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Greenhouse gas emissions in objects NHC "Uzbekneftegaz" in the last period

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ABSTRACT: Quantitative estimation of gas emissions with direct greenhouse effect and gases with indirect greenhouse effect on the facilities of NHC "Uzbekneftegaz". Determined emission of gases with direct greenhouse effect and greenhouse gases indirectly from stationary and mobile sources.

KEYWORDS: greenhouse gas emissions, the direct greenhouse effect;indirect greenhouse effect, stationary sources, mobile sources.

I. INTRODUCTION

In the period from November 30 to December 12, 2015 in Paris 21th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC), developed on the basis of which the consolidated text of the Paris Agreement.

The main provisions of the document include:[1]

- Main areas of cooperation to ensure the containment of global warming to below 2° C;
- Preparation and submission of contributions is determined at national level for mitigation and adaptation measures (NVC).

In this aspect of conducting quantitative assessments of greenhouse gas emissions that cause global warming and climate change, development and application of effective measures to reduce emissions is a top priority for any business entity.

Due to the nature of oil and gas industry emissions with direct greenhouse effect produced in the atmosphere:

- Technologically justified (needed), performs during normal operation of the facilities related to the mandatory technical operations necessary to maintain the required production processes, preparation, processing and transportation of hydrocarbons;
- Possible leakage through the sealing elements and fittings mikrovischi pipes.

II. RESULTS

For the economic activities of oil and gas industry uses a large number of vehicles, in the exhaust gas is also present gases with direct greenhouse effect gases and indirect greenhouse.

Analysis of the environmental situation of the state at the facilities of NHC "Uzbekneftegaz" for 2014 - 2015 showed that in the production process into the atmosphere as greenhouse gases and so gases with indirect greenhouse effect.

Greenhouse gases are present in the emissions of stationary sources at the enterprises of the three joint-stock companies: JSC «O'ZTRANSGAZ», JSC «O'ZNEFTGAZQAZIBCHIQARISH», JSC «O'ZNEFTMAHSULOT». Gases with indirect greenhouse effect are present in the emissions of stationary sources at the enterprises of all joint-stock companies "Uzbekneftegaz".

The emissions of mobile sources of all enterprises "Uzbekneftegaz" present material related to greenhouse gases.

The largest contribution, ie 99% of greenhouse gas emissions for the period sleduemы is-made stationary sources.

Distribution of greenhouse gas emissions from stationary sources (Figures 1,2) confirms that the largest emission of greenhouse gases is carried out by transporting gas to the JSC «O'ZTRANSGAZ» objects. This is due to the fact that in order to maintain the gas transport process in operation necessary binding process steps that involve purging the gas transportation system. Blow produced gas, the methane content of which is 95 - 98%. Carbon dioxide is also present in natural gas at an average of 1.4% and 1.1% of nitrous oxide.

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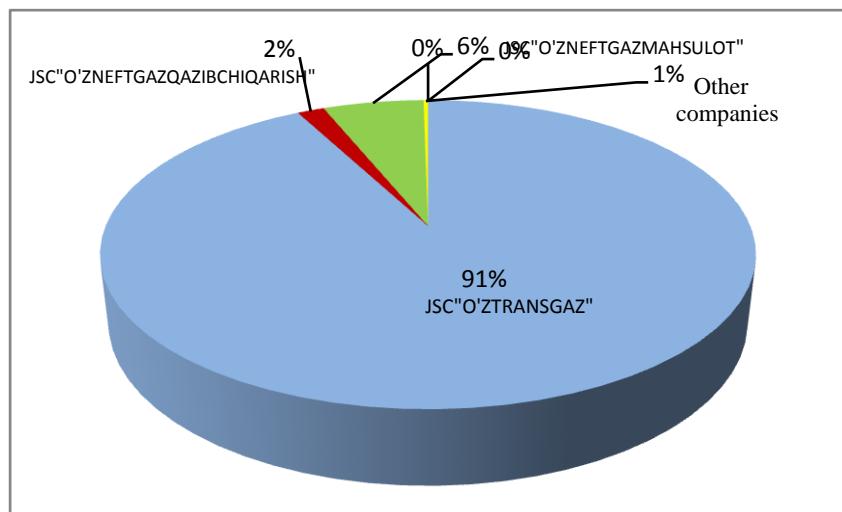


Figure 1 - Distribution of greenhouse gas emissions year 2014

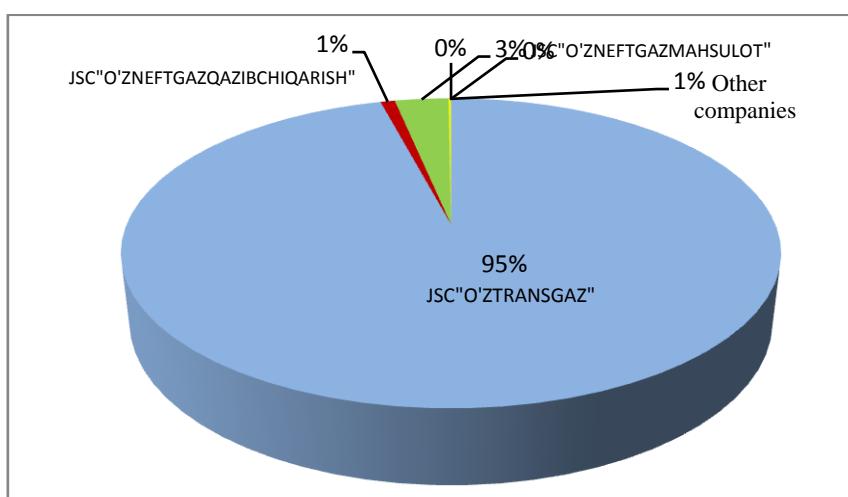


Figure 2 - Distribution of greenhouse gas emissions year 2015

From mobile sources emitted into the atmosphere of carbon dioxide and methane [2].

Table 1 shows the dynamics of greenhouse gas emissions for mobile sources, depending on the type of fuel. Analysis of the data shows that the lowest greenhouse gas emissions observed when using gas fuel.

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Table 1
Trends in greenhouse gas emissions, depending on the fuel type

Type of fuel	2014		2015	
	Fuel consumption, t/y	Emissions, t/y	Fuel consumption, t/y	Emissions, t/y
Petrol	14901,399	1266,456	24687,308	2079,114
Diesel fuel	30645,287	1532,264	33790,317	1679,216
Gas	8661,368	1,299	11359,057	1,704
Total	54208,054	2800,019	69836,682	3760,034

Gases with indirect greenhouse effect are present in the emissions of stationary sources of all joint-stock companies NHC "Uzbekneftegaz".

The reason for the growth of emissions of gases with indirect greenhouse effect is the increase in exploration drilling, which increases during the operating time of internal combustion engines and, accordingly, emissions of combustion products. The combustion products are substances with indirect greenhouse effect such as carbon monoxide, nitrogen oxides, sulfur dioxide, non-methane hydrocarbons. The largest volume is carbon monoxide (Figures 3,4).

From mobile sources gases emitted into the atmosphere with indirect greenhouse gases: carbon dioxide, nitrogen oxides, non-methane hydrocarbons, sulfur dioxide, [2].

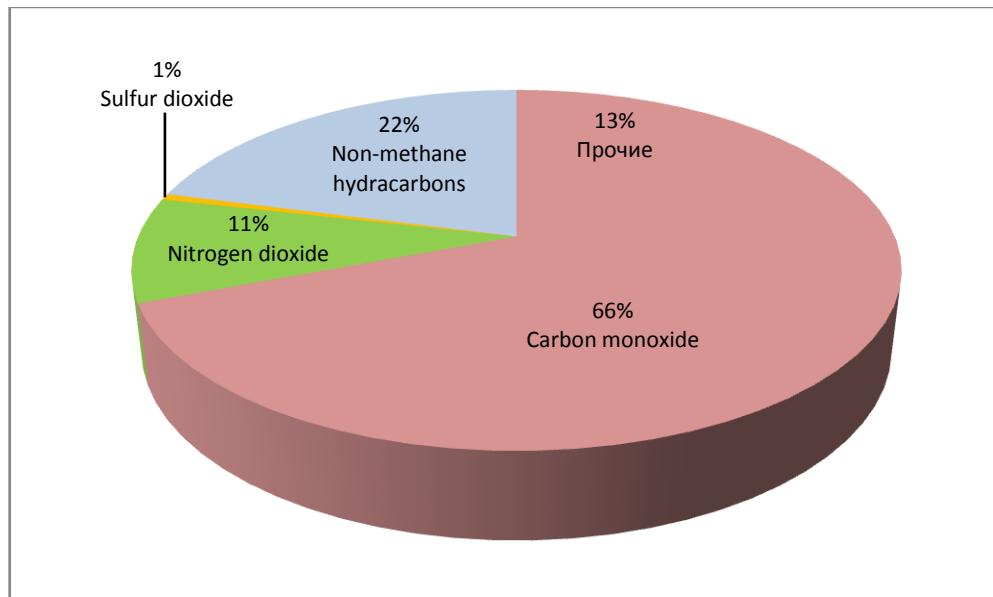


Figure 3 - Deposits of gases with indirect greenhouse effect from stationary sources – 2014

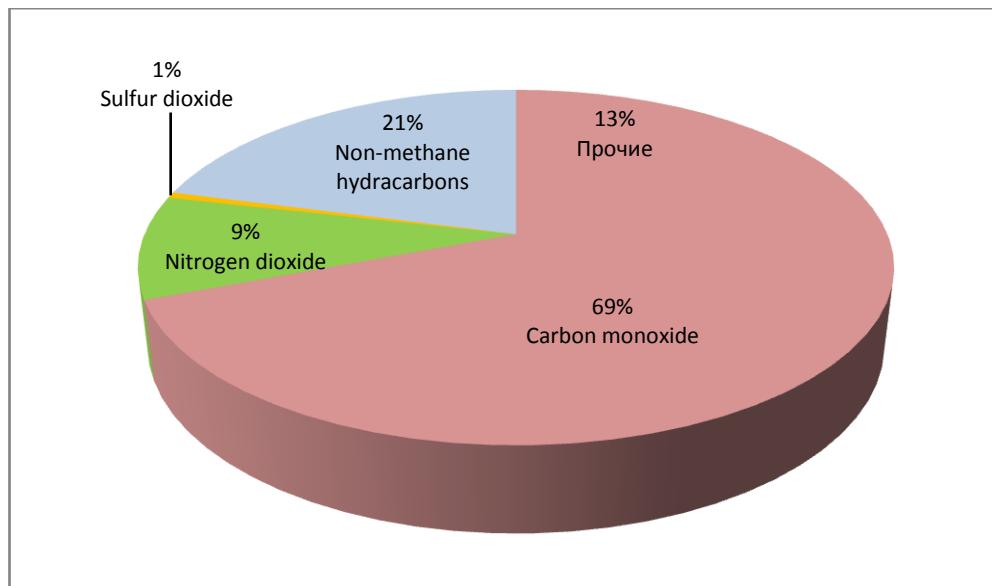


Figure 4 - Deposits of gases with indirect greenhouse effect of stationary sources – 2015

III. CONCLUSIONS

Oil and gas industry development concept of Uzbekistan for 2013 - 2020 years indicates that by 2020 increase in proven hydrocarbon reserves amount to 24.5% [4]. To increase their production and consumption, which consequently could lead to an increase in greenhouse gas emissions. And as the development and implementation of effective measures to reduce greenhouse gas emissions is a top priority for any business entity, then to minimize the harmful effects of objects NGK on the environment we recommend the following measures:

- recovery of flare gas;
- Reduction of losses in gas pipelines;
- Implementation of CDM projects;
- Use as a fuel for motor vehicles, or liquefied natural gas.

Policy resource inefficient from both an economic point of view, and environmental. As will significantly reduce the amount of gas emissions with direct greenhouse effect and gases with indirect greenhouse effect. The technology, which permanently destroys the oxygen atmosphere in the new eco-energy civilization has no place.

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