

Photovoltaic study findings

At its meeting on 28 January the APS Council released the findings of the POPA Study Group that performed a year-long study of solar photovoltaic energy conversion.

The study, suggested by the Office of Science and Technology Policy, was performed under the auspices of APS and was sponsored by OSTP and the US Department of Energy. It was undertaken to assess the promises and problems of terrestrial applications of photovoltaic solar-energy-conversion technology. The report is intended to provide important information for policy formulation within the Federal government and its research agencies, in industry and in the scientific and technical communities.

Among the topics considered by the APS Study Group were photovoltaic systems, silicon technology, concentrators, thin films, and long-term research. The Study Group did not address other aspects of solar energy, such as solar heating and cooling, wind energy, and solar thermal-electric.

Following are some of the major conclusions and recommendations:

► The ultimate prospects for photovoltaic energy conversion are bright in view of the current ferment and rapid rate of progress in both photovoltaic science and technology. The Federal government should encourage a diversity of approaches to obtaining better photovoltaic systems, both in the further development of appropriate candidate technologies and in fundamental research leading to new approaches.

► Development of an economically competitive photovoltaic technology is inhibited by the absence of an adequate scientific and technological knowledge base. Because of the possible long-term impact of solar photovoltaics, the scope, quality, and level of the overall research effort requires continuing attention.

► Because none of the present photovoltaic options represents a clearcut choice, deployment should be limited to the scale necessary to generate field-engineering and systems knowledge. Until a clear pathway to the photovoltaic future has been established, efforts to stimulate a large-scale, low-cost industry are premature.

► It is unlikely that photovoltaics will

contribute more than about 1% of the US electrical energy produced near the end of the century. Central power production is the most extensively studied and clearly perceived long-term, large-scale application of photovoltaics for this country. Barring unforeseen rises in the cost or availability of fuels, prices for 12–16% efficient flat-plate modules or concentrator arrays of about 10–40¢ per peak watt in 1975 dollars will be required to compete with the projected cost of electricity generated by coal (about 60 mills/kWh leveled busbar cost in the year 2000).

The conclusions of the report are endorsed by all members of the Study Group, which consists of: Henry Ehrenreich, Chairman, Harvard University; David DeWitt, IBM; Jerry P. Gollub, Haverford College; Robert N. Hall, General Electric; Charles H. Henry, Bell Laboratories; John J. Hopfield, Princeton University and Bell Laboratories; Thomas C. McGill, California Institute of Technology; Albert Rose, Boston University; Jan Tauc, Brown University; Robb M. Thomson, National Bureau of Standards, and Mark S. Wrighton, MIT.

In addition, the APS appointed a committee to provide a critical review of the report. Members of the Review Committee are: Herman Feshbach, Chairman, MIT; N. Bruce Hannay, Bell Laboratories; Robert N. Noyce, Intel Corporation; J. Robert Schrieffer, University of Pennsylvania, and Peter Wolff, MIT.

Copies of the report of the Study Group are available from The American Physical Society. Price: \$5.00, prepaid.

Shoaf leaves APS for Princeton post

Mary L. Shoaf has accepted a senior administrative post at the Princeton Plasma Physics Laboratory. This new challenge requires full-time attention; so Mary has submitted her resignation as Deputy Executive Secretary of APS. W. W. Havens, APS Executive Secretary, noted that her contributions to the Society have so many facets that her precise role could never be duplicated. However, a re-

placement in this important position is needed. So APS asks your suggestions for suitable candidates to fill this opening, either on a full-time staff basis, or on a one- or two-year leave of absence.

Rosen elected Vice Chairman of POPA

The APS Council elected Louis Rosen as the new Vice Chairman of POPA at its meeting on 28 January. After a year as a member of the POPA Steering Committee, Rosen will succeed Harvey Brooks of Harvard University, who moves this year from Vice Chairman to Chairman.

Rosen received his PhD from Pennsylvania State University and in 1944 joined the staff at Los Alamos, where he participated in the development of the first atomic bomb. He is now head of the medium-energy physics division at Los Alamos Scientific Laboratory and director of the Clinton P. Anderson Meson Physics Facility there. He has also taught physics at the University of Alabama and at Pennsylvania State University. Rosen has served on many APS committees, and he is a Fellow of the Society. □

Reminders

1979–80 APS Congressional Scientist Fellowship Program. The maximum annual stipend for this fellowship has been increased this year to \$25 000. Deadline: 16 March.

APS Industrial Postdoctoral Fellowship Program. Deadline: 15 March.

Second Annual Apker Award Competition. Deadline: 15 June.

Application materials and letters of reference should be received at the APS office prior to the above dates.

Directory of Women Graduate Students and Post-Doctoral Fellows. The Biennial revision is now in progress. To be included, please complete the form in the February 1979 issue of the *Bulletin* as soon as possible.

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