

WIND AS A SOURCE OF ENERGY IN INDIA

AS the pressure of population increases and natural resources get depleted all progressive nations have to look to new sources of energy. The United Nations as well as individual nations have been lately devoting considerable time and energy to the harnessing of new sources of energy like Wind Power, Solar Energy, Tidal Energy and so on. In India too, these new sources of energy have been receiving attention in the last few years. In this context we have recently received a Review of Progress on Utilization of Wind Power issued by the National Aeronautical Laboratory, Bangalore, on the occasion of a recent meeting of the Wind Power Sub-Committee of the Council of Scientific and Industrial Research.

The project on the utilization of Wind Power in India was initiated by Prof. M. S. Thacker, and Dr. P. Nilakantan was the Investigator-in-Charge since 1952. Mr. E. W. Golding of the British Electrical and Allied Industries Association, U.K., who is an authority on the utilization of Wind Power came to India in September 1954, to attend the Symposium on Solar Energy and Wind Power held in New Delhi under the auspices of the UNESCO and CSIR. He visited various places in India and felt convinced about the great scope for Wind Power development in India, though on different scales and for different purposes in various districts. To accomplish a significant amount of development, he recommended that there should be a staff of investigators devoting full time to experimental studies of several aspects of the subject, that facilities should be afforded for both theoretical and experimental work, and that a Workshop and a Laboratory should be established. Extensive Wind Velocity Surveys in selected areas in different parts of the country have to be made. He also recommended that research should be directed in the first instance to the development of small- and medium-sized wind electric generators. These were accepted by the Board of Scientific and Industrial Research and endorsed by the Governing Body in 1957. It is gratifying to note that with a view to implement the recommendations, a Wind Power Division has been formed as a part of the National Aeronautical Laboratory which was started in Bangalore in 1960. All the necessary facilities for the development of Wind Power as recommended by Mr. E. W. Golding will be available in this Laboratory. During the few years prior to the starting of the National Aeronautical Laboratory, the small

nucleus of the Wind Power Division of the CSIR have already developed two prototype windmills suited to Indian conditions and have been fabricated using indigenous materials which on test have worked very satisfactorily. The fabrication of some of them for experiments in different parts of India under different conditions is programmed for the immediate future. Necessary experience is also being gained at Porbandar in the installation and operation of a 6 kW Wind Electric Generator (220 volts DC) presented to the CSIR by the West German Government (Fig. 1). It is hoped that before



FIG. 1. 6 kW Allgaier wind electric generator with three blades, each 5 metres long.

long similar types of Wind Electric Generators will be designed and constructed by the Laboratory from indigenous materials.

There is no doubt that the Windmill directly pumping water and the small- or medium-sized wind electric generators will be of great use to the large number of villages and for minor irrigation purposes in large tracts of India where there is strong wind, either during most of the year, or at least during those summer months preceding the monsoon when water is most needed.