

WORKING PAPER 393

LOCAL AUTHORITY INVOLVEMENT WITH ENERGY  
CONSERVATION : AN ANALYSIS OF A NATIONAL SURVEY

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## 1. INTRODUCTION

This report arises from a research program examining the possibility of local authorities assuming a wider ranging role in the pursuit of national energy conservation policy. In an area recognised as of increasing importance (Bishop 1983; Sheldrick 1983) this analysis both complements the work of others (LAMSAC 1980, 1981, 1982, & 1983; STCELA 1982; and London Energy Centre 1983) and extends it, by being both national in scope and broad-based in its conceptualisation of energy conservation. Implicit within this paper is a definition of energy conservation that encompasses social welfare criteria, as well as technical and economic ones.

Energy conservation is not defined in hard and fast terms. As noted elsewhere, "few concepts are interpreted as diversely as energy conservation" (Gibbons and Chandler 1981, pl). Dependent upon the desired objectives, energy conservation can be measured in units of energy, finance, or social welfare criteria. However, energy policy has seldomly addressed or been utilised to achieve national social policy objectives (Bradshaw and Harris 1983). Local authorities have a variety of potential channels at their disposal to rectify this failing.

Coinciding with the increased awareness of energy issues over the last decade has been a series of significant changes in local government, including the fundamental reorganisation in 1974 and 1975. More importantly, as regards energy conservation, has been the transformation of the local authority financial climate from an era of economic expansion, through economic constraint, to the present period of economic contraction. This change has been manifested in the local authority concern for energy conservation as a shift from viewing it as an issue of resources, or as a cost saving measure, to solely an exercise in cost cutting. Whereas previously financial savings represented a bonus to local authorities as departmental expenditure programs could be maintained, or even increased, if reduced fuel consumption targets are not now achieved through the installation of energy conservation measures, then the extra expenditure will occur at the expense of other programs within the department's budget. Capital expenditure programs have been cut back, in some instances dramatically, and payback periods have been reduced to affect immediate financial savings. The longer term benefits and implications have been ignored.

Local authorities are not creatures governed by economic dictates alone, although one could be forgiven for thinking so at present. They also have a social welfare role, both traditionally, and embodied in many of their existing services, responsibilities, and strategic functions. Local authorities are well positioned to utilise energy conservation to achieve objectives other than strictly economic ones. Despite the financial climate, the range of activities and concerns of several local authorities demonstrate that their involvement with energy conservation could be quite extensive and far reaching. This view however, is not necessarily shared by the majority of local authorities.

This paper provides a statistical analysis of a questionnaire survey on local authority involvement with energy conservation in England, Scotland and Wales, conducted between March and August 1983. The intention of the survey was to examine the nature of arrangements, programs, perceptions, and institutional factors within the local authority environment, as regards energy conservation. Information is presented by local government tier, and in aggregate, under the following categories: Policy Measures, Organisational Responsibility, Allocation of Finance, Energy Conservation Programs (energy management, council dwellings, educational buildings and community programs), Perception of a Local Authority Role and Central Government Commitment. A partial, but methodologically more specialised, analysis of the present survey data can be found in a companion paper examining the structural nature of local authority involvement with energy conservation (Sheldrick and Macgill 1983). In concluding the present paper assesses the some of the implications of the results for local authorities pursuing energy conservation as a policy.

## 2. SURVEY RESPONSE

The questionnaire format was designed to facilitate both the analysis of the data, and to encourage a large response from local authorities. In attempting to realise these two objectives, some potential questions that would have required detailed information, though useful, were forsaken. It is not unknown for postal surveys involving local authorities to come unstuck through non-response through too great a demand on their time or manpower. The survey was mailed to all 521 local authorities in England, Scotland and Wales at the end of March 1983. By the cut-off date, August '83, 349 local authorities had responded to the survey, with 334 of these responses valid for the purposes of the analysis. Overall, this represents a mean response of 62%, with a better than average response from the majority of local government tiers (Table 1). Of the 15 local authorities that returned the questionnaire without completing any of it, the majority cited a shortage of time or manpower. Three completed questionnaires were returned after the cut-off date but are not included in this analysis.

Although the questionnaire was addressed to the 'Energy Conservation Officer' in each local authority, this designation only describes 22% of the actual respondents. The questionnaire attracted a variety of respondents encompassing a plethora of responsibilities (Table 2). This diversity can be reduced to 5 categories of roughly the same size - Energy Conservation Officer, Architect, Engineer, Technical Services Officer, and Other.

The spread of departments designated responsible for energy conservation within the local authorities is slightly less diverse than the respondents. Overwhelmingly this responsibility lies with a 'technical' department (i.e. a technical or a building-service orientated department as opposed to a people-service orientated department - technical services, architect's or engineer's as opposed to housing) (Table 3). This table does reflect a degree of arbitrariness in the categorization of responsible departments (e.g. where an Architect & Engineer's Department was cited, this was included within the Architect category, and similarly, a reversal of title would have been included in the Engineer category). Overall, these classifications represented less than 3% of the total survey response. One implication of this technical orientation for the survey, as it was derived from a broad-based conception of energy conservation, may be the respondent's lack of a full awareness of the activities and arrangements within the local authority where they are spread across other departments.

These departments could represent very distinct, different approaches to the pursuit of energy conservation within that local authority. One local authority, where the Architect's department was responsible for its energy conservation activities, indicated that this only extended to incorporating measures in its new building designs. Not only has new build by local authorities declined in recent years, this position further implies that the existing building stock, boilers and maintenance programs

ABBREVIATIONS OF TIERS

LBC	London Borough Councils & Greater London Council
MCC	Metropolitan County Councils
MDC	Metropolitan District Councils
E&W CC	English and Welsh County Councils
E&W DC	English and Welsh District Councils
SR&IC	Scottish Regional and Island Councils
SDC	Scottish District Councils

TABLE 1: RESPONSE RATE TO QUESTIONNAIRE SURVEY

TIER	POTENTIAL TOTAL	NO. OF RETURNS	NO. VALID	% OF TIER (VALID/POTENTIAL)
LBC	34	24	24	71.6
MCC	6	4	4	66.7
MDC	36	25	25	69.7
E&W CC	47	38	37	78.7
E&W DC	333	216	203	61
SR&IC	12	8	8	66.7
SDC	53	34	33	62.2
TOTAL	521	349	334	62.2

TABLE 2: STATUS OF RESPONDENT (where indicated)

RESPONDENT	No.	%
Energy/Fuel Conservation/Efficiency/Economy Officer/Manager	65	22
Architect	53	18
Engineer	66	22
Technical/Building Services Officer	57	19
Surveyor	13	4
Chief Executive/ Town Clerk	11	4
Administration/ Management Services Officer	10	3
Auditor/ Treasurer	9	3
Housing Officer	7	2
Environmental Services Officer	5	2
Planner	2	1
Purchasing Officer	1	0.3
Environment and Technology Officer	1	0.3
Legal Assistant	1	0.3

**TABLE 3:**  
**DEPARTMENT RESPONSIBLE FOR ENERGY CONSERVATION WITHIN LOCAL AUTHORITIES**  
**(where indicated)**

<u>DEPARTMENT</u>	<u>No.</u>	<u>%</u>
Technical/ Building Services (and related)	107	41
Architect (and related)	84	32
Engineering (and related)	31	12
Development/Property/Planning/Housing/Management Services	15	6
Interdepartmental Committee	8	3
Auditor / Treasurer	8	3
Environmental Health	5	2
Chief Executive's Office	5	2



do not come within the scope of energy conservation. Given the lack of standardisation in local authority organisation and labelling of departments, Technical Services, Architect's and Engineer's Departments could actually represent the same service in different authorities, with only slight variations which could, of themselves, be highly significant in the developing of a definition, priorities, programs, and practices of energy conservation within the particular local authority.

To date the responsibility for energy conservation has not evolved to the extent where specific professional qualifications or institutional membership are a prerequisite for the job. The emerging "Energy Manager Movement" draws upon a wide range of professions and in an information forum, this can only be a strength. This lack of a professional home could enable the responsibility to develop to meet the situation, circumstances and demands of pursuing energy conservation objectives in general, and of a local authority in particular. However, it could also allow interdepartmental and interprofessional rivalries and territoriality to frustrate, obstruct and narrow the focus of energy conservation to the detriment of the authority. To circumvent such obstacles it may be necessary to initiate interdepartmental working groups, but more importantly, will be the acquisition of support in the upper levels of the administrative and political hierarchies of the authority.

### 3. FREQUENCY OF INVOLVEMENT WITH ENERGY CONSERVATION

A rank ordering of individual energy conservation activities, arrangements and perceptions according to the number and percentage of local authorities who are involved with them is presented in Table 4. Implicit within the different activities and arrangements are distinctions regarding the level of local authority involvement - essentially, whether they are strategic, managerial or operational in nature. Theoretically, an energy conservation policy would delineate the strategic priorities and goals of a local authority, while an energy management program would represent the arrangement of available resources (eg. time, manpower, and finance) to monitor, evaluate and achieve identified priorities. At the operational level would be the specific measures adopted. This distinction also implies the participation of different actors at different stages of the decision making - implementation process (eg. at a simple level the members take the strategic decisions, with the day to day management left to the officers and implementation left to council employees). If anything the survey was biased towards identifying activities and arrangements at the strategic and managerial levels, rather than the operational.

The strong concern amongst local authorities for their own fuel consumption and insulating council dwellings, both in actual practice and in the perception of a local authority role with energy conservation, is illustrated in Table 4. For the majority of arrangements and activities less than 50% of the respondents indicated their presence within the local

TABLE 4: FREQUENCY RESPONSE

RANK	No.	%	DESCRIPTION OF VARIABLE
1	307	92	Perception of E.C. role: fuel consumption in its own premises
2	263	79	Energy audits-surveys undertaken on its own premises
3	251	75	Council dwelling insulation program: 1978-1980
4	250	75	Increased central government commitment for E.C. wanted
5	239	72	Energy conscious behaviour encouraged in own staff
6	234	70	Fuel monitoring of own consumption carried out
6	234	70	Council dwelling insulation program: 1980-1983
8	231	69	Perception of E.C. role: council dwellings
9	223	67	E.C. activities financed from individual department budgets
10	197	59	Increased central government would have to be financial
11	190	57	Designated officer with E.C. responsibilities
12	176	53	Home Insulation Scheme specially promoted by local authority
13	172	51	Responsibility for E.C. vested generally in existing department
14	147	44	E.C. policy has been formally adopted by local authority
15	145	43	Perception of E.C. role: waste collection
16	144	43	Participates in local energy manager group
17	119	36	Energy management program has been initiated
18	117	35	E.C. activities financed from special E.C. budget allocation
20	115	34	Special E.C. unit has been established
20	115	34	An officer group concerned with E.C. exists within the authority
20	115	34	Participates in local authority group/forum with E.C. concern
22	113	34	Individuals throughout local authority allocated E.C. duties
23	107	32	Fuel consumption targets set for some local authority premises
23	107	32	Council dwelling insulation program: 1980-83 > 1978-80 period
25	105	31	DEn Energy Survey Scheme used for energy audits-surveys
26	98	29	Perception of E.C. role: all community buildings
27	92	28	Perception of E.C. role: waste disposal
28	84	25	Educational building insulation program: 1978-1982
29	80	24	Educational building insulation program: 1982-1983
30	78	23	Perception of E.C. role: land-use planning/development control
31	76	23	Energy policy formally adopted by local authority
32	71	21	Energy conscious behaviour encouraged in groups other than staff
33	70	21	Council dwelling insulation program: 1980-83, Oct. 82 finance
33	70	21	Perception of E.C. role: consumer advice
35	67	20	Energy audits-surveys undertaken in all local authority premises
36	66	20	Perception of E.C. role: CHP/DH
37	62	19	Council dwelling insulation program: 1980-83 = 1978-80 period
38	61	18	Full-time E.C. officer appointed
39	57	17	Perception of E.C. role: local transport
40	54	16	Perception of E.C. role: education curriculum
41	52	16	Perception of E.C. role: fuel hardship/ poverty
42	50	15	A member committee exists concerned with E.C.
43	45	13	Energy audits-surveys of council dwellings undertaken
43	45	13	Insulation/energy advice project sponsored by local authority
45	44	13	Council dwelling insulation program: 1980-83 < 1978-80 period
46	42	13	Perception of E.C. role: public transport
47	37	11	Council tenants can request energy audit-survey to be undertaken
48	30	9	E.C. research sponsored by local authority
49	27	8	Educational building insulation program: 1982-83 = 1978-82 period
50	26	8	Educational building insulation program: 1982-83 < 1978-82 period
51	24	7	Person delegated to liaise with DHSS/fuel boards on fuel poverty
52	22	7	Educational building insulation program: 1982-83 > 1978-82 period
53	11	3	An officer group exists concerned with fuel poverty matters
54	9	3	Fuel poverty policy formally adopted by local authority
55	3	1	A member committee exists concerned with fuel poverty matters

Abbreviations used above:

E.C. - energy conservation  
 DEn - Department of Energy  
 DHSS - Department of Health and Social Security

authority. As regards their own fuel consumption, overall, their involvement remains ad hoc, rather than comprehensive in approach and management -

- only 44% have formally adopted an energy conservation policy
- 36% have implemented an energy management plan
- 34% have an officer group concerned with energy conservation
- 32% have set targets for fuel consumption in their premises
- 20% have undertaken energy surveys-audits in all their premises
- 18% have appointed a full-time energy conservation officer.
- 15% have a member committee with a brief including energy conservation

Beyond these two mainstream concerns of their own fuel consumption and council dwellings, other areas (e.g. the community, consumer advice, transport, CHP) generally feature low in local authority energy conservation concern, particularly fuel poverty matters. This does not bode well for dealing with the problem, recognised within the local authority environment (London Boroughs Association et al. 1983), that fuel poverty matters are becoming an increasing burden on local authority social services departments.

The rank ordering in Table 4 is derived from the frequency of responses of all the local authorities returning a valid questionnaire. Given the variation in responsibilities between tiers of local government, the results could be distorted by the large, absolute number of English and Welsh District Councils. Rank correlation analysis was performed on the rank ordering of responses within each individual tier and compared with the overall ordering, allowing for those variables where the responsibility was not applicable to an individual tier (e.g. variables related to the responsibility for council dwellings and Home Insulation Scheme were excluded from the county and regional tiers, while those related to educational buildings were excluded from reckoning in the non-metropolitan district councils). The strongest correlation coefficients were generated by the district councils - 92% (EWDC) and 89% (SDC) - while those generated for other tiers were lower - the lowest were 68% (SRIC) and 66% (EWCC). When a rank correlation analysis was performed on only the variables common to all tiers the correlations ranged between 92% (EWDC) and 79% (EWCC), with the rest between 89 and 84%. For variables not related to the functions of a specific tier there is a reasonable degree of correlation in the rank ordering, although this does not indicate the level of involvement within the individual tiers. This variation among the different tiers, between activities and arrangements, and the level of involvement, will be examined in the following section.

#### 4. LOCAL AUTHORITY INVOLVEMENT WITH ENERGY CONSERVATION

This section examines six areas of local authority involvement with energy conservation - Policy, Responsibility, Finance, Programs, Perception, and Central Government Commitment - each subdivided into a set of categories. Statistics for each category are presented for the aggregated survey response, and for each tier of local government, in absolute and percentage terms, in a series of tables. The tables are structured to enable the examination of -

1. variability within each tier - e.g. variability within the LBC tier for the first area (i.e. Policy, Table 5) can be seen from the fourth column of Table 5, indicating the percentage of LBC involved with each policy category. The corresponding column for the other tiers in the table can be examined in a similar way. Further, the emphasis within an individual tier can be contrasted with that overall, by comparing the entry in these columns with the corresponding entry in the second column indicating the percentage of all local authorities involved with a particular policy response.

2. variability between tiers - e.g. LBC represents 7.2% of the total number of local authorities considered in this area, but it can be seen from the first entry in the fifth column of Table 5 that they account for only 4% of local authorities with no policy. By considering other entries in the "%Cat" columns in a similar way it can be seen whether a given tier places a greater or lesser emphasis on a particular category than average.

If the variability within, and between tiers, reflected only the variation of the total survey response, this would obviate the necessity to examine the responses of the individual tiers. Such a situation does not occur. The six individual areas will be considered now in more detail.

##### **4.1 POLICY**

The questionnaire distinguished between three different formally adopted policies - energy, energy conservation, and fuel poverty. While energy conservation may be thought to be encompassed within the scope of an energy policy, some local authorities consider the latter to be solely a statement on the type of fuel it purchases. Expenditure programs not related to ulterior policy priorities are more susceptible to disappearance in financial cut-backs that local authorities have been obliged to make to meet central government expenditure targets. When the special allocation to local authorities for the Public Sector Energy Conservation Program was subsumed into the general block grant after March '80 the number of dwellings being insulated declined dramatically (Sheldrick 1983a). For many of the local authorities that had embarked upon insulating council dwellings the motivation had not been to achieve a policy objective, rather to take advantage of a capital allocation that could not be spent

TABLE 5  
ENERGY, ENERGY CONSERVATION AND FUEL POVERTY POLICY WITHIN LOCAL AUTHORITIES

CATEGORY	TOTAL (N=334)		LBC (N=24(7.2%))		MCC (N=4(1.2%))		MDC (N=25(7.5%))		E&W CC (N=37(11.1%))		E&W DC (N=203(60.8%))		SRIC (N=8(2.4%))		SDC (N=33(9.9%))	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
NO POLICY	170	51	6	25	4	100	2	50	1	4	16	2	3	8	128	63
ENERGY POLICY ONLY	13	4	1	4	8	0	0	0	1	4	8	4	1	12.5	2	7.5
CONSERVATION ONLY	83	25	11	46	13	0	0	0	8	32	10	13	35	16	46	23
ENERGY & EN. CONS	59	18	3	12.5	5	2	50	3	11	44	19	21	57	36	18	9
FUEL POVERTY ONLY	2	1	1	4	50	0	0	0	0	0	0	0	0	0	1	0.5
ENERGY & FUEL POV.	2	1	0	0	0	0	0	0	1	4	50	0	0	0	0	0.5
EN. CONS & FUEL POV.	3	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5
ALL THREE	2	1	2	8	100	0	0	0	0	0	0	0	0	0	0	0

otherwise. When the money disappeared, so did many of the programs.

Over half the total number of local authorities have no policy on these specific issues (Table 5) though 89% of this category is accounted for by the EWDC and the SDC. In the other tiers 50% or greater have some form of policy, though only two local authorities have adopted all three. Fuel poverty policies are the exception across all tiers, including the urban authorities where the problems are most acute. Policies that cannot be easily evaluated or justified in stricly economic terms may not see the light of day.

#### 4.2 ORGANISATIONAL RESPONSIBILITY FOR ENERGY CONSERVATION

The questionnaire attempted to identify different aspects of the delegation and management of the responsibility of energy conservation within local authorities' organisational structure. Specifically, whether the local authority had

- established a special energy conservation unit, vested responsibility generally within an existing department, or allocated duties to individuals in different departments or buildings (Table 6a);
- had appointed a full-time energy conservation officer (Table 6b);
- formed officer groups or member committees with an energy conservation brief (Table 6c).

Within the local authority environment, with its multifarious strategic, service and building responsibilities, the pursuit of energy conservation could constitute a wide ranging task, with implications across internal departmental boundaries. It could also be a recipe for frustration. The initiation of programs and the installation of measures per se do not necessarily represent the most cost-effective investments nor realise the potential benefits. Only 20% of local authorities have undertaken energy audits or surveys of all their building stock (see Table 4), thus obtaining the necessary information to determine the most cost-effective program and measures across all their building stock. Installation of new technology can be nullified by the lack of staff consultation or training, or maintenance schedules. The lack of coordination and co-operation between departments or with trade unions, and the competition for limited available finance can thwart the best programs and intentions.

Encouragingly, only 10% of local authorities have not delegated responsibility within its organisation in some manner - all but one of these being an EWDC or SDC. (Table 6a) However, a tier-related split does occur in approach, between delegating responsibility to an existing department or creating a special energy conservation unit. EWDC and SDC account for 98% of the former, while amongst the other tiers a majority prefer the latter. Six local authorities have employed both. In 27% of

# RESPONSIBILITY FOR ENERGY CONSERVATION WITHIN LOCAL AUTHORITIES

TABLE 6a: DELEGATION OF RESPONSIBILITY

CATEGORY	TOTAL (N=334)		LBC (N=24(7.28))		MCC (N=4(1.28))		MDC (N=25(7.58))		E&W CC (N=37(11.18))		E&W DC (N=203(60.88))		SR&IC (N=8(2.48))		SDC (N=33(9.98))	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
NO DELEGATION	32	10	0	0	0	0	0	0	0	0	23	11	72	1	12.5	3
CONSERVATION UNIT	66	20	11	46	17	0	0	0	14	56	12	6	18	3	37.5	4.5
DEPARTMENTAL	118	35	4	17	3	0	0	0	0	0	96	47	81	3	37.5	4.5
UNIT & DEPT	5	1.5	3	13	60	0	0	0	1	4	0	0	0	0	0	0
INDIVIDUALS ONLY	21	6	0	0	0	0	0	0	1	3	20	2.5	0	0	0	0
UNIT & INDIVIDUALS	43	13	5	21	12	3	75	7	9	36	18	9	86	0	0	0
DEPT & INDIVIDUALS	48	14	1	4	2	1	25	2	10	27	13	6	30	1	12.5	2
UNIT, DEPT, & IND	1	0.3	0	0	0	0	0	0	0	0	41	20	85	0	0	0
									1	4	100	0	0	0	0	0

2

TABLE 6b: ENERGY CONSERVATION OFFICER

NONE	144	43	5	21	3.5	0	0	0	0	0	0	0	0	0	0	0
PART-TIME	129	39	7	29	5	3	75	2	6	24	5	10	27	8	3.5	111
FULL-TIME	61	18	12	50	20	1	25	2	19	76	31	22	59	37	89	55
															44	77
															70	2
															5	62.5
															4	1
															9	21
															27	64
															7	15
															3	9
															5	5

TABLE 6c: OFFICER - MEMBER CONCERN

NONE	205	61	11	46	5	2	50	1	7	28	3	10	27	5	144	71	70	5	62.5	2	26	79	3
OFFICER GROUP	79	24	9	37.5	11	1	25	1	7	28	9	14	38	18	42	21	53	2	25	3	4	12	5
MEMBER COMMITTEE	14	4	1	4	7	1	25	7	2	8	14	3	8	21	7	3	50	0	0	0	0	0	0
BOTH	36	11	3	12.5	8	0	0	0	9	36	25	10	27	28	10	5	28	1	12.5	3	3	9	8

local authorities, the special unit or department receives internal support by also allocating energy conservation duties to individuals in different departments or buildings, in contrast to the 6% (all EWDC or SDC) that rely solely on this approach. Regardless of approach the overall responsibility lies generally with a technical department (as seen in Table 3). None of the special units exist as completely independent entities, all being subsumed within a larger departmental structure. Despite providing a more independent existence an energy conservation unit could still find its activities constrained by the focus of its responsible department or subject to interdepartmental obstacles.

Where an energy conservation officer has been appointed, and the majority of EWDC and SDC have not appointed anyone, the nature of the appointment appears to be tier-related - a majority of LBC, MDC, EWCC have full-time officers, while part-time officers are the norm in MCC and SRIC. (Table 6b)

Officer groups and member committees are the exception rather than the norm overall. Where their existence constitutes a majority - LBC, MDC, EWCC - substantial percentages remain without either, though amongst the latter two, an equal number or more, have both. (Table 6C)

The coinciding of the advent of corporate management and the reorganisation of local government in the early 1970's, did result in changes in approach to organisational structure within the local authority environment. The internalisation of energy conservation would appear well suited to a corporate style of management as its implications cut across departmental boundaries. However, the traditional departmental demarcations have not been swept away. While 90% of local authorities have delegated responsibility for energy conservation in some manner, they have not necessarily reinforced it with organisational structure conducive to its pursuit. From the above Tables it is evident that for the majority of authorities that have adopted a weaker internalisation of energy conservation, the EWDC and SDC, a majority also have no designated energy conservation officer, and no officer working group or member committee concerned with energy conservation. Energy conservation is being pursued without administrative or political support. This applies to only a limited number of local authorities that have appointed full-time energy conservation officers or established energy conservation units. With no formal channels to overcome interorganisational obstacles, the actions of those responsible for pursuing energy conservation assume a peripheral and marginal significance when dealing with other departments or competing for financial resources. This can only work against the realisation of the potential benefits that could accrue to the local authority.



#### 4.2.1 ENERGY CONSERVATION UNITS

The questionnaire elicited extra information on aspects of the specific energy conservation units - the year established, expenditure for 1982/83 and manpower. This information is presented diagrammatically in Figs. 1, 2a, 2b and 3 and summarised in Table 7.

The establishment of specific units span the period 1967-83 (Fig.1) peaking, not surprisingly, in the wake of the major increases in fuel price rises during the 1970's - 1973/74 and 1979. Yet, these rises do not account for the jump in units established in 1978, a time when fuel prices, in real terms, were falling. The general financial climate, as it impinged on local authorities in the form of economic restraint, may have provided an incentive - energy conservation units possibly being seen as a source of financial economies. By 1978 however, the economic severity of 1976/77 had eased greatly, while the financial pressures of the 1980's on local authorities have not produced any comparable increase. A second explanation emerges as a direct consequence of the hypothecated allocation that commenced in 1978 for energy conservation works in local authority educational and non-domestic buildings. Of the local authorities with education responsibilities, 91% have established a special unit, representing 67% of all such units (Table 7). Notably, since the end of the hypothecated grants in March'82, two special units have been disbanded.

The distribution of expenditure by these units during 1982/83 is presented in Fig.2a. As the expenditure bracket increases the number of local authorities decrease. This trend however is not evidenced in the bracket representing expenditure up to £100,000. (Fig.2b) The frequency increasing to the level of £50,000 before declining. This would appear to indicate a minimum level of funding has been found necessary for a viable unit - if only to cover staff salaries. The range of mean expenditure is between £68,000 for EWDC at the lowest end and £429,000 for EWCC at the highest, with an overall mean of £234,000 (Table 7).

For a number of specific units the label "units" may be a misnomer, as 20% would appear to be a specific individual. (Fig.3) The majority of local authorities employ between 1 and 4 personnel in these units, though the skewed distribution demonstrates several exceptional local authorities. The mean is 2 or more personnel for all tiers (Table 7).

The summary table (Table 7) illustrates the ranges of the above variables across the tiers. Given the frequency of energy conservation units amongst the LBC, MCC, MDC, and EWCC the figures provide a representative summary of their existence within these tiers. Such units are not representative of the EWDC and SDC overall, accounting for only 12 and 15% of their respective tiers. Their figures are distorted further by exceptional values (e.g. max. expenditure of SDC and manpower in EWDC) thus belying the tiers' position in any rank ordering based on mean averages. This can also be indicative of the huge discrepancies in the local

Fig. 1: YEAR ENERGY CONSERVATION UNIT ESTABLISHED

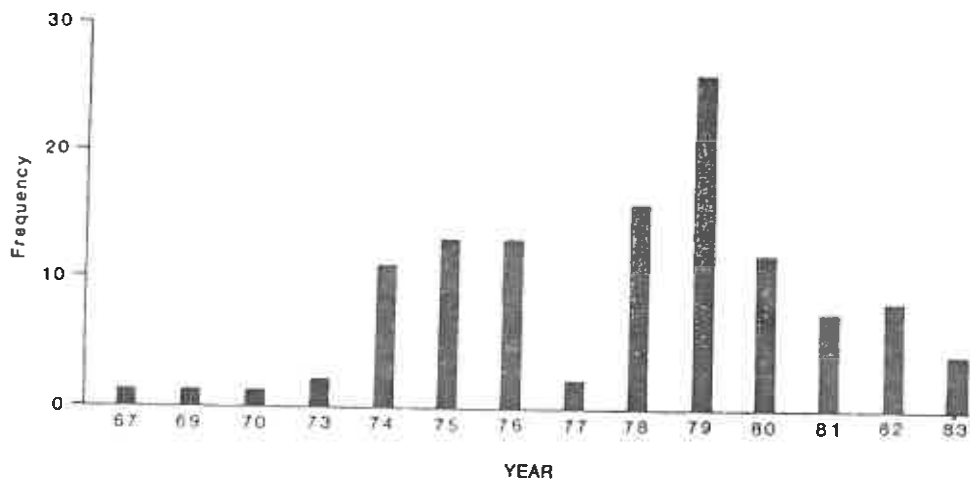


Fig. 3: MANPOWER- NUMBER OF PEOPLE WORKING IN E.C.U.

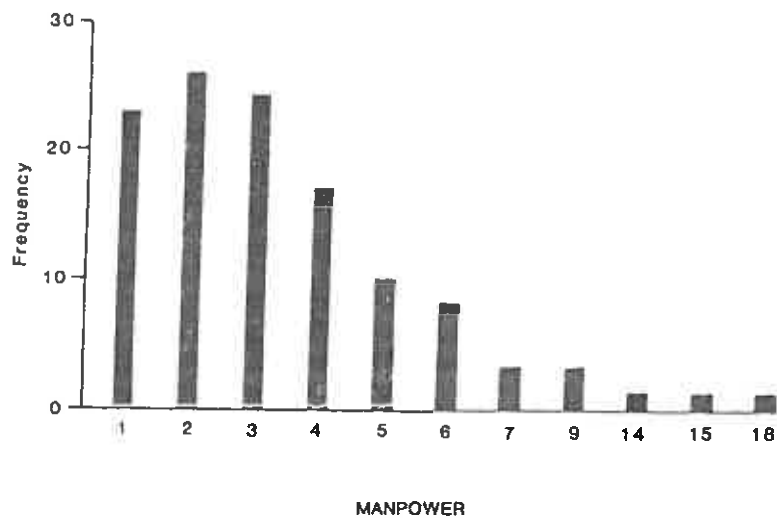


Fig. 2a: 1982-83 EXPENDITURE ON ENERGY CONSERVATION

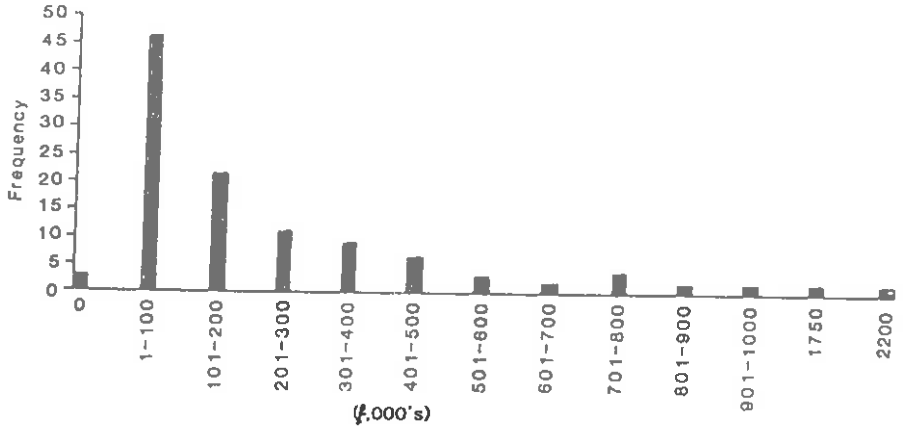
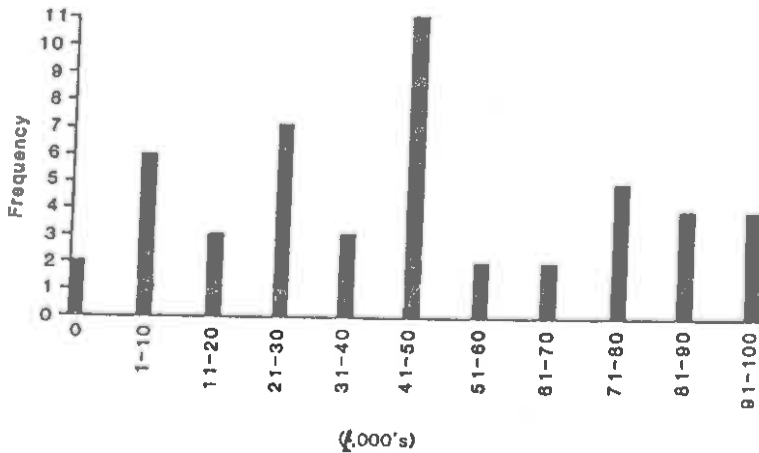


Fig. 2b: 1982-83 EXPENDITURE ON ENERGY CONSERVATION (Less than £100,000)



authorities that are aggregated under the labels EWDC and SDC (eg. whether urban or rural based, in size, population, political affiliation and dwelling stock) and as a result, in very different approaches. These discrepancies are less marked in the other tiers. This is an area for future research.

TABLE 7: ENERGY CONSERVATION UNITS IN LOCAL AUTHORITIES

TIER	No	%	First est.	Last est.	1982/83 Expenditure ( ,000's)			Manpower		
					min	max	mean	min	max	mean
LBC	19	79	1975	1983	0	500	121.3	1	4	2.15
MCC	3	75	1979	1980	50	113	81.5	1	3	2
MDC	25	100	1974	1983	6	1,750	228.1	1	9	3.67
E&W CC	34	92	1967	1983	60	2,200	429.2	1	15	4.37
E&W DC	25	12	1973	1982	3	380	68.7	1	18	3.07
SRIC	4	50	1978	1978	140	150	146.7	5	7	5.67
SDC	5	15	1979	1982	25	900	338.3	2	6	3.75
TOTAL	115	34	1967	1983	0	2,200 (median=125.5)	234	1	8 (median=3)	3.5

#### 4.3 ALLOCATION OF FINANCE FOR ENERGY CONSERVATION

The nature of central government grants for local authority energy conservation programs and the internal separation of responsibility for buildings and fuel bills between departments lend themselves to encouraging the utilisation of departmental budgets to finance energy conservation activities. Not surprisingly, the majority of LBC, EWDC, SRIC, and SRC finance their energy conservation activities through the budgets of the departments undertaking the activities (Table 8). Yet, this may not represent the most efficacious approach, or realise the best returns for the local authority on the whole. Extremely cost-effective measures may be ignored if other departmental priorities intervene. A specific energy conservation allocation for activities across the whole of the local authority may be more appropriate, although the client department's permission may still be required before the measures are installed. The majority of EWCC, MCC, and MDC fund energy conservation through specific energy conservation budgets, or through a combination of specific allocations and departmental budgets. The combination of both types of budgeting may be the best of both worlds as it enables departmental and overall priorities to be acted upon.

No distinction is made in Table 8 between revenue and capital expenditure, although the difference can have important consequences on the nature of the energy conservation measures undertaken by a local authority. The bulk of a local authority's revenue is derived from the rate levies and the rate support grant, and is essentially to meet the running costs of providing local services. Expenditure on fuel, day to day maintenance programs, salaries, publicity and modifying plant fall within this category, as do the majority of central government measures designed to control and reduce local authority expenditure. Several local authorities indicated they were financing their energy conservation programs solely through revenue and, as a result of financial restrictions, were seeking payback periods of less than one year - a very short time horizon, and one that severely limits the options available to the authority. Capital allocations represent centrally determined limits on the money that a local authority can borrow to spend on new infrastructure. New buildings and equipment, and improving the thermal fabric of dwellings come within this category (eg. the Public Sector Energy Conservation Program and the Educational Building Insulation Program were financed through special capital allocations). Whereas many capital works will incur future revenue costs, this is not necessarily so with insulation, which can actually reduce future revenue expenditure on fuel consumption. Where the choice is available the reliance on capital, in preference to revenue, finance can reduce a measure's cost-effectiveness as a result of the added interest charges that will accrue. Capitalising major works however may be the only way for a local authority to undertake them. Ideally, a comprehensive approach to energy conservation would require both types of expenditure.

TABLE 8: ALLOCATION OF FINANCE FOR ENERGY CONSERVATION WITHIN LOCAL AUTHORITIES

CATEGORY	TOTAL (N=334)		LBC (N=24 (7.2%))		MCC (N=4 (1.2%))		MDC (N=25 (7.5%))		E&W CC (N=37 (11.1%))		E&W DC (N=203 (60.8%))		SRIC (N=8 (2.4%))		SDC (N=33 (9.9%))		
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	
NO FUNDING	42	13	0	0	0	0	0	0	0	0	30	15	71	2	25	5	10
SPECIAL BUDGET	69	21	7	29	10	1	25	1	6	24	9	19	51	27	1	12.5	1
DEPARTMENT BUDGET	175	52	14	58	8	1	25	1	7	28	4	10	27	6	124	61	71
BOTH	48	14	3	13	6	2	50	4	12	48	25	8	22	17	18	9	38

#### 4.4 ENERGY CONSERVATION PROGRAMS IN LOCAL AUTHORITIES

Information on aspects of energy conservation programs pursued by local authorities was derived from the survey returns. Four programs are summarised here:

- energy management programs within local authorities
- energy conservation and council dwellings
- educational building insulation program
- community program

While there may be some overlap between these programs they are presented here as different orientations in local authority involvement with energy conservation.

##### 4.4.1 ENERGY MANAGEMENT PROGRAMS WITHIN LOCAL AUTHORITIES

The questionnaire attempted to ascertain the nature and scope of energy management programs within the local authority environment. Information was sought on five elements that would comprise a comprehensive energy management program:

- adoption of an energy management program (MANGT)
- monitoring fuel consumption (MON)
- targeting consumption (TAR)
- energy audits/ surveys (AUD)
- publicity amongst its personnel (PUB)

An underlying rationale exists: although each element could be pursued separately, a comprehensive program would require a declared set of intentions and objectives, data on energy consumption/expenditure, information on the energy needs and thermal characteristics of its plant and premises, and an awareness amongst staff. If program priorities are to be determined and expenditure justified, to be implemented with a reasonable chance of success, and later, to be evaluated and modified, then these elements would be an essential feature.

Individual elements have been implemented frequently by local authorities (e.g. 79% have undertaken energy audits, 72% have encouraged energy awareness through publicity, 70% monitor fuel consumption in some form (see Table 4)), but on their own these elements do not constitute a comprehensive approach to energy management. On this criteria only 17% of local authorities have adopted all five elements (Table 9). A further 20% have adopted four of the five elements. While these two groupings represent the majority of LBC, MCC, MDC, EWCC, and SRIC, amongst EWDC and SDC, over 50% of local authorities have adopted two elements or less. For these local authorities energy management is occurring in an ad hoc manner without reference to overall objectives, or in relation to other investments, or

TABLE 9: ENERGY MANAGEMENT PROGRAMS WITHIN LOCAL AUTHORITIES

CATEGORY	TOTAL (N=334)		LBC (N=24(7.2%))		MCC (N=4(1.2%))		MDC (N=25(7.5%))		E&W OC (N=37(11.1%))		E&W DC (N=203(60.8%))		SR&IC (N=8(2.4%))		SDC (N=33(9.9%))	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
NO PROGRAM	19	6	1	4	5	0	0	0	0	0	14	7	1	12.5	3	9
MONITORING ONLY	8	2	0	0	0	0	0	0	0	0	5	2	0	0	3	9
AUDITS-SURVEYS ONLY	29	9	0	0	0	0	0	0	0	0	62	30	0	0	9	38
MONITORING & AUDITS	20	6	1	4	5	0	0	0	1	3	22	11	0	0	6	18
PUBLICITY ONLY	15	4	0	0	0	0	0	0	0	0	18	9	0	0	1	3
MONITORING & PUB.	14	4	0	0	0	0	0	0	1	3	11	5	0	0	3	9
AUDITS & PUBLICITY	26	8	0	0	0	0	0	0	0	0	11	5	0	0	1	3
MON, PUB. & AUDITS	45	13	6	25	13	0	0	0	0	0	24	12	1	12.5	3	9
MANGT, MON, PUB & AUD	38	11	3	12.5	8	2	5	0	2	5	33	16	0	0	1	3
TAR, MON, PUB & AUD	29	9	3	12.5	10	0	0	0	4	11	23	11	2	25	3	9
ALL FIVE	57	17	6	25	11	2	5	0	4	11	15	7	0	0	6	18
OTHER COMBINATIONS	34	10	4	17	12	0	0	0	23	62	9	4	3	37.5	1	3
									1	6	53	16	0	0	1	12



without performance being monitored or evaluated.

It is not enough to know what a program will cost. With local authority finance under intense pressures from central government, expenditure has to be justified, both in terms of what it will achieve, and by the results. As the easier savings are realised the task will become more expensive, onerous, and longer term, necessitating the spending of money to save money. Without the capability to provide the information that savings are being made, the finance may not be forthcoming.

#### 4.4.2 ENERGY CONSERVATION and COUNCIL DWELLINGS

This section examines two aspects of pursuing an energy conservation program targeted on council dwellings - the local authority insulation program and the undertaking of energy audits/ surveys. The two could be related - undertaking energy audits/ surveys on council dwellings prior to the commencement of an insulation program enables the most effective measures to be identified for a particular building stock or type. Standard guidelines do exist but they may not be particularly appropriate for non-standard buildings, and may actually cause problems (e.g. condensation). The two could also be distinct, different parties taking action, although they are aimed at the same goal - improving the thermal characteristics of the council dwelling stock. A local authority insulation program can occur without tenant participation. Undertaking audits/ surveys at the tenant's request allows the tenant to take efficacious action on his own behalf. The Home Insulation Scheme already provides grants for a council tenant to insulate his loft space, but only his loft space, rather than wait for the council to do it. In some areas this would be a very long wait indeed.

#### COUNCIL DWELLING INSULATION PROGRAM

The questionnaire sought to contrast the number of council dwellings insulated between 1978-80 with the period of 1980-83. During 1978-80 a hypothecated allocation for energy conservation works on council dwellings was made available to local authorities under their Housing Investment Program (HIP). This special allocation was subsumed within the authority's general HIP after Mar.'80. Although a notional amount has continued to be contained within the HIP allocations this money can be spent according to the priorities of the local authority, as central government regularly reiterates.

To facilitate the return of the survey questionnaire, the respondents were asked to base their answers on estimates of the number of dwellings insulated, rather than actual figures. Despite the specific allocation, 7% of local authorities did not initiate an insulation program between 1978-83 (Table 10a). In contrast, 7% initiated a program only after the specific

# ENERGY CONSERVATION AND COUNCIL DWELLINGS

TABLE 10a: INSULATION PROGRAM 1978-83

CATEGORY	TOTAL (N=286)		LBC (N=24 (8.4%))		MDC (N=25 (8.7%))		E&W DC (N=203 (71%))		SRIC (N=1 (0.3%))		SDC (N=33 (11.5%))	
	No	%	No	%	No	%	No	%	No	%	No	%
no program	19	7	4	17	2	8	12	6	0	0	1	3
1978-1980 only	33	12	2	8	1	4	27	13	0	0	3	9
1980-1983 only	21	7	2	8	2	8	11	5	0	0	1	3
1980-1983 ACTIVITY LEVEL												
> than 1978-80	37	13	3	12.5	3	12	23	11	0	0	7	21
> (special finance)	70	25	3	12.5	4	16	58	29	1	100	4	12
similar 1978-80	62	22	7	29	1	4	44	22	0	0	10	30
< than 1978-80	44	15	0	0	9	36	28	14	0	0	7	21
no level indicated	6	2	3	12.5	3	12	0	0	0	0	0	0

TABLE 10b: ENERGY AUDITS-SURVEYS OF COUNCIL DWELLINGS

none	216	76	18	75	8	14	56	7	157	77	73	1	100	0	26	79	12
audits/surveys undertaken	33	11	1	4	3	5	20	15	22	11	67	0	0	0	5	15	15
can be requested	25	9	3	12.5	12	2	8	8	18	8	72	0	0	0	2	6	8
both	12	4	2	8	17	4	16	33	6	3	50	0	0	0	0	0	0

grant had ended, finding the money from their general HIP allocation. While 38% of local authorities indicated that the number of dwellings insulated had increased during 1980-83, 68% of this figure (25% of the total) further stated the reason was the removal of capital expenditure limits between Oct.'82 and Mar.'83 (the then-Secretary of State for the Environment's exhortation to "spend, spend, spend" on their capital investment). The impact of this increased expenditure limit is most noticeable amongst EWDC, which represents 83% of this category. Overall, 35% of local authorities indicated that their program had remained at a similar level or increased. The other 59% indicated that a program had not been initiated, had declined during 1980-83, or had increased only through the availability of the Oct.'82 finance. For those authorities that embarked upon extensive programs during the 1978-80 period a decline in activity could be the inevitable consequence as they complete their programs.

#### ENERGY AUDITS-SURVEYS IN COUNCIL DWELLINGS

In contrast to the number of local authorities that have undertaken audits in their own premises (79%) (see Table 4), only 15% have carried out similar studies in their council dwellings (Table 10b). Only amongst the MDC did the percentage of authorities that had undertaken energy audits or surveys approach 50%. For all the other tiers, 75% or more had not conducted energy surveys or audits. For council tenants seeking to identify the nature of their energy consumption and adopting effective measures to improve their comfort or reduce their fuel bills energy audits/ surveys can be requested in 13% of local authorities. This facility however, is not necessarily widely known by council tenants or widely advertised by the local authorities.

#### 4.4.3 EDUCATIONAL BUILDING INSULATION PROGRAM

Between 1978-82 local education authorities received special financial allocations to improve the thermal characteristics of their educational buildings. The allocation was not renewed after March'82. As with the council dwelling insulation program the respondents were asked to estimate the level of the local authority's program for each period. The majority of local authorities (94%) (Table 11) have initiated programs spanning 1978-83, and with the exception of the LBC, a large percentage of each tier actually increased the program during 1982-83. Overall, 57% or more have increased their program or continued at the same level during 1982-3, while 30% have reduced the level of activity. Only four authorities ended their program when the specific grants ended, while one local authority has not initiated an educational building program.

This level of activity can be contrasted with the overall decline in the local authority Public Sector Insulation Program after that special

TABLE 11: ENERGY CONSERVATION AND EDUCATIONAL BUILDINGS  
INSULATION PROGRAM 1978-83

CATEGORY	TOTAL (N=86)		LRC (N=16 (18.6%))		MDC (N=25 (29.1%))		ESW CC (N=37 (43%))		SRIC (N=8 (9.3%))	
	No	%	No	%	No	%	No	%	No	%
no program	1	1	0	0	0	0	0	0	1	12.5
1978-1982 only	4	5	1	6	1	4	2	5	0	0
1982-1983 only	1	1	0	0	0	0	1	3	0	0
<u>1982-1983 ACTIVITY LEVEL</u>										
> than 1978-82	22	26	2	12.5	6	24	11	30	3	37.5
similar 1978-82	27	31	6	37.5	7	28	11	30	3	37.5
< than 1978-82	26	30	6	37.5	8	32	11	30	1	12.5
no level indicated	5	6	1	6	3	12	1	3	0	0

allocation ceased. For the MDC, the only tier where all the authorities have responsibility for both education and housing, less than 17% continued their Public Sector Program at an increased or similar level, funding the works from their general HIP. Another 17% increased this program as a result of the removal of capital expenditure limits between Oct.'82- and Mar.'83. This compares poorly with the 60% of MDC who maintained their educational building program at the same level or increased it.

For those local authorities with responsibility for education the fuel consumption within school buildings generally represents the largest element of their total fuel expenditure. This can be in the range of £12M - 16M for large shire counties (LAMSAC 1983). Where school buildings account for 60-70% of this total fuel expenditure, as some local authorities have informed the author, then this could indicate a fuel bill of £7M-12M for schools. Figures of such magnitude have the ability to focus a local authority's attention, especially when they are responsible for paying it.

#### 4.4.4 COMMUNITY PROGRAM

Local authorities come into direct contact with the community on the issue of energy conservation through their responsibility for administering loft insulation grants under the Home Insulation Scheme. (This particular responsibility does not apply to MCC, EWCC and seven of the SRIC.) The questionnaire sought information on local authorities that had made a special effort to promote the uptake of these grants (H.I.S.), as well as the sponsorship of insulation/energy advice projects (SPONSORSHIP) and the promotion of energy awareness amongst groups other than its own personnel (PUBLICITY), to provide an indication of local authority activities orientated towards the community.

The two largest categories overall - the special promotion of the Home Insulation Scheme (36%) and no program (34%) - account for 70% of all authorities (Table 12). This pattern is repeated for all tiers with a responsibility for the Home Insulation Scheme.

The encouragement of energy conscious behaviour has been undertaken by 21% of local authorities. To some extent this activity could be geared towards school children as the largest percentages - 46% of EWCC, 40% of MDC, 37% of SRIC and 28% LBC - all occur in the tiers with responsibility for education. Authorities without educational responsibilities indicated a lower involvement with this activity - only 18% of SDC, 13% of EWDC and 0% of MCC. However, even the highest percentage of 46% compares unfavourably with the 72% of all local authorities, and 75% of EWCC, that have encouraged behaviour amongst their own personnel.

Only 14% of local authorities have involved themselves with energy advice or insulation projects. This is in despite central government



encouragement, including ministerial letters, to utilise the Manpower Service's Commission's various employment programs to insulate dwellings in their community. The tier indicating the largest percentage was the SDC, with 21% having sponsored community energy projects. This can be contrasted with only 10% of EWDC, 19% of EWCC or 16 and 20% amongst the urban authorities (LBC and MDC respectively). Two possible contributing factors for this sponsorship are the colder Scottish Climate - no region in England has a degree-day total as large as the lowest region in Scotland (Scottish Development Department 1981) - and the initiation of insulation campaigns to combat condensation-related problems that have engendered serious concern in Scotland (ibid; Select Committee on Scottish Affairs 1984).

An element of distortion is introduced into this table through the split between housing and non-housing authorities, and therefore responsibility for the Home Insulation Scheme. Discounting the Home Insulation Scheme, Table 13 would read 16% engaged in external publicity, 9% sponsoring an community energy project, and 5% both, that is 70% of local authorities without any active community orientated involvement on energy conservation. This lack of a community program would be a majority in every tier.

#### 4.5 PERCEPTION OF A LOCAL AUTHORITY ROLE WITH ENERGY CONSERVATION

Beyond collecting data on their actual involvement, the survey also sought to identify the extent of a local authority role with energy conservation, as perceived by local authorities. These perceptions were not intended to be related necessarily, to activities that local authorities were presently engaged in, rather the limits to which their involvement could be developed. In the survey overall the most commonly identified variable was the perception that a local authority role with energy conservation included the fuel consumption in their own premises (92%) (see Table 4). With the exception of energy conservation in buildings (Table 13a), the majority of local authorities did not perceive an energy conservation role to include providing energy advice (70%) (Table 13b), waste management (53%) (Table 13c), transport (78%) (Table 13d), or combined heat and power (66%) (Table 13e). This overall position is reflected in individual tiers with a majority perceiving no role, although there were a few exceptions:

- 65% of EWCC perceive a role in providing energy information through the education curriculum (Table 13b)

- 58% of SDC perceive an energy conservation role amongst their waste management responsibilities (both waste collection and disposal) (Table 13c)

- in only one area does any MCC perceive no role - transport (Table 13d). A majority perceive their role to encompass consumer advice (100%) (Table 13b), waste disposal (75%) (Table 13c), both public and local transport (50%) (Table 13d) and combined heat and power (75%) (Table 13e).

# LOCAL AUTHORITY PROTECTION OF THEIR ROLE WITH ENERGY CONSERVATION

## TABLE 13a: ENERGY CONSERVATION AND BUILDINGS

CATEGORY	TOTAL (n=334)		LBC (n=24(7.2%))		MCC (n=4(1.2%))		MDC (n=25(7.5%))		ESM OC (n=37(11.1%))		ESM DC (n=203(60.8%))		SREC (n=8(2.4%))		SDC (n=33(9.9%))	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
NO ROLE	26	8	0	0	0	0	0	0	1	3	19	9	2	25	8	4
L.A. PREMISES ONLY	66	20	1	4	2	4	100	6	4	16	6	0	0	2	25	3
COMM. PREMISES ONLY	1	0.3	0	0	0	0	0	0	32	86	48	1	0.5	100	0	4
L.A. & C.D.	143	43	13	54	9	0	0	0	0	0	0	0	0	0	0	12
L.A. & COMMUNITY	11	3	1	4	0	0	0	0	4	11	36	1	1	12.5	1	16
L.A., C.D. & COMMUNITY	87	26	9	37.5	10	0	0	0	0	0	0	62	31	71	0	48
															9	27

## TABLE 13b: PROVIDING ENERGY INFORMATION

NO ROLE	235	70	10	42	4	0	0	0	11	44	5	12	32	5	172	85	73	4	50	2	26	79	11
EDUCATION CURRICULUM	29	9	4	17	14	0	0	0	5	20	17	16	43	55	1	0.5	3	3	37.5	10	0	0	0
CONSUMER ADVICE	45	13	6	25	13	4	100	9	2	8	4	1	3	2	26	13	58	0	0	0	6	18	13
BOTH	25	7	4	17	16	0	0	0	7	28	28	8	22	32	4	2	16	1	12.5	4	1	3	4

## TABLE 13c: WASTE MANAGEMENT

NO ROLE	176	53	12	50	7	0	0	0	18	72	10	24	65	14	102	50	58	8	100	5	12	36	7
COLLECTION	66	20	6	25	9	0	0	0	3	12	5	1	3	2	55	27	83	0	0	0	1	3	2
DISPOSAL	13	4	0	0	0	3	75	23	0	0	0	6	16	46	3	1	23	0	0	0	1	3	8
BOTH	79	24	6	25	8	1	25	8	1	25	1	4	16	5	43	23	54	0	0	0	19	58	24

## TABLE 13d: TRANSPORT

NO ROLE	259	78	17	71	7	1	25	0.4	18	72	7	30	81	12	157	77	61	7	87.5	11	29	88	11
LOCAL TRANSPORT	33	10	6	25	18	0	0	0	6	24	0	2	5	6	16	8	49	0	0	0	3	9	9
PUBLIC TRANSIT	18	5	1	4	6	1	25	6	0	0	0	0	0	0	15	7	83	1	12.5	6	0	0	0
BOTH	24	7	0	0	0	2	50	8	1	4	4	5	1	14	15	7	62.5	0	0	0	1	3	4

## TABLE 13e: COMBINED HEAT & POWER

NO ROLE	220	66	18	75	8	0	0	0	13	52	6	24	65	11	142	70	65	5	62.5	2	18	55	8
LAND USE PLANNING	48	14	1	4	2	1	25	2	2	8	4	9	24	19	28	14	58	0	0	0	7	21	15
CHP/PH	36	11	4	17	11	0	0	0	4	16	11	1	3	3	17	8	47	3	37.5	8	7	21	19
BOTH	30	9	1	4	3	3	75	10	6	24	20	3	8	10	16	8	53	0	0	0	1	3	3



With buildings, local authorities perceiving no energy conservation role represent only 8% of the total (Table 13a). The largest number perceive their role to include local authority buildings (L.A.) and council dwellings (C.D.) (43%). Another 26% extend this role to incorporate all community buildings, while 20% perceive their role to include only their own premises. The community generally fares badly, with only 29% including community buildings within any perceived role. This is despite distortions within the table that could introduce a community bias. SWCC, MCC and SE are not responsible for council dwellings, yet overwhelmingly, the EWC and MCC perceive their role to include only their own premises (86 and 100% respectively).

What has to be discouraging about this set of tables is the lack of perceived role extending beyond their own walls. The energy conservation implications of CHP, transport, and waste management do not represent esoteric or peripheral aspects of the energy conservation debate. Local authorities are already involved with these concerns, playing a significant part in their evolution and implementation. Further, local authorities, through their consumer advice services could provide an "independent" source of information on fuel matters, while their responsibility for education could be the most valuable tool in preparing society for the future by instilling an awareness of energy matters at an early age. At the present time these perceptions are not shared by a majority of local authorities.

#### 4.6 CENTRAL GOVERNMENT COMMITMENT

The raised profile of energy conservation as a result of the present Secretary of State for Energy's initiative and the newly created Energy Efficiency Office may be interpreted as an appropriate incentive to the 75% of local authorities seeking an increased government commitment before they become more involved with energy conservation (Table 14). Senior local authority officers have been included in the invitations to breakfast time meetings with ministers from the Dept. of Energy on the topic of energy efficiency. However, to date, the initiative has been largely a repackaging of previous schemes with an intensified promotional effort reinforced by exhortation, rather than an injection of increased finance. Neither exhortation alone, nor in tandem with the market mechanism, will overcome the obstacles that local authorities have encountered in implementing solely cost-effective energy conservation measures, let alone more community orientated programs. Further, it does not satisfy the increased financial commitment that 79% of those 250 local authorities (59% of the total) were seeking as well.

**TABLE 14: CENTRAL GOVERNMENT COMMITMENT TO ENERGY CONSERVATION DESIRED BY LOCAL AUTHORITIES**

CATEGORY	TOTAL (N=334)		LBC (N=24 (7.2%))		MCC (N=4 (1.2%))		MDC (N=25 (7.5%))		E&M CC (N=37 (11.1%))		E&M DC (N=203 (60.8%))		SR&IC (N=8 (2.4%))		SDC (N=33 (9.9%))								
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%							
NONE	83	25	4	17	5	0	0	5	20	6	7	19	8	57	28	69	2	25	2	8	24	10	
INCREASED	55	16	8	33	15	2	50	4	8	32	15	10	27	18	22	11	40	2	25	4	3	9	5
FINANCIAL	196	59	12	50	6	2	50	1	12	48	6	20	54	10	124	61	63	4	50	2	22	67	11

## 5. CONCLUSION

The survey was derived from a broad-based perspective of energy conservation with the intended purpose of examining the public policy implications of local authority involvement with energy conservation. Shaping public policy is characterised by an interplay of political, professional, and managerial ideologies (after Dunleavy, 1980), each giving rise to a different set of actors participating in a local authority's energy conservation arrangements and activities. Hierarchically, formal policy decisions are the exclusive remit of the elected members, with implementation and pursuit falling to the professional officers. This represents a formal description of how local authorities, and takes no account of the many delegated responsibilities within local government. With regards to energy conservation, the reality is that the expression of political concern through their committee structure is low, and that where there are responsible officers, the majority are left to get on with the job within the constraints of available time, manpower and finance. Organisationally, energy conservation cuts across departmental boundaries, and therefore, across departmental priorities, programs and budgets, providing for lack of co-ordination and inter-departmental rivalries. Again, those local authorities with inter-departmental officer groups concerned with energy conservation are in the minority. Local authorities where aspects of policy, delegation, and programs are combined with inter-departmental officer groups and elected member committees are a very small percentage of the total. Actual success of an energy conservation program may ultimately depend on the commitment and attitudes of those vested with its responsibility, and the building occupants and caretakers, in spite of support within the local authority, rather than as a result of it.

The survey demonstrates a strong local authority orientation towards their own buildings, and to a lesser degree, council dwellings, both in actual practice and perception. Yet, even within their own buildings the approach remains ad hoc rather than comprehensive in design for the majority of local authorities. Council dwelling programs would appear vulnerable to the prevailing financial arrangements with central government because unless specific money has been allocated for energy conservation works, it has to be found at the expense of meeting other priorities. While this orientation does extend to include the community's buildings in some local authorities, it is at a greatly reduced level. The implications of this in-house, building orientation spillover into local authority programs and arrangements.

The council dwelling and educational building insulation programs, though involving different work schedules, were both subjects of hypothecated grants from central government. The cessation of this special finance, though at different points in time, did not result in the complete disappearance of either program. Where they have continued the money has been derived from the local authority's block grant allocation. Comparing the impact of the end of special allocation on two programs indicates the dramatic decline that occurred in the council dwelling program

in 1980/81 (Sheldrick 1983b) has not happened in the educational building program. Less than a third of local authorities have reduced their educational building program. The local authority is responsible for the fuel bills in educational buildings, while the tenants are responsible in their council dwellings.

Vesting responsibility within an existing department, in contrast to establishing a special energy conservation unit, represents a weaker internalisation of energy conservation, if only because it does not provide as strong a focus for specific funding or program initiation. Neither approach by itself, would appear to make it less vulnerable to interdepartmental feuding. The tier-related split suggests that reasons other than local authority commitment to pursuing energy conservation objectives may underlie the nature of delegating responsibility. Many non-metropolitan district, where delegation within an existing department is greatest, are both small and rural-based. The allocation of special finance and manpower may be considered by the authority to be out of proportion with the rest of its activities and responsibilities. The metropolitan district authorities and the county councils, where the special units predominate, are geographically larger and have responsibility for education and social services, both factors that can contribute to an increased number of buildings under their auspices. Reduced building stock may lead some local authorities to assume a that systematic approach to pursuing energy conservation less than worthwhile, thus failing to realise its potential even within their own premises.

The establishment of an energy conservation unit does not necessarily broaden the local authority's perception of an energy conservation role. The largest percentage of any tier to indicate a perceived role to include only their own premises was amongst the county councils. The non-metropolitan district councils consistently demonstrated the lowest involvement with energy conservation whether in internalising arrangements or in pursuing programs under the categories identified in the survey, with one exception. It is within the non-metropolitan district councils that the largest percentage of any tier perceived their energy conservation role to encompass the community's buildings. This is despite the county, regional, and metropolitan district councils being responsible for the strategic and social welfare of the community. Increases in fuel requirements will necessitate new supply plant with consequent demands on greenfield sites, development control, and the structure planning process. Increased fuel poverty has already increased the burdens on local authority social services and will continue to do so as the real price of fuel rises. Further, payments for fuel take money out of a local community, resulting in the possible reduction of its economic vitality. These implications have yet to be incorporated into the accepted conventions of local authority involvement with energy conservation.

Local authorities have been caught in a vicious circle. This orientation towards their own buildings is reinforced by the hegemony of technical determinism and monetary criteria pervading much of the energy

conservation debate. Technical measures are more readily quantifiable in financial terms than other measures (e.g. advice, publicity or education). Beyond their own premises energy conservation activities will not provide a cost-effective, direct return to the local authority (i.e. somebody else will recoup the benefits). Because their orientation is focused strongly on buildings energy conservation will remain a technical issue evaluated in economic criteria, and as a result will remain a low priority on the political agenda. The wider implications and benefits to the community and, indirectly, the local authority (e.g. from initiating or sponsoring community projects, tackling fuel poverty, and achieving broader social welfare objectives) will continue to be ignored generally within the local authority environment.

Those local authorities that have developed a broad-based view of energy conservation and its implications have done so very much on their own. For local authorities generally, to move beyond their present orientation of energy conservation may require some form of external intervention. Central government is presently loathe to specifically earmark finance for particular programs - local authorities are free to determine their own priorities within their overall expenditure allocation - although the opposition parties and the TUC, amongst many others have called for the re-introduction special grants. Central government intervention provided the impetus for council dwelling and educational building insulation programs was generated. The Homes Insulation Scheme still exists as a hypothecated grant to local authorities, and is specially promoted by a majority of local authorities. That such intervention can produce tangible results is further reinforced by the substantial upswing in council dwelling insulation programs amongst non-metropolitan district councils during the removal capital expenditure restrictions between Oct '81 and March '83. To date, central government's increased visibility on energy conservation, as it impinges upon the local authority environment, has focused on achieving a £100M saving, but only through actions on their own premises, providing further reinforcement for the in-house orientation.

Central government intervention to raise the priority attached to activities not ranked highly by local authorities, but representing large potential benefits to the community, is not consistent with its ideology of economic individualism. However, even the present administration has accepted the principle of intervention where the market mechanism may not produce optimal results - the thermal standards of the Building Regulations and the Home Insulation Scheme are two such examples in the field of energy conservation. Realistic fuel pricing has failed to realise the potential adoption of energy conservation measures amongst the low income groups, despite a greater percentage of available income within these groups being spent on fuel (LBA 1983). Local authorities provide central government with a ready designed channel with national coverage to pursue energy conservation programs to alleviate fuel related problems.

The survey illustrates that at present, energy conservation is being pursued by local authorities with little co-ordination and limited

reference to internal policies, programs, priorities, and targets, and with what is interpreted on their part as a lack of central government commitment. Generally, the resulting situation will be one where expenditure will be difficult to justify; savings, whether in energy or monetary units, difficult to substantiate; and benefits, other than for the local authority itself, ignored. Financial allocations for energy conservation activities must remain tenuous given the pressures on local authority expenditure.

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the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1995. The public sector has become a major employer in the UK, and its growth has been a major factor in the overall growth of the economy.

The public sector has also become a major employer of women. In 1980, women made up 40% of the public sector workforce, and by 1995, this figure had risen to 50%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of women in the workforce, and the increasing demand for public services. The public sector has also become a major employer of young people, with the number of young people employed in the public sector increasing from 1.5 million in 1980 to 2.5 million in 1995.

The public sector has also become a major employer of people with disabilities. In 1980, people with disabilities made up 10% of the public sector workforce, and by 1995, this figure had risen to 20%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with disabilities in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people from ethnic minorities. In 1980, people from ethnic minorities made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people from ethnic minorities in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with mental health problems. In 1980, people with mental health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with mental health problems in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with physical health problems. In 1980, people with physical health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with physical health problems in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with chronic health problems. In 1980, people with chronic health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with chronic health problems in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with long-term health problems. In 1980, people with long-term health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with long-term health problems in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with mental health problems. In 1980, people with mental health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with mental health problems in the workforce, and the increasing demand for public services.

The public sector has also become a major employer of people with physical health problems. In 1980, people with physical health problems made up 5% of the public sector workforce, and by 1995, this figure had risen to 15%. This increase has been driven by a number of factors, including the growth of the public sector, the increasing participation of people with physical health problems in the workforce, and the increasing demand for public services.

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