

*Materials of Conferences***MAJOR GEOECOLOGICAL PROBLEMS OF PERM REGION**

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Perm region (Perm Krai) – one of the largest regions in Russia (the second largest square in the European part of Russia) and the largest in the Volga economic district, belongs to one of the most adverse ecological regions of the country. Environmental problem in the Perm region in recent years, become extremely important due to global environmental change, the development of an emergency. Environmental problems of the Perm region, and for the entire territory of Russia, related to anthropogenic impacts on the environment, as well as natural – geological factors that have a profound effect on natural ecosystems and public health. Key environmental (geoecological) problems are:

- Chemical pollution in varying degrees of environmental media (air, soil, surface and ground water) due to high development pressure, especially in urban and industrial agglomerations (complex of oil, metallurgical, machine-building, chemical, pulp and paper industry);

- The accumulation of vast amounts of industrial and domestic waste, which is a constant source of many types of environmental pollution. The main problem – the use (utilization) of accumulated waste and reducing the amount of surface storage of newly generated waste;

- Contamination of soil and water with pesticides activities of agriculture;

- Radioactive contamination of the environment due to natural and man-made sources of radiation (including – underground nuclear explosions);

- Violation of natural environments and landscapes of intense economic activity mining (especially halmeic, oil and coal areas);

- Violation of forest and land resources (forest degradation activities of logging and wood industry);

- Change of the hydrogeological conditions: conversion of natural hydrochemical and hydrodynamic conditions, depletion and contamination of fresh groundwater;

- Changing geological conditions: education on undermined spaces fracture zones, subsidence troughs, funnels collapse, the intensification of geodynamic processes. Serious impact on the environment, in certain circumstances can have dangerous Induced Processes;

- The development of exogenous (gully erosion, landslides, flooding, waterlogging, suffusion, the complex processes associated with the processing of the coast, and especially karst reservoirs) and

endogenous (geodynamic, structural-tectonic, neo-tectonic) geological processes;

- The development of natural and man-made natural and environmental impacts.

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**WIND ENERGY IN TURKEY**<sup>1</sup>Okuyan Cemal, <sup>2</sup>Zholdasbekov A., <sup>2</sup>Sihinbaeva Z.<sup>1</sup>*Balikesir University, Balikesir;*<sup>2</sup>*South Kazakhstan M. Auesov University, Shymkent, e-mail: cemalokuyan@hotmail.com*

Increase in production, increasing expectations on the development of technology and comfort of mankind, has led to a rapid increase in energy consumption. The most useful type of energy «electrical energy» is. Therefore, the main goal is the production of electrical energy.

Has gained importance in recent years due to environmental awareness around the world, the energy generated seamless, reliable and cost-effective addition to being environmentally friendly becomes more important. This is revealed in many countries energy awareness. Thermal power plants pollute the environment, so renewable energy sources is very important. Wind, solar and biogas energy sources accordance with this definition.

Energy demand f all the countries in the world is increasing day by day. The criteria of the developed countries, energy has become synonymous with ownership. Heritage of millions of years of fossil fuels has decreased drastically. New oil, coal and natural gas resources are not available, the available resources are known to be depleted as soon as possible.

RES (renewable energy sources) are wind, solar and biogas energy, eco-friendly nature and quite due to the decrease in production costs per unit of energy has become widely used. Serious technological research is being done in many countries on the development of these technologies. With advances in composite materials and on the aerodynamics of the wing shows significant developments in wind energy. Low wind speed wind turbines have been developed that can produce more energy. Wind turbine for the selection of the initial investment costs are high, and the right place to invest one year after the measurement is required. Made on each side of the world, wind maps, geographic areas suitable for wind turbine are determined.

In this study, wind energy in the world and in Turkey were investigated.

### World wind energy use

Small wind turbines are the two countries with the highest in China (number: 450 000/166 MW) and the U.S. (number: 144 000 /179 MW), respectively. In 2020 the total capacity of small wind turbines is expected to reach 3800 MW. Medium-sized turbines are more common among countries, the United Kingdom, Canada, Germany, Spain, Poland, Japan and Italy. [1]

Despite the revival of this sector in many countries, only a few countries producing small turbine offers special support policies. A few countries purchase guarantee. Especially in regions where access to electricity is very little support in developed countries. Only in China, the energy generated by a small wind turbine in rural areas, policies, supported by reasonable price a little bit. Small wind turbines, the energy market are a very low level. However, the market potential is very high. [1]

Offshore wind capacity continued to increase in 2010. Like previous years, the sea was built on wind farms in 12 countries. 10 of them in Europe, while the other 2 percent in Asia. Total capacity is 3117 MW. In 2010, 59% of the new capacity is added.

### Wind energy using in turkey

As can be seen in the table below, Turkey is a country dependent on foreign energy. Provides nearly half of the energy from abroad, therefore, attaches importance to the local energy production. In 2001, the «Energy Market Regulatory Authority» established in the electricity, natural gas, oil and LPG market held by this committee.

According to projections made by the International Energy Agency, the world's primary energy demand will increase by 40% between 2007–2030. This, of 12 billion tons of oil equivalent (toe) by 2030, 16,8 billion TOE refers to the level exit. Important for Turkey's energy security. Therefore, to evaluate the potential of new and renewable sources of energy, nuclear power plant investments made significant investments in energy efficiency and new energy technologies. That these laws have been enacted in order to plan. Electricity Market Law (2001), the Natural Gas Market Law (2001), the Petroleum Market Law (2003), LPG Market Law (2005), Renewable Energy Sources Act (2005), Geothermal Resources Act (2007).

Wind potential of Turkey is 48 000 MW. 8000 MW of this is very efficient ( $> 8,5$  m/s), 40000 MW in the medium-efficiency ( $> 7$  m/s), respectively. In 2004, with 18 MW of installed wind power, 800 MW in 2010 has been exceeded. After the entry into force of the Law on Renewable Energy 3363 with a total capacity of 93 MW, is granted a license. Part of the construction of 1200 MW of these projects are ongoing.

Wind Atlas of Turkey is seen in the western regions is very advantageous for the wind. Therefore, the major part of the investment realized in this region. With the guarantee of the government purchase

the energy produced by the wind turbine businesses selling. This warranty cents 5,5 for the first 10 years. Turkey, adequate incentives for entrepreneurs who want to invest in wind energy state [3].

### Conclusion

Wind energy can be said in summary about the location of the present and future.

- According to 2009 in 2010 and reached 197 GW 37 GW increase.

- The growth rate in 2010 was 23,6%.

- Wind sector, turnover of 40 billion euros in 2010 and 670 000 employees.

- Total installed capacity in China, became number one. (19 GW capacity expansion in a year with 50% of the world market of new investments)

- In Europe, Germany 27 215 MW and 20 676 MW, followed by Spain, and it maintains the first place.

- In Europe, the share of wind energy in the total energy production in Denmark 21%, Portugal 18%, Spain is 16%.

- New capacity growth of 54,6% with Asia first, with 27% from Europe, North America, 16,7% in the third.

- Nuclear accident in Japan, and due to the oil spill in the Gulf of Mexico, has increased the importance of wind energy. Countries have been forced to evaluate wind energy policies accordingly.

- Global capacity, 1,5 million MW in 2015 and in 2020 is estimated at 600 000 MW [2].

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### THEORETIC EXPLANATION OF INCREASING OUTPUT AND BIOLOGICAL QUALITY OF CONSUMABLE WATER FROM SLITS

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In order to explain stimulation of water selection, in other words, prove a provision of continuous technological process under different terms of operation of water inlet silts, it is necessary to study processes that take place in the mouth of a water inlet slit under different schemes of water flow, define