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DECARBONIZATION OF THE ECONOMY: THE ESSENCE AND MECHANISMS FOR ITS IMPLEMENTATION

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A B S T R A C T

This article covers the essence of decarbonization of the economy and the mechanisms of its implementation. The purpose of decarbonization is to replace fossil fuel-based systems with electricity generated using low carbon sources such as renewable energy sources.

K E Y W O R D S

Carbonization, greenhouse gas emissions, renewable energy sources, Paris Agreement, global climate crisis, green economic recovery, greenhouse gases.

Introduction

The world community has long been talking about decarbonization within the framework of the climate change agenda, but in the near future it is not possible to make a large-scale transition to alternative energy sources even in developed countries.

The reduction of greenhouse gas emissions and the development of renewable energy sources have become the main economic policy in the developed world, especially in the countries of the European Union. The European Union's Green Deal has become increasingly linked to plans to restore the economy. In the United States on this issue, the Biden administration announced plans to adopt a Green new deal.

Developed countries that have created infrastructure and legal conditions for the development of renewable energy sources have the opportunity to take advantage of the crisis to accelerate energy exchange. In developing countries, on the contrary, the current crisis has revealed, on the one hand, conflicts between the goals of reducing emissions and the goals of solving basic social problems through industrialization and economic growth. Once we get rid of the crisis, there is a high probability that preference will be given to the most favorable energy sources - primarily coal, oil and natural gas, which will lead to an increase in greenhouse gas emissions.

This project aims to identify key approaches to decarbonization after and after the COVID-19 crisis and to assess differences in approaches between developed and developing countries. The project defines three group tasks.

First of all, it is an assessment of the capabilities and determination of the necessary conditions for combining the goals of economic development and waste reduction, based on the analysis of long-term low-carbon development strategies of developed and developing countries.

Secondly, it is the assessment of climate and energy policy tools and the development of a methodology for choosing climate policy tools and measures depending on the socio-economic and institutional conditions of development.

The tasks of the third group consist in the search for a consistent form of carbon regulation in energy exporting countries, which, on the one hand, creates a greater incentive to reduce emissions, and on the other hand, minimizing risks for the economy and society.

In addition, this energy exchange must necessarily be carried out with the state support of oil and gas companies or the creation of benefits for them in the domestic market if certain conditions for decarbonization are met, but not with the introduction of additional taxes and restrictions!

Currently, the world community is promoting the idea of decarbonization - the restructuring of the economy and energy systems in order to drastically reduce CO2 emissions, which will reduce the burden on the environment in the future.

The International Council of experts on climate change created CO2 emission scenarios. Based on these scripts, it is the only script that achieves the goals of the Paris Agreement. Going this way means lowering CO2 net emission after 2050 to 0 or below zero. However, it is now almost impossible to follow the RCP2.6 scenario: the world is currently developing according to the scenario of an increase in average temperature to 3°C.

The current level of technology does not allow to abandon the use of traditional energy sources: coal, oil, natural gas. However, it is already possible to increase the efficiency of their use to reduce waste. Full decarbonization of energy systems is the only solution to climate stabilization. In practice, to achieve 0 net emissions, it is necessary to switch to clean energy sources and switch from fossil fuels to electricity. In countries that rely more on high technology, services, and digital technology, electricity is becoming more and more selective fuel. Its share in global final consumption is approaching 20% and will continue to grow.

Decarbonization involves reducing carbon dioxide (CO2) emissions.

Decarbonization:

- Economy in general-provides for a reduction in CO2 emissions per unit of GDP (ton/ US dollar/ person).
- Energy system economy-reduction of CO2 emissions per unit of energy produced (kg/ barrel).

Instructions for decarbonization:

- Electrification;
- Decarbonization of electricity generation;
- Energy efficiency.

These areas are interconnected and support each other.

The purpose of decarbonization is to replace fossil fuel-based systems with electricity generated using low carbon sources such as renewable energy sources.

Since the entry into force of the Paris agreement on climate in 2016, the relevance of decarbonization of Energy Systems has increased. The effects of Global climate change are associated with an increase in the concentration of CO2 in the atmosphere. The increase in the amount of CO2 in the atmosphere was associated with the beginning of the Industrial Revolution, and coal became the main source of

energy. Ratified by 174 NATIONS, The Paris Agreement aims to reduce global temperature increases by 2 times the pre-industrial level.

During its development, the world economy experienced several energy transitions from coal to coal, then oil dominated, and now natural gas consumption is developing at a rapid pace. Previously, Energy Exchange was caused by convenience and cost competitiveness, but now the environmental aspects of the choice of energy resources are becoming more important. In the context of the global climate crisis, the world oil and gas industry is striving for a low-carbon future. Each country is now seeing a significant shift to renewable energy sources as an environmentally sustainable and climate-friendly alternative to creating energy.

According to IEA 2017, industrial heat accounts for 2/3 of industrial energy demand and almost 1/5 of global energy consumption. This generates one of the most important CO2 emissions, since most of the industrial heat comes from burning fossil fuels. Decarbonization of this fuel and energy sector, especially high-temperature industry, requires major changes to heat.

Climate change in the country affects the population of Uzbekistan in different ways, and by 2030 at least 8 million people across the country are beginning to live in districts with high climate risk. It cited that decarbonization of the economy by 2060 (reduction of carbon dioxide emissions) would require a focus on the energy sector, which accounts for nearly 75% of greenhouse gas emissions in Uzbekistan.

Significant investment is required to implement and adapt decarbonization programs. It is estimated that Uzbekistan will need about US $ 60 billion to mitigate the adverse effects of the climate on labor productivity, roads and bridges, livestock and irrigation sector.

In addition, replacement and decarbonization of aging energy infrastructure will require approximately $ 340 billion by 2060. A large part of this investment can be made by the private sector.

Today, the world community recognizes climate change as one of the most serious challenges facing humanity. The UN Framework Convention on Climate Change has set two main areas for its resolution: reducing greenhouse gas emissions into the atmosphere and adapting to observed and expected climate change. Failure to take timely measures and further increases in the amount of greenhouse gases in the atmosphere can lead to unspeakable consequences of climate change.

On May 30, 2021, President Shavkat Mirziyoyev, in his speech at the second international summit “cooperation for Green Growth and global Goals-2030” (P4G), proposed conceptual proposals for important areas of cooperation in the field of “green economic recovery” were put forward. At this summit, the president of the Republic mentioned that climate changes are evident in Central Asian countries such as all countries of the world, the basin of the main rivers in the region and its environmental problems, such as shrinking biodiversity, gases that increase evaporation and large-scale pollution of the atmosphere, are seriously alarming not only the countries of the region, but also the world community.

It is known that the Republic of Uzbekistan joined the UN Hadley Convention on climate change on June 20, 1993, and the Kyoto Protocol, a global agreement on quota trade based on the mechanism of Environmental Protection, reduction of the spread of greenhouse gases associated with this document, was ratified in 1999.

On April 19, 2017, Uzbekistan signed the Paris Agreement at the UN headquarters in New York. To sign the agreement, a document was submitted to the secretariat of the UN Framework Convention

on climate change to reduce its Nationally Determined Contribution to greenhouse gas emissions. This agreement was ratified on October 3, 2018.

It was noted that in accordance with paragraph 253 of the state program" year of youth support and strengthening of population health " of 2021, the development of a long-term state policy of the Republic of Uzbekistan on mitigating the consequences of climate change is established. In order to ensure the implementation of this item, representatives of the Committee on ecology and environmental protection in the Legislative Chamber of the Supreme Assembly, specialists of the Hydrometerology center and the relevant ministries and departments worked together to develop a strategy for combating the consequences of climate change in the Republic of Uzbekistan until 2030.

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