

end, after an hour, I went out in jeans that looked better than mine. I achieved more, but I felt worse. The reason is that when we know one model, we have no special expectations on this. Now when there are a hundred models, one of them exactly has to be perfect. And what I bought was not bad, but not perfect. Diversity entails an increase in expectations, and, consequently, a decrease in satisfaction with the result, even if it is not bad. Why was everything worse before, but better? Because when it was worse, people were more likely to be surprised. Now the world in which we live - wealthy residents of cities with high expectations - is such that the most we can hope for that our expectations will coincide with the real state of affairs. We will never be pleasantly surprised because our expectations with you are on such a crazy level.

This is the paradox of fish in an aquarium - the thing is that if you break it in order to reach great opportunities, you will not get freedom. You are paralyzed. Paralysis - more, satisfaction - less. Each of us needs an aquarium.

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УДК 662.758

## CARBON DIOXIDE PROCESSING INTO ALTERNATIVE FUELS

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In recent years, mankind has faced climate warming on our planet as a result of changes in the composition of the atmosphere and the manifestation of the so-called greenhouse effect, keeping warmth on Earth. The higher the concentration of these gases, the greater the greenhouse effect.

Greenhouse gases are gases that create a screen in the atmosphere that delays the emission of infrared rays into space, which, as a result, heat the surface of the Earth. Currently, these gases include carbon dioxide, methane, chlorofluorocarbons (freons), nitrogen monoxide (N<sub>2</sub>O) and tropospheric ozone.

Thus, CO<sub>2</sub> is a fairly stable molecule, and in order for it to enter into a reaction, a huge amount of energy is required. One common way to convert CO<sub>2</sub> is to remove the oxygen atom and combine the remaining CO with H<sub>2</sub> to create methanol. However, such a reaction requires very high temperatures (about 1000 degrees Celsius), which are not so easy to maintain.

The goal was to find a cheaper and less energy-consuming method of processing carbon dioxide (CO<sub>2</sub>), into an alternative fuel - methanol, which will solve two problems at the same time: reducing the amount of CO<sub>2</sub> and obtaining almost affordable fuel.

A new method of converting carbon dioxide into liquid fuel has been developed. For this, it is enough to use copper and sunlight.

According to experts from the University of Texas at Arlington, the new technology will help produce fuel from the "gratuitous" raw materials, while not polluting the environment of CO<sub>2</sub>. The essence of the technology is in the use of nanorods of honey oxide Cu<sub>2</sub>O oxide crystallites coated

with another copper oxide - CuO. During the experiments in the laboratory, it was found that if these rods were immersed in water saturated with CO<sub>2</sub> and then irradiated with sunlight, then a photoelectrochemical reaction begins, which leads to the release of methanol. The new process is safer, simpler and less expensive than all previous greenhouse gas conversion methods: you just need to submerge the array of copper nanorods in the water.

But methanol is poisonous, and we cannot talk about the complete safety of the new technology only if reliable water is cleaned from methyl alcohol.

Nevertheless, the advantages of copper nanorods over similar modern developments are enormous.

First of all, cocatalysts, high pressure and temperature, the use of toxic or rare-earth metals are not required.

At the same time, copper nanorods demonstrate a 95% conversion efficiency of CO<sub>2</sub> to methanol without significant energy costs.

A cheap way to convert carbon dioxide to methanol can open up completely new opportunities in the energy and chemical industries since methanol is used not only as a fuel raw material but also as a starting material for the production of plastics, adhesives, and solvents.

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**УДК 539.14**

### UNLIMITED CLEAN ENERGY DREAM

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Our world is such that in it the existence of something infinite and ideal seems impossible. And this also applies to our planet. What happens when all the resources available to us will be exhausted? As American scientists asserted, they found an endless source of pure and free energy.

Nuclear fusion is the production of all chemical elements that exist in the Universe, from one or two simple atomic nuclei. It is believed that nuclear fusion occurred due to the release of a large amount of nuclear energy during cosmogenesis. It still continues on the Sun and on other stars. Repeated nuclear fusion reactions explain the origin of most chemical elements, ranging from hydrogen and helium to iron. Chemical elements that are heavier than iron can be explained by repetitive reactions involving the capture of neutrons by the nuclei.

Nuclear fusion is the be-all and end-all source of energy because, in theory, it's practically unlimited and has almost no downside. It doesn't put carbon into the atmosphere like the burning of fossil fuels or generate radioactive waste like nuclear fission, which is the technology in current nuclear power plants. And the key to reducing losses and increasing production - a new type of powerful magnets, a key component of fusion reactors. The magnets create a field to hold the fusion reaction in place without it touching anything solid - thus solving the meltdown problem. In the