

*Application of Solar Technology to Today's
Energy Needs—Vol. II*

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Volume II

Application of
Solar Technology
to Today's Energy Needs

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PREFACE

The previous volume of this report presented the results of an analysis of a large number of solar energy systems designed to meet the energy requirements of homes, apartment buildings, shopping centers, industries, and small communities. This volume provides detailed information about the assumptions made in these calculations and the techniques employed.

An attempt was made to present a broad sampling of the systems which may be available during the next 10 to 15 years. The richness and variety of opportunities is astonishing; chapter IV describes several hundred different systems designs on separate charts. It is difficult to thumb through these pages without admiring the ingenuity and inventiveness of the industry. The richness of this base of ideas and the encouraging rate at which new ideas are emerging, are one of the greatest assets of solar technology.

Apart from presenting a catalog of system concepts, this volume describes a methodology for evaluating the economic and technical merits of small-scale energy systems which can be owned by any of a variety of owners. We hope that the techniques described here will be widely applicable to analysis of small-scale energy systems. The first chapter presents a method for computing the effective cost of energy as a function of the financial expectations and tax status of several different kinds of owners. The second presents a method for computing the performance of different kinds of systems operated in an optimum way. A third chapter presents a technique for parametrizing uncertainties about future fuel and electricity prices. The final pages contain a list of corrections for errors discovered in volume 1.

If the bulk of the resulting work is intimidating, we can only say that we could find no way to abbreviate the presentation without sacrificing a sense of the richness of the alternatives **Or the** complexity of the problem of choosing between them.

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