

C. INTRODUCTION

ERDA's programs under the purview of the Assistant Administrator for Conservation are among the newest and least developed of any within the Agency. With the exception of the projects in the division of transportation which derived from the Alternative Automotive Power Systems (AAPS) program within EPA, the Division of Electrical Energy Systems in the Department of the Interior, and the Atomic Energy Commission's storage work, all areas had to be created and assembled in the past 6 months without benefit of antecedents. The staff responsible for this planning is to be credited for a successful beginning, but much further analysis and program development is still required. The effort of the staff is all the more noteworthy in view of an apparent lack of appreciation within the Government of the role that conservation can provide in helping to meet the Nation's energy goals. The far greater emphasis given to energy supplies in comparison to energy demands in the ERDA Plan has roots in the thinking which informed the national policy goal stated by ERDA as "to provide for future needs so that life styles remain a matter of choice and are not limited by unavailability of energy." This statement makes no mention of the total cost of the energy made available. It appears to focus on the necessity of supply at any price and does not acknowledge that life styles can be maintained and improved with more cost-effective use of energy. To provide a better balance between energy supply and demand, the goal might be better stated as "to provide the opportunity for present and future generations to enjoy those amenities which they deem worthy at minimal total cost to themselves and society."

The main issues upon which the conservation panel reached a consensus are summarized by the following statements:

- **The ERDA Plan could advantageously take a more vigorous approach to energy conservation, both in its objectives and in its level of effort.**

The energy conservation targets presented in the ERDA Plan project only minimal gains over those which are already broadly recognized as

attainable with existing technology. In part, this is due to the ERDA scenario which ignores price elasticity of demand.

The lack of an aggressive conservation program is also reflected in ERDA's budget requests, which allocate less than 2 percent of its total budget for conservation. The conservation program is too narrowly focused in the transportation and electrical sectors. These problems are addressed principally in Issue 1 and are a recurring theme in others.

- **ERDA'S plans for program management and coordination within the agency, with other Federal agencies, with State and local governments, and with foreign governments are not clearly delineated.**

Most of ERDA's conservation efforts will be highly complex, involving jurisdictional questions between programmatic divisions within the agency, and between various agencies of Federal, State, and local government. Use of foreign technology will require cooperative arrangements with other governments. For example, it is imperative to closely link Buildings to solar thermal utilization. The mechanisms for interaction must be resolved quickly to eliminate unnecessary duplication of effort and to assure that projects flow smoothly through the various governmental entities responsible for research, development, demonstration, assessment, and implementation. Issues 2 and 12 consider this problem in greater detail,

- **ERDA has not yet developed a comprehensive plan for interaction with the private sector.**

In energy conservation, interaction with the private sector is especially crucial, since the consumers of conservation technology are diverse and numerous.

Energy conservation is as much a matter of private enterprise interest as governmental concern. Many valuable innovations have been developed in the private sector. Many others can be developed and commercialized through Federal/private partnerships. Some programs reflect lack of knowledge of current industrial

know-how. There can be no assurance that ERDA R, D&D results will be commercialized unless the corporate and individual consumers actively participate in the planning, execution, evaluation, and implementation of the research.

ERDA must make a serious commitment to establishing constructive relationships among Government, industry, and private citizens to ensure the success of its energy conservation efforts. Various aspects of this problem are treated in Issues 3 and i'.

• ERDA's use of the term "conservation" is too broad. As a result, the program plan for conservation is incomplete in some areas and overextensive in others.

ERDA's interpretation of the term "energy conservation" is important because it defines the boundaries of the conservation program. Its definition of the term is sufficiently broad that not only fuel shifts but even financial savings, can be rationalized as "conservation." This is far different from the more generally accepted definition of conservation (saving energy in a cost-effective way). Irrespective of the importance of the various ERDA programs under "conservation," there is a danger in their inclusion as "energy conservation." One consequence is a loss of focus on the role of the energy consumer in conservation. Another is the potential diversion of funding from true conservation projects to others better justified on grounds other than energy conservation, such as the ERDA electric energy systems program. The specifics of the problem are discussed in Issue 4.

. ERDA does not adequately address the social, political, economic, and environmental issues associated with implementation of both existing and new energy conservation technologies and systems.

Certain programs proposed by ERDA may ultimately be very successful technically, yet have no real impact on society because of inherent nontechnological problems. In the energy conservation sector, the task of im-

plementation is made more difficult by the fact that the ultimate beneficiaries, consumers, are subject to a multitude of constraints,

A meaningful R, D&D program must consider these nontechnological barriers at the earliest stages of planning. This is done well in the programs for "Buildings" and "Industry", but in general the ERDA document is basically a technological plan, with little evidence of societal assessment in its proposed projects. Almost total attention is given to creation of technologies and not enough to analysis and evaluation of alternatives. ERDA is charged with this responsibility (Public Law 93-577 Sec. 5(a)); its plans and programs must consider these nontechnological factors. Issues 5 and 9 describe the implications of this problem in specific areas of concern,

. ERDA has not adequately established priorities within its conservation program or of the conservation program relative to energy supply programs.

Extensive data on energy usage have been collected within the past several years by Government and private researchers; improved methodologies have been developed for assessing the potential savings which might be realized by the implementation of various conservation innovations. With the exception of its program in the Building sector, it is not evident that ERDA has made effective use of existing quantitative tools and data in establishing priorities for the conservation program, or that it has plans to develop improved assessment tools for use in future program planning and evaluation. Issue 6 addresses this problem in general terms, whereas Issues 10, 13, 15, and 17 consider priority questions in specific areas.

In addition, several topics which do not fall naturally into the general grouping of issues outlined above are discussed in the following papers: specific programs on demonstration and research on buildings (Issue 8); substitution of fuels in industry (Issue 11); electrical load management [Issue 14]; and wastes (Issue 18).