

A Science Service Feature

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? WHY THE WEATHER ? Mailed April 14, 1927

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WIND DRIVEN GENERATORS

On the western plains some farm homes are equipped with wind power plants for generating electric current, not otherwise available. Perhaps even more wind-driven generators would be in use if the public felt more confidence in the persistence of wind. Since the days of "prairie schooners" when migrating wagons actually put up sails, the plains have been known as a windy region. There the average hourly wind velocity varies from 10 to 14 miles per hour. Recently H.G. Carter of the Weather Bureau has made further tabulations of windiness at Lincoln, Nebraska.

To charge the batteries, a generator requires a wind velocity of about 10 miles per hour or over. Mr. Carter finds that on 75 per cent. of the days of the year, Lincoln has winds of 10 or more miles per hour for at least 5 hours of the day. Or, putting it another way, wind movement exceeded 5 miles per hour during 77 per cent. of the hours and exceeded 10 miles in 41 per cent. Spring and late winter are the windiest seasons while late summer is the quietest time of year. Luckily, the demand for electric light is also much less in summer than in winter.

As the wind at Lincoln averages lower than over most of the Great Plains, the opportunities for wind-made electric power are evidently large over these broad expanses of generally flat land. According to a map by P.C. Day of the Weather Bureau, the panhandle of Texas is windiest, with an average of over 14 miles per hour, while the Lincoln average is close to 10. The Mid-west generally has 8 to 10 miles average hourly wind velocity.

On the Atlantic coast and near the Great Lakes, the average wind velocity is also high, but farms are less isolated, so that wind power is rarely employed for generating electricity, although windmills for pumping water are still in use.

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