# RENEWABLE ENERGY – ENSURING A SAFER FUTURE

**Qodirov Baxodir Tursunovich**
Andijan Institute of Economics and Construction
Department of Socio-Economic Sciences senior teacher
**Razzaqov Muhammadqodir Baxtiyorjon o'gli**
Majoring in accounting and auditing student

**Annotation:** Energy is the basis of the climate problem and the key to solving it. A significant part of the greenhouse gases covering the Earth and trapping solar heat is generated during energy production when fossil fuels are burned to generate electricity and heat. Energy consumption is a prerequisite for the existence of mankind. The availability of energy available for consumption has always been necessary to meet human needs, increase the duration and improve his living conditions. Fossil fuels such as coal, oil and gas are by far the biggest contributors to global climate change: they account for more than 75 percent of global greenhouse gas emissions and almost 90 percent of all carbon dioxide emissions. Scientific evidence clearly shows that in order to avoid the worst effects of climate change, it is necessary to reduce emissions by almost half by 2030 and achieve net zero emissions by 2050. [1]

**Key words:** improvement, investments, law, project, sustainable, improve, government

## INTRODUCTION

Energy is fundamental to our civilization and to the prosperity of nations. Its production, distribution and utilization are deeply embedded in the fabric of our economies and central to the relations between states. The energy sources powering our societies have been undergoing a period of rapid change. Renewables have emerged as a technologically feasible, economically attractive and sustainable choice that increasingly can meet the energy needs of many countries, corporations and citizens. As tackling climate change becomes more and more critical and renewables steadily increase their capacity to meet our energy needs, the global transition to sustainable sources of energy will continue to accelerate. [2] Renewable energy sources, which are abundant around us thanks to the sun, wind, water, waste and heat of the Earth, are replenished naturally and practically do not emit greenhouse gases or pollutants into the atmosphere. Fossil fuels still account for more than 80 percent of global energy production, but cleaner energy sources are gradually gaining ground. Currently, about 29 percent of electricity comes from renewable sources.

## MATERIAL AND METHODS

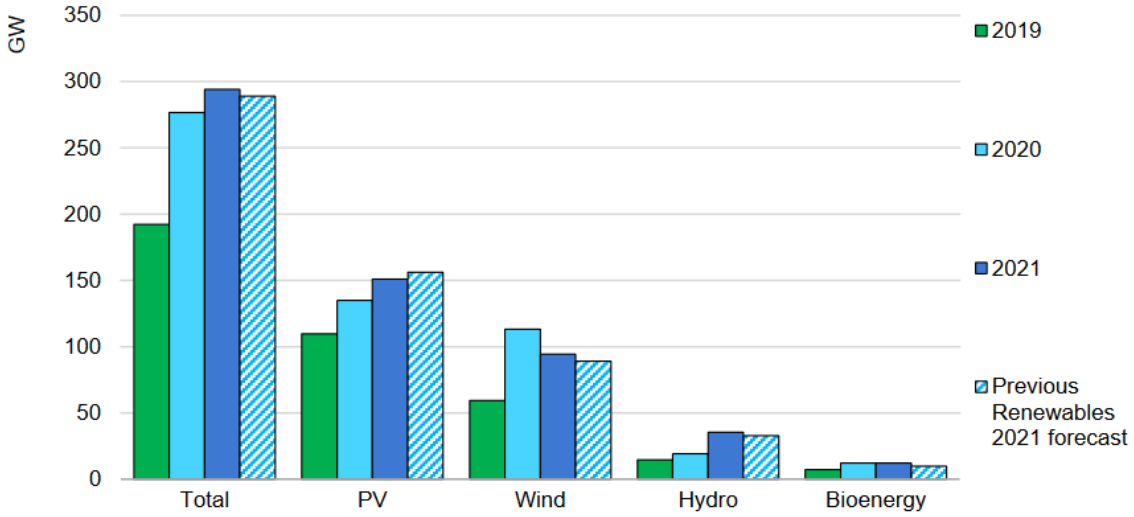
The world community considers the use of unconventional and renewable energy sources as one of the most promising ways to solve the growing problems of energy supply. The presence of an inexhaustible resource base and the ecological purity of the NWIE are their defining advantages in the conditions of the depletion of organic fuel resources and the growing rates of environmental pollution. Aware that the growing deployment of renewables has set in motion a global energy transformation with significant implications for geopolitics, Adnan Z. Amin, the Director-General of the International Renewable Energy Agency (IRENA), with the support of the Governments of Germany, Norway and the United Arab Emirates, convened the Global Commission in January 2018. Scientists such as O.V. Dubrovin, G.M. Kaletnik, I.S. Moga, S.N. Savchenkov, S.A. Stasinevich, S.P. Tsigankov, O.M. Shpichak and others are working towards solving the problem of the formation, development and use of renewable energy sources. [3]

## RESULTS

Unconventional and renewable energy sources have recently become one of the important criteria for the sustainable development of the world community. New technologies are being searched for and existing technologies are being improved, the scope of their use is expanding. The main reasons for such attention are the expected depletion of reserves of organic fuels, a sharp increase in their prices, imperfection and low efficiency of technologies for their use, harmful effects on the environment, the consequences of which are increasingly worrying the world community. Here are five reasons why accelerating the transition to clean energy is the way to a healthy and livable planet for those who live today and for future generations. 1. Renewable energy sources surround us everywhere About 80 percent of the world's population lives in countries that are net importers of fossil fuels – this is about 6 billion people who depend on fossil fuels from other countries and for this reason are vulnerable to geopolitical shocks and crises. Unlike fossil fuels, renewable energy sources are available in all countries, and their potential has yet to be fully exploited. According to estimates by the International Renewable Energy Agency (IRENA), by 2050 90 percent of the world's electricity can and should come from renewable sources. Another record year of growth but with new boom and bust deployment cycles Despite the persistent pandemic-induced supply chain challenges, construction delays, and record-level raw material and commodity prices, renewable capacity additions in 2021 increased 6% and broke another record, reaching almost 295 GW. This growth is slightly higher than the forecast last year in the IEA’s Renewables 2021. Globally, the 17% decline in annual wind capacity additions in 2021 was offset by an increase in solar PV and growth in hydropower

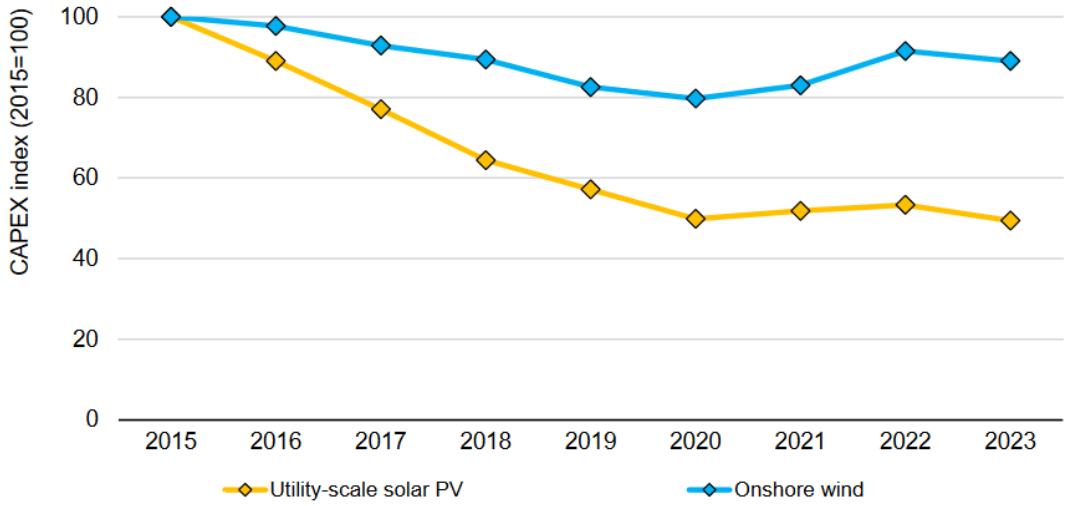
installations. The expansion of bioenergy, concentrated solar power (CSP) and geothermal was stable in 2021 compared with 2020. In terms of speed of growth, renewable capacity's year-on-year increase last year was slower, following an exceptional jump in 2020 when Chinese developers rushed to connect projects before the phase out of subsidies, especially for onshore wind.

**Figure 1. Renewable net capacity additions, 2019-2021** [4]




2. Renewable energy is cheaper Today, the use of renewable energy is actually the cheapest option for energy supply in most regions of the world. Prices for renewable energy technologies are falling rapidly. In the period from 2010 to 2020, the cost of electricity from solar panels decreased by 85 percent. The cost of onshore and offshore wind energy decreased by 56 and 48 percent, respectively. By 2030, cheap electricity from renewable sources can provide 65 percent of the world's electricity supply. This will decarbonize the energy sector by 90 percent by 2050, significantly reducing carbon emissions and helping to mitigate the effects of climate change. [5] High prices for oil, natural gas and coal also contribute to rising production costs of manufactured materials for renewable electricity technologies since fossil fuels are used in both industrial processes and power generation. While significant in absolute terms, the increase in renewables costs have not hampered their competitiveness because prices of fossil fuels and electricity have risen at a much faster pace since the last quarter of 2021. Globally, power prices are breaking historic records in many parts of the world, especially where natural gas is the marginal technology setting the final hourly or daily price in many wholesale electricity markets. This is especially prevalent in European Union countries, where wholesale power prices in Germany, France, Italy and Spain have increased more than six-fold on average compared with mean values from 2016 to 2020.

**Figure 2. Renewable net capacity additions, 2019-2023** [6]




3. Renewable energy is a healthier alternative According to the World Health Organization (WHO), about 99 percent of the world's population breathe air whose quality parameters exceed the maximum permissible values and threaten human health, and more than 13 million annual deaths worldwide are due to preventable environmental causes, including air pollution. Billions of people still breathe unhealthy air: new WHO data. Over 6000 cities now monitor air quality. Released in the lead-up to World Health Day, which this year celebrates the theme Our planet, our health, the 2022 update of the World Health Organization's air quality database introduces, for the first time, ground measurements of annual mean concentrations of nitrogen dioxide ($NO_2$), a common urban pollutant and precursor of particulate matter and ozone. It also includes measurements of particulate matter with diameters equal or smaller than 10 μm ($PM_{10}$) or 2.5 μm ($PM_{2.5}$). Both groups of pollutants originate mainly from human activities related to fossil fuel combustion. [7]

4. Renewable energy creates jobs. Every dollar of investment in renewable energy creates as many jobs as investments in the fossil fuel industry. According to the IEA estimates, the transition to net zero emissions will lead to an overall increase in the number of jobs in the energy sector: by 2030, about 5 million jobs may be lost in the production of fossil fuels, while in the field of clean energy their number will increase by about 14 million, resulting in a net increase of 9 million jobs.

## DISCUSSION

Countries must prepare for the changes ahead and develop strategies to enhance the prospects of a smooth transition. At the same time, the energy

transformation will generate new challenges. Fossil fuel-exporting countries may face instability if they do not reinvent themselves for a new energy age; a rapid shift away from fossil fuels could create a financial shock with significant consequences for the global economy; workers and communities who depend on fossil fuels may be hit adversely; and risks may emerge with regard to cybersecurity and new dependencies on certain minerals.

## CONCLUSION

The global energy transformation driven by renewables will have significant geopolitical implications. It will reshape relations between states and lead to fundamental structural changes in economics and society. The world that will emerge from the renewable energy transition will be very different from the one that was built on a foundation of fossil fuels. Renewable energy has great potential to reduce prices and dependence on fossil fuels in short and long term. Although costs for new solar PV and wind installations have increased, reversing a decade-long cost reduction trend, natural gas, oil and coal prices have risen much faster, therefore actually further improving the competitiveness of renewable electricity. However, how rapidly renewables can substitute fossil fuels hinges on several uncertainties and will depend on many factors. Will renewable electricity sources defy this global energy crisis and continue to expand quickly despite emerging political and macroeconomic challenges? At the same time, growth in biofuels demand faces significant headwinds from both lower transport demand growth and high biofuel prices.

## REFERENCES


1. UN | Measures to combat climate change.
2. www.irena.org A new world The Geopolitics of the Energy Transformation
3. https://cyberleninka.ru
4. International Energy Agency, Renewable Energy Market Update Outlook for 2022-2023
5. www.iea.org Renewable Energy Market
6. IEA Renewable Energy Market Update Outlook for 2022-2023
7. www.who.int | World Health Organization