LAGGING BEHIND

progress with insulation in Scottish public sector homes
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Scottish Public Sector homes

Report of a project carried out
for the Scottish Consumer Council
prepared by

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"The Scottish Consumer Council (a committee of the National Consumer Council) was established by Government in 1975 to identify and represent the interests of Scottish consumers and particularly the disadvantaged. The SCC keeps a watching brief on the goods and services provided by central and local government, and other public bodies as well as by commercial firms and the professions. Research is carried out into areas of consumer concern, and the SCC then presses for whatever changes are required in the law and in the provision of services to meet the needs of consumers."
ACKNOWLEDGEMENTS

I would like to thank all the officials of local authorities, New Town Development Corporations and the Scottish Special Housing Association who answered our enquiries; especially those in our 'case study' authorities who met and discussed with us; and also the officials of the Scottish Development Department who met us or gave us their comments.

Thanks are due to Alistair Grimes of the Scottish Fuel Poverty Action Group, who proposed and supervised the project, and to the rest of the staff of the Scottish Council of Social Service where the work was carried out, especially Alison Jeeley.

Margaret Templeman and Graham Atherton of the Scottish Consumer Council provided constant advice and help and the project was encouraged and supported by a Steering Committee, chaired by Betty Skivington, whose other members were Sheena Goold, Helen Millar, Mary McKelvie, Roger Popplewell and Willie Roe.

The Scottish Consumer Council also wishes to thank the following individuals and organisations for their valuable assistance and/or in the preparation of this report:

Scottish Development Department.

Dr. P. Cornish, Building Research Establishment, East Kilbride.

Mr. H. Gow, Department of Building, Dundee College of Technology.

Dr. R. Talbot, Department of Architecture, University of Edinburgh.

Peter Taylor
March, 1983.
PREFACE

As fuel prices continue to rise, everyone has become concerned about the costs of keeping their home warm. Many people are having great difficulty in paying their fuel bills and large numbers end up having their electricity or gas cut off. People on low incomes or who have to stay at home all day, particularly the elderly, are likely to be worst affected.

All too often, however, home heating costs are made higher than need be by expensive or inefficient heating systems, draughty doors and windows, and poor insulation. Proper insulation and other energy saving measures can reduce heat losses by as much as a third. Since 1978, owner-occupiers and tenants have been able to claim grants from their District Councils to insulate their lofts, and the working of this scheme was described in our report Paying for a Warmer Home, (1980). I am pleased to have this opportunity to re-iterate two of the most important recommendations in that report:

"100 per cent grants should be payable to applicants who are pensioners, in receipt of supplementary benefit or family income supplement, or where income is below a certain level"

and

"The Homes Insulation Scheme should be extended to cover draughtproofing, with materials being supplied to elderly and other disadvantaged groups free of charge whenever they are needed."

Later, an additional scheme was introduced to allow District Councils and other public sector landlords, assisted with government funds, to carry out their own insulation work for their tenants and the report which follows describes how they have set about this task. The report is based on case studies of ten Councils, one New Town Development Corporation and the Scottish Special Housing Association.

We intend that the report be read by the likes of local councillors, housing and technical staff, tenants' representatives and others concerned with energy costs and we hope it will encourage a fresh but critical look at insulation programmes with reference to our recommendations. We also hope that the report will lead to further initiatives by central government to promote energy conservation through insulation and other energy-saving measures.

Esme Walker,
CHAPTER 1

THE INVESTIGATION AND ITS CONTEXT

Introduction

It is now nearly nine years since the Arab-Israeli war started off a series of increases in the price of oil. These, coupled with the decline of government subsidies to the electricity industry, have transformed the cost of fuel in Britain and elsewhere. It has been increasing at a rate which has far outstripped general inflation.

These increases have been especially serious for people on low and fixed incomes. Pensioners and those at the bottom of the income scale spend between 10% and 14% of their income on fuel, twice the national average. Yet, at the same time, what they are able to spend is actually less in absolute terms. The effects of this can be seen in the current epidemic of dampness in Scottish housing, the high level of disconnections in Scotland and in the miserably cold conditions that many Scots find themselves in each winter.

It would be too simple to suggest that one set of measures alone could solve the complex problems of 'fuel poverty' but it is quite clear that improved insulation, especially if combined with more efficient heating systems and higher construction standards does have a role to play in combating the problems at three related levels.

First, it benefits the tenant or householder directly by either lowering fuel bills or giving a higher level of comfort for the same money. Secondly, it benefits the councils who are landlords to most of those in difficulty with fuel payments, either by lessening financial pressure on tenants or by allowing higher overall temperature levels which keep condensation at bay. Thirdly, it plays a role in preserving the nation's stock of non-renewable energy resources. Some 35% of all energy used in the U.K. is consumed in the home, and 85% of that total is for space and water heating.

This report is the outcome of a survey of the progress made in insulating houses by all the Scottish public authorities which have a responsibility for housing. It has been carried out by a researcher working on behalf of the Scottish Fuel Poverty Action Group, and has been sponsored by and carried out in cooperation with the staff of the Scottish Consumer Council.

The Fuel Poverty Action Group has had for some time an interest in promoting the insulation of homes as one means of alleviating
the problems created by the combination of high heating bills and low incomes. It has made a number of attempts to obtain information on what progress has been made in installing insulation, in order to allow it to decide on its priorities and press for action to remedy the most serious deficiencies. It has not however previously had the time or the support to pursue its investigations thoroughly.

The Scottish Consumer Council has also had a long standing interest in improving the insulation of dwellings and the benefits which this can bring to consumers. It has previously reported on the operation in Scotland of the Homes Insulation Scheme, which is directed largely at private sector households (1). The National Consumer Council itself has, as well as producing a similar investigation (2), also joined with the Electricity Consumers’ Council to review all tried or potential means of encouraging insulation (3).

Both bodies wish to promote the alleviation of fuel poverty; a reduction in fuel bills by cost-effective means; the conservation of energy; and the improvement of living conditions in damp, draughty or exposed dwellings. So they would wish to encourage the use of insulation as a high priority because of this combination of benefits to both individual and community which it can convey; and to develop understanding of where and in what form it can be installed to maximum benefit.

The two organisations were aware that in the last few years considerable steps forward have been taken in the insulation of council houses. But they did not have any reliable knowledge of what type and standard of insulation public authorities had actually been providing. Nor could they find much evidence that the consequences for tenants have been evaluated or monitored; nor that any fresh thought was being given to the relative priority of different types of insulation or to the means by which it might be further encouraged.

The basic purpose of the survey reported here was therefore simply to fill that first gap in our knowledge: to provide as detailed an account as could be obtained of what types of insulation had been provided by Scottish public housing authorities, and how many houses had been treated. We wanted also to take the opportunity of discovering, from the landlords' point of view, what the priorities have been and what problems have been encountered. This, we hoped, would set the context for some recommendations about ways to ensure and justify continuing progress in this field even in the climate of sharply conflicting priorities created by the overall reduction in the money devoted to public sector housing. A study of tenants' experiences of insulation and their own perception of the problems it is designed to alleviate would of course add another dimension.
We should explain why we believe that our concentration upon public sector housing is justified. Concern has indeed been expressed that the progress of insulation in the private sector or at least of the grant-aided scheme, might in fact be lagging behind the public sector. But this feeling has not been based on any detailed knowledge of the work that has actually been carried out in the public sector; in any case it must be based on a comparison only of progress with roof and water system insulation work which can attract grant aid, and this is only part of the story. Furthermore it can be argued that the public sector has a responsibility for example- and standard-setting; that its houses can be more quickly and cheaply insulated because of the economies of scale which can be achieved in big contracts, of which full advantage should be taken; that it is in the public sector where the worst legacy of past mistakes or inadequacies in the design and construction of houses has been left, creating problems of expensive or inefficient heating, cold rooms or surfaces, and excessive condensation; and that since the average incomes of people living in council houses are undeniably lower than those in the private sector (particularly if one excludes from the comparison privately rented property, where the encouragement of insulation runs into particularly great problems), it is upon them that a policy aimed at alleviating fuel poverty and more generally at reducing the burden of high heating costs should concentrate its attention.

Public Policy on Insulation

The extent of insulation of public sector houses is almost entirely governed by the decisions of public authorities. These are both the local landlords themselves, principally the District Councils, who are responsible for all aspects of housing need in their areas, and also central government, which lays down the framework within which they must operate and from time to time also takes steps to encourage them to move in a particular direction.

Both the overall framework and the particular inducements offered by government policy are largely financial. Whatever insulation a local authority carries out has to be financed from one of its main budgetary accounts. The fundamental choice is whether it is to be financed:

1. From the Housing Revenue Account, supported by rents, government grants (usually not tied to any particular purpose) and subsidies from the rate fund. This is most likely to be used where a measure of insulation is treated as a repair, carried out in response to a complaint from a tenant of draughts, excessive condensation, etc. It is however possible to finance
certain planned programmes of work in this way; for example the installation of standard jackets for hot water cylinders might be seen as an item of general maintenance, because it is simply keeping the fittings of a house up to current standards.

(2) From capital accounts, from which most insulation works are in fact financed because they are treated as long-term improvements to the fabric of dwellings. Capital spending is paid for by borrowing and re-payment of debt over a long period, or, from 1981 onwards, out of the receipts from sales of houses and other assets. The Scottish Office must give consent to a local authority's capital spending. Formerly consents were given for individual projects, after approval of their costs. Since the introduction of the Housing Plan system in 1978 consent is given to each authority each year to a total amount for all purposes connected with council housing, which it may then spend as it chooses. The total amounts concerned have been determined by the Scottish Office after considering local authorities' statements of their planned spending programmes, given in their Housing Plans, but nowadays the level of subsidy from the rates to council housing and the expected receipts from the sale of houses and other assets are also taken into consideration. It is also still possible for the Scottish Office, if it wishes, to issue permissions to borrow extra money on condition that it is spent only on certain specified things.

The other principal means by which central government may pursue a policy of encouraging insulation is through its control of the legislation defining required building standards. This was in fact historically the first means to be used. The different standards required at various times are still very relevant because they usually determine what insulation is possessed by houses built at those times, unless it has subsequently been upgraded.

The Building Standards (Scotland) Regulations were first amended to include any mention of insulation in 1963. Values of the "U-Value" coefficient were specified which define the maximum permissible heat loss per square metre of roofs, external walls and windows. The steps required to ensure that walls and windows comply with this standard can be various and were not specified. The introduction of a standard for walls did not require such substantial change to architectural practice in Scotland as it did in England. Since a cavity is generally required for the standard to be met it caused a substantial move in favour of that method of construction in England. This had long since occurred in Scotland - as early as the 1920's, directly upon the abandon-
ment of large-scale building in stone. The reason perhaps was the greater dampness of the climate (4).

The standard for roofs required the installation of insulating material in the roof space to a thickness, using normal materials, of 25 millimetres or 1 inch.

**TABLE 1**

<table>
<thead>
<tr>
<th></th>
<th>Roof</th>
<th>Max. U-value</th>
<th>Implied thickness of insulation</th>
<th>External Walls</th>
<th>Max. U-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963</td>
<td></td>
<td>1.1</td>
<td>25 mm</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>1975</td>
<td></td>
<td>0.6</td>
<td>50 mm</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>1983</td>
<td></td>
<td>0.35</td>
<td>100 mm</td>
<td></td>
<td>0.6</td>
</tr>
</tbody>
</table>

From that time on newly built council houses had, like any other house, to have insulating material in their loft spaces. Buildings with flat roofs or other non-traditional roof forms, which were particularly common over the following decade, had to achieve the same standard by virtue of their construction. Building Regulations only apply with the force of law to newly constructed dwellings; but local authorities do in fact tend to look to them for guidance on what standards to aim for when carrying out work to older buildings as well.

The next change came in 1975. The Standard for roof insulation was doubled to one which required 50 mm or 2" of loft insulating material. By this and subsequent amendments up to 1979 standards for wall and window insulation were also more than doubled. It is arguably the case that the 1975 amendment was the first encouragement given by government to insulation which was actually inspired by a desire to promote energy conservation, as opposed simply to a wish to ensure that houses provide a minimum level of comfort to their occupants.

In 1983 the standard for roof insulation is to double again to become a requirement for 100 mm material. It should be noted that a thickness of 80 mm for loft insulation has at no time been required by the Building Regulations; although a number of people, having become familiar with this figure through references in the government schemes and circulars affecting both public and
private sectors, have fallen into the habit of thinking that it was a statutory requirement.

In the mid-70's, after the Building Regulations were changed, the only other inducement to local authorities to install insulation was the fact that some insulation work was considered appropriate to be carried out by the Job Creation schemes, as they were then called.

However, an initiative was soon taken by a Government Department not normally closely involved with local government affairs - the Department of Energy. On 12th December 1977 the Secretary of State, Tony Benn, announced to the House of Commons that "the government is launching a ten year programme to bring public sector dwellings up to a basic minimum standard of thermal insulation". This would involve treating over two million dwellings and would have major social benefits, he said. Energy conservation in housing was now officially recognised as having a contribution to make to overall energy policy.

This announcement was implemented in Scotland by the issue of circular 24/78 "Energy Conservation - Public Sector Housing" by the Scottish Development Department the following April. The force of this circular was firstly that it was a strong expression of government policy to which, when issued in this form, local authorities are usually inclined, though not bound, to pay attention; and secondly that an additional capital expenditure allocation was made available as a result. As explained above, this amounts to a consent to borrow money over and above the main block to which consent had already been given, provided that the extra money was spent solely on the specified forms of insulation and related work.

The measures of insulation which the circular encouraged local authorities to take and which could be "claimed" against the allocation were the following:

(a) Roof space insulation to at least 50 mm but "preferably a standard of 80 mm thickness"; authorities were also given discretion to increase this thickness "in dwellings which are electrically heated and in which very high fuel bills or severe condensation are causing problems."

(b) Insulation of exposed pipes and the tops and sides of cold water tanks in the roof spaces of houses whose lofts had been insulated, "in order to prevent freezing". No particular standards were laid down.

(c) Fitting of British Standard jackets to hot water cylinders; insulation of hot water pipes to taps if practical.
(d) Attachment of draught strips to external doors and windows.

The circular also listed some limited "secondary" measures of repair or modification which might be required if insulation was to be possible or effective, and authorised authorities to claim the cost of these against the special capital allocation. This was set at a level which was expected to allow insulation of about 40,000 houses per year in Scotland, at an average cost of £100 to £125 per house.

The circular appears to be written on the firm assumption that all of the works listed would in fact be carried out in each house which was to be insulated. It nowhere, if closely examined actually specifies that this was required. The circular which announced the closely similar English scheme did specify that local authorities had discretion to omit measures which were not suitable or practicable in individual homes (5). How far local authorities did in practice do all of these works, is one of the things which we report upon later.

Two other specific points were urged upon local authorities by this circular: to bear in mind the possibility of financing labour costs through what had now become the Special Temporary Employment Programme (STEP); and to give priority to the "special needs of the elderly and disabled".

The Scottish Office made available an additional capital allocation for the specific purpose of financing insulation measures that year (1978/79) and the following year (1979/80). In 1980/81 and subsequent years there has been no such allocation. The need for insulation was now said to be taken into account in determining the overall level of capital allocations, with local authorities being free to choose themselves whether insulation was sufficiently important for them to spend part of their money on it. In conversation with officials of SDD we have confirmed that this step was seen as being "in line with the policy of disengagement" being pursued by that Department in respect of certain kinds of local authority decision (6). However these allocations were at the same time being reduced substantially for other reasons, so the contribution made by 'merging' the previous insulation allocations into them is not readily discernible. The memorandum announcing this change did, however, encourage local authorities to continue with their programmes of insulation.

For as long as a separate allocation was available the Scottish Office had an obvious need for detailed returns from authorities specifying what works they were carrying out under the scheme; these would allow them to check the eligibility of the work being carried out and to decide on any redistribution of the
allocation between authorities during the course of the year
(the returns being made quarterly) if some appeared likely to
not take up the full allowance and others wanted extra.
This purely financial oversight seems to have been all that
the "monitoring" proposed in the circular amounted to.

A summary of these returns was published in "Scottish Housing
Statistics" (7). They give a picture of authorities' total
spending on insulation works that fell within the scope of the
Energy Conservation programme; they also refer to a total
number of houses treated. This however is difficult to inter-
pret at all once one knows (as we shall demonstrate below) that
the package of works which the circular apparently required was
not in fact regarded as inviolable. So the published statistics
are ambiguous - they might refer to lofts, or to all houses in
which any works had been carried out, or to different things in
different authorities. Now that the returns submitted to the
Scottish Office now no longer have to relate precisely to work
being "claimed" against the separate capital allocation, it is
difficult to know exactly what local authorities may or may not
be including; nor have the Scottish Office attempted to specify
any new definition (6).

One other initiative has been taken by central government to
encourage insulation in Scottish council houses. The Home
Insulation Scheme which came into operation in September 1978
was originally applicable only to owner occupiers or tenants
of private landlords. From November 1979 grants under the
scheme have been made available to council tenants too, although
the change does not seem to have attracted much attention at
the time. The scheme, in broad outline, makes available to
individual householders grants to cover 66%, up to a maximum
of £69, of the cost of roof insulation to a thickness of 50 mm,
cold water system lagging and hot water tank insulation: all
these works must be carried out if applicable, but grants are
not available for the treatment of any house which already has
some loft insulation in place, of whatever thickness. The
grant level has recently been raised to 90%, with a maximum of
£95, for elderly and disabled people in receipt of supplementary
benefit, rent or rates rebates or rent allowance.

What central government seems never to have done is to attempt
by any inducements or pressures to get local authorities to pay
more attention to upgrading the "structural" insulation of
their houses - the insides, outsides or cavities of external
walls, the floors and the flat or non-traditional roofs.
Technical advice is offered by the appropriate sections of
government departments; and the Building Regulations specify
standards for the properties of walls and roofs, though not, as
the Scottish Consumer Council has previously pointed out (1) for
floors, unlike Scandinavian countries. But no common scheme
or long term target has been declared for improving these forms of insulation.

These are the ways in which central government has signalled to local authorities at various times that providing better house insulation should be regarded as an important aim, and the specific instruments it has used to attempt to induce more progress directly. How far local authorities' own officials have themselves favoured and initiated insulation programmes, and how far public and political pressure has encouraged them to regard insulation as a priority for expenditure are issues which we shall be looking at later.

Six public housing authorities - the Scottish Special Housing Association and the five New Town Development Corporations - have a much closer relationship with the Scottish Office, being governed by appointed boards. All their finances are allocated to them by the government - except of course their income from rents, but that has been taken into account in calculating their grants. They must submit their spending proposals for approval to the SDD or, in the case of New Towns, the Scottish Economic Planning Department (which is not otherwise directly concerned with housing investment).

One general feature of the way in which local authorities themselves administer their spending on housing deserves mention here, because it lies behind much of the way in which we shall describe what they have actually been doing. They tend to organise much of their spending into distinct "programmes" - the word will crop up again and again. Almost all of the capital spending is allocated to a limited number of headings - for example "modernisation" or "lead pipe replacement". Future projections for these are given in their Housing Plans and are presented to Housing Committees for approval, though in most cases committees may vote on them item by item if they wish. These "programmes" may or may not specify exactly which houses are to be included - for some minor works at least that may be left to the discretion of officials. Arrangements for amending them and shifting funds between them may differ. But they are usually treated as the building blocks of a council's capital spending. Decisions on which programmes are to have the greatest priority will tend to be taken at different times from decisions on which houses get priority within any programme. Programmes also tend to take on a "life of their own" and be difficult to replace in an authority's plans with something completely different, once they have been started.

The works local authorities carried out in response to the "Energy Conservation" circular were at the beginning almost bound to be organised into a separate 'programme' of this kind in order for them to be charged against the separate allocation. The
circular in fact specified that "insulation of houses which is part of their general improvement should be charged against the normal HRA allocation". Problems of how this was defined in practice cropped up in two of the authorities whose experience we shall be looking at in detail.

It is also possible for some revenue financed works to be organised into planned "programmes". This appears at present to be characteristic of the SSHA and, so far as we are aware, the New Town Development Corporations. It will no doubt become increasingly common with the belated spread of "planned maintenance" systems designed to ensure that, over a several-year cycle, each of an authority's houses receives repair and upgrading to appropriate fixtures.

The Survey

As we said above, the first purpose of this survey was to try to establish what measures of insulation have been taken and how many houses have been treated by Scottish public sector housing authorities. Closely related to this was an attempt to discover what the remaining deficiencies are - how many houses are actually capable of receiving insulation and have not been so; and an enquiry about the extent to which plans exist in local authorities to tackle these deficiencies, bearing in mind that the five year horizon generally adopted in Housing Plans now takes us to within one year of the original ten-year target for completing a satisfactory level of insulation.

Most of this information is not available at all from official returns and none of it, as we have argued, can really be obtained from them with any confidence in its interpretation. Though no survey can ever rival the 100% response which central government can, by its legitimacy and element of compulsion, obtain from sometimes complaining local authorities, we felt therefore that a survey of all authorities was required.

No such study has been done previously. The Scottish Local Authorities Special Housing Group has reported on "Heating Policies and Energy Conservation" (8), but its information is based on the experience only of their 22 member authorities (out of 56 possible); it concentrates upon descriptions of actions which they have taken in the attempt to solve particular "problems" with certain heating systems or with condensation, rather than upon energy conservation in general.

The only recently published table on the extent of public sector insulation whose figures include Scotland (9) is based upon the "A.G.B. Home Audit" figures obtained by the Department of the Environment. The size of this sample is however insufficient
for any detailed analysis of the position in Scotland alone (10). In a Parliamentary answer in December 1981 (11) an estimate was given of the number of Scottish public sector houses with less loft insulation than the current Building Standards (i.e. 50 mm). But this figure, "approximately 400,000" was based upon a rough approximation (12). As there is no Scottish equivalent of the English House Condition Survey, there is also no existing source which allows any estimate of the extent of existing deficiencies in insulation to be made. We should stress at once that our survey makes no claim to fill that gap by an accurate measurement of the whole condition of the housing stock.

Nevertheless, to make any contribution to answering the basic questions of fact which we have outlined, our survey had to be national in its coverage. It therefore could also be used, so far as the relatively limited resources of this investigation allowed, to obtain a brief national overview of some related issues: the criteria which have been used by authorities in deciding upon the priorities for their insulation programme; and the effect of cuts in overall housing expenditure upon it. However we also wanted to look in more detail at the experience of at least some individual authorities in order to get a more rounded account of the variety of ways in which they have gone about improving insulation, and at least some clues as to what this has meant for their tenants. Our study therefore consists of a main national survey and a series of case studies.

National Survey  Our main survey is of all 62 Scottish public sector housing authorities: that is to say, the 53 District Councils, the three Islands Councils (which for present purposes can be thought of as working in the same ways), the five New Town Development Corporations (which do differ in several ways, some already mentioned) and the Scottish Special Housing Association (which is different again, but as Scotland's second largest public landlord could scarcely be left out).

The first stage of our fieldwork was to post a pilot questionnaire to ten randomly selected authorities. Unfortunately it landed upon the desks of just the officials whose jobs were likely at that precise time to involve them heavily in coping with the consequences of some of the lowest and most persistently freezing temperatures known for decades. However 9 out of 10 questionnaires were eventually returned, albeit one or two of them after we had had to pass on to our next stage of work.

We then revised our questionnaire - principally because we soon realised that the government's apparently standard package of insulation measures had not in fact been treated as such by many councils. We therefore had to itemise different types of in-
sulation and ask separate questions about them, taking the risk that people would be more reluctant to answer a slightly longer questionnaire.

The revised questionnaire was then posted to each of the remaining authorities. This questionnaire together with our standard covering letter is reproduced as Appendix I to this Report. The information supplied by the 'pilot' authorities (supplemented where necessary by telephone) was sufficient to ensure that these authorities did not need to be contacted again.

Our letter was addressed to the "Director of Housing" in every case. We were aware that in some authorities there is no such position but only a Housing Manager who has no responsibility for insulation or any other aspect of the physical upkeep of houses, except perhaps everyday repairs; and that in other authorities the Housing Department, despite having an overall responsibility for policy in this area, would have to pass our questionnaire on to a technical section of another department where records would be kept. However in the absence of any comprehensive existing information on how authorities administer their housing, a common approach had to be adopted. In the event the Departments which signed replies or which we spoke to when enquiring about our questionnaire were fairly evenly divided between technical and specific housing functions (Table 2).

**TABLE 2**

**Offices from which replies or information received**

<table>
<thead>
<tr>
<th>Office</th>
<th>Replies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Housing (or similar)</td>
<td>16</td>
</tr>
<tr>
<td>Housing Manager/Officer or &quot;omnibus&quot;</td>
<td></td>
</tr>
<tr>
<td>Department including Housing</td>
<td>9</td>
</tr>
<tr>
<td>Director of Technical Services</td>
<td>10</td>
</tr>
<tr>
<td>Director of Architectural Services/Chief Architect</td>
<td>10</td>
</tr>
<tr>
<td>Director of Architectural &amp; Technical Services</td>
<td>1</td>
</tr>
<tr>
<td>Works/Building Manager</td>
<td>3</td>
</tr>
<tr>
<td>Council Address only</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>53</td>
</tr>
</tbody>
</table>
In Appendix B we give details of the difficulties met with in getting replies back, the response rate achieved and the representativeness of the authorities from whom we received full replies. We learned a lot about the difficulties of ensuring that a standard letter to local authorities actually ends up with the right person, and about their ability to lose correspondence. We also learned about many difficulties and pressures which authorities are working under, often with vacancies unfilled as a result of financial restrictions; and we learned, though this comes as no surprise to any social researcher, that what one authority might see as a simple factual enquiry is to another authority a complex question whose answer could only be found by an impractical amount of digging around in old records. Of 62 questionnaires despatched, 38 (61%) were returned fully completed and a further 14 (23%) authorities have supplied us with at least some information; we are satisfied that even the 38 alone would be representative of all authorities, and in fact we have been able to base all our tables on larger numbers of replies.

The Case Studies We also wished, as explained, to talk to a number of authorities in more detail. This would allow us to place the numerical replies in their context because we would then be able to describe as a whole the combination of steps taken to improve insulation by a representative group of authorities and some of their reasons for doing what they did; to discover what relationship they had maintained with their tenants over insulation work; and to learn about the kind of specific problems encountered in forwarding and carrying out a programme of insulation which would never be discernible merely from responses to a questionnaire.

We therefore selected a sample of twelve authorities. These are listed in Table 3, together with the criteria to which we referred in order to ensure that the twelve were, as far as possible, a representative sample. These criteria had of course to be defined using existing data, before our own results were available.

These authorities received our standard questionnaire together with a covering letter explaining that we would like to meet them for further discussion, giving a brief summary of the proposed topics. Some of the same hitches that we have already described occurred in making subsequent contact. However we eventually succeeded in arranging interviews in eleven out of twelve authorities. In one authority - North East Fife - the District Architect's Department to whom our enquiry had been referred regretted that they were "unable to devote the staff time required" even to complete our questionnaire, and we have therefore only been able to obtain a short telephone "interview" with the relevant official.
### TABLE 3

**Criteria for selection of sample authorities**

1. 1 New Town (Livingston), the S.S.H.A., and ten District Councils.

2. 2 City districts and 8 others, representing urban, suburban and rural.

3. Geographical location/accessibility.

   **Accessibility:**
   - **Excellent:** Glasgow, Eastwood, Hamilton, East Kilbride New Town
   - **Reasonable:** Edinburgh, Falkirk, Cunningham
   - **Distant:** Annandale & Eskdale, Angus, Lochaber, N.E. Fife

4. |       | a. Council Housing | b. Insulation Programme | c. Cost per House |
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<tr>
<td></td>
<td>High Med. Low</td>
<td>High Med. Low</td>
<td>High Med. Low</td>
</tr>
<tr>
<td>All Districts</td>
<td>13 25 18</td>
<td>16 30 10</td>
<td>17 24 15</td>
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<tr>
<td>Sample</td>
<td>3 4 3</td>
<td>3 5 2</td>
<td>3 4 3</td>
</tr>
<tr>
<td>Angus</td>
<td></td>
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<tr>
<td>Annandale &amp; Eskdale</td>
<td>x</td>
<td>x</td>
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</tr>
<tr>
<td>Cunningham</td>
<td>x</td>
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<td>Eastwood</td>
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<td>Edinburgh</td>
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<tr>
<td>Falkirk</td>
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<td>Glasgow</td>
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<td>N.E. Fife</td>
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   **Legend:**

   a. Local Authority houses as percentage of total: **HIGH** - over 50%; **MEDIUM** - 33.3% to 50%; **LOW** - L.T. 33.3%

   b. Houses insulated 1978-81, as reported to S.D.D. percentage of total stock: **HIGH** - over 30%; **MEDIUM** - 15-30%; **LOW** - L.T. 15%

   c. Cost per house of insulation, 1979-80 (the year in which almost every authority both had a programme and reported it to S.D.D.)
   - **HIGH** - over £70; **MEDIUM** - £45-£70; **LOW** - L.T. £45
To a large extent we had to accept each authority's own nomination of whom they thought were the most appropriate person or persons for us to interview. The positions of the people whom we did meet are listed in Table 4. In four cases we spoke to someone from the Housing Department who either had sufficient detailed knowledge or was in the company of somebody who had the knowledge to ensure that our limited number of questions about technical judgements were answered as well as our questions about overall policy. In four or five of the other authorities there was either no Housing Department responsibility for insulation or the architectural professionals whom we spoke to were sufficiently senior to be able to answer questions about the authority's policies with some confidence. In only two or three cases do we feel that we talked to somebody who was not fully in a position to see the place of insulation programmes within the context of the whole of their authority's activities. But these may well be authorities in which technical officers were in fact given a great deal of scope to draw up insulation programmes on their own initiative and have them accepted without much discussion.

**TABLE 4**

**Positions of Interviewees**

*in Sample Authorities*

(Authorities *not* listed in same order as in Chapter 3)

1. Building Manager
2. Chief Architect
3. Chief Architect; and person specifically responsible for Energy Conservation Programme
4. Principal Architect (Research); and Co-ordinator, Technical Administration
5. Principal Architect (Research and Development)
6. Depute Director of Technical Services; and Assistant Estates Supervisor
7. Chief Architect's Office - more junior officer
8. Principal Assistant, Rewiring and Insulation, Housing Department
9. Director of Works Section, Housing Department; and Building Inspector (responsible for Energy Conservation)
10. Depute Director of Housing; and person specifically responsible for Energy Conservation, Technical Services Department
11. Depute Director of Housing; and Chief Q.S., Department of Technical Services
These interviews were informal in structure but we referred in every case to a checklist of questions, which we reproduce as Appendix C. Interviews were on average of about an hour's duration and full notes were written up.

Chapter 2 of this report looks at the basic picture which we have obtained from our main survey of what types of insulation local authorities have carried out and to what extent, how they have organised and financed the work and what they propose to do in future. Examples and illustrations from our case studies are given where appropriate. But in Chapter 3 we also describe the experience in these same respects of our case study authorities one by one, so that we can present a narrative account in each case of the sequence of events and the policies adopted. In Chapter 4, drawing on the case studies again and to a lesser extent on answers to a few of the questions in our main survey we look at how insulation programmes have actually been carried out - what priorities have been chosen and why, how tenants have been informed and have reacted and difficulties and side effects which have been met with. Finally we draw together our conclusions in Chapter 5 and make recommendations addressed to all the various bodies who have a role to play.
CHAPTER 2

WHAT PUBLIC HOUSING AUTHORITIES HAVE BEEN DOING

Introduction

In this chapter we concentrate principally upon basic facts about the extent and types of insulation. We shall also comment on how and when these have been carried out by housing authorities, and on their plans for the future. Along with data from our main survey we shall refer to the experience of our case study authorities, but we would encourage readers to look at the accounts in Chapter 3 to see the variety of ways in which insulation programmes have actually been carried out.

It has to be said first, though, that public authorities do not necessarily keep on record sufficient information about the houses which they own to be able to say readily how many have received each type of insulation and how many might still require it. In some councils the Housing Departments set up after the re-organisation of local government found that they had inherited not much more information than the names and addresses of tenants from the patchwork of authorities which were their forerunners. For this or other reasons facts which might seem elementary about, for example, how many houses are of various constructional types, are not always available. An authority as big as Edinburgh is still carrying out surveys to discover what standards of insulation presently exist in its houses - not sophisticated measurements of their thermal performance, but simple facts such as whether the pipes are lagged.

Our main statistical aim was not simply to record the progress of the special insulation programmes which authorities have carried out in recent years, it was to get as close as we could to a comprehensive account of the proportion of houses which currently possess insulation at a level which we believe is the current norm (not necessarily the ideal). These totals were to include (as we emphasised in our questionnaire - Appendix A) all houses reaching this level whenever the work was done and however it was financed; only work done on tenants' own initiative was to be excluded, although we have tried in our interviews to get an impression of how much of this has been done.

Our insistence on a comprehensive picture was probably one of the reasons why a number of authorities felt unable to reply. Apart from uncertainties about work done in earlier years, insulation has more recently sometimes been carried out in ways
which do not result in a central record being kept. Some is done as a "one off" job, to individual houses, by repair and maintenance sections - and keeping records of the repairs history of houses is still a thing of the future in Scotland. Clydesdale District Council described to us an experience which is not unique to them: insulating lofts in a scramble at the end of a financial year, because it is the simplest and fastest way of making sure that previously unused capital allocations are spent in time, with the result that there was no time to keep a proper central record of the lofts which had been treated.

Nevertheless the great majority of authorities have made considerable efforts to ensure the accuracy of the figures they have supplied to us, pulling together information from several departments where necessary. But where no record exists, as is sometimes the case especially for "smaller" items of insulation such as draught sealing, then of course no information could be given.

Information about the extent of insulation carried out ought not if possible to be evaluated simply by comparing it to the total number of houses which an authority owns. Not all houses are physically suitable for all forms of insulation. But measuring the true extent of existing deficiencies involves running into some further problems.

How many loft spaces exist which are capable of being insulated? There are two aspects to the problem. Firstly, many buildings have no loft space at all - multi-storey flats and several other "non-traditional" types of building account for large numbers of dwellings. This explains the fact that four large urban authorities - Clydebank, Dundee, Edinburgh and Glasgow - reported to us that the proportion of their houses which have loft space is less than half. There are also substantial numbers of flat roofed houses of older types in some areas. All these buildings require to be excluded from consideration before we can judge progress with loft insulation.

Secondly, in many types of buildings several houses are to be found under one lofted roof - four-in-a-block "cottages" and tenements old and new style, are the main forms. A strict count of the "number of houses with loft space" might perhaps be taken to require enumeration only of the top floor houses in such buildings. But authorities records of their insulation programme are in fact based upon the total number of houses in the housing schemes where they have carried out work. For example, where hot water cylinders have been insulated at the same time as lofts the number of houses which authorities say have received the two types of insulation turn out to be the same. But our calculation of progress has still had to take into account some deficiencies in the information which we have
obtained (see Appendix D).

Some authorities also are unable even to estimate how many of their houses have cavity walls. But caution would in any case have been needed in using the number of unfilled cavities in existence as a measure of the extent of deficient insulation. The S.S.H.A. officials, in particular emphasised to us that they commonly build houses with cavities which are lined, but not filled, yet have insulating properties as good as many filled walls. Even so, the number of unfilled cavities does demonstrate a potential for future insulation.

Energy Conservation Programme Work It is convenient to consider under one heading the various types of insulation, to lofts, water systems, doors and windows, which were encouraged by the circular launching the Government's Energy Conservation Programme in 1978 (see page 6).

Before 1978 Insulation work of these types which local authorities had done before the issue of that circular had all, so far as we are aware, been done in one of four ways:

1. A small amount of unrecorded work was done by draught sealing, as a repair job, houses which were complained of as cold or draughty. We have not heard that any lofts were insulated in this way.

2. New houses had been required since 1963 to contain loft insulation (see page 4).

3. Most authorities had a programme of carrying out extensive modifications, usually described as "modernisation", to their older houses. Although Building Standards Regulations are not legally binding upon this work, authorities have generally regarded them as providing a good guide to accepted contemporary standards; which was what they wished older houses to be brought up to. In fact some authorities began in the mid seventies to insulate lofts both in modernised and new houses with material thicker than the then required 50 mm, because of growing awareness of the benefits of energy conservation.

4. Some authorities had taken advantage of the Manpower Services Commission's willingness to finance Job Creation Schemes which involved insulating lofts.

No local authorities however seem to have thought, in the mid seventies, that it was appropriate to finance from their own resources any special efforts to upgrade loft and water system insulation in their houses. The Scottish Special Housing Association by contrast, had already started a systematic up-
grading programme.

The effect of all this was that fairly few lofts had been insulated to what would now be an acceptable standard. Of the total number of lofts which have now (to March 1978) been given insulation of at least 80 mm thickness, all but 25% have been treated since 1978. Furthermore only 28% of cold water systems known to be insulated had been done before 1978, even though 13 authorities report that more houses were given this treatment in earlier years than were given high standard loft insulation (13).

To be specific, we know of 18 authorities which had insulated no lofts at all to the 80 mm standard before 1978 and 19 which had covered some, but in only 9 was this more than 10% of their total housing stock. Three of these are amongst our case studies. In Glasgow and Lochaber the reason is that they adopted the higher standard for insulation at an early date, and had large new building and modernisation programmes. In Eastwood a large amount of work (relative to a small housing stock) had been done by Job Creation Schemes.

Many more lofts did contain insulation of some lesser thickness by 1978. In some of these, as we have said, cold water tanks and pipes would have been lagged at the same time. When this became standard practice is not clear to us; nor indeed is it known to a number of authorities who are unable to estimate the number of unlagged systems, sometimes stating that "surveys are continuing". Two of our case study authorities, Eastwood and Edinburgh, have Manpower Services Commission financed surveys of their houses in progress in order to obtain this sort of information. An unpredictable pattern of past work is being discovered.

So far as we have determined, whenever lofts have been insulated to a higher, at least 80 mm standard, tanks and pipes in the loft space have always been lagged. The only exceptions to this are some of the earlier "Job Creation" schemes where young unskilled workers were not thought capable of lagging work. This happened in three of our case study authorities - Angus, Eastwood and Edinburgh. But of all Scottish authorities only these three plus Aberdeen report lower totals for cold water systems than for loft insulation before 1978. Angus has since made good the omissions; Inverclyde has allowed a discrepancy to arise since; but in general the existence of completely uninsulated pipes in highly insulated loft spaces is not a major problem.

**The Government Programme** The financial year had already begun when in April 1978 circular 24/78 appeared and authorities found that they were encouraged to spend money on insulation, and that extra borrowing consent was available. The more conservative
type of local authority official is likely to emphasise (as some did in our case study interviews) that such consents are merely permission to spend more of the authority's "own" money and not an additional grant. But there is no doubt that in recent years the great majority of officials and councillors, particularly those concerned with housing, have been on the lookout for legitimate ways of expanding their restricted budgets.

The extra consent therefore was a powerful incentive, but the late announcement meant that as many as nine authorities either did no work at all that year which was chargeable against the allocation, or claimed less than 1% of it. Overall £2.18m. was claimed of the £4.83m. which the Scottish Office had allocated - less than half, just as happened in England (14). Even so, four authorities, including Glasgow, did manage to spend more than their original allocation that year.

Either in 1978/79 or 1979/80 almost every Scottish Local Authority did start new insulation programmes as a result of the circular. The only authority which never charged any work against the allocation was Monklands District Council which continued to insulate lofts only as part of its large modernisation and cavity wall insulation programmes. So in 1979/80 £4.22m. was spent of the government allocation of £5.48m.

The following year there was no longer a specific allocation and therefore, it might be thought the incentive for local authorities to do quite so much insulation disappeared. The National Consumer Council certainly reckons that there was a big drop in spending in England as a result, and quotes official figures which show that in the first six months of 1980/81 only 101,000 houses were insulated, well under half of the previous year's total of 565,000 (15).

We know that two of our sample authorities - Falkirk and N.E. Fife - simply decided that if insulation was going to have to compete for resources with other projects then they could not justify continuing with it. Figures received from one or two other authorities - Midlothian, for example - also show a virtual or complete halt to activity in 1979/80.

Yet the impression from most areas is that, influential though the special allocation had been in getting programmes started, its withdrawal made much less impact. Perhaps public expectations had been aroused and promises made (though we did not find too much evidence of this - see Chapter 4) or perhaps officials simply shared the view of the Chief Architect who told us that it was "childish" for councils to drop something like this once they had started it, and so recommended accordingly to their councils. Of the 36 councils whose annual figures we are sure

21
of, fully half - 18 - actually insulated more lofts in the previous year. In Scotland as a whole, according to official returns, the 1980/81 totals both of houses insulated (however those returns may be interpreted) and of spending on insulation were slightly up on the previous year, despite the loss of the "incentive".

In fact our annual figures (Table 5) give a rather different picture from that given by official returns. It is one of more steady progress. They show that an almost identical number of lofts were insulated in the years 1978/79 and 1979/80 despite the jump in take up of energy conservation allocation between these years. There were certainly authorities who did far more insulation in the first year than ever since - Glasgow, for example, for reasons given in our case study; and Caithness, which had insulated every loft by Autumn 1979.

**Table 5**

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<tr>
<td>Total numbers of lofts insulated to at least 80 mm thickness (36 authorities)</td>
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<tr>
<td></td>
<td>52,197</td>
<td>52,424</td>
<td>44,339</td>
<td>40,425</td>
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</table>

Between 1979/80 and 1980/81 our own figures do show something of a drop in total progress, when the great variety of local responses to the changing financial arrangements are added together. We must take into account that in 1980/81 the general reduction in capital allocations was in some areas beginning to severely restrict the scope of more costly programmes such as modernisation. We have heard it suggested in some authorities that installing insulation was seen as a way of ensuring that the maximum possible number of tenants continued to receive some sort of improvement to their houses in spite of "cuts".

Lofts We have been quoting total numbers of lofts insulated. This is because it was principally loft insulation which was carried out in response to the government programme. Although both the Department of Energy and the Scottish Office seem to have expected that a specific "package" of insulation measures would be carried out wherever possible (see pages 6/7 for the list) this did not happen. But in every case, authorities did insulate lofts.
In almost every case they also lagged the pipes and tanks of the cold water system found in roof spaces and the occasional hot water cylinders which are also to be found there - obviously it is only "asking for trouble" with burst pipes not to regard this work as automatically complementary to loft insulation. Only four authorities, whom we have already named, declare a lower total number of insulated cold water systems than of insulated lofts. Their reason is, where known to us, that they have not caught up with the backlog of unlagged pipes left by "Job Creation" loft insulation schemes.

So in these aspects of insulation, at least, the four years since the Government programme was launched have seen substantial progress. Our best estimate of the proportion of loft spaces in Scottish Public sector houses which now have lofts insulated with material of at least 80 mm thickness is 69%. This figure is an estimate only because of difficulties in calculating the total number of lofts in existence - Appendix D explains how it is arrived at. But we are confident that the general picture is correct: the majority of the task of bringing lofts up to what was widely considered to be a desirable standard (until the forthcoming change in Building Regulations) has been done but the complete achievement of the aim is not yet in sight.

If only this overall figure was taken into account, we might conclude that, so far as loft insulation is concerned, the Government's original ten year target for insulation in all public sector houses to be brought up to standard was going to be met with ease.

After four years, a lot of the work does seem to have been done, even when we subtract from 69% the work which had already been done in 1978. But the variations between councils in the extent of insulation they have completed are very wide.

There are authorities which will be nowhere near the target in 1988. An example from our case studies is Hamilton, who have been working through their stock in strict chronological order of the date of construction, but have only "reached" houses built around 1932 so far. Yet it is not amongst the dozen authorities with the smallest programmes identified in our Table 6. In this table, we give an indication of the progress made by every Scottish authority except for the ten from whom we have no information at all. We give the same list in Table 7, broken down according to whether councils are proportionately large, medium or small scale landlords, to allow a judgement of which type of authorities have been making most progress.

Only five authorities have brought every loft up to the 80 mm standard. Two more, East Lothian and Dumbarton, definitely plan to in the current year (1982/83). In the following year
<table>
<thead>
<tr>
<th>LOFT INSULATION *</th>
<th>Borders Dumfries &amp; Galloway</th>
<th>Central Fife Lothian Tayside</th>
<th>Highland Grampian Islands</th>
<th>Strathclyde</th>
<th>New Towns S.S.H.A.</th>
</tr>
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<tbody>
<tr>
<td>B None Completely Uninsulated (11)</td>
<td>Berwickshire Stewartry Wigtown</td>
<td></td>
<td>Clydebank Clydesdale Kyle &amp; Carrick Monklands</td>
<td>Glenrothes</td>
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<tr>
<td>C Moderate Proportion-I (4)</td>
<td>Roxburgh Stirling</td>
<td>Banff &amp; Buchan</td>
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<tr>
<td>D Moderate Proportion-II (21)</td>
<td>Annandale &amp; Eskdale Clackmannan Falkirk Dunfermline Kirkcaldy N.E. Fife E. Lothian Angus</td>
<td>Badenoch &amp; Strathspey Nairn Sutherland Aberdeen Kincardine &amp; Deeside Shetland</td>
<td>Dumbarton Eastwood Glasgow Hamilton Inverclyde Kilmarnock &amp; Loudon</td>
<td>Cumbernauld</td>
<td></td>
</tr>
<tr>
<td>E Low Proportion (12)</td>
<td>Edinburgh Midlothian Dundee Perth &amp; Kinross</td>
<td>Inverness Skye &amp; Lochalsh Western Isles</td>
<td></td>
<td>Beardsden &amp; Milngavie (Clydesdale)</td>
<td>Cummock &amp; Doon Valley East Kilbride (Monklands)</td>
</tr>
<tr>
<td>F No Information at all (10)</td>
<td>Ettrick &amp; Lauderdale Tweeddale Nithsdale</td>
<td>West Lothian</td>
<td>Gordon Orkney</td>
<td>Argyll &amp; Bute Motherwell Renfrew Strathkelvin</td>
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* LOFT INSULATION - definitions:

A All lofts have at least 80 mm thick insulation

B All lofts have at least some insulation (possibly 25 mm thick in some cases), but not all have 80 mm

C More than 20% of all houses have at least 80 mm thick loft insulation; not known whether any lofts still lack any insulation at all

D As above, but some lofts definitely do lack all insulation

E Less than 20% of houses have at least 80 mm thick loft insulation

\* These two authorities appear also in list B. Judging by the replies to our questionnaire the loft insulation which they have installed has mostly been of less than 80 mm thickness. Clydesdale, however, when queried by phone, thought that this had not been the case.
Nairn plan to reach the target as also probably do the two New Towns of Glenrothes and Livingston. A few other authorities listed in the table might conceivably also achieve this, because our information on future plans is less complete. Several more authorities have insulated all lofts which previously had no insulation at all, and our Tables identify these. However some of these authorities will have large numbers of houses, which have in their lofts only the 25 mm thick insulation which was installed when they were built - and that nowadays is regarded as little better than nothing. The great majority of authorities still have houses with no insulation whatsoever in their lofts.

Only moderate tendencies for any particular types of authority to have done more than others are evident. There is a small group of three Highland authorities who have completed their programmes. They were perhaps inclined to give high priority to insulation because of climatic conditions. But other Highland councils have done little. Few of the big urban housing authorities are very near to completion, with the exception of Cunningham whose "crash programme" of M.S.C. funded work is described in our case studies. But neither have most of the authorities in whose areas council housing is very much in the minority (Table 7) come near to completion. The greatest progress in fact tends to be amongst authorities with an intermediate proportion of council houses.

Circular 24/78 authorised councils to instal and claim for higher standard 100 mm thick loft insulation in certain circumstances. Less than half of them took this up (Table 8). On the other hand a few authorities adopted the higher standard for all their Energy Conservation work, and despite the terms of the circular seem to have succeeded in charging it against their allocations. Five of the eight District Councils in Highland Region did this, which clearly shows an awareness of the significance of climatic conditions there.

A few authorities have also at some time in the past adopted this standard for loft insulation carried out under other programmes; with the change in Building Regulations this can now be expected to become standard practice. In several areas, too, people now have a higher standard of loft insulation because lofts which already had 25 mm quilts have been "topped up" with a further 80 mm - our replies may perhaps underestimate the extent of high standard insulation arrived at by this route.

But apart from this minority of cases, what the government programme certainly did do was encourage authorities to insulate lofts to an 80 mm thickness even though the circular only described this as "preferable". Some have continued to install 50 mm thicknesses in houses which have been modernised. Monk-
<table>
<thead>
<tr>
<th>Loft Insulation (see Table 4)</th>
<th>HIGH 50%+ (13)</th>
<th>MEDIUM 33.3% - 50% (25)</th>
<th>LOW L.T. 33.3% (18)</th>
</tr>
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<tr>
<td>A Complete</td>
<td></td>
<td>Caithness</td>
<td>Cumbernauld</td>
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<td>Ross &amp; Cromarty</td>
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<td>Lochaber</td>
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<td>B None Untouched</td>
<td>Monklands</td>
<td>Clydesdale</td>
<td>Stewartry</td>
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<td>Clydebank</td>
<td>Kyle &amp; Carrick</td>
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<td>Wigtown</td>
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<td>C Moderate-I</td>
<td>Stirling</td>
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<td>Roxburgh</td>
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<td>D Moderate-II</td>
<td>Palkirk</td>
<td>Dunfermline</td>
<td>N.E. Fife</td>
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<td>Clackmannan</td>
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<td></td>
<td>Hamilton</td>
<td>Dumbarton</td>
<td>Eastwood</td>
</tr>
<tr>
<td></td>
<td>E. Lothian</td>
<td>Kirkcaldy</td>
<td>Sutherland</td>
</tr>
<tr>
<td></td>
<td>Glasgow</td>
<td>Annandale &amp; Eskdale</td>
<td>Badenoch &amp; Strathspey</td>
</tr>
<tr>
<td></td>
<td>Inverclyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kilmarnock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Low</td>
<td>Cumnock &amp; Doon Valley</td>
<td>Midlothian</td>
<td>Bearsden &amp; Milngavie</td>
</tr>
<tr>
<td></td>
<td>Dundee</td>
<td>Inverness</td>
<td>Skye &amp; Edinburgh</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perth &amp; Kinross</td>
<td>Western Isles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E. Kilbride</td>
</tr>
<tr>
<td>F Missing</td>
<td>Motherwell</td>
<td>West Lothian</td>
<td>Argyll &amp; Bute</td>
</tr>
<tr>
<td></td>
<td>Renfrew</td>
<td>Nithsdale</td>
<td>Gordon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Etrick &amp; Lauderdale</td>
<td>Orkney</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strathkelvin</td>
<td>Tweeddale</td>
</tr>
</tbody>
</table>

Local Authority Houses – percentage of all houses
lands, who never took up their allocation, continued to install 50 mm thickness on a large scale. But almost every authority adopted the "preferable" standard for its Energy Conservation Programme work from the outset; the few which did not have all now come round to doing so, so far as we can determine.

Cylinders, doors and windows

We have described how we soon discovered in the "pilot" stage of our survey that authorities had frequently not carried out together all of the aspects of insulation which the Scottish Office clearly had hoped for and how we therefore had to ask separately about their progress in installing hot water cylinder jackets and in weatherproofing doors and windows.

The replies which we have received show very clearly the extent to which these "minor" works have been neglected. There are 41 authorities whose work under the Energy Conservation Programme we can study in detail (excluding the New Towns, the S.S.H.A. and Monklands as non-participants and 14 authorities for lack of information). Of these only 18, less than half, do in fact appear to have put in new British Standard hot water cylinder jackets as an automatic part of their programme and one other seems to have done this for part of the time. Two authorities claim that they have brought all or nearly all cylinder jackets up to standard, but at different times from their loft insulation work.

Some authorities give us figures for the cylinders they have insulated in recent years which suggest that they have supplied them only in their major construction and reconstruction projects; others believe that they have upgraded a large number in the course of routine maintenance but as a result generally cannot estimate how many inadequately lagged cylinders remain.

The S.S.H.A. stands out amongst our case study authorities for the confidence with which it can state that its planned maintenance schedule ensured already some years ago that lagging of all cylinders was up to standard. In fact the other non local authority landlords, the New Towns, also seem to have done things differently. Livingston, Irvine and East Kilbride all claim that cylinder jackets are 100% up to standard in their homes (Cumbernauld don't know and Glenrothes haven't told us).

Table 9 gives a summary of all the replies we received about the remaining numbers of hot water cylinder jackets with insulation not up to standard. It confirms our description of the position. Many of the authorities who have done least are probably hidden amongst the "Don't Knows".

Installing adequate hot water cylinder jackets is probably the
### TABLE 8

**LOFT INSULATION TO A HIGHER STANDARD**

<table>
<thead>
<tr>
<th>Insulation of over 80 mm thickness *</th>
<th>Complete A (6)</th>
<th>None Untouched B (10)</th>
<th>Moderate I C (4)</th>
<th>Moderate II D (18)</th>
<th>Low E (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>Ross &amp; Cromarty</td>
<td>Berwickshire</td>
<td>Roxburgh</td>
<td>Clackmannan</td>
<td>Inverness</td>
</tr>
<tr>
<td></td>
<td>(7)</td>
<td></td>
<td></td>
<td>Nairn</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sutherland</td>
<td></td>
</tr>
<tr>
<td>Always in E.C.P.</td>
<td>Lochaber</td>
<td></td>
<td></td>
<td>Stirling</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority</td>
<td>Caithness</td>
<td></td>
<td></td>
<td>Inverclyde</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority</td>
<td>Clydebank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower than 10%</td>
<td>Irvine New Town</td>
<td></td>
<td></td>
<td>Badenoch &amp;</td>
<td></td>
</tr>
<tr>
<td>(4)</td>
<td></td>
<td></td>
<td></td>
<td>Strathspey</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aberdeen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cumbernauld New Town</td>
<td></td>
</tr>
<tr>
<td>Some</td>
<td>Livingston N.T.</td>
<td></td>
<td>Glenrothes N.T.</td>
<td>Falkirk</td>
<td></td>
</tr>
<tr>
<td>(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Moray</td>
<td>S.S.H.A.</td>
<td>Banff &amp; Buchan</td>
<td>Kirkcaldy</td>
<td>Western Isles</td>
</tr>
<tr>
<td></td>
<td>Cumbernauld &amp;</td>
<td>Stewartry</td>
<td></td>
<td>Kincardine &amp; Deeside</td>
<td>Skye &amp; Lchalsh</td>
</tr>
<tr>
<td></td>
<td>Kilsyth</td>
<td>Wigtown</td>
<td></td>
<td>E. Lothian</td>
<td>Edinburgh</td>
</tr>
<tr>
<td></td>
<td>Cunninghame</td>
<td>Clydesdale</td>
<td></td>
<td>Dumbarton</td>
<td>Midlothian</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kyle &amp; Carrick</td>
<td></td>
<td>Eastwood</td>
<td>Cumnock &amp; Doon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monklands</td>
<td></td>
<td>Glasgow</td>
<td>Valley</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kilmarnock &amp; Loudon</td>
<td>E. Kilbride</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Angus</td>
<td>District</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Shetland</td>
<td>Dundee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hamilton</td>
<td></td>
</tr>
</tbody>
</table>

Note: * * indicates the thickness of the insulation.
NOTES to TABLE 8

* Definitions -

"Always" In every loft where any insulation of at least 80 mm has been installed.

"Always in E.C.P." As above, except houses constructed or modernised with standard insulation.

"Majority" In over 50% of lofts where at least 80 mm has been installed.

"Minority" In between 10% and 50% of lofts where at least 80 mm has been installed.

"L.T. 10%" In less than 10% of lofts where at least 80 mm has been installed.

"Some" In some unknown proportion of lofts.

NOTE: Missing information - 10 authorities as named in previous tables, plus East Kilbride New Town, N.E. Fife, Bearsden & Milngavie, Perth & Kinross, Dunfermline. (Total 16)

TABLE 9

Deficient hot water cylinder insulation

<table>
<thead>
<tr>
<th>Number of cylinders not lagged to standard, as %age of houses:</th>
<th>Authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>None deficient</td>
<td>10</td>
</tr>
<tr>
<td>Less than 10%</td>
<td>5</td>
</tr>
<tr>
<td>10% to 15%</td>
<td>8</td>
</tr>
<tr>
<td>More than 50%</td>
<td>6</td>
</tr>
<tr>
<td>Unknown</td>
<td>14</td>
</tr>
<tr>
<td>TOTAL REPLIES</td>
<td>43</td>
</tr>
</tbody>
</table>

29
single most effective measure of insulation possible. The period over which lower fuel bills pay back the cost of the jackets has been estimated at several weeks; if labour costs are included the "payback period" cannot be more than a few months, whereas that for 80 mm loft insulation is estimated as 2 to 4 years (16).

Why then has it not been an automatic part of local authority programmes? In some of our case study authorities nobody seemed to know why it has not been done. But even the reasons given are mostly rather vague references to spreading the available money round to benefit as many tenants as possible. If that had really been the calculated aim then a crash programme of nothing but cylinder jackets would have been the best way to achieve it.

We deduce that a number of feelings may have influenced a decision which was probably not in any case given much close consideration. Firstly, when people thought of the Energy Conservation Programme they thought of lofts. Any other work was seen as an extra and so, since benefits were not being calculated, leaving it out could indeed seem to be a way of "spreading the benefits". Secondly, working only in lofts can be administratively simpler where it does not involve going into every tenant's house. Thirdly, we feel there may have been a general prejudice against including so apparently minor an item in a local authority's capital programme - a feeling that if it was worth doing then it should be part of the authority's normal maintenance work, or perhaps that it should be left to tenants themselves. As a result the opportunity to take probably the simplest, cheapest, and most effective measure of energy conservation was missed in many areas.

The measure which is estimated to give the second quickest "pay back" was - perhaps we should not be surprised - also frequently not carried out. This is the weatherproofing of door and windows by fixing draught strips. We can speak for 40 authorities: only 10 included it in their programme. Glasgow did it for two years and then stopped. Two more authorities have been weather-proofing doors only. 27 authorities have weatherproofed less houses than their E.C.P. has insulated; in most cases, they have done none at all or do not know how many they have done.

The reasons include all the ones which we have just suggested were possible reasons for the non-inclusion of cylinder jackets. Weatherproofing is frequently thought of not as a measure of energy conservation but as a "repair" to draughty, illfitting windows and doors. Some authorities therefore wrote comments on our questionnaire such as "in response to complaints only" or "as and when". Weatherproofing certainly is a "repair" in the sense that there is an alternative of complete replacement.
Modern windows with rubber gaskets or similar features should be weatherproof from the start (this means, incidentally, that we cannot assume that to calculate the number of houses which have not been treated gives us a fair idea of the size of the deficiency that exists).

Some authorities therefore rely on programmes of window and even door replacement to improve the standards of draughtproofing in their houses. Some old windows, particularly perhaps metal framed ones, can be too ill-fitting or decayed for successful and effective fitting of draught strips. Glasgow District Council, for one, admits to this problem. One radical alternative to weatherproofing doors has been described to us by two authorities. Hamilton (see Chapter 3) has been and Ross and Cromarty are about to start building porches on to problem doors or doors in exposed areas. Not a single authority however mentioned double glazing as an actual or potential measure of energy conservation.

Apart from the general reasons suggested for not including weatherproofing in Energy Conservation programmes, some authorities have particular worries about it. Ross and Cromarty mentioned that it has led to difficulty in closing windows, and so further draught problems. But the more usual concern is over possible exacerbation of problems with condensation. Some authorities - Glasgow and Annandale amongst our case studies - say that when they started their programmes they did treat doors and windows but discovered actual occurrences of this problem. Clackmannan's Director of Housing went so far as to say over the telephone that "it's a disaster".

But other authorities do not report any problem. We are not making architectural judgements here, but we cannot believe that idea which we have heard expressed, "a bit of draught might be a good thing", can be a final answer to the problem of balancing the variables involved, insulation and ventilation. Simply tacking on strips may not be the appropriate measure in every case. But it remains desirable to bring older houses up to the standards of comfort taken for granted in new houses and there is definitely the possibility of achieving a substantial energy saving impact at low cost. If the means of achieving such benefits sometimes require further study, they are worth it.

**Future Prospects**

The government initiative certainly gave a considerable stimulus to local authority activity in installing some simple types of insulation (the choice of which was not generally calculated by reference to potential benefits). A considerable number of authorities set themselves targets for completion of loft insulation, at least, and continue to work towards these.
Our questionnaire contained a question about the extent to which

target dates had been set back if at all by restrictions on

expenditure. Many of our respondents chose not to commit them-

selves to a judgement. Of the 22 that did (excluding those

who considered their insulation programme to be already complete),

9 thought that they had not been affected at all. Dundee, by

contrast, think that the time that will be needed to complete

their programme has been "probably extended by 100%" since it

began. Aberdeen, who have insulated to 80 mm some 62% of lofts -

almost the same proportion as our estimate for Scotland - believe

that "insulation work on all Council houses would have been

completed by now, had it not been for expenditure restrictions".

This judgement has some mathematical precision: if they had

continued to insulate the same number of lofts per year as they

did in 1978/79 and 1979/80, all lofts would in fact have been

completed during 1982.

In general the relatively small proportion of authorities' budgets

which most loft insulation programmes have taken up may make it
difficult to be specific about the impact of overall restrictions on

those budgets. But judging from the above examples and some of
our case studies (e.g. Glasgow) there are authorities, which

include some of the biggest, where a progress which may already
have been relatively slow is not being kept up. There are

countervailing effects as well: a small programme may be able
to survive when cuts are being made in more expensive elements of
an authority's capital budget (see our case study of Hamilton,
for example); insulation may be seen as a way of spending restricted
budgets to the benefit of the maximum number of tenants. What
has also been discovered in some areas is that insulating is a
fast way of spending cash which is available for housing uses.
The growth of a general fear of being criticised or of losing
money in future because of "under-spending" has been coupled with
a growing uncertainty about how much capital local authorities
are actually going to be allowed to spend each year, because this
is linked to uncertain receipts from council house sales and because
of late extra "allocations" from the Scottish Office. As a
result some authorities - Falkirk, Clydesdale and the S.S.H.A.
to our certain knowledge - have been doing insulation work which
they themselves have not actually regarded as their real priority.

A question which is likely to be increasingly debated in authorities

whose progress in loft insulation has never been great or who feel

that it has been set back is whether it would be appropriate
to encourage council tenants to take up Home Insulation Grants
on a larger scale. There Grants are available to cover 60% of
the cost of all the types of work which we have so far been dis-
cussing (90% for elderly and disabled people in receipt of benefits -
see page 8). They are only available for use in houses where
no loft insulation whatsoever is in place, which immediately dis-
qualifies every single tenant of at least 17 authorities (Table 6).
With one exception none of our case study authorities were aware of more than a handful of tenants having taken up these grants. The exception is Glasgow where it has recently become the policy to encourage tenants to apply and to accept applications submitted via companies who are actively looking for business in council schemes.

The advantages of this approach are that the people concerned get their lofts insulated now, without having to pay the full cost; the time it would have taken council programmes to "reach" them must in most cases be considerably longer than the "payback" period over which they recover their expenses in reduced fuel bills. From the local authority's point of view, they can get a lot of lofts insulated; the public expenditure element is drawn from a budget which is currently under less restrictive pressure than regular council housing capital spending is.

The disadvantages are that the approach discriminates against people who are unable to afford their share of the cost of insulation; even those who are receiving Supplementary Benefit cannot have the bill met by any additional payment; insulation will be completed in a random selection of the houses in any area, which will be difficult to keep track of and may make a future project to insulate the rest more difficult to organise; the unit costs of insulating an individual house in isolation from its neighbours are probably greater; and there is a danger of companies "overselling" their services - authorities can probably monitor the process closely enough to prevent people paying for work which the council itself is about to do, but probably not closely enough to prevent salesmen giving the impression that they are acting on the council's authority.

A further possibility exists and is being explored in Glasgow. This is to organise neighbourhood schemes in which tenants claim Home Insulation Grants, but not only is the cost kept down through obtaining Manpower Services Commission support, but also other sources of funds are obtained to top up the Grant and ensure that 100% of the cost is met, at least for certain categories of tenant.

Other Forms of Insulation There has never been any specific encouragement from the government for authorities to upgrade the insulation of the structure of their houses - their walls, floors and roofs (apart from lofts). Whether for this reason or not, less work has been done by authorities in this area, though many have embarked upon it, and we would argue that its importance is increasingly being acknowledged.

The most widespread type of structural insulation, and the one which lends itself most readily to a large-scale programme
designed to bring some benefit quickly to the maximum number of people, is the filling of wall cavities. Its merits are still the subject of heated debate amongst architects to an extent which as non-technical observers we find astonishing. One authority - Monklands District Council - has treated 23,528 houses, nearly the whole of its stock (17); some have been using the technique on a lesser scale since the early 1970s at least. But other authorities still refuse to use it at all because their architects advise them that it may lead to water penetration.

The Government's Advisory Council on Energy Conservation has recently reported (18), and concludes that "Cavity wall insulation is a cost-effective way of saving energy and the level of constructional risk associated with it is very low, less than 1% .... Where faults do occur they can be put right ... Therefore we believe that the very real problem can be overcome by a form of insurance which would make available the money necessary to have repairs undertaken within a matter of weeks". We take this to be a reasonably balanced statement of the position. The SLASH report on Heating Policies and Energy Conservation also concludes that experience in Scotland shows cavity wall filling to have been a success, with minimal problems (19).

But the proportion of authorities which have tried it on any substantial scale is still less than half (Table 10); and only five have embarked on what we define as a large programme, which suggests that there is any intention of insulating all suitable houses in the foreseeable future. Whilst only a handful of authorities have done no cavity filling whatsoever, what has been done is in many cases no more than experimental. In several cases the stimulus to experimentation has been the S.S.E.B's desire to persuade authorities to participate in its "White Meter Showhomes" scheme, and it has been only the houses to be included in this scheme which have been cavity filled (see Case Studies for examples).

Cavity insulation is a completely invisible modification to a house and since also its energy saving benefits, like those of other forms of insulation, though real are not automatically identifiable by the beneficiaries, it may not arouse much public and political demand. Those authorities which have been using it in an attempt to overcome problems with condensation are by contrast likely to be responding to more intense public pressure than has ever led to loft insulation (see Chapter 4). They too, seem satisfied with the results.

But the accounts given to us of future programmes for cavity wall insulation suggest that the disparity between supporters and sceptics can only grow (Table 11). Future plans are often not
<table>
<thead>
<tr>
<th>EXTENT</th>
<th>Borders Dumfries &amp; Galloway</th>
<th>Central Fife Lothian Tayside</th>
<th>Highland Crannian Islands</th>
<th>Strathclyde</th>
<th>New Towns S.S.H.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> None at all (6)</td>
<td>Midlothian</td>
<td>Lochaber</td>
<td>Dumbarton</td>
<td>Glasgow</td>
<td></td>
</tr>
<tr>
<td><strong>B</strong> Less than 25 houses (probably experimental) (7)</td>
<td>Wigtown</td>
<td>Falkirk</td>
<td>Bearsden &amp; Milngavie</td>
<td>Eastwood</td>
<td>Inverclyde</td>
</tr>
<tr>
<td><strong>C</strong> Less than $\frac{1}{3}$ of houses (probably &quot;trial areas&quot;) (13)</td>
<td>Roxburgh Annandale &amp; Eskdale</td>
<td>Kirkcaldy Edinburgh</td>
<td>Clydebank</td>
<td>Cunninghame</td>
<td>Kyle &amp; Carrick</td>
</tr>
<tr>
<td><strong>D</strong> Moderate Programme* (17)</td>
<td>Stewartry</td>
<td>Stirling Dunfermline Angus Dundee</td>
<td>Caithness Inverness</td>
<td>Clydesdale</td>
<td>Cumbernauld E. Kilbride</td>
</tr>
<tr>
<td><strong>E</strong> Large Programme** (5)</td>
<td>Berwickshire</td>
<td>Aberdeen Moray</td>
<td>Monklands</td>
<td>Glenrothes</td>
<td></td>
</tr>
</tbody>
</table>

* More than C, less than E. ** One or both of: $\frac{1}{3}$rd of all houses; more than 50% of houses with cavity walls, if number known.

**NOTE: Missing information:**
- Ettrick & Lauderdale, Tweeddale, Nithsdale.
- Gordon, Orkney.
- Argyll, Motherwell, Renfrew, Strathkelvin.
### Table 11: Cavity Wall Insulation - Current extent and future programmes compared

<table>
<thead>
<tr>
<th>CURRENT EXTENT</th>
<th>FUTURE PROGRAMME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WILL COMPLETE MORE THAN PRESENT TOTAL</td>
</tr>
<tr>
<td>None or little</td>
<td>Annandale &amp; Eskdale</td>
</tr>
<tr>
<td>A to C in Table 10</td>
<td>(1)</td>
</tr>
<tr>
<td>Moderate</td>
<td>Stewartry Cumbernauld &amp; Kilsyth Angus Dundee</td>
</tr>
<tr>
<td>D in Table 10</td>
<td>(4)</td>
</tr>
<tr>
<td>Great</td>
<td>E in Table 10</td>
</tr>
</tbody>
</table>

* Cavity fill done on a "discretionary" basis

** Money is allocated, but implications for numbers of houses not yet calculated.
definite, as the table shows: although authorities have to draw up a Housing plan every four years at least and make an annual "bid" for resources, they may be uncertain about whether money will actually allow plans to be put into effect. But the pattern shown in that table is clear. Those authorities which have done little or no cavity wall treatment still overwhelmingly intend to do little or none. Only Annandale and Eskdale and Edinburgh amongst these authorities propose to treat more than 100 houses in future years (and both propose only very modest programmes). The five authorities which have already done a great deal of work will continue to make progress towards 100% coverage. Aberdeen states that, as with loft insulation, it would have achieved this already if it had not been for expenditure restrictions. Monklands alone proposes to complete work to all suitable houses in 1982/83. But even some of the authorities which have had moderately large past programmes are not planning any further work at present.

What we see beginning to emerge in the literature on insulation is a growing variety of approaches to "structural" insulation, and a willingness to try different solutions both to the enhancement of insulation in non-standard house types and to the interlinking problems, in any type of house, of heating system efficiency, fuel bills and condensation.

The signs of this having had a major impact upon the thinking of public housing authorities are so far scattered. Not uncommonly problem houses or housing schemes have been identified and singled out for forms of insulation which authorities were not employing elsewhere, sometimes coupled to heating system replacement. Several examples can be found in our case studies. But few if any local authorities would claim, as the S.S.H.A. does, to be actively examining appropriate means of enhancing energy conservation in the whole of its housing stock, and linking its treatment of houses to modification of their heating systems.

Our questionnaire asked about experience of forms of wall insulation other than cavity filling. Eighteen authorities claimed to have such experience (21 specifically said that they had not). Of the 18, nine refer to various forms of internal lining; three to external linings; two to putting a lining into the cavity which only partially fills it; three to special techniques for timber and/or "inner leaf" construction dwellings; and one to the reduction of window sizes.

We have not attempted to quantify progress with these forms of insulation. Most of them are alternatives whose choice is determined by the constructional type of houses. External lining, for example, is typically between 5 and 10 times as
expensive as cavity fill and is recommended only if also required for treatment of dampness, or in other specialised circumstances (20).

Responses to our question about any non-standard types of insulation contained in future programmes certainly make it appear that enhancement of structural insulation is low on authorities' priority lists. Even more than in the case of cavity fill the picture is of little or no planned future activity, though where solutions adapted to particular "problem" house types are being adopted they are less likely to be planned well in advance. Only three authorities mentioned future work on walls other than cavity fill. The only other positive replies to this question were two mentioning the installation of porches, two mentioning window replacement, and one programme of flat roof insulation.

The Advisory Council on Energy Conservation has recommended that "the component approach of upgrading individual parts of the building system should give way to a more comprehensive 'weatherisation' approach" (21). Clearly Scottish public housing authorities are far from attempting this. But looking at the variety of work being tried in some areas - the S.S.H.A.'s range of energy conservation measures and Glasgow's programme of work related to dampness, for example - and the influence which these will no doubt have, we would still conclude that energy conservation measures in future are likely to diversify.
CHAPTER 3

THE CASE STUDIES

1. **Angus District Council**

   The A.B.C. of insulation

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<table>
<thead>
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<tbody>
<tr>
<td>Total Houses 1981</td>
<td>37843</td>
</tr>
<tr>
<td>Council Houses 1981</td>
<td>14767</td>
</tr>
<tr>
<td>Council Houses 1982</td>
<td>est. 1400</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>est. 93%</td>
</tr>
<tr>
<td>With loft spaces</td>
<td>est. 92%</td>
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   Angus is a medium sized district with a large rural hinterland and a population largely concentrated in six small burghs. Their council houses are of very largely traditional design (i.e. non-flatted) and construction.

   Before 1978 the only insulation work carried out by the authority was in newly built or fully modernised houses, which were insulated to the then current Building Standards.

   **Energy Conservation Programme**

   When the government's programme was launched, they were determined to spend their full allocation, having felt in past years that they had not been allowed to spend enough on upgrading of their older buildings. They began by buying loft insulation materials and employing STEP labour to install 80 mm loft insulation. Since the young people employed were unskilled they could only lay loft insulation. Local firms were also contracted to go round afterwards and lag pipes and tanks in the roof spaces. Some time around two years after the start of the programme they lost confidence in the quality of work and supervision which they were obtaining from STEP labour and went over to private contractors for the same work, but including simultaneous lagging of cold water systems.

   As a result all loft spaces now have some insulation and within a year to eighteen months they hope to have completed their entire programme. About 200 houses will remain with 50 mm insulation - those built or modernised between 1975 and 1978.

   Hot water cylinder jackets were not installed. We were told that
"any which have not been done are picked up by our maintenance people". In other words jackets are installed in some unspecified or unsystematic way out of maintenance budgets; and also as part of the modernisation.

Draught stripping of windows is only done in response to complaints external doors are quite frequently treated when being repaired or repainted. But in general they fear increased condensation, and cannot estimate how many windows and doors have been treated.

Priorities

The order in which they insulated roofs appears very systematic, if somewhat arbitrarily chosen. They insulated houses with no existing insulation first. Amongst these they selected the two apartment houses (with a high proportion of elderly tenants) for the first treatment and went round the burghs in alphabetical order: Arbroath, Brechin, Carnoustie, Forfar, Kirriemuir, Montrose. They repeated this exercise for three-apartment and then four-apartment houses. Starting some time in 1980/81 they began work on "topping up" houses originally built with 25 mm loft insulation, adding a full 80 mm thickness on top. They are currently somewhere in the middle of Forfar. This priority order has in fact been modified from time to time by holding back insulation works if rewiring was programmed in the near future for the houses in question, to avoid subsequent disturbance, though it is admitted that this has not been avoided entirely.

Other Measures

Some cavity fill has been carried out as part of full modernisation works. Then three years ago they started a special programme of cavity wall insulation which has to date treated 1604 houses. They began this work as a result of a large number of complaints about excessive condensation and have concentrated it at least partly upon all-electric houses and houses which have "plastered on the hard" brickwork, with a resultant proneness to condensation.

The only other form of insulation ever tried (or currently planned for) was an experimental treatment of the external walls of 10 houses which proved rather too expensive, in their opinion, but may possibly be tried again.

Future Plans

They are now budgeting equal amounts for future roof and cavity wall insulation (900 cavity fills a year are written in to their forward programme). They did not reduce the extent of work being done at all when the specific capital allocation was withdrawn - our informants in fact expressed resentment at Government "stop-go" policies. Moreover although they will now be resuming a previously
planned programme of building new houses which had been held up by delays in 'servicing' the sites, they think that it will be their modernisation programme which will be reduced to make way rather than insulation.

Summary

This authority therefore has afforded a relatively high priority to insulation ever since it was first encouraged to do so. It seems to be able to plan work on the judgement of the technical staff without much outside involvement to disturb the process, provided that each part of the district gets its share. The result has been an almost complete programme of fairly basic energy conservation works; and now an apparently smoothly rolling programme of cavity treatment as a response to concern about condensation and related problems.
2. **Annandale and Eskdale District Council**

**Steady progress**

<table>
<thead>
<tr>
<th>Total Houses 1981</th>
<th>14202</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council Houses 1981</td>
<td>5231 - 37%</td>
</tr>
<tr>
<td>Council Houses 1982</td>
<td>5138</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>4938 - 96%</td>
</tr>
<tr>
<td>With loft spaces</td>
<td>4611 - 90%</td>
</tr>
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Annandale and Eskdale is a small, predominantly rural district. It has a proportion of council houses higher than many rural authorities. Their houses are almost entirely of 'traditional' design and construction.

Between the creation of the authority in 1975 and the launch of the Government's Energy Conservation Programme in 1978 the council installed loft insulation only in newly built and modernised houses. The standard adopted was 50 mm, as required by building regulations. No cavity wall filling was done.

**Energy Conservation Programme**

The insulation programme which they subsequently launched was "purely a response to government policy". They never used any MSC funded workers – indeed the authority has only recently started using them for any purpose.

Their main programme has consisted of installing 80 mm thick loft insulation and of lagging pipes and tanks in the roof space. Some of the cold water tanks in their houses had a spray-on coating of blue asbestos, so a costly programme of removal by specialist contractors and replacement therefore had to be carried out first.

The work also included hot water cylinder jackets and weather bars or draught strips on doors and windows. Draughtstripping of metal windows was soon abandoned since no means of achieving this was found to be very satisfactory in practice. These windows are now included in age order in a programme of window replacement which is now in its third year. Wooden windows have continued to be treated in the E.C.P.

**Priorities**

At first they selected individually old people's (one bedroom) houses and did all of these by about April-May 1980. They then embarked on all houses built before 1965, i.e. those with no loft

42
insulation. Now 1963-1975 houses are included, starting in 1981/82 - 80 mm insulation is being installed on top of the existing 25 mm. All-electric houses are being treated separately (see below).

Other measures

They claim that in general condensation has not been a serious problem in their authority and has only affected a small proportion of houses. A handful of cases of severe condensation did have to be dealt with in earlier years, before their Energy Conservation Programme - some of these houses had their walls lined and were given other extra insulation.

The highest incidence of condensation was in their all-electric houses. They now have a programme of installing 100 mm thick loft insulation, hot and cold water system insulation and external door draughtproofing, and of filling cavity walls in these houses. The results are being monitored by the S.S.E.B., who have installed white meters; the council is putting time switches on immersion heaters. A number of houses were originally included in the S.S.E.B.'s "White Meter Showhomes" scheme, but Annandale agreed, unlike some authorities, to continue working with them after the initial experiment.

Future Plans

So far they have cavity filled 185 houses, and their future programme envisages three more years work in this programme, covering 371 more houses. They have insulated 2,528 lofts to 80 mm; their forward programme details year by year how the remaining 2065 will be treated between now and 1986/87. The main insulation contractors were never very interested in the draughtproofing work. So from 1982/83 window and door draught proofing will be done separately though to the same houses, in small local firms. "The work has not been restricted," they say, "and is progressing in accordance with the programmes in the District Council housing plan."

Summary

This is another authority which only began to insulate on any scale after the Government circular. Since then they have made steady progress in carrying out a basic set of insulation measures, and intend to complete their programme within the original Government target of ten years from 1978. Their use of cavity filling has passed beyond the experimental stage, but it is still seen as a solution to specific problems of limited scale.
3. Cunningham District Council

Getting it all done quickly

<table>
<thead>
<tr>
<th></th>
<th>1981</th>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Houses</td>
<td>52600</td>
<td></td>
</tr>
<tr>
<td>Council Houses</td>
<td>23483</td>
<td>23191</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>No info</td>
<td></td>
</tr>
<tr>
<td>With loft spaces</td>
<td>16584</td>
<td>72%</td>
</tr>
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Cunningham is the largest of the authorities making up the former county of Ayrshire, even if one excludes the New Town tenants in Irvine from consideration. It also includes the Islands of Arran and Cumbrae. Council houses make up just under half of the total. A substantial minority are not of traditional design.

Before 1978/79 they were still working on the discovery of what problems they had taken over from the 9 previous authorities in the area. The former County Council did some cavity wall insulation in houses of non-traditional construction, and around 1970/71 the former Irvine Burgh Council experienced a big condensation problem and also tried some cavity wall treatment. Between these two, some 500 houses were treated.

Before 1978/79, also, their newly built and modernised houses included 50 mm thick loft insulation. They estimate that 1000 houses were given draught excluders before 1978 through the same programmes.

Energy Conservation Programme

When the Government's Programme was announced, the council decided to use the money to spread benefits in financial savings and increased comfort round as many houses as possible and to provide employment. So they decided to use entirely MSC funded labour, pay for the materials only and "push on" with a large programme. On the whole, they conclude, this worked "very well indeed". At the maximum they had 30 men in six separate squads working at the same time. As a result by the end of 1981/82 only about 200 houses were left untreated in the whole area; these would have been completed if it had not been for the frost emergency. Some renewal is now needed where insulation has been damaged by pipe bursts.

The works included were 80 mm thick loft insulation and lagging of the cold water system. Hot water jackets and draught stripping
were not included - on the principle of spreading the benefits around as widely as possible.

The main ancillary work associated with the programme was that they hired a contractor to inspect every loft in advance for woodworm, rot etc., and to treat them where they occurred. At one stage they were finding that every 5th or 6th house required treatment at an average cost of some £50. This work was financed from their normal repairs budget. If it had not been done, it would have been difficult to check timbers after they had been covered in insulating material; and the increased warmth would have encouraged the spread of these conditions.

Hot water cylinder jackets and draught sealants are included in new and modernised houses, though there has been very little new building at all since 1978. A jacket is automatically provided if they renew a hot water tank as a maintenance job but they cannot quantify this. These things are "not so much a programme for energy conservation as just bringing things more up to date".

Priorities

At the start of their energy conservation programme, they tried to insulate the houses of elderly people first so far as possible. The way in which they went about this was interesting. Since old people tend to be congregated in particular streets, they asked their Area Offices (Largs, Garmock Valley, Saltcoats and Irvine) to identify with the assistance of local councillors which streets these were. They then insulated all the houses in such streets (whatever the age of the tenants). They point out that the people concerned were not necessarily aware that they were getting priority. The next priority was houses with electric storage or underfloor heating.

Other measures

The authority has not been doing cavity wall insulation until recently. In 1981/82 they have built a new scheme of 24 sheltered houses with filled cavities. About 80 houses have been internally lined to combat condensation.

Future Plans

However they have now decided to start cavity filling houses with condensation problems where everything else has been tried (by the tenants). This is not a "programme" as such - they don't know how many they will do, maybe 200-250 houses. Given this year's capital allocation, any other insulation work will now be "at the bottom of the list".
Home Insulation Grants

They got the odd application for Home Insulation Grant from council tenants "in the early days", and actually tried to discourage the applicants, telling them that they would shortly get insulation from the council. They think only 2 or 3 tenants ever took the grant up, and none are any longer eligible.

Summary

Cunninghame have insulated over 16,500 lofts in four years, and must provide one of the best examples of efficiently pushing through and completing a programme of basic insulation along the lines suggested by the government circular. However they have not experimented much with other means of upgrading insulation and do not seem likely to give a high priority to more expensive types of work, not financed by the Manpower Services Commission.
4. **Eastwood District Council**

Catching up on past problems

<table>
<thead>
<tr>
<th>Total Houses 1981</th>
<th>19403</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council Houses 1981</td>
<td>2105 - 11%</td>
</tr>
<tr>
<td>Council Houses 1982</td>
<td>1937</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>est. 1700 - 88%</td>
</tr>
<tr>
<td>With loft spaces</td>
<td>est. 1500 - 77%</td>
</tr>
</tbody>
</table>

Eastwood is a small authority covering the southern suburbs of Glasgow. Council houses are very much in the minority.

Before 1978 they had already insulated the lofts of 610 houses (i.e. about 40% of all possible). The first such work was done in a number of electrically heated old people's houses. But most of this number were treated in the course of two years employment of M.S.C. financed squads of men who insulated lofts only. They considered lagging pipes, but found it impossible for this work force to do it; and in general found the whole exercise "very unsatisfactory" due to labour problems. In these programmes, they tried to select the most exposed houses - e.g. the perimeter of schemes in the higher areas of Eaglesham and Newton Mearns.

In fact their records do not allow them to have a full picture of all the very various water systems and insulation standards which exist in these houses. They find that some lofts insulated before 1978 have lagged pipes and some not - and they have no record of how this came about. They are now contemplating another MSC-financed scheme in which people would be employed to go round and "log" information about their houses - information which will in part be passed on to tenants on a slip in their rent books (describing where to turn the water off, etc.) - and would also lag pipes as required.

**Energy Conservation Programme**

After the Government Programme was launched the council went over to employing contractors. These installed 80 mm loft insulation, cold water insulation and hot water cylinder jackets. The council did not include draught stripping - they thought that the other works were the basic items for energy conservation; and their housing stock is "fortunately well maintained". If people complain about draughts they might put strips in.

Insulation is also included in their newly built houses, but they
have had no programme of comprehensive modernisation, except for one particular housing scheme. Their estimate of remaining deficiencies in hot water cylinder jackets (only 400) allows for the fact that at one period S.S.E.B. supplied a jacket whenever installing new immersion heaters.

Priorities

For the last couple of years, at least, the programme has not given priority to any particular house types; they have simply split the finance around the area; and tried to work systematically through any scheme one they had started work there.

Other measures

Cavity wall insulation has been restricted to 8 this year and 8 next, done only as part of the S.S.E.B. "White Meter Showhomes" scheme. These were also houses where the heating system required replacement, being hot air units which were beyond repair. They have "not had a tremendous problem with condensation, fortunately", but have installed internal linings to particular cold walls.

Future plans

Some 600 lofts are left which have no previous insulation; these should all be treated over approximately the next two years. However the current year's programme will also include some upgrading of 25 mm insulated lofts. With such upgrading, and the possibility of going back and doing some other works e.g. to doors and windows, "a few more years' work" is probably required to provide adequate insulation.

Home Insulation Grants

About six council tenants have taken up Home Insulation Grants. Others have applied just before a council scheme was due, so they were advised not to proceed.

Summary

An unusually high proportion of the lofts in Eastwood's small number of council houses had been insulated before 1978, but the simple approach adopted then has left them with a problem of identifying where the remaining deficiencies are. Since then their insulation programme has been modest in scale and aim, treating a further 750 lofts; but has brought them within sight of completing that aspect of insulation; other forms have scarcely been tried.
5. **City of Edinburgh District Council**

**Working in the dark**

<table>
<thead>
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<th>Total Houses 1981</th>
<th>181574</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council Houses 1981</td>
<td>55500 - 31%</td>
</tr>
<tr>
<td>Council Houses 1982</td>
<td>57000</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>est. 90%</td>
</tr>
<tr>
<td>With loft spaces</td>
<td>est. 15000-20000</td>
</tr>
</tbody>
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The City of Edinburgh's Council houses are less than a third of all dwellings in the city. As a consequence especially of the building of large post-war estates to non-traditional designs, only a minority of their houses have loft spaces, though they can only roughly estimate how many.

In 1976-77 they insulated some 1700 lofts using the old Job Creation Scheme. They installed 75 mm thick loft insulation but did not lag the cold water pipes. They are in fact only now as part of a continuing survey of their housing stock identifying houses where this occurred and lagging the pipes.

This scheme concentrated upon "deprived areas", identified in a somewhat ad hoc fashion. It tackled a large number of the houses of pensioners and disabled people.

**Energy Conservation Programme**

After the launch of the E.C.P. they started insulating lofts again, using contractors this time. Nothing happened in the first year - it took a while to recruit the extra staff for supervision. Contracts were divided up into very small units of about 100 houses at a time in order to create an "incentive effect" - there would always be more work ahead to tender for after a current contract.

This work includes 80 mm thick loft insulation, lagging of cold water tanks and pipes and installation of hot water cylinder jackets. Draught stripping has never been included in the programme. The 340 houses which they note as receiving this in 1980/81 were specially treated in response to pressure from an active tenants' association in Wester Hailes. They have also, separately, done a substantial amount of replacement of old hot water cylinders by ones which have moulded polystyrene insulation. The Council has a modernisation programme, or "rehabilitation" as they call it, which deals with schemes in strict order of age. Up to 1978 it included 50 mm thick loft insulation, since then 75-80 mm.
Priorities

The ECP has, until now, tackled houses with no previous loft insulation. So far as we could determine work has simply been carried out in each of the City's housing management areas, which are numbered 1-8, in order.

Other measures

Cavity wall insulation has just been started in the past two years. 1300 houses have been treated. It has been adopted "mainly to try to help with condensation problems". It is still regarded as largely experimental - some was done in conjunction with the S.S.E.B. "White Meter" scheme. A further 1000 houses are scheduled for treatment this year, but their future programme beyond that point is uncertain. A further 736 houses have received internal linings.

When there was an Energy Conservation allocation they wrote to SDD suggesting that they should be allowed to finance treatment to flat roofs out of it, but were refused. So they have insulated only these houses where they saw a need for complete reroofing.

Future plans

In the current year they will probably start their first programme of upgrading loft insulation, since the £400,000 allocated should allow for the insulation of more than the remaining 5000 or so houses with none at all. Just how many houses have what in their lofts and where they are is still not completely known to them; nor is the extent of deficiency in hot water cylinder jackets. These things are only gradually being discovered through their programme of surveys. They believe that 25 mm thick loft insulation is only to be found in areas outwith the former city boundary. They have also surveyed about 2000 houses in two areas which have 50 mm thick insulation, and expect to move on to upgrading these fairly quickly.

Home Improvement Grants

They have had one or two enquiries from council tenants about Home Insulation Grants but do not believe that any had taken them up.

Summary

Edinburgh's insulation programme has been modest, considering the size of their stock of council houses, although between one third and one half of lofts (7159) are now insulated to current standards. The extent to which basic information about existing conditions
is now having to be collected is striking. Clearly any possibility of a comprehensive upgrading of insulation standards tailored to the deficiencies of each house type must still be some way off.
6. **Falkirk District Council**

Only when the money is there

| Total Houses 1981 | 53615 |
| Council Houses 1981 | 34060 - 64% |

Falkirk has one of the highest proportion of council houses in Scotland. Although we have not been given figures we believe that a relatively high proportion of their houses (for a large urban authority) are of traditional construction.

Before local government reorganisation, Stirling County installed 1" or 2" loft insulation in all new houses from about 1957; they do not know for sure what the former burghs did.

Since reorganisation, the District Council's new building and modernisation programme has involved insulation of lofts to at least 3" (75 mm) and currently to 100 mm; cold water systems are lagged as well, of course. Modernisation has been carried out to 3000-4000 houses a year, but with a dramatic drop in 1981/82.

**Energy Conservation Programme**

Their ECP, launched in response to the Government circular, treated about 3000 houses in each of the years 1976/79 and 1979/80. It was not MSC funded. It included 80 mm loft insulation and cold water tank and pipe lagging. Hot water cylinders were treated only on the rare occasions when found in the roof space.

Why were cylinder jackets not included? When they are not in the roof space it facilitates the work to leave them out and not therefore have to enter the house. Also, heat loss from a cylinder is a gain to the house as a whole. They felt that most cylinders would already have some sort of covering and many in fact would be boxed in.

Draught stripping was not included either. Their houses have mostly "sash and case" windows which don't lend themselves to it. It would in any case have had to be differently timed to be done in conjunction with their already planned painting schedules. Furthermore they are afraid of condensation problems.

When the specific allocation was abandoned, they suspended their major programme of insulation (though it continued to be part of
However when an extra capital allocation was announced by SDD late in the financial year 1981/82 they launched a crash programme, insulating the lofts of 1800 houses. This does not reflect a change in the council's priorities but the fact that when money had to be spent fast before the end of the financial year, rewiring and insulation were almost the only possible ways of doing it. However their loft insulation has stopped again now that this work is finished.

**Priorities**

Priorities for their ECP work were selected as follows. The original allocation was announced late, after they had determined the rest of their programme for that year. They could only therefore treat houses which could be identified quickly as being appropriate. So they went back to the houses which had just been most recently rewired; this also had the advantage that there was no danger of subsequent disturbance of the insulation.

After that the council might have regarded older houses as its first priority, but these were mostly programmed for complete modernisation within a year or two. So they treated somewhat later houses, including several thousand built in the late 1940s and early 1950s.

**Future plans**

No definite plans for further insulation works exist at present.

**Home Insulation Grants**

When the capital allocation was withdrawn and the council decided to stop its own programme of insulation, its policy was decided, we were told, in the light of knowledge that grants were available to council tenants. However they do not seem to have drawn any special attention to grants as a result. They do not in fact think that take-up has been very large.

**Summary**

Although Falkirk adopted high standards of loft insulation at an early date, all our other evidence suggests that the council has never regarded insulation as one of its priorities. A very large number of lofts remain completely untouched, and the council has not yet devised any policy for upgrading insulation in its houses in any other respects.

The money it has spent has been almost entirely money which could not be used in other ways, for reasons not of their choosing.
7. City of Glasgow District Council

Trying all the alternatives

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<table>
<thead>
<tr>
<th></th>
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</tr>
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<tbody>
<tr>
<td>Total Houses</td>
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</tr>
<tr>
<td>Council Houses</td>
<td>1981</td>
<td>176388</td>
</tr>
<tr>
<td></td>
<td>1982</td>
<td>176075</td>
</tr>
<tr>
<td>With cavity walls</td>
<td>est.</td>
<td>148737</td>
</tr>
<tr>
<td>* With loft spaces</td>
<td>est.</td>
<td>71661</td>
</tr>
</tbody>
</table>

The City of Glasgow is the largest public landlord in Great Britain. Its houses are of a great variety of architectural types. In multi-storey buildings (i.e. over 5 storeys) alone there are 25,511 dwellings. There are also large numbers of tenement and four in a block buildings. The Council's estimate of the total number of loft spaces is therefore well under half of the total number of dwellings.

Before 1978/79 the council's new building and modernisation programmes included 80 mm thick loft insulation (for some years previously, at least), tank, pipe and hot water cylinder replacement and draught stripping or replacement of windows "where necessary". These programmes still include such works, as does the "Improvement and Repair" programme (the council's modified version of modernisation), and their "Rehabilitation" programme for pre-1st World War tenements. The scale of the modernisation programme, especially in the mid to late 1970s was such that 42,126 dwellings (this and subsequent figures refer to all houses in affected blocks, not loft spaces) were already insulated by 1978 - slightly more than have been insulated since.

Energy Conservation Programme

Because the 1978 circular arrived very late in the annual budgetary process they had to make up contracts quickly covering all their "Aged Couple Flats" and "Single Person Flats" (almost all post-war) as the first priority. These were some 5,000 in number - barely half the number required to spend their allocation. They then turned to some of the council's earlier houses, all built under the 1919 and 1923 Acts, which had already been rewired in the early 70s and thus had slipped down the priority list for fuller modernisation.

In 1978/79 they managed to insulate 11,113 houses, use up all their

* See Appendix D for a comment on this figure.
allocation and take up some of the shortfall from other authorities' underspending. This crash programme proved to be by far the quickest way of putting in insulation that they have ever adopted. The size of other programmes that year was such that in all the impressive total of 22,555 houses received insulation.

If however they had continued to deal with pre-war houses during 1979/80 they would have been starting to insulate houses which were placed in the modernisation programme. This would have created potential problems of duplication of work to windows and subsequent disturbance of loft insulation. So, since they were beginning a programme of rewiring on immediately post-war houses, which often have dangerous wiring, they decided to carry out ECP funded measures of insulation at the same time. The Scottish Office appears to have accepted their charging of the insulation component of this combined programme against the special allocation.

The priorities for this programme were houses of non-traditional construction and those built 1945-54. They originally envisaged that there would be a 10-year programme involving some 5-6,000 houses a year which would complete all necessary post-war rewiring. So as a result of this decision the number of houses receiving insulation through the ECP allocation was bound to be well down on the previous year's performance, at some 5,5 thousand (as was the total under all programmes at 9,160).

We were given the opinion that Glasgow would have reverted to the previous type of programme despite this hiccup in 1979/80, if the SDD had continued to make an earmarked allocation available. However in the event insulation has not since been considered to have any priority of its own, but has remained "tied" to other programmes. Furthermore the post-war insulation programme itself has not been regarded as the council's highest priority, for despite awareness of the physical state of much post-war wiring, there also also a great many unrewired pre-war houses. This programme has therefore dropped away to almost nothing; insulation is now being done almost entirely through the modernisation and related programmes alone (in 1980/81 to 5,394 houses; and in 1981/82 to 4,431 houses).

The works included in specific insulation programmes have been 80 mm thick loft insulation, lagging of pipes, tanks and hot water cylinders; and in 1978/79 and 1979/80 draught stripping of doors and windows. However they "finally realised" that the latter was inducing condensation; and also that the condition of many windows even in post-war houses was such as to render it useless. This is likely to remain the case until the authority gets a fully operative scheme of planned maintenance. Much of the work done by the clerks of works who supervised these programmes
involved the submission of long lists of the window replacements which were required.

Other measures

Glasgow has done no cavity wall insulation. The city architects do not favour it. They have been relining internal walls in some houses, this being amongst the measures which have been tried in the attempt to reduce condensation. They are also carrying out major modifications to the external walls and roofs of some of the non-traditionally built schemes which suffer from condensation.

Future programme

Any future programme (beyond the further reduced total of 1796 houses which will receive loft insulation and water system treatment in 1982/83 under the usual programmes) is "completely dependent on the availability of finance".

Home Insulation Grants

They are about to get a new project off the ground in Drumchapel (post-war, unre wired houses). This will be directed at OAPs, invalids and possibly "lower income groups". It will provide, free of charge, loft and water system insulation and draught-proo f ing. The work will be done by workers employed under the MSC's Community Enterprise Programme. Tenants will apply for Home Insulation Grants and "mandate" them to the organisers of the scheme. The rest of the cost will, it is hoped, be made up from the District Housing Managers' "Area Budget" (which is available for a variety of local projects at their discretion).

The Department is also nowadays encouraging the use of Home Improvement Grants by individual tenants. They have had applications from council tenants in the past, though they had never kept a note of the tenure of applicants. But from September 1981 policy changed. The council contacted the known suppliers of insulation materials and asked them for their list of contractors who specialise in insulation. They then circulated these firms, pointing out that application forms were available and offering to make the necessary arrangements. We understand that this was done in response to an upsurge of activity by firms looking for business from door to door in council schemes.

The majority of Home Insulation Grants in subsequent months have gone to GDC tenants, and a budget which was consistently underspent is heading for over-spending. The contractors get people to sign the grant application forms with a mandate authorising their firm to do the work and pick up the grant. Before the council approves applications, a list of applicants is sent to the rewiring

56
and insulation section for checking. They advise which applications should be rejected because the Council plans to insulate the houses concerned itself in the near future. They are "trying to get down" to excluding from consideration only houses which are programmed for work within the current financial year. Contractors are also advised on aspects such as the definition of "disability" where people may potentially be eligible for the higher 90% rate of grant.

Summary

Although Glasgow swiftly took advantage of the energy conservation programme when money was first available, it has never given insulation a high priority in its own right. A large number of houses still have no loft insulation and are not likely to receive it for some considerable time. The council has recognised that this is so and is therefore encouraging take up of grants as a partial solution. Other forms of insulation have so far been seen as solutions to particular acute construction or design problems of which the city has several.
8. **Hamilton District Council**

Working slowly down the list

<table>
<thead>
<tr>
<th>Description</th>
<th>1981</th>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Houses</td>
<td>37843</td>
<td></td>
</tr>
<tr>
<td>Council Houses 1981</td>
<td>23006</td>
<td>23000</td>
</tr>
<tr>
<td>Council Houses 1982</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With cavity walls</td>
<td></td>
<td>est. 96%</td>
</tr>
<tr>
<td>With loft spaces</td>
<td></td>
<td>21800 - 95%</td>
</tr>
</tbody>
</table>

Hamilton is another large urban authority. They have very few multi-storey flats, however, and a high proportion of their houses are in buildings with loft space.

Before 1978 the only specific insulation work was in a scheme of 114 "war standard" concrete built and flat-roofed houses which were reroofed and cavity filled, starting as long ago as 1960. New building and modernisation included insulation to Building Standards; and at that time some newly built houses were cavity filled, though this has not been the policy more recently. The total number of houses where cavities had been filled was only about 800 up to this date.

**Energy Conservation Programme**

The government then "asked them to mount an Energy Conservation Programme, so they did so". The works include 80 mm loft insulation, cold water system lagging and hot water cylinder jackets (they did not find any of these already installed, as we were told). For the last two years they have been ventilating roof spaces at the same time. This does not spring from their own experience, but it is a government recommendation.

They do not draught strip. They had so many houses with no insulation at all that they thought they should ensure that the money was spread around.

When the specific allocation was withdrawn, the SDD memorandum hoped that authorities would still carry on with insulation work, so they did so. The Chief Architect thinks that it is "childish" for local authorities to drop a thing like this. If they start things and they are worthwhile, they really should go on doing them, particularly when they are only a minor proportion of the total budget.

**Priorities**

They started with their oldest houses and have been working through
in age order. Any deviation would cause "political" difficulties. At the end of this financial year they will have reached houses built about 1932-35. Hamilton built a lot of houses between the wars. There have been two or three cases where authority has been given to "step out of line" and finance insulation works which are not in age-of-house order, out of the "energy conservation" budget agreed by the council, which clearly is wider than the budget originally financed from the separate allocation.

(1) A number of old people's two apartment houses designed by Lanarkshire County Council and scattered around the District have living rooms which open directly into the garden. Although these are only about 12 years old they have drawn on the "energy conservation" budget and installed porches to a limited number, and hope to do a number again this year.

(2) In 1980/81 approval was given to launch a specific initiative in response to rapidly rising fuel costs. They selected a number of sheltered or two apartment housing blocks, particularly those which were all-electric; they put in cavity wall insulation and installed or upgraded loft insulation, whatever the age of the buildings, in total 372 houses. However they have not identified any buildings in 1981/82 which have such a high priority.

(3) They have insulated and ventilated 12 year old "monopitch" roofs, where rot had been occurring in the roof space.

The modernisation programme of 3000-4000 houses a year also includes insulation. This also goes back to the oldest houses: "It's getting like a horse race, you've got to make sure the two programmes don't overlap."

Other measures

They are "trying" thermal board linings for some houses. But the 372 houses mentioned above have been the only ones in recent years to receive cavity wall filling.

Future plans

A sum of money is allocated in their Housing Plan for energy conservation in each of the next five years; but sites, works and numbers of houses remain to be identified.

Home Insulation Grants

Some tenants have taken up Home Insulation Grants, but we obtained no definite information on numbers.
Summary

Although some careful consideration has clearly gone in to singling out and tackling the particular problems mentioned, Hamilton's programme consists principally of a very simple and fairly small scale programme which has so far insulated only just over one third (8402) of all lofts to the 80 mm standard. It is seen, perhaps, as worth doing provided that the budget allocated to it is not so large as to impede the council's pursuit of more pressing areas of work.
9. Livingston New Town Development Corporation

Keeping ahead of standards

Total Houses owned by the Corporation: 10863

Livingston, like other New Town Development Corporations, receive annual block allocations of revenue and capital finance from the S.E.P.D. and choose their priorities within this. There does not appear to have ever been any specific allocation for energy conservation.

"Energy Conservation Programme" types of work

They have however always regarded themselves as trying to keep "one step ahead" of current building regulations. Their houses, which are all relatively new, of course were all built with insulated weld water systems and British Standard hot water cylinder jackets. Some 7-8 years ago they began an upgrading programme for loft insulation, using MSC financed labour.

Even their earliest houses had had 25 mm thick loft insulation. As a result of their upgrading programme, no houses are left with less than 50 mm, most have 75 mm and some 100 mm. Their maintenance department draught seals "where excessive problems are encountered", especially in old people's houses. But they have always tried to specify that windows must have gaskets to a reasonable standard when their houses were built. They also feel that tenants can do a lot for themselves in eliminating draughts.

Other measures

Three to four years ago they started providing cavity fill in all new houses where possible. At about the same time they began cavity filling some of their existing stock - "houses with a record of complaints about condensation" and particularly houses with night storage heaters". Where cavity fill is not possible in their new buildings they are plaster-boarding the walls.

Given the diverse nature of their mostly recent housing stock they have had to carry out or plan a number of other measures. They have quite a few flat roofs, felted on top of concrete, where no upgrading is possible; but these were at least built to better than the then current standards for thermal insulation performance. They recently upgraded some "timber patio" flat
roofs to a U-value equivalent to 75 mm insulation. They have been doing some selective internal wall lining particularly in damp/cold bedrooms up against entries or staircases. However, they have recently gone over to external lining for the first time, having decided that internal work is simply too disruptive - electric points and skirting boards have to be moved, carpets out, etc.

Future plans

They would expect the upgrading of loft insulation thickness to be complete (i.e. all houses should have at least 75 mm) in 2 years or so. They would certainly be prepared to upgrade further in future, if they get financial backing from the government, but this would not have such a high priority as it does at present.

Some of the other measures mentioned will be continued and developed. They have also devised a new programme for the current financial year (1982/83), for the treatment of their "heavy concrete panel" construction (i.e. "industrialised") buildings, where the end bedrooms in particular are a problem. This will be a programme of external insulation, with some dry lining.

Summary

The relative newness of its houses and the differences in the system of subsidisation mean that Livingston's experience is not strictly comparable with our local authority case studies. Despite the fact that all its houses have been built to insulation standards above those to be found in much of the older local authority stock, a substantial and varied programme of upgrading has taken place. Of course some of the competing priorities felt by authorities with an older stock, such as rewiring, are also not relevant.
10. Lochaber District Council

Wrapping it up nicely

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Houses 1981</td>
<td>8023</td>
</tr>
<tr>
<td>Council Houses 1981</td>
<td>3535</td>
</tr>
<tr>
<td></td>
<td>44%</td>
</tr>
</tbody>
</table>

The Highland authority of Lochaber has a fairly high proportion of council houses. There is a concentration in the urban setting of Fort William, but others are in very remote and exposed areas.

**Energy Conservation Programme**

The authority has had extensive recent new building and modernisation (or as they call it "renovation") programmes and a four year Energy Conservation Programme using wholly MSC financed labour. As a result by the end of financial year 1981/82 no houses were left in the area with less than 80 mm of loft insulation. All houses built before about 1975 have had some extra loft insulation installed.

The Energy Conservation programme included 100 mm loft insulation throughout and lagging of cold water systems. Hot water cylinder jackets were not installed though they are provided through their new building and modernisation programmes. Draught stripping is only carried out as a maintenance function as a when required.

The total numbers of houses included in their Energy Conservation Programme has been 1707, leaving the insulation of the rest of their 3700 stock to be accounted for in other ways as mentioned.

**Priorities**

In the first year of their ECP they treated (mostly at least) OAP's houses, on an individual basis so far as possible. The middle two years were devoted to treating houses in Fort William and the rest of their houses in the "outlying areas" were completed in 1981/82.

**Other measures**

The authority has never installed any cavity wall fill or any other form of wall insulation.

**Future plans**

No forward programme is planned, except for what may be included
in any further comprehensive renovations.

Summary

Lochaber quickly and effectively carried out the basic measures suggested by the government programme. It did this to a higher than required standard. However there seems to be a feeling that all the insulation that is necessary or practical is now complete.
11. North East Fife

Little to report

<table>
<thead>
<tr>
<th></th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Houses</td>
<td>26940</td>
</tr>
<tr>
<td>Council Houses</td>
<td>7971</td>
</tr>
</tbody>
</table>

This authority was included in our sample, but the District Architect's Department wrote to say that "as I am meantime very short staffed I am unable to devote the staff time required to complete your questionnaire". The following information was gleaned on the telephone.

When the separate allocation was available they had a programme of loft insulation which tackled some 1500-1800 houses. When the separate allocation was withdrawn the Scottish Office claimed that allowance had been made in the overall allocation but "it was not evident where this allowance had been made". So no further work was carried out. The proportion of houses remaining with no loft insulation at all is "at least 40%".

The council also used to have a programme of modernisation work of about 100-150 houses a year, which included full insulation works. However they have now had a "moratorium" on this for three years. New building is going on with insulation to current standards, roughly replacing the losses to their stock through house sales.
12. **Scottish Special Housing Association**

A programme for everything

The Scottish Special Housing Association owns and manages 91,475 houses, in most parts of Scotland and of most types of construction. All but a very few have been built since the second world war.

**Finance**

The S.S.H.A.'s position is different from local authorities in at least two respects; they did not receive advice and borrowing consents through the "Energy Conservation" circular; and a very much larger proportion of their work, including much insulation, is financed from annual revenue rather than capital borrowing, either as part of their big planned maintenance scheme or in other specific revenue funded "rolling programmes".

The S.S.H.A.'s total financial allocation from SDD is obviously intended to reflect government priorities, and their programmes are all subject to prior approval from SDD. The Department would say if the resources the S.S.H.A. were devoting to this particular kind of work were not compatible with the priorities which they were encouraging local authorities to pursue. However the S.S.H.A. had already started insulation work much earlier than the 1978 circular and believe that feedback from the S.S.H.A. may have influenced government thinking.

**Basic programmes**

Their first roof insulation programme was certainly earlier than 1972. From 1975 they have adopted an "80 mm" standard though in fact they often use a blown fibre material which has the properties of quilts 2 to 3 times its thickness.

At first just lofts and the pipes and tanks in roof spaces were treated, but ever since they persuaded themselves, several years ago, of the value of wall insulation, they have treated the two simultaneously wherever technically possible.

Now they are attempting to co-ordinate this programme with their heater modernisation; insulating houses where this has already been done; insulating concurrently; or at least insulating where heaters will be replaced at most a year ahead.

The order of priorities for the roof and wall programme is simply that they are working through their houses of traditional brick construction in age order (in just the same was as they are doing with other programmes of work, e.g. rewiring, replacement of sanitary ware). There have been odd occasions where a particular
case has been put forward and accepted for old people to get priority but they have not looked at their entire stock from this point of view.

All this work has been financed from revenue. Only very recently has some been transferred to their capital budget. This appears to be the result of insulation being used as a means to ensure the quick spending of capital allocations and to avoid the possibility of underspending. The "largest proportion" of their insulation programme has been carried out by the Association's Direct Labour Organisation.

Some insulation has been done as part of their comprehensive modernisation programme. That had as its priority their immediate post-war non-traditional stock (and the few pre-war houses). They are about thirds of the way through this work.

Hot water cylinder jackets have been provided for them for "as long as there has been general recognition of the need" - since at least 1965. They have been installed in new houses and also as part of their planned maintenance cycle. So they should already have been in place in houses before other energy conservation programmes were started.

All cold water pipes and tanks are lagged. But many pipes could be described as inadequately lagged by their own current standards. In fact they are going beyond lagging in one successful experiment, installing thermostatically controlled trace heating wires on pipes. It is also "part of their policy" to remove tanks from the loft space wherever possible and the majority of houses built after 1975 were designed in that way.

Their cyclical programme of detailed 5 yearly inspections of every house should include replacements of defective doors and windows. So draught stripping is not required, except perhaps in severely exposed places. It would only be done in response to a specific complaint, as an interim measure where the problem was not bad enough to justify immediate replacement. All houses built in recent years should not require any further measures of draught sealing.

Other measures

They emphasise that brick cavity wall filling is only one part of their wall insulation programme, and that the number of unfilled cavities would be a very misleading indicator of the "size of the problem". In their new houses they try to leave cavities unfilled and yet achieve at least as good insulation values by internal lining or other means. They have always tried to exceed the standards set by current regulations, though they have not always been allowed the finance to do so. Furthermore they try to build
in the possibility of going back and doing more as standards rise. For example the unfilled cavities in new houses could be filled in future.

In addition "all sorts of solutions" have been adopted to treat their non-traditionally constructed stock. The very large proportion of houses of "no fires" concrete construction are now being insulated with internal linings in a special programme.

Future plans

By the end of 1982/83 all their houses built to 1970 will have had roof and wall treatment where possible. In 1983/84 houses built up to 1974 will be treated, and in 1984/85, the furthest yet projected, houses built 1976. (Houses built at these dates already have the loft insulation which met the then current building regulations.)

Apart from this it is not possible to break down the implications for insulation of their future budgets. All sorts of measures are planned, from new pitched roofs for existing flat roofs to complete new envelopes for houses, to internal linings and external insulated renderings.

Summary

The S.S.H.A.'s level of funding, systematic methods of working and relatively new housing stock have meant that it has insulated its houses earlier and more thoroughly than almost any local authority. They have also been more inclined to view roof and wall insulation as being complementary parts of the solution to the same problem and to view the standard ways of carrying them out as only one of the possibilities.
CHAPTER 4

HOW AND WHY INSULATION HAS BEEN CARRIED OUT

Our survey concentrated largely on what insulation housing authorities have been putting in to their houses and how they have gone about it in the sense of finance and timing. We have however a number of comments to make drawn largely from the experience of our case study authorities about aims and intentions and their success; about communication with tenants; and about the incidental and practical problems involved.

Reasons and Priorities

We did not ask our study authorities to elaborate upon their original reasons for embarking upon large or small insulation programmes, because we could not guarantee that we were talking to the people who first planned these programmes. What we did ask was how far in our informants' opinion public and political pressure had been significant in promoting and maintaining the priority they gave to insulation work.

None of our authorities suggest that any appreciable public demand was expressed for energy conservation measures as such. Only Annandale and Edinburgh gave us any examples of complaints from tenants that the houses in a whole scheme were hard to heat or draughty. Only Cunningham suggested that once they had started loft insulation they got a substantial number of enquiries from people in other areas about when their houses were going to get treated: this authority's street-by-street approach may have aroused public anticipation.

A number of authorities indeed made it plain to us that roof insulation at least had not been debated at Council or Housing Committee and that it had been embarked upon in response to reports from officials which had not aroused controversy. None of this is surprising - the lack of insulation is not a deficiency that tenants feel acutely or are even aware of; its benefits required an explanation even though they affect the pocket and basic physical comfort.

Insulation as part of the means to combat condensation, however, tends to have been decided upon by a very different route. Repeated complaints, and petitions or other forms of protest have often led to attempts to alleviate the problem in various ways and a decision to upgrade insulation substantially as a final attempt to find a solution. The case of Angus illustrates the contrast: roof insulation was "taken for granted" when proposed to the Council; but it was a large volume of tenants' complaints about condensation, with attendant press publicity,
which led to an insistence from the Housing Chairman that some programme of treatment to walls be drawn up and, after considerable debate in the Housing Committee, to the council's embarking upon its cavity wall insulation programme. However the number of authorities where this has happened yet is limited.

Some idea of what authorities have thought the purposes and benefits of insulation are can be gained by looking at the way in which they chose which houses or areas deserved treatment first. Examples of how priorities were defined have been given in Chapter 3, but we also asked all authorities in the survey some questions about this.

Circular 24/78 asked authorities to give attention to the "special needs of the elderly and disabled". By this of course it meant simply that their houses should be singled out where possible for early treatment, not that any special or extra insulation was appropriate. Of 41 authorities from whom we have an answer on this point, 30 claim to have given priority to the elderly. We wished to avoid tempting people to make easy and unspecific claims that they had done what is obviously seen as the correct thing to do. We therefore asked separately whether they singled out elderly people's houses and whether they gave priority for housing schemes as a whole as a result of their elderly population. In the event most authorities claimed to have done both.

This priority can be implemented in a number of different ways. Except perhaps in some rural areas it is unlikely to have involved a thorough-going separate treatment of all houses occupied by an elderly person. Edinburgh's Job Creation financed insulation in the mid-seventies was only on offer to the elderly and other specified groups of people. Some authorities have simply insulated purpose-built sheltered housing ahead of the rest; others have broader categories of houses which are designated "old people's houses"; one common approach, adopted by several in our case study authorities, has been to insulate two apartment houses first, on the grounds that they are the most likely to be occupied by pensioners. So with a little help from the government circular, authorities have recognised in considerable numbers that bringing financial savings and added comfort to the elderly, at least, is an important aim of insulation.

Priority for insulation might also be given to houses which are known to have inefficient or expensive heating systems. This should maximise the extent to which energy conservation and savings in fuel bills are achieved. This approach might be developed into an attempt to reduce comprehensively the energy consumption of a house. Insulation has been linked to heater replacement in particular instances in our case study authorities, and the S.S.H.A. hope to do this on a larger scale. But to date the link between insulation and heating systems (Table 12) has
largely been simply to pick out all-electric houses or houses with particularly inefficient types of electric heating system for earlier treatment, almost by way of "compensation" for the higher fuel bills involved.

**TABLE 12**

<table>
<thead>
<tr>
<th>Priority for Insulation dependent on heating system</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>17</td>
</tr>
<tr>
<td>Yes, but unspecified</td>
<td>9</td>
</tr>
<tr>
<td>&quot;All-electric houses&quot;</td>
<td>6</td>
</tr>
<tr>
<td>Oil and electric systems</td>
<td>1</td>
</tr>
<tr>
<td>Electric ceiling systems</td>
<td>1</td>
</tr>
<tr>
<td>Electric warm air systems</td>
<td>1</td>
</tr>
<tr>
<td>Electric underfloor systems</td>
<td>2</td>
</tr>
<tr>
<td>Both underfloor and warm air systems</td>
<td>1</td>
</tr>
<tr>
<td>Both underfloor and storage systems</td>
<td>1</td>
</tr>
<tr>
<td>Central heating</td>
<td>1</td>
</tr>
<tr>
<td>District heating</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL AUTHORITIES</strong></td>
<td>41</td>
</tr>
</tbody>
</table>

We also checked briefly whether authorities would claim that certain other possible priorities had been taken into account. We are sceptical about easy claims to have given priority to "deserving" groups and have found that our informants in a few of the case study authorities had difficulty in describing criteria which might have existed only in the heads of one or two individuals. But the general picture is clear. Out of a slightly lower number of definite replies (36), sixteen claimed to have given priority to the disabled - not surprisingly less than gave priority to the elderly, because there are few or no council-designed concentrations of disabled people which can easily be singled out. Ten authorities claimed to have given priority to "deprived", "stress" or "priority" areas, but we suspect from incidental comments that the number who actually have any systematic means or desire to engage in positive discrimination on socio-economic grounds is even more limited.

The one other criteria which was applied in the majority of cases (27) was the age of houses. Most authorities have concentrated loft insulation first upon houses which have no insulation at all, which are of course the older ones. Some however, exemplified by Hamilton and the S.S.H.A. amongst our case studies, work through their housing stock in strict age order with any deviation requiring strong justification. This approach may represent the attempt to strike a balance between competing claims that different groups have the greatest need for insulation in a way which minimises
the scope for argument; or it may represent simply a failure to think out what the benefits of insulation are supposed to be and who need them most, and a vague idea of it as simply another aspect of "modernisation". It would be absurd to insist that a systematically rational choice of priorities should have been made by authorities which have or will have insulated all their houses within a few years anyway. But there are some authorities who still have very many uninsulated houses and who have made little or no attempt to ensure that what work they can do is done where the benefits will be greatest.

Communication and Monitoring

Apart from looking briefly just now at the evidence of public demand for insulation, we have described insulation programmes mainly from the perspective of the housing authorities. Our survey was addressed to them and so it is their point of view which we have to report. But we asked our case study authorities about the extent to which they had communicated with their tenants about insulation - giving advice about energy use and saving; giving notice of and information about their actual insulation programme; finding out afterwards what effects had been perceived (or monitoring them more exactly).

Our conclusion is that very little has been done in any of these areas. Apart from the odd hopeful reference to "councillors' surgeries", "public meetings" etc., the only means of giving advice and information about energy use to tenants in general which was mentioned to us was the recent launch of a broadsheet for S.S.H.A. tenants, which may well include such topics in future issues. Of course much informal advice is given by council architects, clerks of works, etc., and nationally or locally produced leaflets may be available in public offices. There is a history of giving a variety of advice to tenants in whose houses excessive condensation is occurring, some of the advice being economically or humanly unrealistic but some no doubt being good.

In Fig. 1 we summarise the procedures adopted by those case study authorities who told us something about the way in which they notified tenants that their houses were going to be insulated. Clearly this is not the most important aspect of a housing authority's communications with its tenants. The work involved is not normally very disruptive.

But we reproduce these responses here because we think they show that little or no attempt has been made to take the opportunity of giving wider advice and information about energy use; and because we think that in some areas where tenants only get a few days' notice that work is to be done to their houses there is a failure in elementary courtesy.
**Fig. 1**

*Advance notice to tenants (loft insulation programme)*

<table>
<thead>
<tr>
<th>Area</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANGUS</td>
<td>Circular a month or two in advance, contains general mention of potential benefits; Contractors visit tenants 2 or 3 days in advance.</td>
</tr>
<tr>
<td>ANNANDALE &amp; ESKDALE</td>
<td>&quot;Simply inform tenants of intentions.&quot;</td>
</tr>
<tr>
<td>CUNNINGHAME</td>
<td>Letter from Housing Department, some two weeks in advance, delivered by &quot;pest control pre-inspection contractor.&quot;</td>
</tr>
<tr>
<td>EASTWOOD</td>
<td>Survey by council inspectors first, then notification by letter a couple of weeks in advance.</td>
</tr>
<tr>
<td>EDINBURGH</td>
<td>Publicity through local press and tenants' association; then contractors put cards through doors, 3-4 days in advance.</td>
</tr>
<tr>
<td>HAMILTON</td>
<td>Survey of houses first, then send letter.</td>
</tr>
<tr>
<td>GLASGOW</td>
<td>Two page letter explaining intentions and general benefits, as far in advance as possible (weeks or months). Contractors are required to give 5 days' notice.</td>
</tr>
<tr>
<td>S.S.H.A.</td>
<td>A standard circular is issued (for each programme of work) telling tenants approximately when work is planned and the simple reasons for it.</td>
</tr>
</tbody>
</table>

Nor has much attention been given to checking after the event what benefits might have accrued to tenants as a result of loft insulation. Our informants only had impressions, gained from informal contacts. They made such comments as "some tenants have remarked on the effects, but not very many" or "A lot of people have said that they have noticed the difference". Opinion amongst the professionals we talked to could be summarised as not wishing to question that benefits do result from loft insulation, but doubting whether many tenants actually consciously distinguish its effects from those of normal climatic variations (on their comfort) and rising fuel costs (on their pocket). To find out for sure whether this is so and why would require carefully designed surveys.

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The effects of wall treatments have been watched more closely. A lot of authorities, as we showed in Chapter 2, have cavity filled small numbers of houses, because cautious architects wished to try the technique "experimentally". We suspect that both the aim and the method of experiment in many cases was simply to wait and see if incidental problems such as water penetration occurred, not to monitor success in energy conservation.

However several of our case study authorities have been involved in more systematic monitoring in co-operation with outside agencies. The S.S.E.B. "White Meter Showhomes" scheme has been co-operated with in many areas; the Building Research Establishment has monitored 20 houses in Hamilton; and Heriot-Watt University has studied an S.S.H.A. scheme in Bo'ness (23). The only sample authority which told us about any attempt at monitoring purely for their own purposes was Angus, where tenants in some of the earliest houses to get cavity wall insulation were asked to complete a questionnaire. The purpose seems to have been to assess the impact of insulation upon the condensation problems.

**Practical Problems and Side Effects**

When asked about practical problems encountered in their insulation programme, several of our informants talked about tenants who were never at home, or had their lofts full of junk or floored over (which can actually provide a high standard of insulation). But we were more interested in knowing about any problems which might affect tenants themselves.

Firstly we wondered whether incidental work had proved to be necessary when lofts were being insulated. Glasgow officials told us that they had concluded that "you cannot just insulate a house". Roofs were found to need repair; old pipes were in some cases so fragile that they might have broken whilst being lagged; windows that were not fit to be draughtproofed needed replacement. But no other authority admitted this state of disrepair in its houses to us (though we were told that clerks or works in charge of insulation projects could order incidental repairs as needed); and many have no call to admit to it, because the general state of repair of their houses is better and because in some areas items like old tanks and pipes are replaced in a planned cycle.

Apart from this, we were told of the need which Annandale discovered to replace old asbestos coated tanks; and of Cunningham's employment of a contractor to inspect all lofts in advance and eradicate rot and infestations before insulation was put in and buried the evidence, in warm conditions suitable for their spread. The latter seems to us to be an excellent idea which
could be recommended to other authorities. It should be noted however that where existing loft insulation is to be upgraded the old insulation has to be ripped out to allow this inspection.

One possible piece of ancillary work, which could be financed from the Energy Conservation Programme itself in the years of a separate capital allocation, is the installation of extra ventilation in lofts. This is sometimes thought necessary to avoid an increased danger of condensation and rot in the roof timbers in roof spaces made colder by insulation. We do not know what all our case study authorities did about ventilation but Figure 2 summarises the information we have. A minority of authorities seem to have seen the need for enhanced ventilation.

Fig. 2

<table>
<thead>
<tr>
<th>Modifications to ventilation in lofts under Energy Conservation Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANGUS</strong> : None: construction of houses allows adequate ventilation.</td>
</tr>
<tr>
<td><strong>CUNNINGHAME</strong> : None: ventilation was checked in advance and no need to improve was found.</td>
</tr>
<tr>
<td><strong>EASTWOOD</strong> : None.</td>
</tr>
<tr>
<td><strong>GLASGOW</strong> : None, but condensation problems subsequently occurred in one scheme and ventilation had to be improved there.</td>
</tr>
<tr>
<td><strong>HAMILTON</strong> : Carried out as part of programme because it is a government recommendation.</td>
</tr>
<tr>
<td><strong>LIVINGSTON</strong> : After a problem occurred in one area which required subsequent attention to ventilation, it is now automatic to improve it when insulating.</td>
</tr>
</tbody>
</table>

A practical, though non-technical, problem which is beginning to emerge is what should be done about houses which form part of a block but have been sold to their former tenants. One or two authorities mentioned that they were trying to encourage owners to insulate simultaneously. But Armandale described their predicament when they wished to cavity fill a "four-in-a-block" building in which one house has been sold - the foam will not stop flowing at the "boundary".

We have not talked to sufficient authorities with experience of
cavity filling to venture in to the debate on its possible side effects. But we asked about any possible side effects of loft insulation and found very few had been encountered. The only worries were about blown fibre and granular materials. Three authorities mentioned experiences of these getting into houses or in one case hot water systems.

The area of most concern about possible side effects of loft insulation has sprung up quite suddenly as a result of the extreme weather conditions and unprecedented numbers of burst pipes and tanks experienced in the winter of 1981/82. The fact that loft insulation makes lofts colder has clearly registered itself vividly in the minds of many tenants and councillors, even though pipes and tanks in roof spaces have been lagged precisely in order to counteract any increased danger of freezing. We know of two authorities - Stirling and Kilmarnock and Loudon District Councils - which have suspended their 1982/83 programmes of loft insulation as a result of concern over burst pipes. Most of our case study authorities had something to say on the subject and we summarise their reactions in Figure 3.

Official opinion in nearly all of these authorities was clearly that pipes and tanks in insulated lofts, if properly lagged, are not more prone to burst, but that the sheer duration and intensity of the frost was such as to defeat any reasonable lagging. Clearly lessons can be learnt about the unsatisfactory layout of some old pipework and action can be taken. It also seems that the quality of lagging was not as good as might have been hoped.

After hearing of problems of this kind, we began asking authorities about the inspections they had carried out after lofts had been insulated by contractors, MSC special programme workers, etc. In fact every authority we asked claimed that their own clerks of works or MSC programme supervisors had checked every loft so far as practically possible after work was completed. Perhaps these inspections could have been more thorough. But we cannot suggest that there is any obvious way of reducing the danger that pipes will be exposed by faulty lagging or lagging which has been subsequently disturbed. But the experience of the authorities suggests forcibly that insulation in itself is not a major contributor to frost problems, and that panic reactions are not justifiable.
CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

General

Largely as a result of the earlier Energy Conservation Programme, some progress has been made in installing certain limited types of insulation in Scotland's public sector houses. But much remains to be done (see Chapter 2 throughout).

The public sector of housing should remain a priority for insulation because of:

(a) the incidence of fuel poverty amongst tenants

(b) the legacy of unsatisfactory designs, construction techniques and heating systems

(c) the gains in conservation of energy resources which can be more quickly and cheaply achieved by pushing ahead with work in this sector (see page 2 and throughout).

As much as three-quarters of domestic heating is immediately lost to the outside atmosphere as a result of poor insulation, draughts and the limited efficiency of appliances.

In a typically heated inter-war semi-detached dwelling, using whole-house central heating, 35% of heat is lost through the walls, 25% through the roof, 15% through the floors and 10% through the windows, with draughts through cracks and doorways accounting for the remaining heat losses. (Figures are U.K. averages - these percentages will vary according to house construction, with intermediate floor flats losing less heat through the walls and ceilings compared with other dwellings. Rates of heat will also be affected by climatic conditions and standards of thermal comfort.)

Insulation of the walls and roof space, and draughtproofing of doors and windows, as well as pipe and tank lagging, are proven methods of greatly reducing domestic heat loss - by as much as 25-30% in many cases. While some methods are more cost effective than others, official estimates have shown that straightforward measures such as loft insulation can "pay" for itself in 2-4 years and water tank insulation in a matter of months as a result of reduced fuel consumption. There are therefore good reasons for believing that both central and local government should attach high priority to domestic insulation programmes.
The separate capital allocation for insulation, introduced in 1978-79, was undoubtedly influential in getting public sector insulation programmes off the ground. Our estimate is that 63% of public sector housing now has loft insulation which meets the minimum standard required (80 mm thickness) (page 23 & Appendix D). Nevertheless it appears that many authorities are nowhere near reaching the government target of insulating all lofts by 1988 (page 23 and Table 7). Only five of the 46 authorities in our sample have brought every loft up to the 80 mm standard. Only a few authorities stopped or drastically reduced their insulation programme as a direct consequence of the merging of the specific insulation capital allocation into the general council housing capital allocation. But many authorities had never been on target to insulate all lofts within the next few years and some that were have now curtailed their planned programmes because of the general reduction in capital allocations.

No clear picture emerges from our 12 case studies as to why some authorities have made more progress than others. The size of an authority's housing stock had only a marginal bearing on the rate of progress. One factor may have been the ease with which insulation measures could be co-ordinated with modernisation programmes (see case study of Glasgow on page 54 for example). Climatic factors may have induced a small number of highland authorities to complete their programmes. Progress was assisted in some cases through the use of temporary workers funded by the Manpower Services Commission.

This unevenness of progress suggests that legislation is needed to ensure that public sector insulation programmes are on target (just as with the Clean Air Act, 1956, local authorities were compelled to introduce smokeless zones within certain target times). A number of other, shorter term measures could, in the meantime, be introduced to induce local authorities to speed up their insulation programmes and these are discussed in the sections below.

Recommendation 1

Legislation should be introduced compelling housing authorities to complete their insulation programmes by prescribed dates.

Since grant provision for insulation is made in the general capital allocation, such legislation would not entail significant additional expenditure. Administrative expenses may be necessary if local authorities are forced to employ additional staff to implement the legislation.
TARGET: Members of Parliament, Department of Energy, Scottish Office.

Insulation Standards

Less than half of authorities have so far insulated any lofts to a higher standard; yet a 100 mm thickness will be required in new buildings by Building Regulations from this year.

Hot water cylinder jackets, the form of insulation which repays its cost most quickly, have, despite encouragement, not been included in the programme of insulation work carried out by a majority of authorities, nor installed at other times.

The next most effective measure, weatherproofing of external doors and windows with draught strips, has been carried out systematically by even fewer authorities. Modern windows do not need treatment, and complete replacement of old ill-fitting windows may be the ideal solution. But a considerable potential for energy savings, quickly and cheaply attainable, is being lost. This loss is significant enough to suggest that, though the draught stripping might seem a minor item, research is justified into the true incidence of the increased condensation which some authorities fear might result from it, and the means of avoiding this; such research should include a study of the subjective perceptions of draughts and adequate ventilation which may lead people to ignore advice on ventilation.

Some authorities have adopted cavity wall insulation on a large scale without reporting serious reservations, but the majority have done little or none. The disparity is likely to grow, judging by current plans (page 34). Official and technical opinion is beginning to see as a desirable aim comprehensive upgrading of all aspects of a building's structure. Public housing authorities have so far done little work that fits this description and appear to be planning even less (page 37). The more complex and varied types of work which will be required will prove more difficult to encourage than loft insulation has been.

Recommendation 2

Housing authorities should implement under minimum standards laid down by legislation the full range of basic insulation measures (loft insulation, hot water tank insulation, weatherproofing) recommended in the government circular (SDI 24/1978). Their uninsulated dwellings should be fitted with loft insulation materials that meet the new 100 mm standard of thickness that will apply to all new dwellings under the latest building regulations.
Recommendation 3

The Scottish Office should play a decisive role in the development of energy conservation policies which are appropriate to Scottish housing.

A criticism of the present U.K.-based Home Insulation Scheme is that it is geared to England and Wales rather than Scotland, where fewer houses have lofts but may be in need of more urgent measures such as weatherproofing, wall and floor insulation. The Scottish Office exercises some influence on energy policies through the Energy Division of the Scottish Economic Planning Department and the Scottish Development Department. But the Scottish Office needs to press for home insulation measures which go beyond those covered by the Homes Insulation Scheme and which take account of Scottish house construction and climatic factors, although it is likely that certain measures have U.K.-wide application as well. In this context, one welcome development is the study now being carried out at Strathclyde University and commissioned by the Scottish Development Department into the energy requirements of different house types in different locations, with a view to formulating a "climatic severity index".

Other measures, which do not require legislation relate to:

Insulation grants

Local authority programmes could no doubt be speeded up considerably while achieving savings at the same time if more tenants could be encouraged to apply for insulation grants under the Homes Insulation Scheme. This scheme provides 66% grants (90% for the elderly and disabled) for home owners and tenants wishing to insulate their lofts. The grants also cover insulation of pipes in the loft and hot and cold water tanks. Replies from local authorities to our enquiries suggest, however, that only a handful of council tenants have taken up these grants (page 33). A disadvantage of the Homes Insulation Scheme is that it discriminates against people who cannot afford their share of the cost of insulation as well as disqualifying people who have some insulation already but below the prescribed standard. Tenants may prefer to wait for the council to do the work instead, when they may also benefit from other measures, such as draught-proofing, not covered by the Homes Insulation scheme. Official figures have shown that loft insulation can "pay for itself" in 2-4 years in terms of savings in energy consumption and it may,
therefore, be to tenants' advantage to reap the savings from loft insulation rather than wait for several years before their lofts are insulated by the council.

A novel scheme in Drumchapel has been devised by Glasgow District Council which aims to make the best of both schemes and directed at pensioners, disabled and lower income groups. The council arranges to provide free of charge loft and water system insulation and draught-proofing, carried out by NES working under a "Community Enterprise Programme" (page 56). In return tenants arrange to apply for Home Insulation grants and "mandate" them to the organisers of the scheme, the outstanding costs being met from the district housing manager's "area budget". The housing department has also been issuing grant application forms to private contractors looking for door-to-door business in housing schemes, but with the council approving applications only from tenants in houses it does not propose to insulate itself in the near future (page 56).

Recommendation 4

Housing authorities with large numbers of houses with lofts uninsulated should assist tenants to apply for grants under the Homes Insulation Scheme, backed up by organised schemes of their own providing "topping up" funds.

TARGET: Housing authorities, Scottish Development Department.

Special needs

There is evidence of widespread fuel poverty in Scotland, borne out by the following factors: a higher rate of electricity disconnections and a larger proportions of houses relying on expensive all-electric heating compared with most parts of England and Wales; higher expenditure on fuel compared with many other parts of the U.K. as a result of a colder, windier and wetter climate, with associated problems of dampness and condensation; and substantial numbers of supplementary benefit claimants meeting their fuel bills by "fuel direct" deductions. These problems are likely to be aggravated by fuel price rises which are higher than average increases in earnings or welfare benefits. There is a growing realisation that insulation has a major role to play in the alleviation of these problems. Local authorities in implementing their insulation schemes were asked, but not compelled, to give special priority to the houses of needy groups, notably elderly and disabled people, who, as well as having lower than average incomes, are also likely to spend a larger proportion of their income to keep warm. Some 30 of the 41 authorities from whom information was available claimed to be
giving priority to the elderly and 16 to the disabled, but they have chosen to do so in different ways, some more systematically than others (page 69). Far fewer authorities have given priority to houses with inefficient or expensive heating systems. The age of houses appears to have been a guiding factor in many cases (page 70), with a number of authorities proceeding in chronological fashion without necessarily having thought out whether this is to the benefit of these houses or groups of people in greatest need.

Recommendation 5

Housing authorities which have not already done so in their insulation programmes should identify and give priority to:

(i) householders on low incomes or with special needs (elderly, disabled, and chronically sick people, single parents, etc.)

(ii) houses which are harder or more expensive to heat.

To ensure that local authorities have the administrative resources for doing so, it may be necessary to provide them with grant aid additional to that already covered by the capital grant allocation for insulation.

TARGET: Housing authorities, Scottish Office, social work departments, Department of Health and Social Security.

Information, advice and practical problems

Apart from the occasional public meeting and hopeful references to "councillors' surgeries", housing authorities have done little to inform tenants about their insulation programmes or advise them about energy use generally (page 72). Housing authorities also appear to have carried out few checks of what benefits have accrued to tenants as a result of insulation programmes (page 73). Our survey indicates, however, that many incidental repairs may have to be carried out for insulation to be worthwhile (page 74). A few authorities mentioned non-technical difficulties about insulating cavity walls in blocks of houses in which some dwellings had been sold off to their tenants. Another difficulty which may cancel out any savings from insulation are householders own standards of thermal comfort and energy use, including the use of inefficient heating appliances or inadequate ventilation systems. The severe winter of 1981-82 had prompted some authorities to look into ways of reducing excessive ventilation in the loft space or improving the insulation and lagging of pipes.
Recommendation 6

The government should develop and fund an independent energy advice network, employing specially trained staff with the relevant technical knowledge. This should be developed in close consultation with the fuel industries, local authorities, voluntary and consumer bodies and other relevant organisations.

Although the Department of Energy and the Scottish Economic Planning Department currently give free advice, booklets and information to organisations and individuals approaching them, it is arguable that more localised and well publicised outlets are required to ensure that energy advice reaches those who need it most. Some years ago, the Department of Energy gave consideration to the setting up of regional energy advice centres, staffed by independent consultants, to complement its industrial freefone "Energy Quick Advice Service" (wound up in 1982 due to lack of use), but this scheme never got off the ground. The only energy advice centre of its kind in the U.K. is now run by Newcastle-upon-Tyne City Council, the centre having been previously funded by Urban Aid. The Centre advises voluntary organisations, official bodies and individuals on energy conservation measures, runs its own courses and issues various publications. This suggests that there is considerable scope for developing energy advice centres of a similar kind, based upon the successful Newcastle model, in other parts of the U.K.

TARGET: Central government (including the Department of Energy, Scottish Office), local authorities (including housing and technical services departments).

Recommendation 7

(i) Housing authorities, when notifying tenants of their insulation programmes should use this opportunity to inform tenants about the purposes and benefits of insulation, along with information about energy-related benefits and practical advice about energy saving measures.

This information and advice could also be inserted in tenants' handbooks, where issued.

(ii) Housing authorities should give to tenants and other householders applying for a grant under the Homes Insulation Scheme the name of a "contact point" for technical advice and information about such matters as choosing insulation materials or carrying out do-it-yourself work.

(iii) Housing authorities should consult tenants prior to
carrying out their insulation programmes (as is their general practice in modernisation programmes).

Such consultations with individual tenants or their representatives would relate to preferred types (and thicknesses) of material for loft or (where done) cavity insulation, weatherproofing, water tank and pipe lagging, etc.

**TARGET:** Housing and technical staff of local authorities, tenants' associations and other local community/voluntary organisations, regional social work departments, Department of Health and Social Security.

**Recommendation 8**

The Scottish Office should initiate the setting up of "clearing house" for the dissemination of information about programmes among housing authorities.

This would be of value to authorities wishing to inform themselves of experimental work being carried out and to draw upon the experience of other authorities carrying out particular measures, such as cavity wall fill, or tackling special problems, as during the 1981-81 'frost emergency'. It would also encourage more authorities to carry out innovations of their own (such as Glasgow's scheme to provide "topping up" grants described in section 2 above). Mandatory housing record systems for each local authority could be developed in this process.

**TARGET:** Scottish Office, Convention of Scottish Local Authorities, Scottish Local Authorities Special Housing Group, Building Research Establishment.

**Recommendation 9**

Local authorities should tighten up their inspection of future loft insulation contracts to ensure that pipes are fully lagged and that insulation is not laid under tanks. Properties should also be inspected for rot/infestation.

**TARGET:** Housing authorities.

**Recommendation 10**

The European Economic Community should consider funding from its energy budget local authority energy conservation programmes which make wider use of existing or new technology (e.g. cavity insulation materials, thermostatic controls, heat pumps).
Although some EEC funding already exists for energy conservation, it is directed at innovations of a purely technological kind and not at encouraging the wider use of existing technology. Since local authority budgets normally limit the range of energy conservation measures carried out to loft and tank insulation and some draught proofing, additional assistance is required if energy conservation schemes at local authority level are to take greater advantage of other technology available.

TARGET: European Communities Commission, Local and central government.
NOTES


(4) These comments are based on a discussion with Dr. Anderson of the Building Research Establishment (Scotland). Any errors of interpretation however are the author's responsibility.

(5) Department of the Environment Circular 23/78.

(6) Discussion with Mr. Jolly and Dr. Cuthbert, Scottish Development Department.

(7) The quarterly Scottish Housing Statistics contain, in the first quarter's issue each year, a table showing "total expenditure" on energy conservation and 'number of dwellings insulated'. In the third quarter a table based on six months' figures is published.


(9) E.C.C. and N.C.C. op. cit. page 18 Table of "Loft Insulation by tenure group, December 1979 Great Britain"

(10) According to a personal communication, the sample contained about 800 houses in Scotland, of which of course only about 400 would be council houses.

(11) Hansard (Written Answers to Questions) 14th December 1981.

(12) The stock of pre-1964 public sector houses which have loft spaces was estimated to be 500,000. An estimated 220,000 had been provided with insulation under the Energy Conservation Programme, 1978-81. An estimated 60,000 had been dealt with as part of comprehensive modernisation schemes. The total number of deficient houses given to Parliament consisted of the remaining 220,000 plus all 180,000 houses built from 1964 to 1971 on the assumption that virtually none of the latter would since have been insulated to current standards.

(13) These figures are based upon replies from 37 authorities (lofts)
and 32 authorities (cold water systems); some who could give us the total number of houses they had insulated were unable to date precisely all the work not done in special programmes.

(14) See E.C.C. and N.C.C. op. cit. page 15.

(15) Same reference as above

(16) Figures given in above report, page 7 and elsewhere.

(17) An account of this programme was given by Mr. Linney of Monklands District Council to the Planning Exchange seminar "Energy Conservation in Housing", 23rd March 1982. An unpublished note of the proceedings may be available by arrangement with Tom Duncan, Planning Exchange, 186 Bath Street, Glasgow.


(19) Scottish Local Authorities' Special Housing Group, op. cit.


(22) These figures for the total number of houses (or "domestic rateable subjects") in the areas of the case study authorities refer to April 1981, the date of the most recent published figures. Our questionnaire asked about the council housing stock at March 31st 1982, and about walls and lofts at the same date. We therefore give totals of council houses, from published sources, for April 1981 for comparison with the former figure, and from our questionnaire for comparison with the latter figures.

(23) A report of this research was also given to the Planning Exchange Seminar of 23rd March, 1982 (see note 17).
Dear Sir/Madam

This project is trying to establish some of the basic facts about the extent and standard of insulation in public sector houses in Scotland (not available in Scottish Office Statistics). We hope that this will provide the starting point for an evaluation of the success of insulation programmes in providing satisfaction to their consumers, that is to say, your tenants.

I enclose a brief questionnaire and would be very grateful if you could provide details of the position in your own authority by completing and returning it to us at your earliest convenience. Please also make any other comments which you consider are necessary in order for us to understand the significance of your local statistics. It is possible that some of the questions may ask for information in a form in which it has never been obtained by your local authority. If you find this to be the case for any particular item, I would be grateful if you would instead comment as fully as possible on the topic in question.

If you want clarification of any aspect of this survey please contact myself or Alistair Grimes at this address. The results will be presented to the Scottish Consumer Council, with a view to publication.

Thank you for your co-operation.

Yours sincerely

Peter Taylor
Research Officer

A project carried out by the Scottish Fuel Poverty Action Group on behalf of, and funded by, the Scottish Consumer Council
Questionnaire to Public Housing Authorities

Please complete and return to: Peter Taylor, Housing Insulation Research Project

Introduction

The standards for primary measures of insulation defined in circular 24/78 are:

(i) Roof space: preferably 80mm thickness of insulating material
(ii) Cold water system: insulation within roof space on tops and sides of tanks and exposed pipes
(iii) Hot water system: lagging of hot water cylinder to British Standard; insulation to pipes if possible
(iv) Draught stripping to doors and windows

Amongst your authority's houses some may reach these standards by virtue of their construction: some because they have been included in an insulation programme; some because insulation has been included in other capital programmes such as modernisation: some perhaps for other reasons. In all our questions about these standards, we are asking about all houses which meet them, however this was achieved; except for any house insulated by your tenants themselves, even if the work was grant-aided. The above standards make no mention of cavity wall insulation, and we ask about this separately. Please write "estimate" against any figure you give to which this applies.

LOCAL AUTHORITY

ADDRESS

TELEPHONE NUMBER

CONTACT PERSON

1 Relevant Totals

Please include in all totals any completions programmed up to the end of the financial year 1981/82.

(a) What is the total number of houses owned by your authority?
(b) How many have been constructed with cavity walls?
(c) How many have loft space (whether insulated or not)?

A project carried out by the Scottish Fuel Poverty Action Group on behalf of, and funded by, the Scottish Consumer Council
2. **Extent of Insulation: Houses with Loft Space**

Of your houses which have loft space, how many received or were constructed with:

(a) At least 80mm thickness of loft insulation, or the equivalent?

(b) Cold water system insulation?

Before 1978/79 ........................................

and in each of the following financial years:

1978/79 ........................................
1979/80 ........................................
1980/81 ........................................
1981/82 ........................................

(c) How many of these houses have received loft insulation to a standard above 80mm thickness?

How many of your houses now have:

(d) Loft space which has not been insulated by your authority?

(e) Loft space which has been insulated to less than 80mm thickness?

(f) Inadequately insulated cold water tanks and pipes?

3. **Extent of Insulation: All Houses**

How many of your houses received or were constructed with:

(a) (b) (c)

<table>
<thead>
<tr>
<th>Hot water System insulation</th>
<th>Draught sealants on external doors and windows</th>
<th>Cavity wall insulation</th>
</tr>
</thead>
</table>

Before 1978/79 ...................... ........................................

and in each of the following financial years:

1978/79 ................................. ........................................
1979/80 ........................................
1980/81 ........................................
1981/82 ........................................

90
(d) Have any other forms of wall insulation been applied by your authority where cavity wall insulation is not possible?

YES/NO

Comments:

How many of your houses now have:

(e) Hot water cylinders which are uninsulated (or fitted with a substandard jacket)? ..............

(f) External doors and windows without draught sealants? ..............

4. Future Programme

If the most recent version of your forward programmes is achieved in practice, how many houses will receive:

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loft insulation to at least 80mm standard</td>
<td>Hot water system insulation</td>
<td>Cavity wall insulation</td>
</tr>
</tbody>
</table>

In each of the following financial years:

1982/83 .............. .............. ..............
1983/84 .............. .............. ..............
1984/85 .............. .............. ..............
1985/86 .............. .............. ..............
1986/87 .............. .............. ..............

(d) Does the above programme take account of your actual capital allocation for 1982/83?

YES/NO

(e) What if any other types of insulation work, besides the three above, are included in your forward programme?
5. **General**

(a) Have you on any occasion selected the houses of elderly tenants for insulation in advance of their neighbours in similar houses?

   YES/NO

(b) Have you on any occasion selected particular housing schemes for insulation because all or most of the tenants were elderly?

   YES/NO

(c) Have you on any occasion selected houses and/or schemes for earlier treatment because of the heating systems installed?

   YES/NO If YES, please give details:

(d) Which if any of the following have been taken into account in deciding upon priorities for your insulation programmes: (tick)

   The special needs of the disabled? □
   Geographical location of houses? □
   Age of houses? □
   "Deprived", "Stress" or "priority" areas? □

(e) To what extent has the target date for 100% insulation of your housing stock been postponed by restrictions on local authority expenditure introduced since the launching of the government's Energy Conservation Programme in 1978?

   **Comments:**

Thank you for your co-operation
APPENDIX B

RESPONSE TO THE SURVEY

Although some questionnaires were returned very quickly, including some which were complete in every detail, a remainder letter had to be sent out to most authorities after four weeks; shortly thereafter we began telephoning to ask "who was dealing with" our enquiry. We were not pleased with what we discovered - it was often, though not always, possible to trace by telephone the official most likely to be able to answer our questions, but in many cases he had never received our questionnaire.

We sent out duplicate copies of our questionnaire to over one third of all authorities, for a variety of reasons. In one or two cases our original copy subsequently arrived on the relevant person's desk through internal channels - taking six weeks to arrive in one case. Though the need to pass our enquiry on from the Housing Department to some other Department may have contributed to these delays and losses - in retrospect it might have been better to address our first approach to the Chief Executive or his equivalent - many of them occurred within departments.

Of the 62 questionnaires despatched (including those to the "pilot" authorities) 38 (61%) have been returned fully completed to the best of each authority's ability. A further 3 (5%) authorities have given us a full account of their progress because we have met and discussed with them as sample authorities, but have failed to return an actual completed questionnaire. Of the remaining twenty-one authorities a further 11 (18%) have supplied us with sufficient information by letter or telephone to allow us to include them in at least some of our calculations and tables. The remaining 10 (16%) have either failed to reply despite repeated contact or in one or two cases refused to supply any information except perhaps the barest mention that they have had a programme of insulation. We regard the proportion of full returns as reasonable for a postal survey; in the event all our tables and calculations are able to include information from some of the "partial" responses, and are therefore based on a greater number of cases.

We have not carried out statistical tests of the representativeness of the response, since we are not dealing with a sample, but we give in Table B.1 a comparison of respondents and non-respondents according to known and relevant characteristics of all authorities.

It might have been thought that smaller authorities would be less likely to return questionnaires, not perhaps possessing specialist research or monitoring staff. But in fact the representa-
tiveness of our respondents judged by the criterion of size is impressive. Perhaps in smaller authorities it is easier to find one person who has all the relevant information.

The geographical distribution of responses is a little less even - North and West were more likely to reply than South and East. We can see no reason to suppose however that any of our conclusions are likely to be distorted by this slight bias. The New Towns and S.S.H.A. did clearly have difficulty answering our questionnaire in detail, because of their different financing systems and the newness of their housing stocks. However all have given us descriptions of their insulation progress, in some cases quite full ones.

Finally, the Table looks at how far our respondents represent the range of different sizes of insulation programme, using the only available independent evidence - the official statistics on Energy Conservation. The spread of our respondents between large and medium scale programmes is representative; there has however clearly been less interest shown in our survey amongst the small number of authorities with the smallest programmes.
<table>
<thead>
<tr>
<th>TABLE B.1</th>
<th>Comparison of authorities who returned questionnaires with those who did not</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE OF AUTHORITY</td>
<td>All Authorities</td>
</tr>
<tr>
<td>LARGE (over 20,000 houses)</td>
<td>15 24%</td>
</tr>
<tr>
<td>MEDIUM (10-20,000 houses)</td>
<td>16 26%</td>
</tr>
<tr>
<td>SMALL (less than 10,000 houses)</td>
<td>31 50%</td>
</tr>
<tr>
<td></td>
<td>62 100%</td>
</tr>
<tr>
<td>GEOGRAPHICAL AREA</td>
<td></td>
</tr>
<tr>
<td>Borders, Dumfries &amp; Galloway</td>
<td>8</td>
</tr>
<tr>
<td>Central, Fife, Lothian</td>
<td>10</td>
</tr>
<tr>
<td>Highland, Grampian, Tayside Islands</td>
<td>19</td>
</tr>
<tr>
<td>Strathclyde</td>
<td>19</td>
</tr>
<tr>
<td>New Towns, S.S.H.A.</td>
<td>6</td>
</tr>
<tr>
<td>INSULATION PROGRAMME 1978-81 as reported to SDD</td>
<td></td>
</tr>
<tr>
<td>New Towns and SSHA not included</td>
<td></td>
</tr>
<tr>
<td>HIGH (over 30% of houses)</td>
<td>16 29%</td>
</tr>
<tr>
<td>MEDIUM (15-30%)</td>
<td>30 54%</td>
</tr>
<tr>
<td>LOW (less than 15%)</td>
<td>10 18%</td>
</tr>
<tr>
<td></td>
<td>56 100%</td>
</tr>
</tbody>
</table>

* Including 3 sample authorities who were interviewed but did not complete questionnaires.
APPENDIX C

QUESTIONS TO SAMPLE AUTHORITIES

The interviews with our sample authorities were based upon the following "checklist" of questions:

Points of interpretation and clarification of the statistical answers to the questionnaire.

Why were some forms of insulation installed in combined programmes, some separately, and some, if any, left out altogether?

How far did the introduction of the Government's Energy Conservation Programme encourage them to do more about insulation? Did withdrawal of an earmarked capital allocation have any effect on their programme?

Have they included insulation as part of any other capital programmes and why?

When programmes specifically for insulation have been mounted, what additional works has it been necessary to carry out at the same time and at what cost?

How, at different stages, were priorities decided? Was there any interest or pressure from tenants, or from councillors?

How were contracts divided up - separately for each housing estate, or for wider categories of houses?

What has been made of MSC funded labour? What problems arose as a result?

Are there any lessons to be drawn from the recent frost emergency?

Has there been any take-up of "private sector" Home Insulation Grants by council tenants?

What did they expect the benefits of insulation to be for tenants? Did they advise them of what the purpose of the work was and how benefits could be maximised? Have they any evidence of the actual effects and benefits, and of public response? Were any other practical difficulties encountered?
APPENDIX D

CALCULATING THE PROPORTION OF LOFTS INSULATED

Our starting point for the calculation of total progress with loft insulation is the returns from authorities who have given us reliable figures on the total number of houses with loft spaces which presently possess at least 80 mm thick insulation. In addition to the ten from whom we have received no information at all (listed in Table 6) a further six (East Kilbride New Town, Falkirk, Glenrothes New Town, Livingston New Town, S.S.H.A., Clydesdale) have despite giving information about their programmes not given total figures. Our calculation therefore refers to 46 authorities. The total number of houses owned by them in April 1981 was 726,581 (69.3% of all public authority houses). The total number of houses with loft spaces which they have insulated is 306,542, which amounts to 42.2% of all their houses.

However, as discussed in the text (page 18) that is by no means a measure of progress made, which must be based on some knowledge of the proportion of the housing stock which actually possesses loft spaces. Unfortunately not all of the 46 authorities have proved able to give or even estimate the number of their houses which possess loft space. We have figures for 35. Rather than confine our calculation only to these authorities, however, we have decided that it would be more useful to provide an estimate for all 46.

We are confident that authorities in enumerating their loft insulation programmes have counted the total number of houses in buildings which have been treated (we know this from direct statements and from comparisons with other aspects of the insulation programme and with the total housing stock). But two authorities have calculated their figures for the total number of houses with lofts on a different basis – giving estimates only of the number of individual loft spaces. These two, Caithness and Glasgow, are therefore excluded from our calculation – the exclusion of Glasgow of course means a significant reduction in the numbers upon which it is based.

The 33 remaining authorities declare a total of 280,139 houses with loft space. They own a total of 421,430 houses. Our estimate therefore of the proportion of Public authority houses which are in buildings with loft spaces is 66.47%. These authorities have insulated 156,479 lofts (37.1% of all houses; 55.4% of houses in buildings with loft space).

The estimate given in the text of this report is calculated as follows. Extrapolating from the 33 authorities mentioned, we calculate that the 46 whose insulation programmes we know about possess 482,989 houses with loft space. The number of lofts they have insulated to date (306,542) amounts therefore to 63.47% of all possible.
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