

## The Global Oxygen Catastrophe of Nature and Humankind has Begun

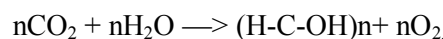
*The author, Leopold Nikolaevich Yakovlev has been working as a designer and a developer of Rocket weaponry and artillery for 46 years. His many designs are being used by The Russian Military Forces. The author studied the ecological and technological aspects of the development of human civilisation all his life.*

Over the course of several years I have apprehensively listened to presentations by President Bush in regards to the future of Energy, in which hydrogen plays an key role. Scientists have also been discussing the 0.6°C global warming caused by green house gas emissions which modern civilisation has been generating – mostly developed nations. These scientists consider carbon dioxide (CO<sub>2</sub>), which is the result of burning mineral fuel, coal, hydrocarbons, to be a major factor in green house effect.

If we refer to the biological history of the Earth, then the generally accepted scientific fact is that in modern times the presence of oxygen (O<sub>2</sub>) in the atmosphere is the result of photo synthesis of plants which is sustained by the energy of the Sun radiated in the optical band.

Non-organic substances such as water (H<sub>2</sub>O) and Carbon dioxide (CO<sub>2</sub>) are included in circulation.

Primary organics and Molecular Oxygen (O<sub>2</sub>) are the result of the photo synthesis:



Oxygen has oxidized all minerals on Earth. While Carbon (C), hydrocarbons (nCH<sub>2</sub> and CH<sub>4</sub>) and also limes (CaCO<sub>3</sub>) are buried in Geological deposits, microorganisms in the soil decompose organics into carbon dioxide and water.

Carbon dioxide (CO<sub>2</sub>) goes into the atmosphere, and water (H<sub>2</sub>O) goes into the soil and later into the ocean. The circulation of carbon, hydrogen and oxygen has been stable on Earth for 3 billion years.

I came across an article in the “Science and Life” magazine (No 9 of 2005). This was an abstract from the book “In front of the main civilization challenge” by Davydov - Danielian. I was astonished by the scale of global destruction of nature by technogenic civilisation. I recalled that in the Physics textbook of 1944 the oxygen content of the Earth atmosphere was estimated as 25%, now the textbooks quotes this at just 20%. During my lifetime the civilisation has destroyed 5% of the atmosphere’s oxygen!

The problem is that nature does not have any sources of oxygen underground! The oxygen circulates together with carbon as a result of photo synthesis and organics’ decomposition. The process of burning off hydrocarbons consumes the oxygen, providing water which fills the Ocean.

There are only two ways of technologically supplying oxygen to the atmosphere: decomposition of water (throwing hydrogen into space) and decomposition of the limes.

One more condition is required to support the circulation of oxygen and carbon in nature: that is photosynthesis produced by green plants. However, at present, 2/3 of green areas, which for millions of years supported the oxygen circulation, have been destroyed. This screams for the regeneration of all green areas destroyed by humans.

The technological expansion of humankind is closely related to exponential growth of the human population. If the growth of the population stops by 2030 at a level of 10 billion, then by 2030 the atmosphere will just have 10% of oxygen and the technological development would stop. If humankind proceeds with the development of hydrogen technology, it will result in the destruction of all oxygen in the atmosphere and the elimination of the whole biosphere.

Ecologists consider that the irreversible destruction of the natural environment started about 1900. At that time the Earth's population was about 1-1.6 billion. If we start the ecological retreat now, it might be possible to re-establish the biological status quo "humus sapience – Earth biosphere", However, it will be very difficult if the exponential growth of the Earth's population continues.

The reason for the impending oxygen catastrophe on Earth is expanding industrial production; an ever lasting productivity increase of the market economy and particularly during its latest stage – globalisation; the acquisition of natural resources for industrial use. Conditions for it are at generally low levels of public consciousness, priority of egoistic intentions over society and nature, glorification of the egoistic human rights as applied to a person over interests of humankind as a community of homos sapience. Not least, the total disregard by politicians of the scientific knowledge in the decision making process in relation to the civilisation's development.

If the politicians and the whole society worldwide do not recognise the growing danger, then events would develop as follows:

The Earth population would grow up to 8 billion by 2020, while the oxygen concentration would fall to 15%. By 2030 there would be 10 billion people while only 10% of oxygen would be left. Earth's population would start to decrease sharply due to nature's inability to produce a required volume of biological mass under conditions of low oxygen concentration.

There is an alternative scientific process to overcome the Earth oxygen and human civilisation crisis. Before 2020, when the oxygen concentration would still be above 15%, the world community will realise that it has to stop the use of hydrocarbons as fuel. Countries via the mechanism of the United Nations would agree a programme for sustainable growth's / stabilisation of the Earth's population. Politicians would provide for general disarmament. Economists would develop new principles of production with a decreasing number of manufacturers and recourses involved and develop a system of justified distribution of goods produced. With a stabilisation of the human population, a feasibility of re-cultivation of nature would occur. Scientists involved in the energy sector would invent a technology of atmospheric oxygen enrichment up to the natural level. Educators would provide the high education level necessary to understand the philosophy of an ecologically sustainable population and accept all complex measures to achieve this objective.

The difficulties of the previous stages of human development are nothing compared with the future!

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Comments:

*Earth's nature is wisely constructed: hydrocarbons were buried underground for billions of years in order to save oxygen for living creatures.*

*Humankind has started to ignorantly violate Earth's bowels and has "let the genie out of the bottle".*

*We need to mention that people have always been lucky: by the time a global crises has arisen there was always an alternative decision. And now, such solutions as electricity exist in industry, transport, agriculture and in consumer life and would allow to put down almost all hydrocarbon fires (for the period of time required for the stabilisation of the growth of the human population and the development of reusable sources of energy).*

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