

WIND POWER

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Wind energy or **wind power** is extracted from air flow using wind turbines or sails to produce mechanical or electrical energy. [Windmills](#) are used for their mechanical power, [windpumps](#) for [water pumping](#), and [sails](#) to propel ships. Wind power as an alternative to fossil fuels, is plentiful, renewable, widely distributed, clean, produces no greenhouse gas emissions during operation, and uses little land. The net effects on the environment are far less problematic than those of nonrenewable power sources.

Wind farms. A wind farm is a group of wind turbines in the same location used for production of energy. A large wind farm may consist of several hundred individual wind turbines distributed over an extended area, but the land between the turbines may be used for agricultural or other purposes.

Wind power capacity and production. Worldwide there are now over two hundred thousand wind turbines operating, with a total nameplate capacity of 282,482 MW as of end 2012. The European Union alone passed some 100,000 MW nameplate capacity in September 2012, while the United States surpassed 50,000 MW in August 2012 and [China](#)'s grid connected capacity passed 50,000 MW the same month.

World wind generation capacity more than quadrupled between 2000 and 2006, doubling about every three years.

Environmental effects. The environmental impact of wind power when compared to the environmental impacts of fossil fuels, is relatively minor. Wind turbines have a [median](#) value of between 12 and 11 ([gCO₂eq/kWh](#)). Wind turbines have some of the lowest global warming potential per unit of electrical energy generated.

While a wind farm may cover a large area of land, many land uses such as agriculture are compatible with it. Wind turbines generate some noise. Conflicts arise especially in scenic and heritage protected landscapes.

Ukraine expands its wind power production and potential. Ukraine is one of the most attractive new renewable energy markets in Europe: today the country is among the key players at the International Energy Agency (IEA).

Ukrainian companies start producing equipment for renewable energy. The largest wind power station started functioning in Ukraine on October 4th in south-eastern Ukraine. So far 19 wind turbines have been installed and began the production of green energy, while another 11 will become operational at the Botiyevska wind power station by the end of 2012. The general capacity of the 30 turbines will amount to 90 MW.

The wind turbines installed at the Ukrainian wind power station were manufactured in Ukraine with the use of German technology. In July 2012, German Fuhrlander Wind Technology has opened a subsidiary in Kramatorsk, Ukraine, which assembles turbines for the wind power stations in Ukraine.

According to the Ukrainian Energy Strategy for 2030, the wind power potential of the country equals 10-15 GW. The document names wind power the cornerstone of renewable energy production in Ukraine. Most Ukrainian wind power stations are functioning in eastern and southern Ukraine due to favorable weather conditions.

Now the main thing is to develop success. The result of constructive efforts could be a developed sector, which will be a positive impulse for the development of the whole fuel and energy complex of the country.

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