One of the main reasons for pollution of underground sources of drinking water can also be a poor cementing of casing annulus. Currently, there is a wide range of activities, allowing engineers to determine the quality of cementing and cope with this kind of problem. Constant monitoring and testing will enable producers and regulators to prevent such catastrophes. In this way, in the course of prospecting, exploration and development of shale gas deposits, there is a significant number of environmental problems, most of which can be solved due to improving the technology of shale gas production, precisely due to strict control of drilling and gas production performance.

The most important issue is to study the impact of hydraulic fracturing on the occurrence of seismic activity and various types of landslides [2]. The shale gas prospects are very large, especially in sparsely populated areas and in the countries which express their agreement to reduce the level of environmental safety.

Currently, almost all the countries where it is possible to start commercial production of shale gas, the environmental commission has been initiated to address the environmental risks associated with shale gas production.

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WE ARE DESTROYING THE WORLD

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Hydrocarbon production is not the only way to solve many problems of humanity, but also it is ranked as one of the environmental problems. In many respects, this problem emerged as a result of the negligence of a person / company or is manifested accidentally or due to naturally factors not influenced by man. Hydrocarbon development, recovery and production is out destroying our plant ecology day in and day. This fact has been confirmed by numerous surveys, studies and investigations.

There are hydrocarbon production, transportation and application problems which have a large-scale impact on environment.

Problem 1- In the process of producing oil and gas from the earth strata directly or indirectly affects and increases the mobility of rocks. This results in seismic activity leading to more disastrous consequences in some cases. But the major consequence is the so-called formation of cavities. The solution is very simple – flooding or rock in-filling.

Problem 2- When oil passes to the surface the associated gas is burned on-the spot, i.e. in the fields. It is a well-known fact that carbon dioxide has a negative effect on the atmosphere and so the another problem connected with oil production arises. According to statistics, about 30% of all industrial emissions in the Russian Federation are related to the oil and gas sector. Overall emissions into the atmosphere from oil industry enterprises are about 12% of all harmful emissions. In this case, incomplete combustion of hydrocarbons is where insufficient O2 is present, but there is excess hydrocarbon present. As a result we have such reaction products as carbon monoxide, sulfur dioxide and nitrogen oxides. Gas

flaring is the major source of pollution in the areas of oil production. Environment and population are exposed to environmentally harmful combustion products. The solution is possible, but the burning is much cheaper than the transportation and disposal of these gases.

Problem 3- oil and gas transportation. Apart from the fact that the construction and operation of the pipeline systems intrude into the natural biocenosis (biological community), they periodically there are oil and gas leakages. Gas escapes into the atmosphere, while the oil accumulates contaminating the surrounding area, especially its fauna and flora. But land oil & gas transportation is only the iceberg of the problem. More dangerous transport is tankers transporting oil across the oceans. We cannot say exactly when an accident would happen, but occasionally they do occur, and oil pours into the water area destroying everything miles and miles around. The problem becomes global, since its elimination requires not only a lot of time and effort but also financial resources. One should keep in mind the tragic oil spill of 2010 in the Gulf of Mexico.

Solution of the problem related to the transportation of oil and gas is difficult to find, because it can depend on many factors. The only thing that should be done is to carefully monitor these activities.

Problem 4 involves how we use hydrocarbons in our everyday life. The principal air-quality pollutant emissions from petrol, diesel, and alternative-fuel engines are carbon monoxide, oxides of nitrogen, un-burnt hydrocarbons and particulate matter. Pollutant emission levels depend more on vehicle technology and the state of maintenance of the vehicle. The main disadvantage of such convenience is the pollution of the atmosphere with carbon dioxide and the growth of contamination depending on the number of cars. Considering the fact that the world's population is growing and the demand for cars is also growing the air pollution level is also increasing. Solution is the following- emissions of these air quality pollutants from road vehicles have been reduced by improving the quality of fuels. As an example, it would take 50 new cars to produce the same quantity of air quality pollutant emissions per kilometre as a vehicle made in 1970. Over the last twenty years increasingly emission limits have been set at a European level, starting with the "Euro1" limits in 1993. From September 2015 all new cars currently have to meet the Euro 6 standard. Since 1st January 2011 all models sold have had to meet the Euro 5 standard. Another solution to design electric vehicles although it could be rather expensive.

The production of hydrocarbons has definitely improved but at the same time has affected Man's life. All problems associated with hydrocarbon are solvable if Man defines them in time and tries to do something. There is always a way out of any situation.

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