



## Ecology of Karaulbazar Oil Processing Plant and Its Impact on the Environment

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### ABSTRACT

The following article deals with the details of the ecology of the Karaulbazar refinery and its impact on the environment.

### Keywords:

ELF-Aketin company, torch, high-octane gasoline, diesel fuel, forestry, Kukdumalok, Setalantepa, Saritosh, Japan "Marubeni" and "Djey-Dji-Si" companies, butane, monitoring, ecology, environmental protection.

There are many miracles in the universe, but miracles do not happen every day. Perhaps miracles can happen not only in the past, but also today, even as you read these lines. On August 22, 1997, the Bukhara Oil Refinery, known as the "Miracle of Uzbekistan", was launched. Now, not only in our country, but all over the world, in countries such as America, England, Russia, radio and television newspapers are talking about Karaulbazar and the world's largest oil refinery to be built here.

The Bukhara Oil Refinery is a large industrial enterprise specializing in the production of petroleum products, located near the town of Karaulbazar in the Bukhara region. The opening of gas and oil fields such as Kukdumalok, Setalantepa, Saritosh, Ortabulak played an important role in the emergence and development of the oil industry.

The government of the republic spends about 5 million a year near Karaulbazar and

tons of oil refinery is planned to be built. According to the Resolution of the Cabinet of Ministers № 389 of August 3, 1993, the construction of the plant began that year. With the launch of the plant, about 3.0 thousand people have been employed, which has played a significant role in the economy of our country.

The number of partners investing in the Uzbek economy is growing day by day. The French company ELF-Aketin is one of them. ELF-Aketin and the Republic of Uzbekistan have signed agreements on cooperation in the field of oil production, sugar and pharmaceutical plants, as well as the construction of luxury hotels.

In August 1997, the Bukhara Oil Refinery was launched. This year, a 6-kilometer road from the Bukhara-Karshi highway to the plant site, roads leading to the city of Karaulbazar and on the territory of the enterprise were built. Electricity, water, heat and gas supply networks were also been tested. About 2,000 members of

Bukhara Construction worked at more than 50 facilities during the construction of the plant. A number of facilities, such as a boiler house, kitchen, communication center, and administrative building, were built by them. Along with the production of consumer goods, the company has launched the production of fire-resistant fireclay bricks on the basis of the localization program of the government. With the launch of the plant, oil imports to Uzbekistan were stopped and our country gained oil independence. As a result of the necessary measures taken in recent years, oil production (including gas condensate) has grown rapidly.

To implement the technological part of the project, a consortium was formed with the participation of the French company TEKNIP, the Japanese companies Marubeni and JIG. The construction and installation work was carried out by the Turkish company Gama and Uzbek builders.

In 1997, an underground gas compressor station ("Sykling-process") was built here at a pressure of up to 500 atmospheres. The technology of the project was implemented in collaboration with the US consortium Kellogg and the Japanese consortium Nisho-Iwai. The Bukhara Oil Refinery operates on the basis of oil fields in Kashkadarya and Bukhara regions (mainly Kokdumolog oil and gas condensate field) and produces various oil products, high-octane gasoline, diesel fuel, jet fuel, crude oil, liquefied petroleum gases (butane, technical propane, propane-butane) and other products.

The amount of gases emitted into the atmosphere during the year is set due to the fact that production processes are carried out in accordance with full technological regulations and part of the vehicles (30 cars, environmentally friendly fuel was converted to natural gas). An average of 19.2% reduction was achieved. The plant emits 604 emissions into the atmosphere, of which 500 are directed sources. The total annual emissions from the plant is 4,653 tons, of which 4,641.31 tons come from flare pipes. According to the approved normative document, the plant should emit 7202.9 tons of exhaust gases per year, while for 200 years this figure was 6385.63 tons, which is a reduction of 1517.27 tons, including

hydrocarbons. -85%, carbon oxides -4.8%, nitrogen oxides-2.6% and the remaining 3.2% are other gases. Soil protection samples will be taken from the soil and underground wells at a distance of 500-1000 m from the sanitary protection zones and around the flare pipe on the territory of the plant. The biogenic elements of the soil are seasonal and change dramatically in spring, summer and autumn. The content of bicarbonates of chloride sulfate, calcium, magnesium and sodium is almost unchanged. There are no oil products at all.

The plant treatment plant specializes in deep cleaning technology. The facility receives 25-30% of the total volume of sewage generated in the system of domestic services in 2 directions, and wastewater generated in the technological process. 2800-2900 cubic meters per day and 1 million cubic meters per year. sewage is treated. Various coagulants (aluminum sulphate salt) are used in the primary clarifiers to combine effluents from both directions.

The Bukhara Oil Refinery, which has a high potential in the country, covers a wide range of production processes.

In 1997, an environmental service was set up at the plant, and air, land, water, and waste management teams were formed. During service life, wastewater is generated during the production of gases released into the atmosphere waste and drinking water quality indicators are constantly monitored on the basis of laboratory analysis.

The "oil forestry" was established in 2002 on the territory of the plant, and landscaping is carried out every year. From 2002 to 2006, 27.8 thousand fruit, 43.0 thousand ornamental and 13.5 thousand flower seedlings were planted. Saxaul seedlings were planted on 2,950 hectares to build a green shield around the plant. Atmospheric air monitoring stations have been set up on the territory of the Bukhara Oil Refinery and in the Neftchi settlement, which is monitored daily by service personnel. Major banking companies from France, the United States and Turkey took part in the construction of the plant.

An oil town has sprung up near the town of Karavulbozor. Recreation areas, parks and

modern landscaping have been built. The event became a major event in the steppe. Let's remember the words of the President of the Republic Islam Karimov at that time. "The completion of this plant is valuable not only for us economically, but also as an experience of working with several major companies around the world.

In other words, a new model of development is being created here in the desert. This miracle of Uzbekistan surprised even foreign experts.

In order to reduce the groundwater level of the plant "Neftchi", the collector is being cleaned with AOABKS, Bukhara hydraulic engineering enterprises.

In summary, the analysis and the sanitary-epidemiological situation show that the region is not adversely affected by the Bukhara oil refinery during its operation.

In the early years of construction of the plant in the desert, 120 saxophones were built to plant greenery around it. Later, 7,600 saxophones, 15 slates, poplars and willows were planted not only around the plant but also in the whole Karaulbazar market to improve the ecological situation. The protection of the ecology of the Karavulbozor oil refinery and its constant monitoring is carried out by special organizations. This is important for the ecology of the district. Protecting the environment should be the duty of every citizen!

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