

# **How attractive is the oil and gas industry for high school students?**

## **Analysis of the survey results among “EnerGenious” Winter School participants**

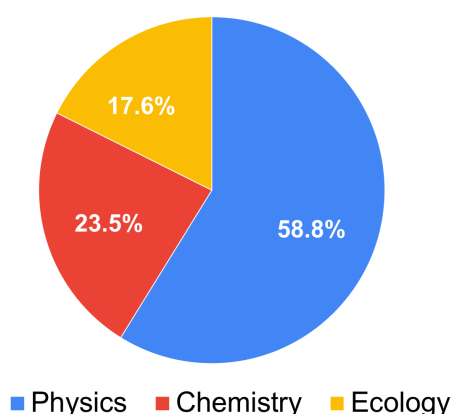
In February – March 2020, the Russian National Committee of the World Petroleum Council organised classes at two educational Winter Schools "EnerGenious". The centres of these events were cities that play a special role in the world oil and gas industry. These are Nizhnevartovsk (KhMAO – Ugra) and Stavanger (Norway). High school students of St. Petersburg – winners of international subject Olympiads, outstanding students and authors of youth innovative projects, as well as students of St. Petersburg Mining University – were selected for participation in winter schools. In Nizhnevartovsk, the participants of the winter school included students of specialised Universities of the Khanty-Mansiysk Autonomous Okrug – Ugra. In total, there were about 100 high school and university students.

RNC of the WPC Winter School is an intensive introductory course for school students of 9 – 11 grade and University students, allowing participants to get not only theoretical knowledge about oil and gas industry, but also to get acquainted with the organisation of production processes in practice. Authoritative specialists of the oil and gas industry from different countries of the world were involved in lecturing at "EnerGenious" Winter School. The programme included visits to production facilities, meetings with reputable industry representatives, veterans.

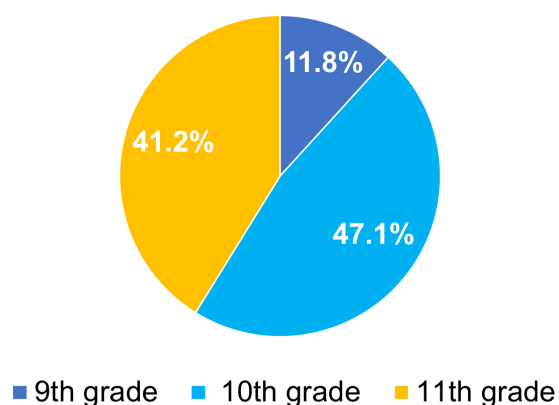
RNC of the WPC Youth Committee conducted a survey among high school students of St. Petersburg who participated in the winter school "EnerGenious" to assess the attitude of schoolchildren to the industry and the vocational guidance efficiency of the educational initiative of the RNC of the WPC.

- Number of respondents: 17
- Audience: schoolchildren from St. Petersburg (9 – 11 grade)
- All survey participants are winners of national and international physics, chemistry and ecology Olympiads.

Respondents profile



Survey participants

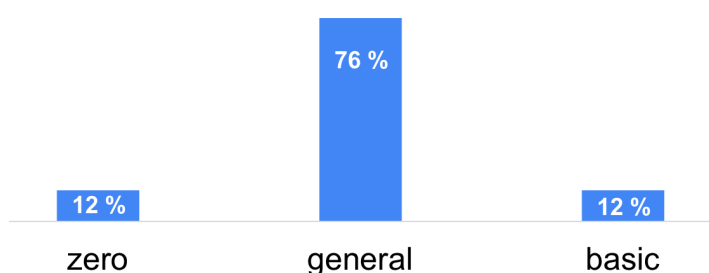


The level of students' awareness of the industry before studying at Winter School can be divided into 3 groups:

- zero: schoolchildren had no idea about the industry;
- general: knowledge about the importance of the industry, the main players in the oil and gas market, the general idea of production;
- basic: knowledge about the chemistry of oil, its geology + general knowledge.

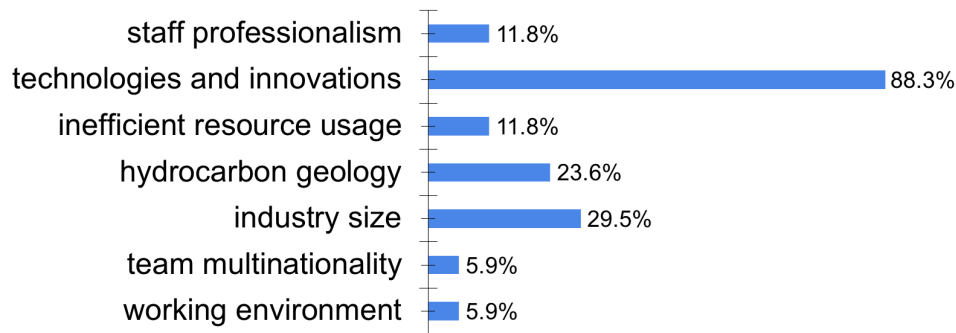
17.6% of the survey participants reported that they had a stereotypical view of the oil and gas industry and its workers before classes at the Winter School. However, more detailed acquaintance with the industry and its specialists dispelled their stereotypes. Thanks to their participation in the Winter School, children learned and saw where and how oil is produced, what professions exist in the industry and what difficulties oil industry workers face.

Level of students' awareness of the oil and gas industry before attending winter school



Winter School participants had an opportunity not only to listen to theoretical lectures from representatives of leading companies of the industry and oil and gas Universities, but also to visit technological production facilities. High school children were most impressed by the existing technologies and innovations being implemented. The schoolchildren were also greatly impressed by the scale of production and infrastructure facilities designed for hydrocarbon production, especially at offshore fields. 24% of schoolchildren interviewed honestly admitted that they were surprised that "oil is not located in underground lakes or reservoirs".

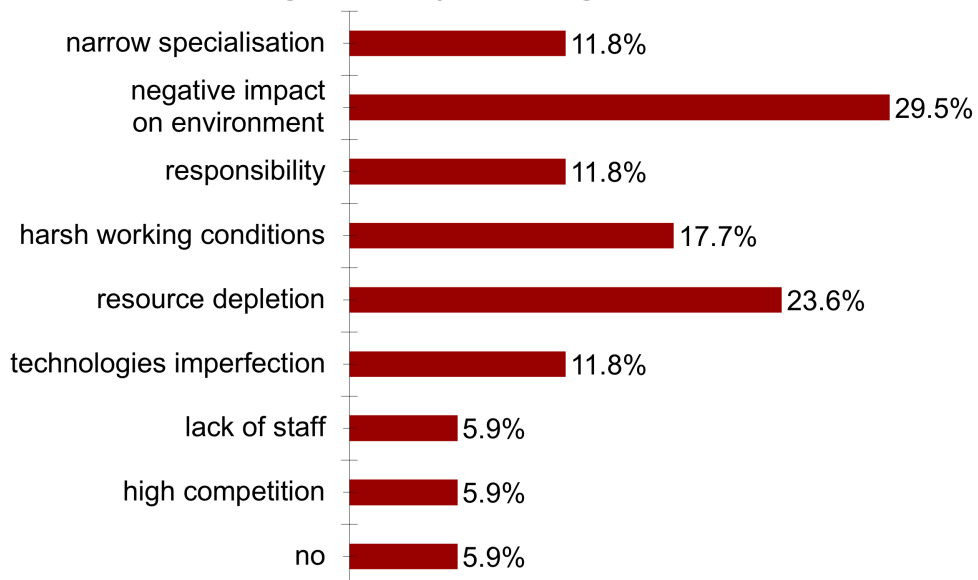
### What impressed students most during their time at winter school



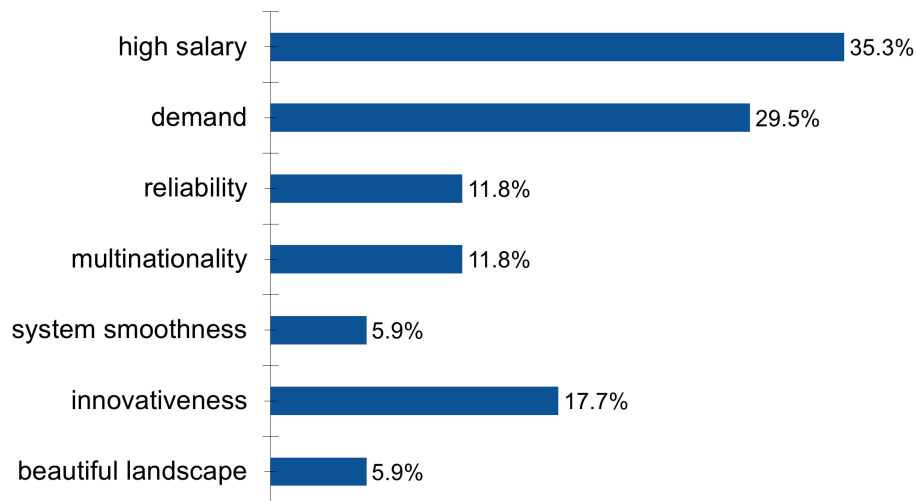
It should be noted that after “EnerGenious” Winter School many participants started to think about how to connect their future with the oil and gas industry. Elena Agapova, a 9th grade student, writes: "I didn't think much about working in this area, but after the trip I realized how to connect my interests with the oil and gas industry. At almost every site – be it Samotlor Oil Field or Power Station – a close link between water and oil was mentioned, while at the moment I am going to connect my future with hydrology and hydrogeology". Miron Ganin, a 10th grade student, says, "I am considering developing the autonomous submersibles that are needed to service pipes and subsea stations. This area is close to me in terms of activity (programming) and includes quite a lot of interesting tasks for implementation".

Among the advantages of working in the oil and gas industry schoolchildren see: the demand for specialists, rapid development of the industry, high salaries, as well as a wide range of activities. The disadvantages of the industry include environmental risks, negative impact on the environment and the need to work in harsh weather conditions.

### What are the most significant disadvantages of working in the oil and gas industry according to schoolchildren?



What are the most significant advantages of working in the oil and gas industry according to schoolchildren?



In one of the survey questions we asked the participants to tell us what knowledge and skills a modern oil and gas industry worker should have. The results are presented in the diagram.

What knowledge and skills should a worker in the oil and gas industry possess

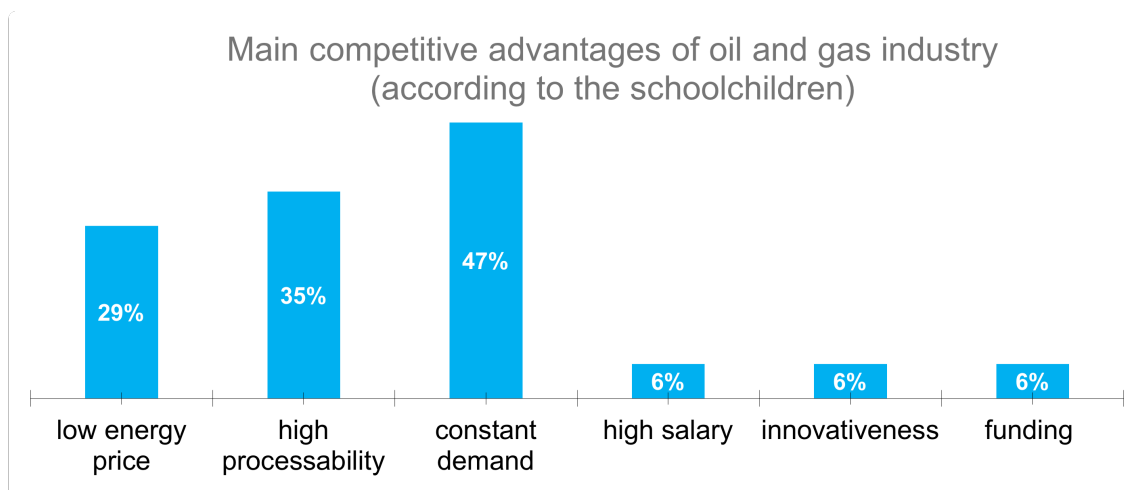


These days an oil and gas industry worker need to constantly improve their skills, to follow scientific achievements and innovations in the industry – these skills were most often mentioned by schoolchildren. They also believe that the search for new solutions to familiar problems, publication of the results of their research, the ability to find the necessary information are very important, without them you cannot be in demand as a specialist in modern, rapidly changing realities.

Respondents also mentioned responsibility and discipline among the most important qualities of a modern oilman, as there are many duties and risks that a modern specialist should take. Almost half of the respondents agreed that a modern employee should not be a narrowly directed specialist. He or she must understand the interrelationships with related

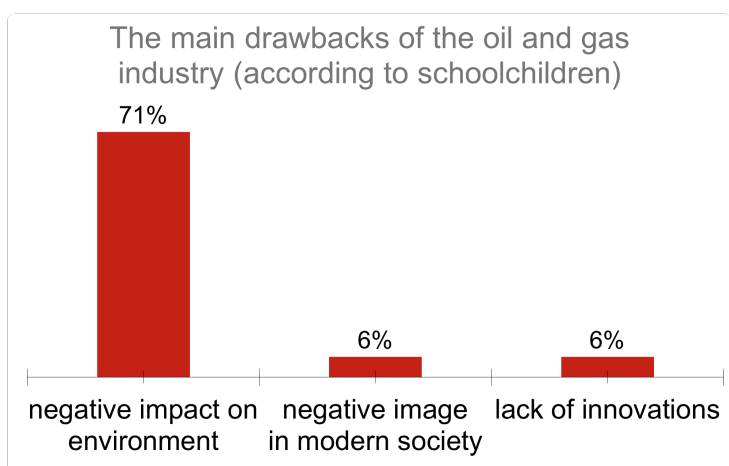
professions, have the ability to think and assess the situation in a comprehensive way, considering it from the perspective of different sciences and industries. According to schoolchildren, an oil and gas industry worker should also have a complete understanding of equipment operation, be ready to transfer production processes to manual control, if the automatics fails. Besides, the industry representative should have a good understanding of ecology, geography and geology.

Among the schoolchildren surveyed, 35% said that knowledge of information technologies and specialized software, as well as the ability to work with automated control systems and create computer programmes are important for the modern oilman. Only 3 people noted the importance of knowledge of foreign languages, arguing that it is necessary to interact with international colleagues to exchange experience in order to improve technologies and processes, and to develop international cooperation.

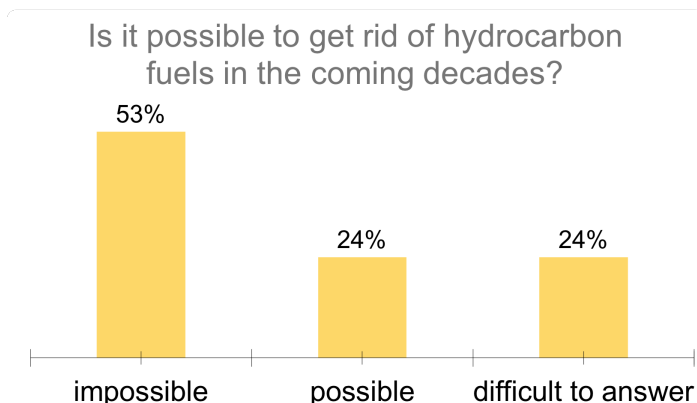


Most schoolchildren believe that the main advantages of the oil and gas industry in the global market are low cost of energy production, as well as constantly growing demand (the survey was conducted before the crisis in 2020). In addition, schoolchildren believe that the industry and the necessary technologies have already been sufficiently studied.

Answering the question about the negative features of the industry, students are most often concerned about the adverse impact of the industry on the environment, as well as the formation of a negative image of the oil and gas industry in modern society and lack of innovations.

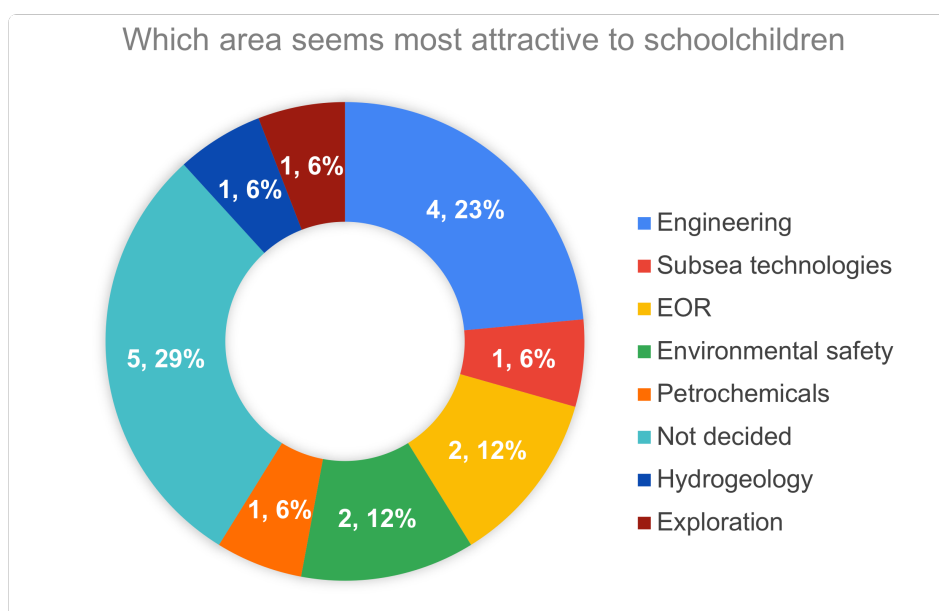


Despite the environmental concerns of schoolchildren, 53% of those surveyed believe that it will be impossible to abandon hydrocarbon fuels in the coming decades, while 24% hold the opposite view.



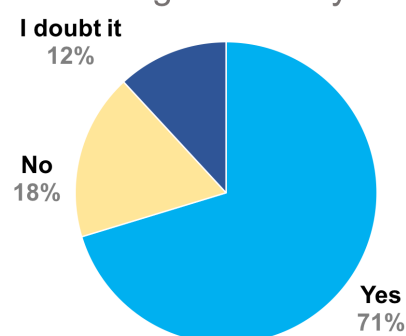
However, 71% of respondents mentioned in their replies that it was necessary to reduce harmful emissions and to reduce the negative impact on the environment.

The main purpose of the “EnerGenious” Winter School was to attract high school students to the oil and gas industry to further solve technological and social problems.



The results of the survey demonstrated the high efficiency of this RNC of the WPC educational initiative in terms of career guidance. According to the results of the five-day course, which includes visits to production facilities in addition to theoretical classes, the majority of the Winter School participants, including those who previously had a negative attitude to the industry, expressed interest in linking their professional future with the oil and gas industry. In addition, the survey participants have become more positive and realistic about the industry and the processes taking place in it.

Do you consider working in the oil and gas industry?



We believe that this can be considered a success of the RNC of the WPC educational programme "EnerGenious"!