

**СЕКЦІЯ А - РОЗРОБКА НАФТОВИХ І ГАЗОВИХ РОДОВИЩ //
SESSION A - OIL AND GAS FIELDS DEVELOPMENT**

***SHALE GAS POTENTIAL ENVIRONMENTAL RISKS RESEARCH IN
UKRAINE***

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In recent years, the global gas sector is experiencing significant changes - "shale revolution" in the US, increasing the share of liquefied natural gas in the total sales of the resource growth in the role of short-term gas supply contracts, the gradual departure from the formulaic approach to the formation of natural gas prices, liberalizing tendencies, experiencing regional gas markets - all this forms a new structure of the gas space and requires reform of the gas industry in Ukraine in accordance with current conditions. The importance of such reforms is also conditioned by a number of internal economic factors. First of all, the unsatisfactory level of implementation of energy-saving technology, low efficiency of use of energy resources and the policy of "cheap labor" caused a high level of energy consumption and therefore low level of competitiveness of the national economy.

Problems of development of the gas industry in Ukraine have been widely reflected in the scientific literature. At the same time, questions remain less studied enhance energy security of the national economy based on the efficient use of its own energy potential of the gas industry in the current global conditions.

Modern technological innovations, in particular the combination of horizontal drilling and multi-stage systems, hydraulic fracturing, allowed to use previously untapped resources of unconventional gas has changed the structure of the world energy balance and caused quite a stir regarding the production of unconventional gas in the whole world, and in Ukraine.

Specifically, because of its inferred resources according to the IEA is 920 bln. cu. m. Ukraine has considerable reserves of unconventional gas, probable reserves all its forms exceed 34 trillion. cubic meters., which relates it to the 10 most advanced countries in the world on this indicator.

Prospects for large-scale development of shale gas in Ukraine may soon become a reality, but most Ukrainians know little about the nature of shale gas, its production technology and the potential environmental risks associated with the development of shale gas.

The reorientation of public attention in Ukraine by numerous non-governmental organizations pseudo environmental profile of the problems of extraction of unconventional gas has led to a transition into the background of a number of real environmental problems that need to be addressed urgently. In particular, we are talking about increasing pollution: fertile soil with pesticides against the backdrop of the dynamic development of agricultural production; groundwater and river water synthetic detergents and household use of the automobile chemistry; air pollution by road, consuming low-quality fuel emissions of a wide range of harmful substances. Almost every day, every citizen of Ukraine is using household chemicals, harmful to human health which is a proven fact. They are not particularly toxic, but constantly, several times a day to get food from the "clean dishes." It is proved that they are difficult washed with dishwashing, even if several times to wash the dishes running water, by reacting with food dissolve and enter the body gradually accumulate therein. Most synthetic detergents used contains hazardous substances that can cause inflammation of the mucous membranes of the nose and eyes, skin irritation, coughing, asthma. Increase the risk of allergies and even cancer. Harmful detergents with high capacity steam and phosphate is an indication of the relationship of the population to their own health. For the first time the famous brand of detergent was invented for money from oil tankers.

According to studies conducted in the Ukrainian State Chemical Technology University (Dnepropetrovsk), the substances contained in detergents can wash only 98 times washing with warm water.

Dnepropetrovsk chemists have found that for the year, using various means for washing dishes, a person consumes about 250 ml of harmful substances.

This means that the detergent or cleanser gets into drains, is likely to be present in the rivers and seas for many years. Thus, buying detergent, people are at risk of disease. Virtually money man transforms

the risk in a direct threat to health. Scientists Ivano-Frankivsk National Technical University of Oil and Gas state: "In the Carpathian region drilled more than 3.5 thousand wells. Not a single case of oil or gas outlet to the surface of the wellbore". Against this background, there is no reason to believe that production wells will NTG otherwise. On the contrary, modern technology and risk management enable us to reduce almost to zero (of course, the zero indicator can not be in principle) probability scenarios. To date, there are already some assessments of the potential environmental risks in future mining areas in Ukraine. According to Tatyana Bobrovitskiy, director of the department of labor protection and environmental projects "Shell" in Ukraine, the project "Belyaev-400" has passed environmental review at the Kharkov regional committee on ecology and state environmental expertise. It was made an independent environmental assessment of the current state of the environment in the area of work. In particular, the sampled water wells nearby villages. To carry out the chemical, microbiological and virological analyzes. As a result of the above examinations risks of contamination of drinking horizons in the well are estimated to be very low. There was also the analysis of air, soil condition, noise and vibration levels. According to available information, the company "Shell" analyzes of rocks extracted from different horizons during the drilling operations, in order to understand the level of their natural toxicity. The complex research within the monitoring program has allowed to state that "all the studied parameters correspond to the state sanitary rules and regulations of Ukraine."

The results also confirmed the absence of monitoring of the impacts of drilling platforms on the environment. In fact, similar to the findings of corporate and state monitoring done and the neighboring Poland, where drilling continues in 2009 and have an order of magnitude larger scale than in Ukraine. In Poland, the territory of which drilled 46 wells, which are made on the part of the multi-stage hydraulic fracturing, not a single incident or technical deviations from grooved features of the natural environment. It is possible to minimize the risks in a correct application of advanced technologies fracturing, based on international experience and best practices, as well as improving the requirements of normative acts in the field of ecology. Accordingly, the noise around threats from mining IGT has under itself evidence. For each region, it is necessary to carry out individual environmental monitoring, which will become an integral part of the strategy management of potential risks. Against this background, in the pursuit of exposing the negative effects of mining, we should not forget about the real environmental dangers and threats that lead to quiet and creeping ecological disaster today, and present in the life of an ordinary citizen, from agricultural activity for the purpose of "more sustenance" continued washing dishes for cleanliness and hygiene and ending the air we feed cars exhausts. According to statistics in 2014, Ukraine produced 300 million. In practice, this means that were used about 3 billion. Liters of high quality clean drinking water extracted from the aquifer. Such a volume of water equivalent to the water costs for the PIU about 2 100 wells, but it should be borne in mind that the hydraulic fracturing used industrial water, and for the manufacture of beer - drinking water, a resource that is renewed under the long-term cycles of circulation, not as a result of seasonal circulation. Then the drinking water, transformed into alcohol leads to a well-defined and calculated statistical effects. Given the above it can be argued that, despite all the risks of environmental and financial-economic, energy security is our priority.

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