

POTENTIAL OF WIND POWER IN UKRAINE

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Ukraine as most of industrial countries observes development of wind energy usage in the large and medium capacity windmills installation.

Compared with any other Newly Independent States, Ukraine is way ahead in wind power usage. Total installed capacity has now reached over 51 MW, and installation is still continuing with domestic manufacturing facilities being established. Over 80 million kWh of electricity have been produced since the first Ukrainian wind farm came into operation.



Fig.1 – Example of installations.

A strong wind power industry support was given by a Ukrainian government Law issued in 1996 in the form of Complex Wind Farms Construction Program with a target of 1990 MW of capacity to be installed by 2010. Twenty three Ukrainian plants are involved in production of the USW 56-100, with the Yuzhmash factory responsible for the assembly. The turbine is based on a design from the American company US Windpower, which successfully installed many thousands of similar machines in California during the 1980s and

early 1990s. Still new generation technologies are required to enhance higher efficiency of wind power generators. Ukraine is striving for 100% components for windmills are manufactured in the country giving a big opportunity for launching manufacturing on the basis of Soviet industrial parks. Nowadays 10 turbines of USW 56-100 are produced monthly in Ukraine. Among operating wind power stations are Donuzlav WPS with installed capacity of 10.7 MW, Saki WPS – 2.5 MW, Novoazovsk WPS – 3.3 MW and Truskavets WPS – 0.75 MW.

Another potential segment for wind power generating is installing small-capacity windmills up to 20 kW for the needs of agriculture sector which is estimated to have the potential to cover all agriculture and upcountry land electricity demands.

The most promising areas for locating windmills are those with the average wind speed of 5 meters per second, namely: Black Sea and Azov Sea coastline, Odesa, Kherson, Zaporizha, Donetsk, Luhansk, Mykolaiv regions as well as in the mountainous regions of Carpathinans and Crimea. The Crimean coasts make Ukraine second after Norway among countries possessing shallow water areas that are suitable for large wind farms and can account for 1,000 MW out of total 5,000 MW capacity of wind generation potential estimated in Ukraine. Crimea potential alone is sufficient to generate more than 42 billion kWh/year of electricity.

Still if Ukraine covers targeted capacity of 1900 MW by 2010 it will constitute only a part of what is being produced by many of European countries.

Table 1 – Global cumulative installed capacity – world potential

GLOBAL CUMULATIVE INSTALLED CAPACITY 1996-2007

