reduce CO2 emissions.

Housing Investment Programme submission

Rochford DC is required to make its HIP submission to the Department of the Environment, outlining the improvement and maintenance strategy for its own Council house stock for the coming year and bidding for DoE funding for this work. The DoE guidance manual for local authorities *Energy Efficiency in Council Housing* says :

"all authorities are now expected to take fuller account of energy efficiency in their housing strategies and reflect this in their annual Housing Investment Programme submissions. Performance here is one of the factors looked at in considering allocations ... As a matter of standard practice all authorities should have a clear energy efficiency policy backed up by objective information on the performance of the stock and by targets."

With the advent of the Home Energy Conservation Act, the DoE's allocation of HIP funding will also be based on its appraisal of the Council's HECA reports and achievements.

2.6 AGENDA 21

Agenda 21 is an action programme for the global environment adopted by the Government at the Earth Summit in 1992. It covers a wide range of issues divided into four main areas:

- Social and Economic Dimensions
- Conservation and Management of Resources for Development
- Strengthening the Role of Major Social Groups
- Means of Implementation

A guide to Agenda 21 was developed by the Local Government Management Board. Rochford DC is establishing an Agenda 21 team and is currently looking into the possibility of appointing an Agenda 21 Officer to prepare an overall strategy with aims and objectives and an action plan covering the seven areas of :

- Transport
- Energy
- Natural Environment and Biodiversity
- Waste and Recycling
- Pollution and Public Health
- Social and Economic Development
- Built Environment

Building Regulations 1995 Regulation 14A and Part L

The Building Regulations (Amendment) Regulations 1994 14A requires the applicant to provide a Standard Assessment Procedure (SAP) energy rating for all new dwellings created by new development or change of use. In addition, Part L (Conservation of Fuel and Power) involves use of SAP ratings to help determine the insulation standards to which new dwellings must be built.

2.7 LOCAL INITIATIVES

Local authority dwellings

The aim of Rochford's council housing energy policy is 'To improve the energy efficiency of council housing and to reduce tenants fuel bills'.

The objectives are:

1. To offer tenants affordable warmth, ensuring heating levels can be achieved of 21 degrees in the main living area and 18 degrees elsewhere for nine hours a day in two periods on weekdays and one sixteen hour period per day at weekends. This is to be achieved when external temperature is -1.
2. To minimise the incidents of condensation and mould growth.
3. To reduce tenants complaints.
4. To reduce CO₂ emissions.
5. To maximise the energy effectiveness of the councils investment.

The Targets are:

1. To survey and energy audit seventy properties per year.
2. To reduce CO₂ emissions associated with the council's housing stock by at least 50 tonnes per year for each of the next five years.
3. To ensure the lowest SAP rating of a council house is 25 by the year 2000.
4. To ensure that all major works are evaluated to seek an increase in SAP ratings.
5. To seek to raise the SAP ratings when central heating is installed.
6. To provide training for three front line staff to a minimum of City & Guilds NVQ over the next three years .
7. To consult with tenants to discuss the installation of improvements and seek their comments.
8. To give current tenants advice on operation and running costs of any improvement and to advise all new tenants on first occupation.
9. Promote the HEES scheme.

Current programmes.

Central heating replacement programme.

Rochford Council has a 10 year plan to provide/improve the heating systems within its own housing stock. The cost of this is estimated to be £70,000 per year, involving 35-40 properties per year.

Window replacement programme.

Rochford Council has a 10 year window replacement programme. This involves fitting UPVC double glazed units into 75-80 properties per year at an estimated cost of £175,000 per year.

HEES

Rochford Council has an active referral systems, whereby any enquiries made to the Council about financial help for loft insulation, draught proofing and general energy advice are passed directly to the Energy Action Grants Agency.

Private dwellings (including private rented and housing association)

1. The Council will implement a monitoring programme for the private sector to improve year on year the energy information held about the private stock.
2. The Council is actively investigating a software database in which to store all current and future housing energy information. The possibility of a Centre with other Local Authorities in South East Essex is also being considered.
3. The Council will investigate setting up a Local Energy Advice Centre for the promotion of energy saving ideas to the general public. The possibility of a centre with other Local Authorities in south east Essex is also being considered.
4. The Council will consider distributing energy information leaflets not only from all its offices but also in mail sent to all households.

General Energy Action

As an energy conscious authority measures have already been taken to promote the following :

- Installation of gas fired central heating.
- Use condensing boilers wherever possible.
- Extensive use of thermostatically controlled radiator valves.
- Loft insulation in all houses.
- Extensive uPVC double glazed window replacement.
- Promotion of the Home Energy Efficiency Scheme (HEES).
- Use of low energy light bulbs.
- Cavity Wall Insulation.
- Installation of insulated external cladding to exposed solid walled properties.

3. Base position : Description of the energy efficiency of the current housing stock

3.1 DATA GATHERING METHODOLOGY

In order to formulate a strategy identifying cost-effective, practicable measures to improve the energy efficiency of the housing stock within Rochford District Council area, the authority believes it essential to first establish the current *base position* of the housing stock. An assessment of the current levels of energy efficiency of the stock as at 1 April 1996 was undertaken to assist in the identification of :

- a) average energy efficiency levels (entire stock and by tenure, built form and age) allowing comparisons with
 - other similar authorities
 - alternative potential improvement scenarios
 - energy efficiency levels following take-up of measures

- b) priority properties and property types (by tenure, built form and age) allowing formulation of detailed and well-focused implementation plans and other measures

Rochford DC commissioned MVM Starpoint Ltd to assist in the formulation of its HECA report and energy strategy. Their initial task was to identify existing sources of useful information and to develop an energy database of the housing stock from which the above analysis could be undertaken.

3.2 DESCRIPTION OF SOURCE DATA

Public Sector House Survey data

For the purpose of this report, the repair and maintenance property database totals were broken down by age and built form and used in the HECA spreadsheet. It is recognised that detailed information held on the public stock will have to be combined with the private stock to form an authoritative data base.

Private Sector House Condition Survey data

A stock survey carried out in 1992 comprising some 463 records was used as the basis for the private sector input to the HECA spreadsheet.

Housing association data

A standard letter and information request proforma was sent to all housing associations which manage dwellings within the Rochford District Council area.

The response was limited and further work will need to be done to obtain a complete picture of housing association property in the area so that the data gathered by the private sector stock condition survey can be more fully updated.

3.3 ASSESSMENT OF CURRENT LEVEL OF ENERGY EFFICIENCY

An assessment of the current level of energy efficiency of the housing stock has been made using the HECA spreadsheet. Where column A is the element, column B is the number of dwellings which have that element, column C is the percentage of that total to which any improvement has already been applied and D is the actual number.

Figure 3.3.i

A. Summary of current state	B	C	D
Number of dwellings	31260	6% are unfit	
		Potential % of potential to which measure is applied	Actual
Hot water tank insulation	27049		96%
Draught stripping (> 39%)	31260		66%
Cavity wall insulation	21374		33%
Loft insulation (50mm or more)	26513		76%
Double glazing	31260		
Full house			37%
Half house			19%
Living room only			11%
Heating systems	31260		
Condensing boilers			0%
Central heating (<=12 years old)			51%
Central heating (>12 years old)			36%
Room heaters			13%
HECA figures			
Total energy usage per annum			3,396,068 GJ
Total CO ₂ emissions per annum			244,149 tonnes

4. Potential for future energy savings

4.1 OVERVIEW

Having established the base position with regard to the energy efficiency of the housing stock, an assessment has been made of the potential for making energy savings. The HECA spreadsheet was used to assess different scenarios and their effect in terms of energy savings and CO₂ emission reductions.

The following table outlines the measures that have been applied to the HECA spreadsheet.

Figure 4.1.i

Summary of improvement options made	
1 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Tank insulation,
:	
Proportion of potential:	100%
2 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Draught stripping,
:	
Proportion of potential:	100%
3 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Cavity insulation,
:	
Proportion of potential:	100%

4 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Loft insulation,
:	
Proportion of potential:	100%
5 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Double glazing for full house,
:	
Proportion of potential:	100%
6 Tenures:	Owner Occupier, Local Authority, Private Rented, Other,
Built Forms:	Detached, Semi, Terrace, Bungalow, Flats,
Age bands:	Pre 1919, 1919 - 1944, 1945 - 1964, 1965 - 1980, Post 1980,
Improvements	Heating system, condensing
:	
Proportion of potential:	100%

Summary:

Highlighted above are six proposals to improve the energy efficiency of housing. Each measure is shown to be applied to all housing, regardless of tenure, builtform and age, where it is possible for the improvement to be made. The potential for an improvement to be made will only exist where: a). The property does not already have the measure and b). The property is able to have the measure.

Although it is easy to be sceptical of achieving 100% take up of all six measures this will not prevent the authority in demonstrating how a 30% reduction in energy efficiency can be achieved.

4.2 Applied savings

The following table gives the savings in energy consumption and CO₂ emissions from the above measures.

Fig 4.2.i

Improvement summary							
Tenure	Improve- ment no	Nominal energy use (GJ)	Nominal CO ₂ emissions (tonnes)	Improvement due to each set of measures		Overall improvement compared with base case	
				Energy efficiency	Carbon dioxide emissions	Energy efficiency	Carbon dioxide emissions
OO	0	3,026,477	215,187				
LA	0	171,554	13,336				
PR	0	125,171	9,804				
Other	0	72,865	5,821				
Total	0	3,396,068	244,149				
OO	1	3,015,951	214,506	0.3%	0.3%	0.3%	0.3%
LA	1	169,637	13,195	1.1%	1.1%	1.1%	1.1%
PR	1	123,619	9,693	1.2%	1.1%	1.2%	1.1%
Other	1	72,235	5,776	0.9%	0.8%	0.9%	0.8%
Total	1	3,381,443	243,170	0.4%	0.4%	0.4%	0.4%
OO	2	2,995,798	213,220	0.7%	0.6%	1.0%	0.9%
LA	2	166,990	13,008	1.5%	1.4%	2.7%	2.5%
PR	2	121,792	9,561	1.5%	1.3%	2.7%	2.5%
Other	2	71,325	5,708	1.2%	1.2%	2.1%	1.9%
Total	2	3,355,907	241,497	0.8%	0.7%	1.2%	1.1%
OO	3	2,703,413	195,068	9.7%	8.4%	10.7%	9.3%
LA	3	149,686	11,779	10.1%	9.2%	12.7%	11.7%
PR	3	113,975	9,023	6.2%	5.5%	8.9%	8.0%
Other	3	63,830	5,164	10.3%	9.3%	12.4%	11.3%
Total	3	3,030,904	221,034	9.6%	8.4%	10.8%	9.5%

OO	4	2,674,354	193,232	1.0%	0.9%	11.6%	10.2%
LA	4	148,022	11,664	1.0%	0.9%	13.7%	12.5%
PR	4	112,170	8,896	1.4%	1.3%	10.4%	9.3%
Other	4	63,124	5,115	1.0%	0.8%	13.4%	12.1%
Total	4	2,997,671	218,908	1.0%	0.9%	11.7%	10.3%
OO	5	2,538,215	184,605	4.5%	4.0%	16.1%	14.2%
LA	5	135,735	10,795	7.2%	6.5%	20.9%	19.1%
PR	5	103,178	8,245	7.2%	6.6%	17.6%	15.9%
Other	5	58,682	4,783	6.1%	5.7%	19.5%	17.8%
Total	5	2,835,810	208,428	4.8%	4.3%	16.5%	14.6%
OO	6	2,115,710	161,108	14.0%	10.9%	30.1%	25.1%
LA	6	117,723	9,752	10.5%	7.8%	31.4%	26.9%
PR	6	86,690	7,270	13.2%	9.9%	30.7%	25.8%
Other	6	55,208	4,581	4.8%	3.5%	24.2%	21.3%
Total	6	2,375,332	182,711	13.6%	10.5%	30.1%	25.2%

Where OO=Owner Occupier
 LA= Local Authority
 PR=Private Rented
 Other=Housing Association and other

Figure 4.2.ii

Cost table.

Potential improvement measures	Number of dwellings where applicable	Total annual savings			Total cost of measures (£M)	cost effectiveness (years)
		GJ	CO2 tonnes	energy £m		
Hot water tank insulation 1	1,082	14,625	979	0.07	0.01	0.14
Cavity wall insulation 2	14,321	325,003	20,463	1.5	6.44	4.29
Loft insulation 3	6,363	33,233	2,126	0.15	1.27	8.47
Replacement d/g (marginal cost) 4	19,694	161,861	10,480	0.74	4.92	6.65
Heating (condensing boilers) 5	15,317	460,478	25,717	2.12	23.25	10.79
Total		995,200	59,765	4.58	35.89	7.84

The above table assumes a weighted fuel cost of £4.60 per GJ, draught stripping is included with double glazing and the following costs per dwelling:

1. £8 for a new hot water insulating jacket
2. £450 for the installation of cavity wall insulation
3. £200 for installing 200mm loft insulation
4. £200 for the additional cost of double glazing compared with single glazing in replacement windows
5. £2400 for the cost of a new central heating system with a condensing boiler (4,063 systems) and £1,200 for a replacement condensing boiler (11,254 boilers)

Assessment of job creation by energy efficiency measures.

The total expenditure on installing energy efficiency measures to achieve a 30% energy saving would be approximately £36 million. Provisional figures provided by the Association for the Conservation of Energy are that a job is created in the insulation industry for every £68,000 of expenditure. (£40,000 for materials and £28,000 for labour).

This would suggest that approximately 53 jobs would be created over the ten year period by the measures recommended in this report. However, much of the expenditure needed to pay for the energy efficiency measures would be diverted from other areas of household expenditure. It could therefore be argued that the overall effect on jobs might be broadly neutral.

4.3 Conclusion

It can be seen from table 4.2.i that if all the opportunities for improvement offered in the HECA spreadsheet were implemented, a 30% energy saving could be achieved. As can be seen from table 3.3.i, there is already a high percentage of tank, loft and cavity wall insulation already completed giving limited scope for improvements. However, the council will seek to achieve the maximum energy savings possible for all stock in its area by promoting the following:

As loft insulation is one of the most cost effective energy saving measures, the Council will recommend that properties with less than 50 mm of loft insulation are persuaded to increase their level to 200mm to meet current Building Regulation Standards.

The ability of local authorities to benefit from the bulk purchase of cavity wall insulation means that it is very cost-effective. The Local Authority will investigate how the installation of cavity wall insulation can be promoted to householders.

Unlike loft insulation and cavity wall insulation, replacement double glazed windows are not cost-effective on energy saving grounds alone. However, the marginal extra cost of including double glazing in windows that are being replaced for maintenance reasons on Council stock and when the Council give a Renovation Grant makes double glazing an attractive energy saving measure.

Condensing boilers are promoted where suitable. The Council will specify that condensing boilers are used in the boiler replacement programme in Council stock where suitable. Controls in new and upgraded central heating systems will comply with the 1995 Building Regulation requirements.

In addition to the measures listed above, there are a number of additional energy saving measures that have been identified that would contribute towards the 30% overall energy saving target. These include:

- the upgrading of partial central heating systems that were installed up to 8 years ago - (these only have limited radiators and the simplest of controls)
- top up loft insulation from the current level of about 80 -100 mm found in most properties up to 200 mm
- upgrading the insulation levels of flat roofs when the weatherproof surface is renewed as part of planned maintenance work
- the greater use of CFLs to replace tungsten light bulbs.

It is recommended that the Housing Department continues to its commitment to providing affordable warmth for its tenants by implementing all practical energy saving measures that are cost-effective.

5. Energy Strategy : Initiatives to improve energy efficiency by 30%

5.1 OVERVIEW

Strategy framework

Rochford District Council recognises that opportunities exist to develop a more focused and co-ordinated approach to improving the energy efficiency of homes within its area, and that an overall energy strategy should be developed within an authority-wide framework of aims and objectives, backed up by well defined targets, the achievement of which is carefully monitored and reviewed. In this way, activities related to both the Home Energy Conservation Act and Rochford DC's annual Housing Investment Programme submissions may be seen as an integral part of a wider energy efficiency strategy.

The Council understands that improving the energy efficiency of the public and private housing stock is a long-term, incremental process, requiring integrated and co-ordinated action both within the authority and with external agencies. It also requires a considerable investment in resources over a long period of time - particularly within the owner occupied sector which makes up a particularly high proportion of over 75% of the total stock.

This Home Energy Conservation Act report has therefore been set within the context of an overall housing energy strategy. In the light of the analysis contained in the HECA report, the authority will begin to develop a strategy based on both the longer ten year period and the medium five year term. This will be used to help set three year energy efficiency targets as well as influence annual HIP work programmes.

The strategy framework has taken account of relevant legislation, regulations and other requirements upon the Council, in particular requirements and guidance related to the Home Energy Conservation Act, the authority's annual Housing Investment Programme (HIP) submissions, Agenda 21 and the 1995 Building Regulations. The development of aims and objectives is also viewed within the context of activities already taking place within the District by both the Council itself and other external agencies.

Timescales

In the light of the assessment of current activities, legislative framework, etc., Rochford DC has decided to develop a housing energy strategy based on the following timescales:

- ten year strategy
- one, three and five year implementation programmes

The ten year period is aimed at achieving the target laid down in the Home Energy Conservation Act, i.e. a 30% reduction in overall energy usage.

5.2 HOUSING ENERGY STRATEGY WORKING GROUP

Current and proposed activities within the Council demonstrate that Rochford DC already has a *culture of energy efficiency*, but the Council accepts that opportunities for better co-ordination and further development of these activities still exist. As a means of consolidating and co-ordinating future initiatives and to develop further its links with external organisations, Rochford DC intends to establish a Housing Energy Strategy Working Group (HESWG). This will include the following representatives :

- Chief Environmental Health Officer
- Environmental Health Assistant - Residential Control Unit
- Agenda 21 Officer (if appointed)
- Senior Building Surveyor
- Building Control Officer
- Financial Services Manager
- Housing Manager

Identified are ten main aims and objectives, as follows :

- bring together those bodies responsible for and involved in housing energy efficiency, and consult other interested parties and expert consultancies as required
- identify existing best practice in each part of this and other authorities and co-ordinate these activities
- identify new areas of opportunity for improvements in housing energy efficiency, including looking at best practice in other authorities plus referring to EEO and BRECSU publications
- develop a co-ordinated, integrated housing energy efficiency strategy, together with a clear set of aims and objectives, targets and timescales
- identify opportunities for the more effective use of existing resources and for new funding
- devise clear lines of responsibility for the implementation of these activities
- put in place monitoring and reporting mechanisms to review the aims, objectives and targets which have been set, and to measure the extent to which targets are achieved, and to identify problems and the required remedial action
- regularly review relevant legislative and other requirements and co-ordinate these with the aims and objectives, amending and enhancing them as required
- make periodic reports to the Community Services Committee, and other committees as required

5.3 Energy policy

This section sets down the aims and objectives of Rochford District Council in relation to energy efficiency of the housing stock within its area. The actions listed are those considered necessary to give practical effect to our energy policy

The actions will be reviewed and updated at least annually.

Aim

- To improve the energy efficiency of the housing stock.

Objectives

- To provide all occupiers with affordable warmth based upon modern, individually controlled space and water heating systems.
- To reduce energy consumption in the stock by 30% over 10 years (from 1st April 1996).
- To reduce the level of CO₂ emissions by 25% over 10 years (from 1st April 1996).
- To combat and reduce the incidence of condensation and mould growth.
- To initiate training programmes to improve the energy efficiency awareness of front line staff.
- To maximise the use of resources allocated to energy efficiency and to provide good value for capital investment.

Actions

1. Responsibility

To assign responsibility for the accomplishment of the following actions to departments or named individuals.

2. Monitoring

Establish a monitoring structure covering the following:

- any new procedures needed to comply with the requirements of the Home Energy Conservation Act
- the number of heating improvements carried out (by type and fuel)
- the number and type of insulation measures installed
- the number and severity of condensation cases and measures taken
- the number of staff trained to give energy advice and carry out energy ratings.

This monitoring is necessary to enable long term energy planning to be fine tuned to meet medium to long term goals and investment needs

3. Data collection

To collect more detailed information on the energy efficiency of individual properties and key the information into the existing database at regular intervals. It is proposed that when qualified staff make visits to properties, they may take the opportunity to carry out an energy rating survey if appropriate and time permits. In this way, energy data can be gradually built up with the minimum call on resources.

To use the database of energy ratings and stock energy profiles to prioritise future improvement work on Council stock.

4. Setting priorities

To evaluate all the measures identified to comply with the Home Energy Conservation Act, establish a structured programme of works and assess the scale of resources needed to complete the measures.

5. New and replacement heating systems

When boilers or whole heating systems need replacing in the Councils stock, they will not automatically be replaced on a like-for-like basis. More efficient heating systems and improved insulation will be evaluated by means of an energy audit.

Condensing boilers are being installed in some Council properties and it is planned to extend and promote their use generally in future.

The current policy of topping up loft insulation to 200 mm when a new or replacement heating system is installed will continue.

6. Heating controls

All new central heating installations are to have controls that comply with the 1995 revision to the Building Regulations. Wherever practical, the choice of heating programmer is to be made in consultation with the tenants to ensure it is easy to understand.

Where existing boilers are being replaced or heating systems extended, the heating controls will also be upgraded to allow the heating and hot water to be controlled separately wherever this is practical.

7. Energy Advice

It is proposed that relevant/appropriate front line council staff should be able to provide advice to occupiers on:

the best way to use their heating system and its controls to suit particular needs in the most energy efficient way

making good use of the heating and ventilation provision in the property to minimise the risk of condensation and mould.

8. Energy advice training

In order to be able to offer energy advice to tenants as outlined above, it is necessary to develop some in-house expertise. It is proposed that, during the next year, staff who have day-to-day contact with tenants, including caretakers and housing officers should receive a one day course in simple energy awareness training. This will enable them to offer useful and practical advice to tenants.

The advice given to tenants will be reviewed at regular intervals with a view to refining the advice given and setting priorities for improvement work.

9. Tenant consultation

The Council has a policy to consult with tenants on all aspects of housing management, maintenance and improvements which directly affect them. In addition the Tenant representatives are involved in the rent setting process and are co-opted members of the Council's Community Services Committee.

10. Capital budget implications

Examine the cost implications of incorporating the energy efficiency measures identified under the Home Energy Conservation Act into existing programmes and assess this against other current investment proposals and priorities.

In the 1997/8 financial year, examine the opportunities for including additional insulation measures within existing capital and maintenance programmes.

11. Sources of funding

Investigate all potential funding sources and methods of implementation to improve the energy efficiency of the Council's housing, including private and public finance sector partners.

5.4 LINKS WITH OTHER ORGANISATIONS

There are a number of local and national organisations that provide both input to, and advice on, energy saving topics. The Council will contact these organisations as and when necessary.

Parish Councils

Association for the Conservation of Energy

The Building Research Establishment

The Centre for Research Education and Training in Energy

The Department of the Environment

Regional Environmental and Energy Office

Bristol Energy Centre

British Gas

Eastern Electricity

5.5 ENERGY EFFICIENCY ADVICE

The Council will investigate setting up a Local Energy Advice Centre and will be contacting the Bristol Energy Centre for their advice. Information generally available however should be:

- a list of names and telephone numbers of the local HEES installer and other companies who carry out insulation work and central heating installations
- information on grants available, e.g. HEES, EST, Improvement Grants etc.

The Council considers that an ideal time to incorporate energy saving measures is when other building work is already being carried out. It is therefore possible to train staff in the Building Regulations Department to give energy advice to builders and property owners applying for building regulations approval for domestic accommodation.

There are two further areas where expertise will be of use:

- Energy Awareness training to enable staff in Housing, Building Control and Environmental Health Departments to be able to offer advice on energy saving measures to be included in housing programmes, or action taken by consumers to save energy (e.g., City and Guilds energy awareness qualification).
- Simple energy awareness training for staff who have day-to-day contact with the public and residents, such as caretakers and housing officers. A one day in-house course would be appropriate.

5.6 PROMOTIONAL ACTIVITIES

In order to meet the targets for potential energy savings, the Council plan to undertake a number of new promotional initiatives as set out below. The primary aim of these initiatives is to:

- Increase the energy awareness of both adults and children in the District
- Increase the rate of implementation of energy efficiency measures

Examples of initiatives to be considered are:

- Articles in the Council's own newspaper.
- Articles in Local Newspapers.
- School Poster competition.
- Distribution of appropriate leaflets.

5.7 BULK PURCHASE

It is proposed to investigate the bulk purchase of energy efficient products that can then be sold on at a price below the current market price.

It may be possible for the Council to negotiate bulk purchase arrangements with cavity wall and loft insulation installers. To limit the manpower resources within the Council, it is proposed to encourage residents groups to act as co-ordinators in compiling lists of householders who wish to participate in having cavity wall insulation installed as part of a bulk purchase arrangement. It is hoped that this will encourage a number of householders to participate who would not otherwise have been interested.

Compact fluorescent lamps, being lower cost items, could be sold through a wider range of outlets. As well as the residents groups, these might include events held in Rochford that are linked to housing and energy issues:

- Environmental awareness days
- National Housing Week, held in June each year
- the Energy Weekend, held in September/October

5.8 HOUSE RENOVATION GRANTS

The Council considers that an ideal time to incorporate energy saving measures is when a property is being improved with grant aid. It is therefore proposed that applicants will be required to carry out energy saving work when an application is made for a House Renovation Grant. It is also proposed that the new Home Repairs Grants will give grant aid for energy efficiency measures.

5.9 PROMOTION OF ENERGY SAVING TRUST AND DoE SCHEMES

Rochford DC consider the advice of and information produced on energy efficiency by the DoE as essential for increasing the energy awareness of the general public and promoting energy saving measures. The Council propose to use the publicity material produced by the DoE in their own initiatives and campaigns.

The grants and financial incentives available from the Energy Saving Trust are also seen as essential if home owners and private landlords are to be persuaded to use more energy efficient equipment. In particular, the Rochford DC intend to promote the EST's Gas Condensing Boiler Subsidy Scheme. The Council recognises that in order to meet the target of a 30% energy saving it will be essential to increase the number of condensing boilers that are installed in the District. Through discussions with local installers, the council will encourage the uptake of the Gas Condensing Boiler Subsidy Scheme and the Controls Cashback Scheme. Rochford DC are also committed to promoting other schemes developed by the Energy Saving Trust in the future.

5.10 MOBILE HOMES

There are 483 residential mobile homes on six sites within the Rochford DC. They are a special case and merit particular attention.

Thermal insulation of mobile homes

The maximum U-value currently required for mobile homes are set out in the British Standard for Park Homes (mobile homes) BS 3632:1995.

Improving insulation

The National Caravan Council says that improving the insulation of mobile homes is technically possible but does not take place very often. Mobile homes are occasionally refurbished, and this would be the time at which appropriate insulation improvements would sensibly take place. The most common refurbishment is to replace a flat roof with a pitched roof, when adding extra insulation would be recommended. Other improvements that can be undertaken are the replacement of single glazed windows with double glazing and the installation of central heating systems.

The Council recognises that those living in mobile homes have the right to be treated in the same way as those living in dwellings of traditional construction.

5.11 TAKING PERSONAL CIRCUMSTANCES INTO ACCOUNT

Rochford District Council recognises that the personal circumstances of certain households requires special consideration when exercising its powers in connection with the provision of energy efficiency measures. Lack of adequate income means that some households cannot afford to heat their homes to an adequate standard. The same lack of income also prevents these households from carrying out the necessary cost-effective energy saving improvements to their homes.

The Council, therefore, recognises that low-income households require financial support to provide them with the necessary improvements and is working to develop its Affordable Warmth Policy to cover low income households in the owner occupied and private rented sectors.

It is also recognised that some households have other special needs relevant to the delivery of energy efficiency services. These needs arise as a result of old age, disability, the presence of young children and language and cultural differences. The Council will take these needs into account when delivering, or encouraging the delivery of, energy efficiency improvements.

Elderly people, those with disabilities and families with young children spend longer periods at home and require higher temperatures than the rest of the population. Such households, and those from ethnic minorities, may lack confidence in dealing with companies making home improvements. The need for good customer care policies by insulation contractors and others is therefore acknowledged.

Particular consideration will be given to elderly, ethnic minority and disabled households when delivering advice, information, promotional material and education services. The Council will ensure liaison with:

- Social Services Department, Council Benefit Officers and the voluntary organisations to ensure that the most vulnerable households are targeted for assistance that is appropriate for their needs.
- Organisations and individuals who care for the elderly, to ensure that they are aware of the energy efficiency services that are available.

6. Monitoring progress

6.1 ENERGY PROFILING DATABASE

Having established the *base position* of the housing stock, the Council believes it is essential to develop and maintain its own integrated housing stock energy profiling database which will be regularly updated and enhanced through on-going data collection exercises - including public and private stock surveys and questionnaires - to enable a regular on-going assessment of :

- a) average energy efficiency levels (entire stock and by tenure, built form and age) allowing comparisons with
 - alternative potential improvement scenarios
 - energy efficiency levels following take-up of measures
- b) priority properties and property types (by tenure, built form and age) allowing formulation of detailed and well-focused implementation plans and other measures

Rochford DC is currently considering an integrated housing stock energy profiling database. No decision has yet been made on which proprietary system the Council may purchase, but the required specification will be similar to a SAPbase system.

6.2 DATA GATHERING

Rochford District Council plans to send energy questionnaires to upto 10% of households in the district in each of the next 10 years. The questionnaires will ask sufficient detail for an approximate SAP rating to be calculated. They will also ask what energy saving measures have been carried out in the last 12 months and if there are plans to carry out measures in the next 12 months.

The questionnaire will, therefore, serve a dual purpose:

1. To build up a database on the energy efficiency of dwellings in the district.
2. To enable the rate of improvement in dwellings' energy efficiency to be assessed.

Discussions will be held within the Council about the most appropriate method for sending out the questionnaires and achieving a good response. As a pilot study, it is planned to ask members of staff who work for the council and live within the district to complete the questionnaire. The design of the form and the phrasing of the questions may be refined in the light of the pilot study.

A copy of the draft energy questionnaire to be used in the pilot study may be found in Appendix A.

Analysis of the questionnaires is seen as the main method of monitoring progress for the non-council owned properties. Information on the energy efficient improvements carried out each year on the council's own housing stock will be supplied by the Housing Department. Details passed to Building Control on new properties and Cavity Wall Insulation take up will also be used.

Information from these sources will be used to update the Council's energy profiling database software and the HECA spreadsheet each year. The results will form the basis of the annual HIP submission with respect to the Home Energy Conservation Act.

7. Action for the Secretary of State

1. Sustained national media campaign
2. Reduction of VAT on energy efficiency products/works
3. Enhancement of local authority housing capital programmes to tackle unfitness in tandem with energy efficiency
4. Bring pressure to bear on TRANSCO to release data more readily
5. Include cavity wall insulation in the HEES programme
6. Energy Saving Trust to continue the condensing boiler replacement initiative programme
7. EST to include cavity wall in their initiative programme
8. Increase boiler manufacturing standards for increased efficiency
9. Energy ratings to be taken by Building Societies
10. Provide funds for staff training.

Mr Mrs Miss Ms _____ Initials _____ Surname _____
 Address _____
 Postcode _____ Daytime Telephone No _____

1. Which description best suits your home? (tick one box only)

Owner occupied Local authority rented Private rented Housing association/Other

2. Which built form category best describes your home? (tick one box in each column)

<input type="checkbox"/> House	<input type="checkbox"/> Detached	If flat or maisonette:	
<input type="checkbox"/> Bungalow	<input type="checkbox"/> Semi-detached	<input type="checkbox"/> Top floor flat/maisonette	
<input type="checkbox"/> Flat	<input type="checkbox"/> End terrace	<input type="checkbox"/> Mid floor flat/maisonette	
<input type="checkbox"/> Maisonette	<input type="checkbox"/> Mid terrace	<input type="checkbox"/> Ground floor flat/maisonette	
<input type="checkbox"/> Other, please specify _____			

3. How many storeys does your home have (excluding basements)?

4. How many rooms does your home have?

5. How many bedrooms does your home have?

6. In which age-band was your home built? (tick one box only)

Pre 1900 1945 - 1964 1981 - 1990

1900 - 1919 1965 - 1975 1991 - 1995

1920 - 1944 1976 - 1980 Post 1995

7. How much window double glazing is there in your home? (tick one box only)

None up to 40% 40%-80% Over 80%

8. What proportion of windows and external doors are draught-proofed? (tick one box only)

None About 25% About 50% About 75% All windows & doors

9. What type of roof does your home have? (tick one box in each line)

Pitched Flat Other dwelling above

Insulated Uninsulated Don't know

If the roof is insulated, what is the average thickness? (tick one box only)

About 1" (25mm) About 2" (50mm) About 4" (100mm) 6" or more (150 mm+)

10. What type of external walls does your home have? (tick one box in each line)

Solid Cavity Don't know

Insulated Uninsulated Don't know

11. What type of floor does your home have? (tick one box in each line)

Solid Timber Other dwelling below Don't know

Insulated Uninsulated Don't know

12. What type of SPACE HEATING system do you have? If you use more than one, please choose the one you use most.

SYSTEM (tick one box only)

Standard boiler and radiators Combi boiler and radiators Condensing boiler and radiators Communal

Storage heaters Warm air system Room heaters eg, fires Don't know

FUEL (tick one box only)

Mains Gas Oil Coal or solid fuel Wood Ordinary electricity Economy? electricity LPG, eg Calor

AGE OF HEATING SYSTEM (tick one box only)

Less than 12 years old 12 years old or more Don't know

CONTROLS (tick all boxes that apply)

No controls Room thermostat Programmer and timer Thermostatic Radiator Valves

Automatic charge control (storage heaters only) Boiler energy manager / zone control Appliance thermostat Don't know

13. What type of WATER HEATING system do you have? If you use more than one, please choose the one you use most.

SYSTEM (tick one box only)

Same as space heating system Immersion heater Independent boiler Instant Don't know

FUEL (tick one box only)

Mains Gas Oil Coal or solid fuel Wood Ordinary electricity Economy? electricity LPG, eg Calor

CYLINDER INSULATION (tick one box only)

No hot water tank No insulation Loose jacket Manufactured spray foam

CYLINDER THICKNESS (tick one box only)

None About 1" (25mm) About 2" (50mm) About 4" (100mm) 6" or more (150 mm+) Don't know

CONTROLS (tick one box only)

Hot water cylinder thermostat No controls Don't know

14. What type of cooker do you have? If you use more than one, or have a separate oven and hob, please choose the hob you use most.

FUEL (tick one box only)

Mains Gas Oil Coal or solid fuel Wood Electricity LPG, eg Calor

15. What type of lighting does your home have? (tick one box only)

Ordinary Low energy lights in some rooms Low energy lights in most rooms Low energy lights everywhere

16. Are there any other specific energy efficiency items in your home? Please specify.

Many thanks for your co-operation and good luck in the prize draw

ANNEX D

Suggested index to energy conservation reports This will help the Department of the Environment draw up a snapshot summary of all energy conservation reports

LOCAL AUTHORITY: **ROCHFORD DC**

SUBJECT	REPORT PAGE/ PARAGRAPH No.	OTHER COMMENTS OR RELEVANT REFERENCES
Description of the residential accommodation and its energy efficiency as at 1 April 1996	7, 8 17	
Identification of the measures which will ensure at least 30 per cent improvement in energy efficiency	18-21	
Percentage improvement identified from the measures 30.1 per cent	21	
Timetable for implementation of the measures identified 10 years	24	
Cost of the measures identified £ 35.89M	21	
Decrease in CO ₂ emissions as a result of the implementation of the measures identified 5976.5 tonnes CO ₂ per annum	21	
Do you have a policy for taking into account personal circumstances? (please delete as appropriate) YES <input checked="" type="checkbox"/>	36	
Steps you would want the Secretary of State to take to assist with the measures identified	39	

OTHER COMMENTS

