

WORKING PAPER 503

COMMUNITY INVOLVEMENT IN LOCAL ENERGY STRATEGIES

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Paper prepared originally for "Unhealthy Housing" Conference  
at University of Warwick - 13-15 December, 1987

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## 1. Introduction

Various strategies have emerged in the U.K. intended to address local energy issues in a more comprehensive manner. These issues have included problems with condensation and mould growth; inadequate, inappropriate, and expensive to operate heating systems; and thermally inefficient dwellings. These factors can contribute significantly to the unhealthy conditions many householders must live with. A feature within these local energy strategies has been a degree of community involvement. This involvement has not been a consistent element, ranging from working within existing policy and institutional processes to challenging those arrangements.

In focusing on community involvement, it is recognised that it is the individual householder who experiences the impact of poorly insulated dwellings and inappropriate or expensive to operate heating systems through, e.g. cold homes, debt, disconnection, condensation and mould growth, ill-health, and hypothermia. However, the individual may be in the least advantageous position to rectify the situation or the least effective in dealing with the underlying causes of the problem. Community action, whether through local agencies, tenants or residents associations, or campaigning organisations, may be more appropriate for several reasons.

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The author would like to acknowledge the financial support of the Economic and Social Research Council, research award no. D06250008, for enabling the research from which this paper is drawn.

First, where the underlying cause of the problem is associated with the construction of a dwelling, the extent of the problem may be a shared feature of life in a particular area or on a specific estate. Over 600 estates across the country have been designated by the DHSS as having heating systems that are disproportionately expensive to run - the majority being electrically heated (Sheldrick 1985). An estimated 160,000 'no fines' concrete dwellings, estimated to require 25% more heat input than traditional dwellings built to similar standards, have been constructed around the country. These are not isolated problems.

A second factor concerns where the impetus for change arises. Those suffering from the problem may not be able to make their individual voices heard:

"None of the tenants groups which gave evidence were satisfied with the way in which complaints were dealt with" (Select Committee on Scottish Affairs 1984, para.47)

The Select Committee on Scottish Affairs' collection of evidence on dampness in housing noted "the burden of mounting fuel bills and the blight of spreading condensation are not separate problems, but are inextricably linked" (ibid. pXXX), yet, still catalogued numerous incidents where tenants complaints encountered the attitude that condensation was the tenants problem that could be overcome by opening the window and turning up the heating.

Resorting to law to remedy a statutory nuisance, which severe condensation and mould growth constitute, may not provide redress. A potential conflict of interest can exist between Environmental Health Officers who recommend a notice be served and their employer who issues the notice, that is, the local authority, when "the severest problem of inefficient energy use tends to be concentrated in public sector housing" (Green 1984). The Select Committee on Scottish Affairs discovered that in 1981, out of the 6233 notices served by Environmental Health Officers under Section 20 of the Public Health (Scotland) Act 1987 citing dampness as a nuisance, not one was served in the public sector. The threat of mass court action has forced local authorities to upgrade buildings that would not

otherwise have been (Sheldrick 1985).

This paper reviews six initiatives intended to intervene in local energy issues, examining their objectives and achievements. The nature of participation and the relationship with the policy process within the different initiatives are contrasted. The experiences of two community groups that have become involved with these initiatives are examined in the fourth section. The final section draws together various themes that have emerged from both the examination of the local energy initiatives and the community group experiences: how far can community involvement go?; how successful can it be?; what lessons can be learned? In undertaking these matters, this paper draws upon a research project based at the University of Leeds.

## 2. Six Local Energy Initiatives

This section sets out to summarise the objectives, operation, and achievements of six local energy initiatives. A more detailed review is available elsewhere (Sheldrick and Macgill 1987). The six initiatives do not manifest a singular approach or emphasis.

### Heatwise Glasgow (HWG):

Heatwise Glasgow, established in December 1983, provides a free, door-to-door draught-proofing, loft insulation and energy advice service to council tenants generally living in 'Areas of Priority Treatment' (1). In providing this service, HWG operates with three objectives: reducing fuel poverty, creating employment, and involving the local community. All three objectives have an equal weighting with HWG's organisation. Between October 1984 and April 1987, the 23 individual projects that had been set up (of which 5 had completed their intended term) had draught-proofed 24,000 of the 49,000 dwellings within their operating areas and insulated 3300 lofts (the prevalence of tenements in Glasgow results in fewer lofts to insulate than dwellings to draught-proof). HWG has recognised that the partial insulation package offered is a small consolation for the 14,000 tenants living in conditions considered to be 'Below Tolerable Standards' through dampness caused by a combination of factors including poor insulation standards, inadequate heating systems, difficult to heat dwellings, and fuel poverty. This has motivated HWG to look at more radical and comprehensive packages that go beyond draught-proofing.

### Newcastle City Council's Insulation and Heating Programme (NIHP):

Newcastle City Council have been working systematically through their housing stock, upgrading both the heating and insulation, under a Priority Ranked Assessment programme since 1979. The impetus for the programme was provided by a survey indicating that 20,000 (40% of the local authority's dwelling stock)

were suffering from condensation and mould growth problems attributable, in the main, to inadequate or inappropriate heating provision and poor insulation. A quasi-technical aggregation of scores out of 10 on three factors, the degree of condensation, the adequacy of the heating system, and the heating system running costs, provided the basis of the priority ranking. In principle, those estates with the highest ranking would receive top priority in any particular year's investment programme, although the authority's 44 multi-storey tower blocks were excluded from the NIHP until 1982/83 regardless of their ranking. The package has included as appropriate new heating systems, roof and wall insulation, secondary glazing, draught-proofing, and ventilation measures. In addition, the technical measures have been complemented by consultation with tenants prior to commencing the improvements, advice and information, and monitoring activities. While the package has neither been revolutionary or innovative in terms of the measures installed, it has been exceptional in the comprehensive and systematic approach adopted. Between 1979 and 1987, over 14,000 dwellings across the city have had their heating and insulation upgraded.

#### Cardiff - The Energy Action City (CEA):

Cardiff's 'Energy Action City' campaign, the first city so designated in the U.K., was launched in 1985 as an intensive, high profile one-year campaign to promote energy awareness across the city's industrial, commercial, and domestic sectors. A steering group comprised of representatives of local interests directed the campaign. A wide array of activities were instigated, including an aerial thermographic survey, seminars, promotions, advice provision, competitions, school visits and canvassing in what has been described as the "most intensive programme of public education [about energy efficiency] ever seen" (Energy Management 1986, p27). Although some money was provided by the Dept. of Energy, many of the activities were instigated on a self-financing or sponsorship basis. This basis meant the CEA campaign was more geared to the industrial, commercial and affluent domestic consumer than to the low income consumer caught in the trap

of fuel poverty. However, as part of the campaign, seven draught-proofing projects were established in the city and have been responsible for 6500 dwellings receiving free draught-proofing between July 1985 and July 1987, while the number of loft insulation grants paid out also increased quite significantly. Beyond these two nationally available measures, the CEA campaign relied on individuals responding to the campaign's message rather than providing financial incentives.

#### Hackney Cold War (HCW):

The HCW emerged in 1984 through the joint efforts of the Hackney Borough Council and the London Energy and Employment Network as a means of generating momentum to overcome fuel related problems in the borough. The initiative was formally launched at a conference in July 1984 attended by representatives of the Council, local organisations and tenants groups, and the fuel boards, amongst others. The conference concluded with the agreeing of an 'action statement' and the convening of a steering group to push forward developments. The instigation of viable, effective projects, the provision of advice and information, and the arrangement of finance were considered to be the criteria by which progress could be measured. An early success was the formal adoption of a 'Right to Warmth Charter' by the Council which has formed the basis of the HCW activities between 1984 and 1987 (see Appendix 1).

/ Among the tangible outcomes have been the development of a computerised data base of the borough housing stock and its energy characteristics, a welfare benefit and advice project, the use of leasing finance for installing heating and insulation packages in public sector dwellings, an emergency hypothermia intervention service, and awareness training for housing managers. To date, supporting these various projects has not required significant expenditure commitments on behalf of the Council, however the HCW is in danger of focusing on the symptoms rather than the underlying causes of the problem. The 160 dwellings that received a new heating system and a partial insulation package in 1986/87, and the 1200 scheduled for 1987/88, under a leasing finance arrangement compare poorly with the 16,000

dwellings considered unfit for human habitation and another 24,000 in need of modernisation; 21% and 32% of the borough's dwelling stock, the worst amongst English housing authorities on a percentage basis (House of Commons 1985).

The Lewisham Energy Plan (LEP):

The LEP was established in 1983 under the Greater London Council (GLC) and, although funded initially for one year, it survived until the GLC itself was abolished in 1986. As part of the GLC's 'Popular Planning' initiative, the LEP was to assist community and tenants organisations in Lewisham to campaign for better heating and insulation, identify alternative solutions, and to attempt to implement them. During LEP's first year, its focus was on influencing the local borough council's investment in the thermal characteristics of its dwelling stock, through the identification of the distribution and frequency of problematic housing, evaluating the cost-effectiveness of various insulation and heating packages, and lobbying the Council accordingly. After the first year, LEP shifted away from the local authority towards tenants groups through concentrating on instigating special courses and training sessions on lobbying and communication skills as well as heating issues, preparing energy audits and reports, advocacy, identifying 'Hard to Heat' and 'Difficult' and 'Exceptionately Difficult to Heat' estates, and formulating a 'Tenants Heating Charter' (Federation of Lewisham Tenants and Residents Associations 1985) (see Appendix 2). This switch in emphasis reflected the reality of LEP's funding and existence. Without the legal or political ability to force the Council to act, and without the finance to undertake the improvements, regardless of their cost-effectiveness, LEP's proposal were dependent on the acceptance and action of others.

The Bradford Green Jobs Group (GJG):

The GJG was an independent voluntary organisation that formally constituted itself in 1983 to support the development of socially useful employment, to



reduce waste and to make beneficial use of resources, and to work in association with the unemployed and community groups. One particular focus was energy conservation. Through a successful Urban Aid application the GJG appointed a full time employee responsible for initiating energy activities, including the establishment of an insulation co-operative operating as commercial firm and providing a service to low income consumers, running training and awareness courses, and arranging for a £14,500 hardship fund to pay for loft insulation and draught-proofing. The size and scale of resources of the GJG necessitated its working in conjunction with other organisations to pursue its aims through the running of exhibitions, the provision of energy audits, and instigating campaigns. Despite limited successes, the GJG dissolved in May 1987.

In tackling unhealthy housing conditions arising from inadequate heating and insulation, the above initiatives do not adopt a singular picture. Actual improvements ranged from nothing, to advice, to financial assistance with loft insulation and draught-proofing, to installing loft insulation and draught-proofing, to installing heating and partial insulation packages, to the systematic upgrading of heating and insulation standards. Within this range the initiatives can be further differentiated according to the nature of intervention and the emphasis on the individual. The nature of intervention varied from undertaking the structural improvements, to attempting to effect the operation of the market mechanism by addressing information deficiencies through increasing the awareness of available grants and services, to adopting an advocacy approach by intervening with the local authority, the DHSS, and the courts on behalf of tenants groups or enabling such groups to take similar action on their own behalf. While all the initiatives were concerned about the impact of conditions on the individual consumer, the services to the individual were ancillary to the main focus of all but one initiative. The emphasis was on enhancing the fuel related conditions within the local community, on a community basis.

### 3. Community Involvement Within Local Energy Strategies

Those participating in the development and instigation of local energy initiatives have been drawn from a variety of sources, including (in various permutations) representatives of local and central government, industry, commerce, fuel utilities, national organisations, local groups, individuals, trade unions and academia. The diversity of participants involved in the six initiatives reviewed in the previous section is displayed in Table 1. Community group involvement is a common feature across all of the initiatives. However, neither the nature of their participation nor their relationship with the policy process within the local initiatives is a consistent between the initiatives.

The nature of participation refers to the centrality of community group involvement within the organisation of the initiatives. Three initiatives - HWG, LEP, and GJG - incorporated a commitment to community involvement within their objectives. Individual projects were established by HWG at the request of local groups who are represented on the individual project management committees from which one representative is elected to HWG's Board of Directors. Therefore, it is possible for a community group to influence HWG's direction. Alternatively, HWG will not establish a project in an area, regardless of need or deprivation, if local participation is not forthcoming. Although LEP was accountable ultimately to the GLC, underlying its establishment was the enhancement of community participation in local affairs. Failure to facilitate this involvement may have resulted in LEP's funding not being renewed before the GLC was abolished. LEP's direction and activities evolved very much through the articulated needs and demands of local community groups. The GJG sought to engender the co-operation of other local groups in pursuing its objectives. Without this wider support, both LEP and GJG, given their staffing and financial backing, would have struggled to realise practical achievements.

TABLE 1: Participants Involved in Local Energy Strategies

Participants	HWG	NHIP	HCW	LEP	CEA	GJG
local government	x	x	x	x	x	x
central government	x		x	x	x	
community groups	x	x	x	x	x	x
utilities		x	x		x	
consultants			x		x	
trade unions	x					
academia	x		x		x	
industry					x	
individuals			x		x	

With the other three initiatives - NIHP, HCW, and CEA - wider community involvement was not an explicit objective although it has occurred. The basic approach, improvements, assessment, rankings and financial allocations of the NIHP are determined essentially within the local authority. Changes in the proposed improvements and, occasionally, a reassessment of an estates ranking have been brought about by the activities of tenant groups. Consultation between local tenants and their associations, and the Council, occur prior to the commencement of the NIHP improvements. Community group representatives participated actively in the incipient HCW conference at which the initial action plan was formulated and a steering group, derived from interested volunteers on the day, was convened. The Right to Warmth Charter which stemmed directly from the action plan, has continued to guide HCW activities and direction. The Steering Group was still meeting in 1987, although participation had narrowed so that it has assumed the role of a contact meeting between the Council and projects funded under the HCW, rather than a broad based forum. A steering group drawn primarily from the local authorities, the business community, and the fuel boards was brought together to co-ordinate the CEA campaign. By contrast with HCW, although the support of community groups was sought, none were represented on the CEA steering group.

Community group involvement within CEA is illustrative of a significant distinction that can exist between participation and the decision making process: participation alone does not imply the ability to influence fundamental policy determinants. This distinction is differentiated here according to three levels of involvement:

1. passive: where the community is informed of measures, changes, and progress, and is expected to act accordingly. Feedback is not encouraged and there is no guarantee that representations will be acted upon; essentially, the experts no best.
2. consultative: where there is a dialogue between those undertaking the initiatives and those being effected. Options may be presented to be chosen from. While an element of negotiation is implied, control ultimately lies elsewhere; decisions may be imposed regardless of response.
3. power sharing: where there is a degree of devolving control to the local community. Decisions will reflect a consensus between parties.

All of the initiatives incorporated some element of information provision and of consultation (e.g. through publications, meetings and the media). None of the initiatives actually imposed themselves on the community regardless of opinion; individual consumers and tenants retained the right to ignore or opt out of the process.

Power sharing, allowing local communities a voice in the determination of priorities and the allocation of resources, was much less in evidence. Within the initiatives reviewed, CEA and LEP represent the two extremes, embodying a fundamental difference with regard to the role of the local community. Although locally organised and run, CEA represented a 'top-down' approach to formulating local energy strategies. Beyond the locally comprised steering committee, the community's input was limited. Its role was to respond, as individual consumers to the message being promoted and, in doing so, to take action considered to be in the individual's financial interest. This response was to occur within the existing institutional structures and hierarchies dominated by central government's market-orientated, energy efficiency strategy. By contrast, LEP adopted a more 'bottom-up' approach by focusing on a collectivist notion of the local community, to enable it to articulate its demands, to identify options, and to initiate action to meet those demands. By focusing on communication and political skills, the emphasis was on encouraging local groups to challenge, if not pre-empt, the existing institutional process.

The other initiatives fall between these two extremes. A degree of power sharing was evident as some consideration was paid to the community group representations. However, this involvement did not occur on the basis of equal partnerships within any of the initiatives. A project will not necessarily be initiated (or renewed as in one instance) if HWG deems that the contribution of the local groups is inappropriate. Satisfaction with the achievements with the

GJG's energy actions did not prevent the local authority recalling unspent grant because of differences of opinion between the GJG and its Council contact officer. Vociferous tenant campaigns against the installation of replacement electric heating systems have been overruled within the NIHP on the grounds of the additional capital cost. Funding of HCW projects under the Inner City Partnership has thus necessitated both local and central government approval, the latter of which has not always been forthcoming. Despite the imbalance in the control of available resources, community involvement in all of the initiatives have realised local successes.

Ultimately, the allocation of finance and the determination of priorities remain beyond the control of the local community. This does imply, however, that the local community cannot influence both the allocation of resources and the determination of priorities. The next section examines the influence of two community groups on improving the insulation and heating characteristics on their estates.

#### 4. Two Community Groups and their Campaigns

This section examines the experiences of two community groups that became involved with two of the local energy initiatives, the Bradford Green Jobs Group and the Newcastle Heating and Insulation Programme, described previously in this paper. The experiences of these two groups may be considered uncharacteristic of many community group campaigns as they have been at least partly successful in achieving their objectives.

##### 4.1 Lower Grange Estate, Bradford

The Lower Grange estate in Bradford consists of 771 dwellings constructed in the main, during 1927/28. Primarily, the estate is comprised of 3-bedroomed, semi-detached dwellings of four construction types (known locally as Traditional, Wild, Parlour, and Boot). the Wild and Boot dwellings incorporate early non-traditional techniques (e.g. concrete panels and concrete and steel corner frames) in their construction. Structural problems related largely to the age of the dwellings have become increasingly problematic. during the 1970s a modernisation programme was commenced by Bradford City Council (BMDC), but ceased after only 92 dwellings were completed. An officer of BMDC's Housing Dept. has been quoted as admitting that the Council "has fought shy of the Lower Grange estate over the years because of the unique construction of the houses" (Telegraph and Argus 1986, p14).

The estate manifests a variety of fuel-related problems. Within the majority of houses, the installed heating provision consists of a single gas fire in the living room and a peak-rate, electric immersion water heater; any supplementary heating has to be installed at the tenants own expense. Problems with inadequate heating and structural deterioration of the building fabric (spalding brickwork, cracks in walls, and rotting window frames) are compounded by the low incomes of many of the estate's tenants. In a survey of 300 Lower Grange tenants undertaken in

1985 by BMDC, while 63% of those surveyed expressed a general satisfaction with their accomodation,

- 85% requested the installation of storm doors (ranked 1<sup>st</sup> in the survey);
- 77% requested dehumidifier fans (ranked 3<sup>rd</sup>);
- 72% requested additional heating (ranked 5<sup>th</sup>);
- 8% requested treatment for damp (ranked 10<sup>th</sup>) (BMDC 1985).

These items reflected the problems encountered in some of the dwellings on the estate, i.e. condensation, damp, and mould growth. The tenants were not asked about their satisfaction with their fuel bills or about the installation of insulation.

A resident on the estate did take it upon herself, during the winter months of 1985/86, to conduct a local survey heating related costs and problems, posing general questions on difficulties in paying for fuel, disconnection, heating systems, health and condensation. Details of fuel bills (generally taken directly from the actual fuel bill were also recorded. The resident's intention was to survey the entire estate on a door-to-door basis as part of a campaign to get the council to instigate some action on heating and damp. In total, 258 questionnaires, representing a 33% sample of the estate were completed and subsequently analysed.

Of those surveyed, 83% were in receipt of some form of state benefit:

- 39% classified themselves as unemployed
- 35% received an Old Age Pension
- 9% were in receipt of a disability pension.

This figure is somewhat higher than the 59% of households with no-one in work found in BMDC's 1985 survey. This difference may be partially attributable, first, to the different wording used in the two questionnaires and, second, to an implicit bias against those in work as the heating survey was conducted primarily during the day.



In the dwellings surveyed, gas and electricity consumption for the 1985/86 quarter each represented a cost of £75 or more for 48% and 51% of households, respectively. For 57% of dwellings surveyed, their combined gas and electricity consumption represented a cost of over £150 (i.e. a mean cost for fuel of over £12.50 per week compared with a 'notional fuel element' within supplementary benefit scale rates of only £8.80). As the survey made no attempt to ascertain the level of expenditure on other forms of heating, though LPG and paraffin are known to be in use on the estate, actual fuel costs will be higher still.

Of those surveyed, 82% stated they experienced difficulty paying their fuel bills; a further 3% experienced difficulty sometimes; and 6% were on 'fuel direct'(2). This difficulty was being experienced despite 78% of those surveyed living in dwellings where the heating provision extended to only one room. Other aspects of fuel poverty were also in evidence:

- 14% of respondents had had their fuel supply (either gas or electric or both) disconnected at some time. At the time of the survey 9 residents were disconnected from their gas and 2 from their electricity.
- 80% considered their health to suffer from the inadequate provision of heating in their dwelling
- over 60% stated they went either cold or hungry, or both, during the winter in an attempt to meet their fuel bills
- 87% considered inadequate heating to contribute to the dampness in their home.

These responses were not mutually exclusive. The survey indicated that many tenants were enduring a combination of hardships: 51% stated they experienced difficulties paying their fuel bill although their heating provision extended to one room, and considered that their health suffered and the dampness in their dwelling was exacerbated by inadequate heating provision. Another 4% were in a similar state though already on 'fuel direct' because of fuel debts incurred previously.

In 1985, BMDC embarked on a pilot, partial modernisation scheme on the estate. Improvements, including installing new, full heating systems and wall insulation

for the exterior kitchen wall, were undertaken in one of the each of the four construction types on the estate and then opened for viewing. The intention was that after viewing the show houses the tenants could voice their impressions on the proposed package. While the Council intended to extend the programme across the estate, some details were open to negotiation. A public meeting between tenants and various BMDC councillors and officers was held in July 1986. Initial tenant reaction to the proposed partial modernisation were not favourable. Much of this dissatisfaction was pre-empted by the Chair of the Housing Services Committee's announcement that the partial modernisation programme had been abandoned and a 5-year, full modernisation programme would commence in January 1987. Political control of the Council had changed in May 1986.

The announced modernisation package was to include new bathrooms, toilets, and kitchens, rewiring, damp proof courses, redecorating, rectifying structural faults, and installing full heating systems at a mean cost of over £10,000 per dwelling. Yet, in contrast to the categorical assurances on full heating, BMDC were less than emphatic on insulation: while it was hoped that the package would include loft and wall insulation, no promises were forthcoming. Further meetings with the Housing Steering Group (a representative group elected by tenants) to discuss options were promised by the Council.

Rather than await BMDC to present their proposals 'fait accompli', the Steering Group initiated its own consultation programme. The GJG were invited to act as an independent adviser on heating and insulation to the Steering Group. At a special meeting, representatives for gas, electric, and solid fuel heating were allowed the opportunity to present their case; the tenants were to be allowed the choice of fuel for their heating system. Two major issues emerged during the questioning: the cost of running the different heating systems and the disconnection policies of the fuel boards. There was a consensus among the fuel representatives that regardless of the fuel, insulation was a priority. New heating systems, alone,

would not overcome the problem of low income and a thermally inefficient fabric; the tenants were already experiencing difficulty meeting the cost of heating only one room. At the meeting, the BMDC representative still refused to commit the Council to installing insulation, stating that it had yet to decide on the cost-effectiveness of such measures. 'Cost-effectiveness' became 'total cost of the package' under questioning from the Steering Group.

The GJG arranged for energy audits to be performed on each of the four construction types, and an evaluation of heating and insulation scenarios. All the insulation packages showed a payback of less than fifteen years, the minimum recommended lifespan of a modernisation package. Combining the full insulation package with gas central heating indicated that for a very high standard of warmth (a mean whole house temperature of 17°C over 24 hours during the heating season) total annual fuel bills were within range of the DHSS's notional fuel element of about £462 p.a. (see Table 2) (Sheldrick 1986). The resultant report was released to the press. Within a day, BMDC announced that a full insulation package was going to be included within the modernisation programme, and, in fact, went beyond the measures examined in the report by including double glazing as well.

The modernisation programme actually started in April 1987, only to stop after two weeks with the discovery that the structural problems were more fundamental than originally thought. The estimated cost of repair rose to over £25,000 per dwelling with the contractors unable to provide a guarantee that even then the houses would remain structurally sound for ten years. After several acrimonious Council debates, BMDC resolved to demolish the 300 faulty dwellings and rebuild. Demolition commenced in October 1987. The new dwellings are to be built to current Building Regulation thermal standards and include double glazing, with construction commencing in April 1988.

**TABLE 2: EVALUATION OF ANNUAL FUEL COSTS FOR VARIOUS HEATING AND INSULATION PACKAGES**

CONSTRUCTION TYPE	UNINSULATED		WITH LOFT INSULATION & DRAUGHT-PROOFING		WITH LOFT & WALL INSULATION & DRAUGHT-PROOFING	
BOOT	GAS	E7	GAS	E7	GAS	E7
Annual fuel cost	£602	£717	£538	£626	£479	£533
	Cost of Package		£202	£202	£1327	£1327
	Annual Saving		£ 64	£ 91	£ 123	£ 184
	Payback (years)		3.2	2.2	10.9	7.2
	I.R.R. (%)		32	41	8	12
TRADITIONAL	GAS	E7	GAS	E7	GAS	E7
Annual fuel cost	£610	£730	£543	£634	£481	£546
	Cost of Package		£175	£175	£491	£491
	Annual Saving		£ 68	£ 96	£129	£184
	Payback (years)		2.6	1.8	3.8	2.7
	I.R.R. (%)		39	51	26	34
PARLOUR	GAS	E7	GAS	E7	GAS	E7
Annual fuel cost	£668	£812	£584	£693	£516	£596
	Cost of Package		£223	£223	£575	£575
	Annual Saving		£ 83	£119	£152	£216
	Payback (years)		2.7	1.9	3.8	2.7
	I.R.R. (%)		38	50	26	35
WILD	GAS	E7	GAS	E7	GAS	E7
Annual fuel cost	£582	£689	£523	£607	£469	£524
	Cost of Package		£172	£172	£1282	£1282
	Annual Saving		£ 59	£ 83	£113	£165
	Payback (years)		2.9	2.1	11.4	7.8
	I.R.R. (%)		34	47	8	12

Key: E7 - 'Economy 7' Electric Storage Radiators  
: I.R.R. - Internal Rate Of Return

#### 4.2 Westgate Hill, Newcastle

No multi-storey tower blocks were included in Newcastle City Council's insulation and heating programme until 1982/83. The estate at Westgate Hill was among the first group of multi-storey blocks to be included in the programme.

Westgate Hill was constructed in 1962/63 and comprised three 20-storey blocks, with four 2-bedroomed and two 1-bedroomed dwellings<sup>per storey</sup>: 360 dwellings in total. The external walls were composed of concrete slabs with brick infill panels, a cavity and internal concrete blocks, with a combined U-value of  $1.2 \text{ W}^{\circ}\text{C}^{-1} \text{ m}^{-2}$ . About 80% of the external wall area of the living room was single glazed. The original electric underfloor heating system extended to the living room, the hallway, and part of the kitchen, complying with the then-minimum Parker Morris standards (3). While a supplementary, electric bar fire was installed in the living room, no heating was provided in the bedrooms or bathroom. Condensation and mould growth were severe problems in the kitchens, bathrooms, and bedrooms. All three blocks were designated by the DHSS in March 1983 as being disproportionately expensive to heat (4).

Consultation exercises were conducted by the Council's Housing Dept. and the tenants to explain the proposed improvements prior to commencing work. The proposed package included 'Economy 7' electric storage radiators to be installed in all rooms, partial wall insulation, roof insulation, and draught-proofing. The estate's tenant association initially rejected any replacement electric heating system, and campaigned for the installation of a district heating system instead. While the storage radiators were the cheapest for the Council to install, the district heating system would be cheaper for the tenant in terms of running costs. The district heating option was rejected eventually by the Council on the grounds of the actual capital cost that would have been incurred; the district heating system was about three times more expensive.

A further issue of contention emerged in that the tenants considered the insulation package to be inadequate. An energy audit commissioned by the tenants recommended extending the wall insulation throughout the dwelling, installing secondary glazing and extractor fans, and blocking off one of the <sup>two</sup> doors leading on to ~~each~~ balcony. Using optimistic assumptions about the performance of the Council's package and pessimistic ones about their alternative recommendations indicated that, even then, the alternative package would entail cheaper running costs for the tenants (see Table 3). The Council incorporated many of these recommendations within their multi-storey insulation package, both at Westgate Hill and in subsequent multi-storey improvements. Regardless of the proposed package, the tenants if still dissatisfied retained the right to opt out of either the heating or insulation improvements, or the package in total, although the Council strongly urged the acceptance of the insulation improvements at least.

TABLE 3: Comparison of Space Heating Costs of Two Insulation Packages

	Council Insulation Scheme £ per year	Alternative Insulation Scheme £ per year
Two-bedroomed flat	160	150
One-bedroomed flat	75	40

(Source: Energy Costs Survey Limited (1982) Energy Survey Carried Out For Newcastle's Tenants Association on One and Two-bedroomed Flats in Vallum and Westgate Courts in Newcastle, Newcastle Tenants Federation, Newcastle)

Interestingly, both an increase in consumption and a reduction in expenditure occurred after the improvements. (These changes are examined in detail in Sheldrick 1987). A shift in consumption behaviour, onto the night-rate Economy 7 tariff, is necessary to account for this apparently contradictory situation. In addition to the installation of the storage radiators, the water heating had been converted to the night-rate Economy 7 tariff to enable the tenants to take maximum advantage of reduced price electricity.

The distribution of total electricity costs (at 1984 prices) for the year before the improvements were started are illustrated in Figure 1a. The costs range between £25 and £700 with a mean cost of £333. By contrast, the distribution of costs for the year after the improvements were undertaken demonstrate a narrower range of costs, a positively skewed distribution (i.e. a concentration of consumers within the lower expenditure brackets: the number of consumers spending less than £225 per year increased from 30% to 45% of all consumers), and a mean annual expenditure of £253 (see Figure 1b).

A shift in the use of the heating system is also evident. As the underfloor system was metered separately, its actual use can be discerned. In 33% of dwellings, no use was made of the underfloor system during 1981, while a further 13% consumed less than 250 kWh on underfloor heating over the entire year (5). This is illustrated in Figure 1a by the shaded area of the diagram. Yet, while those inadequately using the system constituted the large majority of the lower expenditure brackets, they were spread across all expenditure brackets: one of three consumers in the highest expenditure bracket was not using the underfloor system. The reliance on other methods of electric heating may be an explanatory factor in this expenditure pattern: among the lower brackets, consumers were not relying on any form of electric heating as this would be reflected in their total expenditure, while amongst the higher brackets, reliance on other methods of electric heating, e.g. the electric bar fire in the living room, was likely. After installing the heating and insulation improvements, the number of consumers using the new system inadequately fell from 46% to 9% (see the shaded area in Figure 1b) (6).

The local electricity board conducted a follow-up survey of Westgate Hill in 1985, contacting 68% of the tenants who had had their heating system changed. The tenants were asked to give a score out of 10 to describe their level of satis-

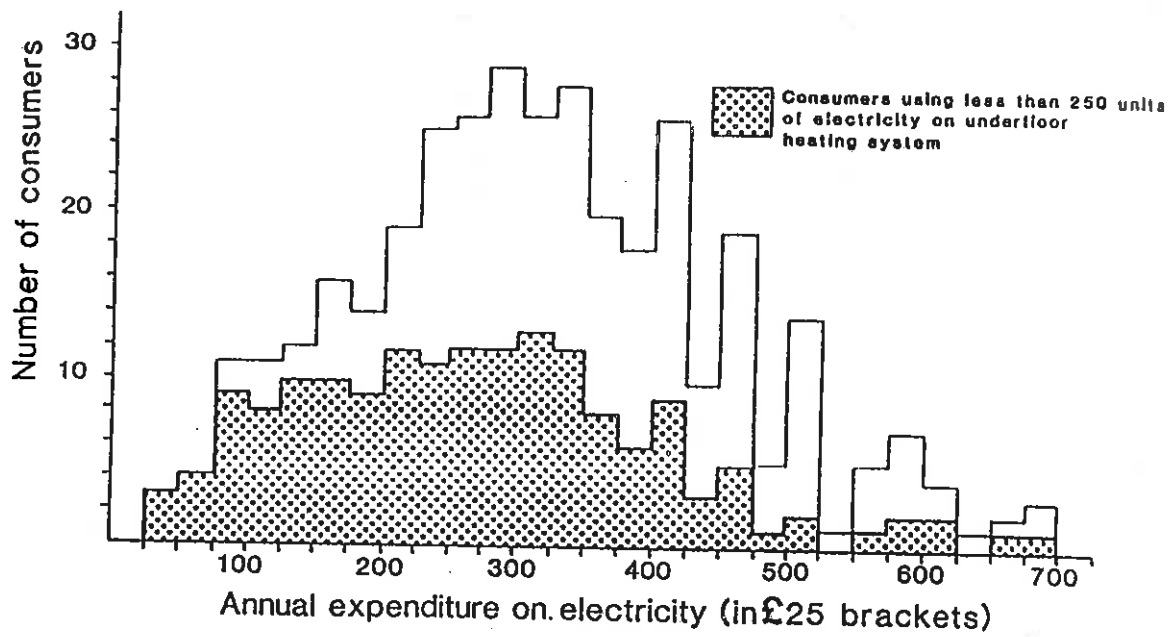


Figure 1a: *Distribution of 1980/1 expenditure on electricity (at March 1984 prices)*

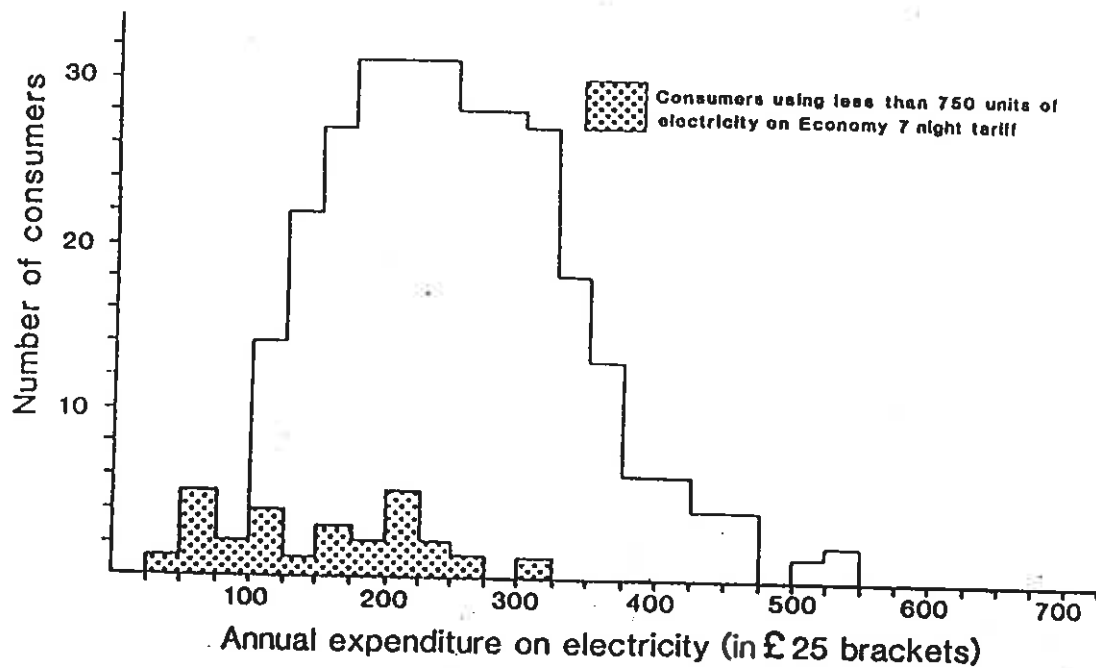


Figure 1b: *Distribution of 1983/4 expenditure on electricity (at March 1984 prices)*



faction with the comfort provided by the new heating system (0 represented complete dissatisfaction; 5, a neutral position; and 10, complete satisfaction - the surveyors were under instructions not to record either a 0 or a 10). Only 2.5% of all those surveyed expressed a neutral or dissatisfied position (i.e. 5 or less) while 86% expressed a high degree of satisfaction (i.e. 8 or more) (see Figure 2a). A similar question on the level of satisfaction with the system's running costs received only a slightly less enthusiastic response (5.5% indicating a neutral or dissatisfied position compared to 76.5% indicating a high degree of satisfaction) (see Figure 2b). Some subjective bias on the part of the respondents, through the awareness that they were dealing with fuel board representatives, or the reluctance to criticise the improvements, may have influenced these findings. However, they remain remarkable given the initial disquiet of the tenants over installing a replacement electric heating system and their campaign against it. On a more critical note, the questions in the fuel board survey of tenant satisfaction attributed the level of comfort and the running costs to the electric storage radiators. As 77% of tenants who had their heating system converted also had the insulation package, comfort and running costs would be a function of the insulation improvements as well as the heating system. The improved insulation enables either a reduction in the heat input required to attain previous temperature levels or an increase in comfort for the previous level of expenditure, or some combination of the two. The tenants would also appear to be more amenable to using the installed heating system in the knowledge that they are getting value for money - a belief that was not generally prevalent on the estate before the improvements.

FIGURE 2a: Level of Tenant Satisfaction with Comfort from Heating System

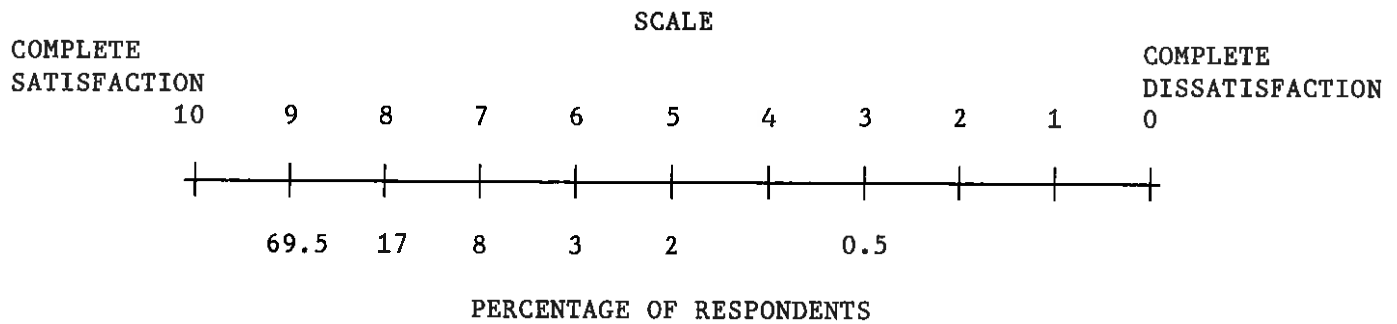
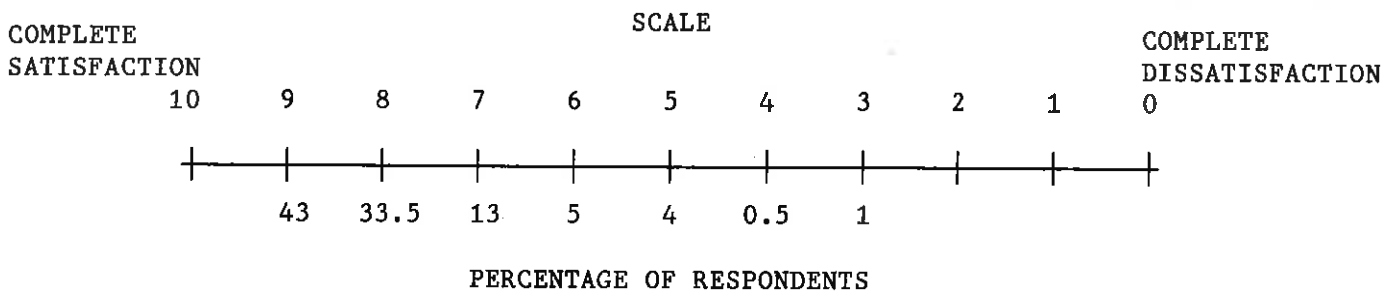


FIGURE 2b: Level of Tenant Satisfaction with the Running Costs of the Electric Storage Radiator Heating System



(Figures compiled from information made available to the author by the North East Electricity Board)

## 5. Conclusion

The two case studies demonstrate that community involvement can contribute successfully to local energy initiatives. In that they were successful, makes them exceptional; many tenant campaigns, regardless of the merits of their case, fail. Both campaigns benefited from sympathetic political and bureaucratic will. However, paying political lipservice to community involvement is not sufficient to ensure effective contributions. The two case studies do provide indications of other requirements.

The Westgate Hill and Lower Grange campaigns were both vociferous and successful. In both instances, the proposed heating and insulation improvements were modified as a result of their campaigns. This success did not derive, however, from the in-built consultation mechanism, but inspite of it. The improvements actually agreed came after the proposals emerging from the consultation process were rejected. If the original proposals had remained unchanged then the two estates would have had larger fuel bills or poorer insulation standards than were otherwise necessary. This situation would have arisen despite the expertise available to the local authorities. Within the local energy initiatives generally, community involvement was construed more as an exercise in dialogue between unequal partners than one in power sharing. Community views were canvassed, and might be taken on board, but the final determination remained elsewhere. Those initiatives proactively encouraging or facillitating community involvement were also the ones least able to deliver comprehensive heating and insulation improvements. Without finance, aspirations can remain pious hopes.

Effective community involvement has other requirements. Both Lower Grange and Westgate Hill sought out independent advice and expertise. This was necessary to both rebut the local authorities' cases and to argue alternatives. Throwing the onus upon community groups to identify their requirements themselves will

not necessarily result in fully informed and technically sound decisions, the consequences of which may rebound subsequently. There is a need for independent technical advice (e.g. providing energy audits and surveys) to assist tenant groups choose appropriate options.

Adequate heating does not equate necessarily to installing a new heating system. Installing full central heating may blind the occupant with technology, but does not address the underlying causes of unhealthy conditions if the occupants are experiencing difficulties affording to run their existing, inadequate system. Thermal comfort and affordability of warmth are a function of a dwellings thermal characteristics, the cost of fuel, and occupant behaviour, as well as the heating system. Yet, despite the research establishing this relationship and the experience of the consequences of ignoring it, the assimilation of this message has been far from universal, particularly amongst professions that should know better.

## NOTES

- [1] Areas of Priority Treatment are areas designated by Strathclyde Regional Council, using 1981 Census indicators, as suffering from the effects of multiple deprivation.
- [2] Fuel-direct is a scheme operated by the fuel boards whereby a consumer who has incurred debts can pay these debts off through deductions from their Supplementary Benefit entitlement. The DHSS administers the scheme, deducting the money, with the recipient's agreement, before the benefit is paid out.
- [3] Parker#morris standards were for the heating system to achieve 18°C in the living room and 13°C in passageways when the external temperature was -1°C.
- [4] Estate Rate Heating Additions are a welfare benefit entitlement for all Supplementary Benefit recipients living on estates with a heating system that has been designated by the Secretary Of State as being disproportionately expensive to run.
- [5] This 250 kWh represents an arbitrary division. For the tenants in Westgate Hill it would be the equivalent of using their 2kW electric bar fire for four hours a day for a month as their total annual heating consumption.
- [6] This 750 kWh figure represents an increase on the 250 unit figure used in the 1980/81 assessment as the insulation and heating improvements included converting the water heating to the 'Economy 7' tariff as well.

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# APPENDIX 1: The Hackney Right to Warmth Charter

STATEMENT	INITIATIVES	PARTICIPANTS	FUNDING SOURCE	PROGRESS
1. To initiate an immediate programme of measures which will help people keep warm in winter.	Coldline	Pensioners Link Housing Dept.	Inner City Partnership (I.C.P.)	operated from 1984 to 1987
	Draught-proofing	Housing Dept. Direct Labour Organisation	Housing Investment Programme (H.I.P.)	undertaken but not on systematic basis
2. To initiate with other interested parties a campaign to make people aware of such benefits that exist and to provide proper information on those benefits.	Heating Advice Project	London Energy & Employment Network (LEEN) Housing Dept. Social Services	I.C.P.	operated since 1985
3. To participate, in full consultation with tenants and other groups in a campaign to establish a proper fuel benefit based on the real cost of keeping warm.	Cost of Warmth Index study	National Right to Fuel Campaign	Charitable Trusts	nothing particular in Hackney
4. That surveys of Council property take proper note of their ability to keep warm and make recommendations accordingly.	energy audits	Tenants Energy Advice Service	I.C.P.	3 estates surveyed
	install micro-computers in local housing offices	Housing Dept.	H.I.P.	not installed
5. That new build and rehabilitation schemes take full account of the long term running costs of heating systems and that consultation takes place with tenants and other groups.	computer aided design	Architects Dept.	I.C.P.	computers bought but not in use
	develop a heat standard	Architects Dept.	-	not developed
6. To investigate fully alternative and supplementary forms of insulation and heating to reduce the cost of keeping warm and to act promptly on those investigations.	Heatplanmer model	Earth Resources Research	I.C.P.	model data-base being compiled
	investigate CHP/DH	joint study with other London Boroughs		ongoing but has lost impetus since GLC abolished
	active solar	Housing Dept. Architects Dept.	H.I.P.	Lea View estate but would have happened anyway
	passive solar	Housing Dept. Architects Dept.		not progressed
7. To make all staff aware of their energy conservation responsibilities and to provide training where necessary.	training courses	Housing Dept. LEEN	I.C.P.	courses on awareness for housing staff & on condensation
8. To pressurise statutory undertakers such as London Electricity Board and North Thames Gas not to disconnect supply from those in debt.	discussions with fuel boards	fuel boards Social Services Dept. Housing Dept.		discussion but no change on existing Code of Practice
9. To discuss ways in which statutory undertakers can participate in insulation and efficiency measures in the borough.	discussions with fuel boards	fuel boards Housing Dept. Architects Dept.		although various packages developed by fuel boards none have been installed in Hackney.
10. To support initiatives which can bring additional public or private sector investment to bear on the problems of poor insulation and inefficient heating.	Tenants Heating & Insulation Service	Earth Resources Research LEEN Hackney Borough Council	I.C.P.	1986- 128 dwellings improved; 1987- 1200 dwellings scheduled
	Hackney & Abbey National Joint Initiative	Hackney Borough Council Abbey National Building Society		ongoing discussions

# THE TENANT

News And Views For All Tenants In Lewisham

SPECIAL HEATING ISSUE

OCTOBER 1985

## THE HEAT IS ON

FELTRA Launches Tenants Heating Charter

### 1. Right to warmth

Everyone has a right to warmth at a cost they can afford.

### 2. Temperature standards

All tenants should have access to cheap and efficient heating systems which can achieve defined temperature and comfort standards within agreed cost limits.

### 3. Consultation

Full consultation with tenants should take place before work is commissioned and during installation. Full details of all heating systems and insulation options should be made available to tenants including energy audits projecting comparable heating costs, and operating characteristics of different systems.

### 4. Insulation standards

All properties should be upgraded to meet defined insulation standards. Insulation materials, specifications and installation works should satisfy an agreed code of practice.

### 5. Compensation

Compensation should be paid to tenants for loss of heating during breakdowns, repair work and systems operating below design standards. This should reflect the actual cost to the tenant of using a substitute heating source to defined temperature standards. Compensation payments will cover tenants on individual or group heating with pooled or unpooled charges.

### 6. Health and safety

The highest Health and Safety standards relating to appliances, installation and service practice (including removal of old systems), and use of fuel types should be rigorously enforced.

### 7. Private tenants

The Council should use everything within their powers to encourage private landlords to adopt defined heating and insulation standards.

### 8. Energy policy

The Council should define and implement energy policies reflecting its nuclear policy, use of renewable fuels, waste incineration, Combined Heat and Power, and commit itself to a borough-wide energy conservation programme. The Council should join with other local authorities in pressing central government for greater funding to achieve these aims.

### 9. Energy advice

An independent energy advice unit should be established for the benefit of borough residents and a "Coldline" set up to provide emergency help to pensioners and others at risk of hypothermia. Funding should be provided by the Council.

### 10. Heating benefits

The Council should ensure that all eligible tenants should receive heating benefit.

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