

KHARIN S. A., Doctor of Engineering, Professor, Dnipro University of Technology
KOROVINA O., PhD in Economics, Associate Professor, Kryvorizkyi derzhavnyi
pedagogichnyi universytet
PAPIZH Y., PhD in Economics, Associate Professor, Dnipro University of
Technology

CLIMATE CHANGE OF THE PLANET REQUIRES OPTIMAL DECARBONIZATION MANAGEMENT

Climate change of the planet requires optimal decarbonization management

The problem of global warming has become a reality today, as evidenced by the growing hurricanes and floods in some parts of the world and droughts in others, rising ocean levels, declining crop yields, landslides and more. The solution to this global problem depends on the concerted efforts of the world community.

Negative changes in the planet's climate have such manifestations:

- the temperature of the planet's atmosphere will continue to rise inevitably due to the impossibility not only to reduce the existing level of carbon emissions, but also to maintain this level, the determining forecast can only be an increase in carbon emissions;

- it is pointed out that even a very intensive reduction of CO₂ emissions "to pure zero level", which seems at least currently impossible, and in the long run - very difficult to implement, will not reduce global temperature due to the lifetime of carbon dioxide molecules;

- the inertia of maintaining the planet's temperature, as predicted by the World Meteorological Organization [1], even in the absence of increased carbon emissions will be calculated for many decades;

- melting ice in the oceans, mountain glaciers is characterized by dimensions that were unknown to human history.

Analysis of the Bulletin of the World Meteorological Organization [1], in particular, showed the following: «Concentration of carbon dioxide (CO₂), the most important greenhouse gas, reached 413.2 parts per million in 2020 and is 149% of the pre-industrial level. Methane (CH₄) is 262% and nitrous oxide (N₂O) is 123% of the levels in 1750 when human activities started disrupting Earth's natural equilibrium. The economic slowdown from COVID-19 did not have any discernible impact on the atmospheric levels of greenhouse gases and their growth rates, although there was a temporary decline in new emissions». «The Greenhouse Gas Bulletin contains a stark, scientific message for climate change negotiators at COP26. At the current rate of increase in greenhouse gas concentrations, we will see a temperature increase by the end of this century far in excess of the Paris Agreement targets of 1.5 to 2 degrees Celsius above pre-industrial levels,» said WMO Secretary-General Prof. Petteri Taalas. «We are way off track» [1].

Negative changes in the planet's climate require optimal decarbonization management:

- a set of measures to abandon coal at thermal power plants, gasoline and diesel fuel as vehicle fuel;
- the use of solar panels on a mass scale;
- massive use of energy from wind power plants;
- electric trains should replace airplanes in many cases;
- we need to stop deforestation on the planet;
- massive use of electric vehicles.

An important precondition for optimal decarbonisation is the use of only solar and wind energy for charging electric vehicles in the future. The problem of climate preservation is the most important problem on the planet today. The future depends on its decision. This problem requires joint action by all countries and peoples for the sake of preserving civilization.

References:

1. <https://public.wmo.int/en/media/press-release/greenhouse-gas-bulletin-another-year-another-record>