DEVELOPMENT OF CORRECT METHODS OF USING ALTERNATIVE ENERGY

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Abstract: this article describes methods of using alternative energy and measures to improve them.

Key words: Alternative way, energy resources, fuel industry, energy development, energy perspective, alternative energy solution.

РАЗРАБОТКА ПРАВИЛЬНЫХ МЕТОДОВ ИСПОЛЬЗОВАНИЯ АЛЬТЕРНАТИВНОЙ ЭНЕРГИИ

Аннотация: в данной статье описаны методы использования альтернативной энергетики и меры по их совершенствованию.

Ключевые слова: Альтернативный путь, энергетические ресурсы, топливная промышленность, развитие энергетики, энергетическая перспектива, альтернативное энергетическое решение.

INTRODUCTION

Research on alternative energy is now being conducted in almost all developed countries, but the most pressing issue of using renewable energy sources is facing developing countries, which still have to import the necessary technologies and equipment. But in the future, developing countries will have to independently build their capacity to research, develop and apply innovative energy technologies.

Many countries are already actively using alternative energy opportunities. Moreover, some are simply forced to do this. For example, in Cyprus, almost the main source of energy is the sun. According to the laws of the country, all new buildings on the island must be equipped with solar collectors. Water heater collectors are installed on the roofs of houses at a certain angle to the horizon, providing heating of the coolant by 40–50 degrees. 15% of apartments and 90% of private houses on the island are equipped with such devices. Apart from Cyprus, the largest number of solar collectors per capita are installed in Israel, and they are also widely used in the USA and Japan.

MAIN PART

According to experts, the most promising direction is the development of bioenergy. Today, about 70% of all energy generated from renewable sources in the world is obtained from biomass [8]. However, in recent years, the industry's development has slowed due to the fact that the production of biofuels from agricultural raw materials has caused a global rise in food prices. The timber industry complex can become a more reliable and efficient raw material base for bioenergy.

According to Sergei Mikhailov, director of the Department of State Energy Policy of the Ministry of Industry and Energy of the Russian Federation, by 2015 Russia can produce up to 3-5% of all energy from renewable resources, but it is not yet clear what part of this share will be biomass energy - waste from forestry, wood processing, and livestock. , household waste. According to the General Director of the International Biotechnology Foundation Grigory Ugodchikov, one of the main directions of bioenergy in Russia should be the recycling of wood

waste. Russia could use the experience of Sweden, where 80% of heat supply needs are met through this type of biomass.

Also of no less interest is the disposal of agricultural waste, of which 700 million tons accumulate in Russia annually. By the end of the year, the Ministry of Agriculture should complete the development of a general strategy for the development of bioenergy in the country. In particular, it provides for the creation of a scientific center that should deal with the problems of the new industry.

Among many crops in terms of energy value, rapeseed ranks first, the area under which is to be increased from 800,000 to 2 million hectares. Last year, a plant for processing 300 thousand tons of rapeseed was commissioned in Kazan, and the same plant is being built in the Lipetsk region. In total, it is planned to build 22–25 processing plants.

In 2021, four key indicators of climate change—greenhouse gas concentrations, sea level rise, ocean warming, and ocean acidification—reached new record levels. This is another clear sign that human activity is causing planetary-scale changes in the land, ocean and atmosphere, with dramatic long-term consequences.

Make renewable energy technologies a global public good For renewable energy technologies to become a global public good—that is, accessible to everyone, not just the wealthy—barriers to knowledge sharing and technology transfer, including barriers to intellectual property rights, must be removed. Critical technologies such as battery systems can store energy from renewable sources such as solar and wind and release it when people, communities and businesses need power. According to the International Renewable Energy Agency, they help improve grid flexibility due to their unique ability to quickly absorb, store and release electricity again.

Additionally, when combined with renewable energy sources, battery technology can provide reliable, lower-cost electricity to isolated grids and to communities in remote areas not connected to the grid.

Improving global access to components and raw materials Reliable supply of components and raw materials for the use of renewable energy sources is of utmost importance. Greater access to all key components and materials will be key, from the minerals needed to build wind turbines and electrical grids to electric vehicles.

Expanding and diversifying production capacity around the world will require significant international coordination efforts. A just transition also requires greater investment, including in skills training, research and innovation, and incentives to build supply chains based on sustainable practices that protect ecosystems and cultures.

Level the playing field for the use of technologies based on renewable energy sources

Global cooperation and coordination are critical, but domestic policy frameworks need to be reformed quickly to streamline and accelerate the implementation of renewable energy projects and stimulate private sector investment.

The technologies, capacity and means to transition to renewable energy exist, but strategies and procedures need to be developed to reduce market risk and create conditions and incentives for investment, including by streamlining planning, permitting and regulatory processes, and by taking preventative measures. the emergence of bottlenecks and bureaucratic problems. This could include the allocation of sites for large-scale development in special renewable energy zones.

Nationally determined contributions—country-specific climate action plans focused on reducing emissions and adapting to the impacts of climate change—should set renewable energy

targets consistent with the idea of limiting warming to 1.5 C, and the share of renewables energy in global electricity production should increase by 2030 from the current 29 to 60 percent.

Clear and reliable strategies, transparent processes, public support and the availability of modern energy transmission systems are key to the speedy implementation of wind and solar energy technologies.Shifting energy subsidies from fossil fuels to renewables. Fossil fuel subsidies are one of the biggest financial barriers to the transition to renewable energy worldwide. The International Monetary Fund (IMF) estimates that nearly $5.9 trillion was spent subsidizing the fossil fuel industry in 2020 alone, including through direct subsidies and tax breaks, and at the expense of public health and the environment. , which was not included in the cost of fossil fuels. This equates to approximately $11 billion per day.

CONCLUSION

Providing subsidies for fossil fuels is both ineffective and unfair. In developing countries, about half of public resources spent on supporting fossil fuel consumption benefit the top 20 percent of the population, according to the IMF.

Shifting subsidies from fossil fuels to renewable energy not only reduces emissions, but also promotes sustainable economic growth, job creation, improved health and greater equality, especially for the world's poor and most vulnerable.

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