

April 6, 1984

H.R. 3966 : RECONSIDERING ENERGY AUDITS

INTRODUCTION

Many programs passed by Congress with the best of motives produce unintended consequences. Next week the House of Representatives has an opportunity to reconsider one such mistaken program, when the Committee on Energy and Commerce marks up legislation to repeal the ratepayer-subsidized federal energy audit program.

During the late 1970s, the Carter Administration feared that conventional energy resources were in imminent danger of exhaustion. This led Carter to declare the energy "crisis" to be the "Moral Equivalent of War," and it led Carter energy planners to push for a wide range of federally mandated energy conservation programs. Among the most ambitious of these were the Residential Conservation Service (RCS) and the Commercial and Apartment Conservation Service (CACS). The RCS program, enacted as part of the 1978 Energy Conservation and Policy Act, has been in full operation since 1981. The CACS program was included in the 1980 Energy Security Act (which also created the Synthetic Fuels Corporation). It is scheduled to begin operation later this year, after final regulations are approved.

Like so many congressional initiatives, the ostensible purposes of both the RCS and CACS programs seemed laudable enough. They were intended to enable households to undertake a full audit of their energy use and insulation, and thereby help low- and moderate-income families identify cost-effective energy conservation improvements that could lower their energy bills. This would be accomplished by requiring utilities to offer their customers below-cost energy audits of their premises.

The law limited charges for this auditing service to \$15 for RCS and \$35 for each office or apartment unit in a commercial building. Utilities were permitted to pass on the bulk of the

auditing costs to ratepayers in their regular monthly bills. There were also provisions allowing utilities to perform free audits when customers were unable to pay even the token charge. Spreading the cost of audits across a utility's total customer base, the program's advocates argued, would create a subsidy for low- and moderate-income families at the expense of upper middle- and upper-income families.

Despite the good intentions regarding RCS and CACS, the programs have failed dismally. Only the RCS program has actually been in operation; therefore conclusions must be confined to its results, but the questions arising from RCS are equally applicable to CACS. RCS has failed to meet even the modest participation goals set by the Department of Energy. More important, it has failed to benefit the targeted group, low- and moderate-income families. Instead it has evolved into a subsidy for upper-income families at the expense, at least in part, of the poor. In fact, two studies of the "typical" RCS customer, in Maryland and Massachusetts, demonstrate that users of the service are likely to be above average in income and education and below average in age--in other words young professionals. This is hardly the group the program was designed to serve. Further, the program cost has far exceeded the savings in energy. In short, the energy audit program is a mistake that should be recognized as such.

Congress now has an opportunity to do so. Representative Ralph Hall (D-TX) has introduced H.R. 3966, which would repeal the authorization for the RCS and CACS programs. In considering the Hall bill, Congress will have the chance to review and assess the federal energy audit programs. In view of the record, these programs will not survive under scrutiny.

RESIDENTIAL CONSERVATION SERVICES SINCE 1981

Participation Rates

Perhaps the most telling indictment of the RCS program is that it has generated very little interest among its intended beneficiaries. When the Department of Energy first proposed the program, it projected that about 7 percent of the nation's utility customers would participate. Despite extraordinary efforts to encourage use of the audit program, the average rate of participation in the 33 states initially reporting on RCS was only 2.14 percent. In fact, of the top ten states reporting, only Michigan with 8.1 percent and Oregon with 7.83 percent exceeded the 7 percent goal. The lowest state participation rate was 1.99 percent. Nation wide, the RCS program was only able to elicit a participation rate of around 2.5 percent. This is far below the level needed for any meaningful effect on energy consumption.

The Participants

For the most part, the individuals taking advantage of the subsidized audits are not the poor and near-poor as originally

intended, but rather the well-to-do. Since the program's cost is included as a normal cost of doing business by the utility, all customers pay for it--whether they use it or not. Since low-income poor people are less likely to have RCS audits performed and improvements made, they end up paying for a service used mainly by others. In Maryland, for example, a review of energy audit customers revealed that the average income in households receiving the service is \$30,000 or more.

RCS in Massachusetts

The best picture of the typical audit customer comes from Mass-Save, the Massachusetts-based program. Mass-Save conducted a detailed survey of audit customers in an effort to market the service more effectively, and officials went to extraordinary lengths to inform the target group of the service. It is considered to be the most successful of the RCS programs. Despite these efforts, only a small proportion of the less than 5 percent of Massachusetts utility customers who participated in the RCS program came from lower-income groups.

Table 1 compares the results of the survey with the typical resident of the state.

Table 1

	<u>Participants</u>	<u>General Population</u>
Own Home	93%	81%
Age 55 plus	24%	34%
College Graduate	58%	33%
Income \$30,000 plus	55%	31%

Source: Testimony by Mass-Save before the House Subcommittee on Energy Conservation and Power, September 26, 1983.

The results of the Mass-Save survey show that the typical client has been more affluent and younger than the average resident, more likely to be a homeowner, and better educated.

Extensive promotional activities were undertaken by Mass-Save in its efforts to reach low- and moderate-income families and to inform utilities customers of the audit program. They included the mailing of 1.8 million program announcements to every utility customer in the state and nearly 4 million additional pieces of direct mail literature on the audits, 5.2 million inserts in customers' utility bills, and hundreds of public appearances to explain the program--including speaking engagements, radio and television appearances. In addition, special materials were

prepared in Spanish and Portuguese to explain the energy audit program. Mass-Save even installed a toll-free consumer hotline with a Portuguese-speaking auditor.

The results of the special effort in the Portuguese community underscore the apparent disinterest in the energy audit program. Although Mass-Save exerted the maximum possible effort to reach the Portuguese-speaking minority in Massachusetts, only 2.9 percent of the state's Portuguese-speaking residents asked to have their homes audited. More important, the dismal results among minorities raise a serious fairness question. Their rate of participation was far lower than the state's average, and so the minority population as a whole paid a higher proportion of the subsidy for the program than they received in benefits--in effect subsidizing audits for the more affluent.

SUBSIDIES FOR THE AFFLUENT

According to testimony by David Moulton of the Energy Conservation Coalition before the House Subcommittee on Conservation and Power, September 26, 1983, the average cost of home energy audits in 33 states initially reporting on the RCS program was \$261.54. When the \$15 permissible fee is deducted, the taxpayer subsidy to each audit amounts to \$246.54. Other data indicate that audits cost only \$126, but even so, ratepayers are still subsidizing the typical audit by at least \$111. With an estimated two million audits performed to date, this means that ratepayers have picked up a \$220 million tab. And these cost estimates do not include the cost of promotional efforts, added paperwork to meet federal reporting requirements, or other hidden charges that might be properly assigned to the program.

Merely adding up the dollars does not even begin to give a picture of the program's implicit inequities. Since most of the program's participants are drawn from the upper- and upper middle-class families, the equity question should loom large in the energy audit debate. Even in an exceptional state like Massachusetts, the rate at which low-income families requested audits was only one-fourth to one-third that of upper-income families. This means that the proportion of the subsidized costs borne by families at the lower end of the income scale was two to three times that of families at the upper end--in stark contrast to the intent of the program.

THE AUDITS' RESULTS FOR ENERGY SAVINGS

Yet another telling indictment of the energy audit program is the fact that it is unlikely to save energy. As noted, participation rates are extremely low, but even when utility customers do have audits performed, the likelihood that they will actually install the recommended conservation devices is quite small. The reason for this is simple: the most cost-effective forms of

conservation improvements are obvious things, such as storm windows and insulation. The upper-income households, who represent the bulk of those participating in the audit program, have usually made such improvements to their homes already.

Although the utility industry has tried to put the best face on the situation by speaking of "potential savings," their statistics constitute a straw man. "Potential" is not the same as actual. In the one case in which a utility investigated to find out what energy savings resulted from their audit program, the Texas-based Lone Star Gas Company discovered that the net reduction in gas consumption among audit customers amounted to only about 2 percent. Given the low participation rates across the nation, and the small impact of the audit program on energy use even where customers availed themselves of the program, the audit process can hardly be justified on the basis of energy conservation.

COMMERCIAL AND APARTMENT CONSERVATION SERVICE

Since CACS is not yet in operation, there are no empirical data about its costs and effects. Still, the experience of the RCS program suggests that CACS may produce even greater inequities. Moreover, there are serious questions as to the potential value of the CACS audits, whether they will benefit the participants, the cost of CACS audits, and the degree to which they will require an invasion of utility customers' privacy.

The Cost of CACS Audits

Like RCS audits, CACS audits are subsidized by all of a utility's ratepayers. Performing a comprehensive energy audit of a commercial facility, or a large, multitenant residential building, however, is a much more complicated and costly task than auditing a single family dwelling. And CACS audits require auditors with professional credentials. In most cases, the services of an architect or engineer also will be required. Although it is impossible to estimate accurately the cost of performing such audits on a typical building, estimates have ranged from \$185 for each unit in an apartment house to as much as \$500. Even if the lower figure proved more accurate, ratepayers would still have to assume a cost of \$150 for each unit.

The Value of the Audit

The key question that must be asked of CACS audits is whether they are of value. In most cases, renters are unlikely to be willing to spend money to improve their landlord's building, and often renters are prohibited in their leases from making the substantial alterations on the structure that significant energy-saving improvements would require. On the other hand, if a landlord is passing on the cost of utilities to his tenants, there is little incentive for him to install conservation devices.

The result is a "Catch-22" situation--neither the landlord nor the tenant can be expected to want to make the necessary investment.

Another problem with multitenant structures is that improvement usually must be installed in all units to be effective. However, given the low participation rates experienced with the RCS program, it is unlikely that all, or even a majority, of the tenants in a building would even have an audit, much less invest in energy conservation improvements. So the benefits realized by any individual tenant through investing in conservation could be very small. Moreover, an individual tenant might be discouraged from moving ahead with improvements in his own unit because of "heat stealing" by other tenants. This is the phenomenon whereby one apartment dweller takes advantage of the natural flow of air through a building and allows the heat from an adjacent apartment to flow into his own. Heat stealing can negate any benefit a tenant gains through a costly conservation improvement, as his neighbor who has not made such an investment can draw heat from his apartment by turning down the thermostat.

CACS and Invasion of Privacy

One of the thorny problems arising from the CACS program stems from the requirement that utilities furnish copies of audit results to subsequent occupants of a building. Normally, information on energy use would be considered a private matter between the utility and its customers. When attempts have been made to obtain such data through the courts, judges generally have held the data to be protected as proprietary and thus confidential. Were the CACS requirement to be challenged, and it almost certainly would be, there is little reason to expect a different ruling.

The rationale for keeping commercial audit information confidential is quite simple. Energy use could easily be correlated to certain industrial and commercial processes and could enable a competitor to determine business volume and costs. The requirement that such information be made available to a third party, therefore, is clearly not in the interest of the individual requesting the audit. It would discourage use of the program.

Ratepayer Subsidies of Commercial Establishments

The CACS program raises the question: should commercial firms be subsidized by residential ratepayers? The simple fact is that all establishments covered under the CACS program, whether commercial businesses, offices, or apartment houses, are profit-oriented enterprises. In each case, the owner has a marketplace incentive to install whatever energy conservation devices are economical. If a building owner is likely to install such improvements, he is also likely to hire a commercial firm to perform an energy audit even without a subsidy sanctioned by the government and financed by ratepayers. Conversely, if the owner is not inclined to make such an investment, even a subsidized audit is unlikely to provide sufficient motivation for him to do so.

It is important to note that industry and commerce led the way in energy conservation during the post-embargo period, reducing consumption at a far higher rate than did individuals. The reason for this is obvious: energy had become an increasingly important cost, and businesses understandably made every effort to reduce their energy costs. In other words, the market provided more than adequate incentives for conservation--long before a consumer-subsidized energy audit program was conceived. These incentives pertain just as strongly today.

CONCLUSION

An assessment of the federal government's energy audit program must judge it a dismal and costly failure--although the measure's intent was laudable. Energy audit programs subsidize the well-to-do at the expense of low-income and poor Americans and have little impact on the nation's energy consumption. As the study of audit results by Texas-based Lone Star Gas Company revealed, its customers who had audits performed and improvements made reduced gas consumption by only 2.2 percent--hardly enough to justify the millions of dollars the program cost.

The best way to encourage conservation is to allow the market to operate. This has been clearly demonstrated with gasoline and with conservation in other sectors of the economy. Congress should recognize that no federal program can be as effective as these market incentives and that the RCS and CACS programs are a wasted effort. Representative Ralph Hall's bill, H.R. 3966, gives Congress a chance to reconsider energy audits and to allow the marketplace to conserve the nation's energy.

Milton R. Copulos
Senior Policy Analyst