

## B. SOLAR, GEOTHERMAL, AND ADVANCED SYSTEMS TASK GROUP ISSUES LIST

1. **Setting Criteria for Program Priorities . . . . .133**

Decision-point criteria defining measures for evaluating success within a given solar energy program, choices among programs, and readiness for commercialization need to be established, quantified, and justified.

2. **Rationale for Funding of High-Risk Projects . . . . .135**

It is important that effective mechanisms be developed by which ERDA can make rational decisions on solar energy projects having great potential as future energy sources, but involving large cost outlays, and being subject to major uncertainties in projected costs and/ or technologies.

3. **Resource Availability . . . . .137**

The ERDA Plan lacks adequate emphasis on the role that critical resources play in selecting energy alternatives.

4. **Organization of ERDA's Research Program . . . . .139**

A major concern with ERDA's research effort is that the management distinction between basic and supporting research formerly used in the AEC continues to polarize the sciences from engineering.

5. **ERDA Program Management .. .141**

The use of outside organizations and Federal laboratories by ERDA for some of its program management functions, particularly in the solar area, could produce an ineffective organization.

6. **Support for Study of Decentralized Solar Electrical Generation .. ...143**

The study of the decentralized production of Electricity has received limited attention, especially as it involves the potential utilization of waste heat.

7. **Emphasis on Electric Energy Systems . . . . .144**

The program goals of the ERDA Plan appear to emphasize development of electric power systems to the point where the full potential of solar heating is not recognized and the possibility of obtaining synthetic fuels from solar energy is largely ignored,

8. **Emphasis on Solar Heating and Cooling of Buildings . . . . .146**

The importance of solar heating and cooling relative to other programs is not recognized in the ERDA Plan.

9. **Purposes of the Solar Heating and Cooling Demonstration program 148**

The size, scope, and purposes of the solar heating and cooling demonstration program need specific definition.

10. **Role of User Incentives in Solar Heating and Cooling of Buildings . . . . . 150**

A well-structured user incentive program would accelerate the solar heating and cooling of buildings (SHACOB) and accelerate development of the infrastructure to support large-scale applications.

**11. Standards for the Measurement of Solar Heating and Cooling Equipment Performance . . . . .152**

For consumer protection, standards are needed to provide comparative performance ratings, to allow comparison of durability, and assure proper installation of solar equipment.

**12. Impact of Solar Energy on Utility Peak Demand . . . . .154**

Onsite solar energy sources (most immediately solar heating and cooling), unless developed properly, will cause a significant utility peak demand problem,

**13. Biomass Energy and Food .. ....155**

Biomass energy generation may conflict with food production.

**14. Legal and Institutional Constraints in Geothermal Energy . . . . .157**

Geothermal energy implementation is not so much constrained by technology as by legal and institutional restraints.

**15. Environmental Constraints on Geothermal Energy Development . . . . .159**

Environmental problems, which have been inadequately stressed by ERDA, can place constraints on the potential development of geothermal resources.

**16. Nonelectric Uses of Geothermal Energy and Geothermal Goals ..161**

The ability to approach ERDA's presently unrealistic 1985 goal for geothermal utilization will require a substantial increase in emphasis on nonelectric use.

**17. Variability of Geothermal Reservoirs . . . . . 163**

Each geothermal reservoir has its own unique characteristics, which affect the research strategy and demonstration portion of the ERDA program.