

In vitro methods that are already introduced in the Republican unitary enterprise «Scientific and Practical Center of Hygiene» replace assessment of irritant action of tools for care of skin. They are prime in use, not expensive, demanding small concentration of the tested substance, reducing research volumes, and the most important is efficient.

Requirements to check of toxicological safety of perfumery and cosmetic production are assumed by the complex analysis of substance (structure, degree of danger of each ingredient) then assessment method is chosen: either laboratory animals, or the alternate biological models. However, in our country there is no organization which would be engaged in their introduction and financing.

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WIND POWER IN BELARUS – CURRENT STATE AND PROBLEMS

Renewable energy sources (RES) are becoming very popular nowadays displacing fossil fuels. It goes without saying that consumption of conventional sources of energy can lead to serious environmental consequences such as air and water pollution, global warming (when we burn fossil fuels carbon dioxide releases), acid rains (because of sulfur dioxide), greenhouse effect, harmful impact on aquatic life by oil spill, etc. But it's also very necessary to single out that there are some economic issues that must be solved: for example, firstly, some countries has to import oil and natural gas from other countries where these resources are available in abundance, secondly, prices are really high, etc.

Nevertheless, the problems of the list are being addressed. Using the latest technologies and innovative approaches is vital; consequently energy is one of the priorities of science and technology development in most countries inside and outside the EU, including Belarus.

Belarus can't meet its needs for energy with domestic sources because its mineral resources are quite limited. The country has to import fuels and energy (about 80%), mainly from the Russian Federation. And one of the main aims of Belarus in energy sector is to increase the use of local energy resources especially renewable energy including energy of wind.

Wind power is the leading source of new power generating capacity in the world (3,7% of global electricity production) and playing a major role in meeting electricity demand in an increasing number of countries, including Denmark (42% of demand in 2015), Germany (more than 60% in four states) and Uruguay (15.5%). China added a staggering 30.8 GW of new capacity in 2015, for a total exceeding 145 GW – more wind capacity than the entire EU. While most countries have some small-scale turbines in use, the majority of units and capacity operating at the end of 2014 was in China (343.6 MW), the United States (226 MW) and the

United Kingdom (132.8 MW). Other leaders included Italy (32.7 MW), Germany (24 MW), Ukraine (14.6 MW) and Canada (13.1 MW). It's a clean source of renewable energy that produces no air or water pollution. And since the wind is free, operational costs are nearly zero once a turbine is erected.

There are three regions with the largest potential to produce electricity from wind turbines in Belarus: Grodno, Minsk and Mogilev regions with average wind speed of 5.5–6.5 m/s near the ground and 6.5–7.5 m/s at the height of 40 m. At the moment 56 windmills are installed in Grodno, Minsk, Vitebsk and Mogilev Regions (total capacity – 43.2 MW). The first wind park in Belarus with capacity of 9,0 MW was installed in Grabniki (Grodno region) this year. It includes 6 power units (China production) with capacity of each – 1.5 MW. The height of tower each unit is 90 m, blade length – 40 m, annual average electricity production is about of 84 GW.

Doubtless, we see that this trend is promising enough, but some problems exist too, which hampering of wind energy development in Belarus. Main of this problems are high investment cost and absence of national producers of wind power units, low level of feed-in tariffs for wind energy (1,2 at present); absence of wind speed measurement on the wind turbines placement (70–100 m) and others. So this work is dedicated to the analysis of current state of wind energy in the world and Belarus and the discussing of above mentioned problems.

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ASSESSMENT HEAT IMPACT OF THE BELARUSIAN NUCLEAR POWER PLANT ON ENVIRONMENT

One of the possible options of the ecological impact of the Belarusian nuclear power plant on the environment is thermal pollution. The thermal emissions of the NPP can lead to changes of the air temperature, formation of fogs, drizzling, increase of icing probability. All these make a direct impact on the condition of the soil, vegetation, roads and constructions in the area of influence of the plant.

As a rule, the main sources of thermal emissions are the cooling systems of power stations, an evaporative cooling tower is included. Cooling towers are heat exchanging devices, which cool the water through evaporation and heat convection transfer of the tower. A large amount of warm and damp air is emitted into the atmosphere by the cooling tower through its mouth during the operation. It results in a steam-torch that has a direct impact on the environment.

Further distribution of the thermal emissions from the NPP is influenced by the climatic features of the territory and the structure of the constructions of the industrial site and adjoining territories. A preliminary assessment of the direction and speed of the wind in the area of the NPP, taking into account the influence of the