

11-16-1981

The University of Dayton to Dedicate Alternate Energy Hybrid Research Facility

Follow this and additional works at: https://ecommons.udayton.edu/news_rls

Recommended Citation

"The University of Dayton to Dedicate Alternate Energy Hybrid Research Facility" (1981). *News Releases*. 6728.
https://ecommons.udayton.edu/news_rls/6728

This News Article is brought to you for free and open access by the Marketing and Communications at eCommons. It has been accepted for inclusion in News Releases by an authorized administrator of eCommons. For more information, please contact frice1@udayton.edu, mschlangen1@udayton.edu.



The University of Dayton

News Release

THE UNIVERSITY OF DAYTON TO DEDICATE ALTERNATE ENERGY HYBRID RESEARCH FACILITY

DAYTON, Ohio, November 16, 1981 -- The University of Dayton Department of Mechanical Engineering has a new experimental research facility to identify cost-effective combinations of wind generators, solar photovoltaic panels, and electric battery storage to satisfy a specified electric load in a given site location. This innovative total system concept directly converts energy from the sun and wind to electricity for consumer use. Computer simulations of the University of Dayton system indicate cost savings of 75 per cent using a hybrid sun and wind system compared to using a wind generator alone.

A DEDICATION CEREMONY FOR THE FACILITY, WHICH INCLUDES A WINDMILL MOUNTED ATOP A 160-FOOT TOWER, A COLLECTION OF SOLAR PANELS ON THE ROOF OF THE KETTERING ENGINEERING AND RESEARCH LABORATORIES, 720 BATTERIES, AND AN INVERTER TO CHANGE THE ENERGY TAKEN IN TO A USABLE FORM, WILL TAKE PLACE AT 10 A.M. ON FRIDAY, NOVEMBER 20, 1981. THE RIBBON-CUTTING AND COMMENTS BY UNIVERSITY OFFICIALS AND THE RESEARCHERS THEMSELVES WILL TAKE PLACE AT THE FOOT OF THE WINDMILL, BEHIND THE KETTERING LABORATORIES ON THE UD CAMPUS. TOURS OF THE ENTIRE ENERGY FACILITY WILL FOLLOW.

The hybrid sun and wind approach has potential in any area with relatively high winds in the winter months and large amounts of sunshine in the summer months. Remote site locations and areas requiring small amounts of electricity and long power lines are potential users of hybrid sun and wind systems. Such locations would be found in developing countries and in many areas in Third World countries.

-more-

An accuracy test of the computer model is planned which will consist of operation of the hybrid system with measurement of system parameters for a period of several weeks followed by a run of the computer model over the same time period using measured weather data. The results will indicate how well the computer model predicts the actual performance of the hybrid system and will allow adjustment of the model to better predict actual performance. For operational use, the small-scale demonstration module can be scaled up to any required size by increasing the size of the module components and increasing the number of modules to satisfy a given electrical load at any desired location, provided historical weather data is available for the selected location.

Design criteria resulting from this effort will be useful in developing cost-effective specifications for future solar energy systems, and data gathered will provide a basis for a broad range of engineering design trade-off studies.

The first year, small-scale, "proof of concept" demonstration is sponsored by the Ohio Board of Regents and the U.S. Air Force Aero Propulsion Laboratory and extends previous work by the U.S. Navy. The research work is being accomplished at the University of Dayton in conjunction with advanced battery system research funded by the U.S. Air Force Aero Propulsion Laboratory.

-30-

Media Contact: Richard T. Ferguson
Director of University
Communications
(513) 229-3241