

THE INVESTMENT ATTRACTIVENESS OF UKRAINE FOR "GREEN" TARIFFS

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"Green energy - the future of Ukraine and Ukrainian future generations.
It should be invested right now."
President MAC Energy Advisors LLC Tracy MakKibben.

Summary.

Efficient use of energy resources became a topic of everyday discussion in the wider community of scholars, businessmen and politicians. Rising energy prices, shortage of supplies of traditional fuels and the problems of environmental pollution pose to society about finding alternative sources of energy and new energy technologies. This issue raises a number of hidden at first glance, but no less important issues, one of them, from which funds will be held finance projects for the development of renewable energy.

Ukraine for the first time since independence was steadily moving in the "green" direction. Investors are increasingly interested in investing in such country and present interest in renewable energy is not accidental.

Now more on the situation in the global economy in the coming years depends on the number of projects that are deployed in our country, and the growth rate of investment in the sector.

Key words: energy resources, investments, "green" tariffs, alternative energy.

Today, the immediate problem is the opening priorities nationally oriented and environmentally sustainable development for the establishment of real, not just the legal independence of our country. Its foundation can be effective and economical use of enterprises' own resources and productive capacity to facilitate their entry into a new level of competitive development. With the current conjuncture competitive enterprises should use the most economical combination of resources to produce a given output, since it corresponds to their own benefit. Therefore, the immediate problem for enterprises in various industries, including the food industry, are streamlining the use of traditional and alternative energy and the widespread adoption of energy saving technologies and finding investors for this wants.

The purpose of article is definition of energy saving technologies, used in Ukraine and attractiveness of Ukraine for investors in the sphere of renewable energy and "green tariffs".

To confirm the hypothesis in scientific article contains inductive method and groupings - collecting, organizing and processing information; deductive - the theoretical understanding of the problem, methods of analysis, synthesis and comparison - bringing together information and comparison of performance; monographic - the study of economic activity; abstract logical - theoretical generalizations and forming conclusions; graphic - display the results of the analysis, visual interpretation; the method of expert evaluations - determine the significance of impacts on the state of the industry; forecasting - to predict the development.

Information base study were legislative and legal acts and policy documents state authorities of Ukraine, Proceedings foreign and domestic scholars, official materials of the State Statistics Committee of Ukraine, professional literature.

The object of research in the article is the process of transforming Ukraine into country with attractive climate for investing in "green" tariffs.

Energy from renewable resources is a hot and relevant topic in Europe and all over the world today. The overall attention of the Ukrainian Government to the alternative sources of energy is mostly targeted at the increase of the energy security of the country and reduction of the imported natural sources of energy. Ukraine is in the very beginning of its way of introduction of renewable energy and until recently its legislative framework in the sector was general.

The relevance of research of methods for renewable energy widely developed by foreign scientists, including M. Mendonsa, D. Jacobs, M Behberher, A. Klein, B. Pflaher, A. Held, M. Rahvyts, and others. Research of this problem involved such Ukrainian and Russian scientists as I. Zerchaninova, A. Kopylov, V. Karhiyev, A. Suslov, V. Taysayeva, R. Grischuk, W. Miller, A. Szydowski.

Analysis of the literature showed that there is no a unified approach to the definitions of "energy" and "energy saving". Various authors propose their vision and understanding of these terms. We think that we should consider the most accurate term, which we can find in the Law of Ukraine «On Electricity and Energy Saving» [4].

Energy - it is electric or thermal energy produced by the power plants and are commodity products intended for sale.

Energy saving - a set of measures for rational use of energy resources. As a result of these measures reduced demand for fuel energy resources per unit of final product and reduces harmful effects on the environment.

In Ukraine an important role in the transition of socio-economic relations and activities in the field of environmental protection to the principles of sustainable development given environmental entrepreneurship. More and more people in the world prefer products made by companies that use the latest environmental technology. Although pre-calculate derived from environmental performance gains practically possible products of such enterprises more attractive to the consumer, which allows to reach a new level of competitiveness.

Institute of Energy of the National Academy of Sciences of Ukraine adopted the Energy Strategy of Ukraine until 2030. Refining performed in accordance with orders of the President and government of Ukraine depends on the results of the parliamentary hearings, public debates, proposals of Verkhovna Rada of Ukraine, ministries and departments, research institutions and energy companies. The strategy is designed with the trends of geopolitical, macroeconomic, social and technological development of the country, with some risks regarding the determination of these factors. It is therefore necessary to ensure continuous monitoring of the Energy Strategy and periodic refinement strategy envisaged scope and deadlines with consideration of price changes on fuel and energy resources in the world and the country, state programs of economic, scientific and technological progress and other factors [8].

In the period 2021-2030 it was expected to complete the transition to post-industrial society and the changing structure of the economy [3].

The first period (to 2010) is over. The idea was that during first period it would rehabilitate and restructure the industry and establish a basis for fundamental changes and the formation of rational industrial complex in the long run. This period was expected to achieve stability and economic growth through the development of advanced knowledge-intensive industries, promotion industries oriented toward the domestic market of consumer goods and more. Not everything was made and not all results are expected, that is why was made some corrections.

The strategic goal of the second period (2011-2015-2020 years) is forming a common industrial system of the country as an organic part of the European space that takes full advantage of its resources, technologies, highly intellectual potential of the nation. This period is defined as investment and innovation and is characterized by the transition to capital-intensive development with significant capital investments in radical reconstruction of all industries. This assumes extensive use of accumulated resources potential.

The forecasted figure 1 shows that annual electricity generation needs will increase to 420 TWh by 2030 to cover the domestic growth in demand.

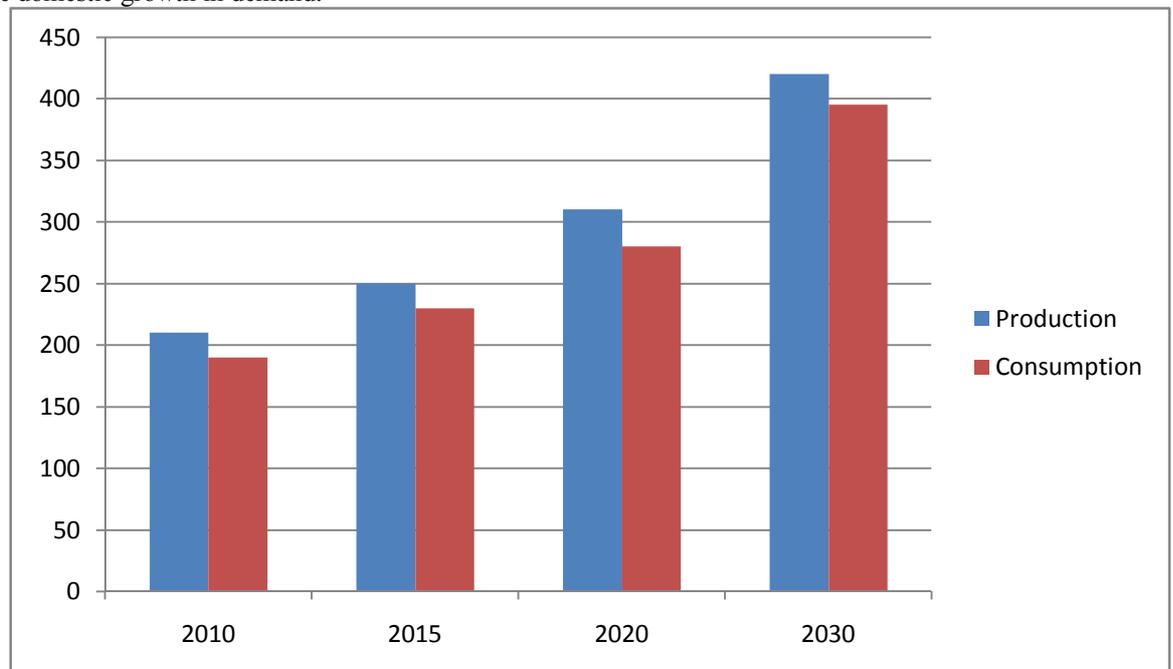


Figure 1 Supply and demand of electricity in Ukraine for the period to 2030 [3].

The third period (2021-2030 years) may be described as the most innovative. The strategic objective of the industrial complex of Ukraine in this period provided an evolutionary transition to sustainable development in the post-industrial global society on the grounds of safety and security of living space human industrial activity at the lowest cost highly efficient use of material and intellectual potential. Probably at the end of the third period industry formed an integrated production and economic system of exogenous type (ie, not isolated himself). This system

provides economic independence of the state and implementing strategic goal - Ukraine's entry on parity conditions leading and technologically advanced countries.

How does renewable energy (RE) fit into this picture? If all of Ukraine's technical potential for renewable energy sources was exploited it is believed to add up to 650 TWh per year. This situation is unlikely due to both technological and economic constraints.

Going forward, the Energy Strategy of Ukraine up to 2030, as approved by the Cabinet of Ministers in 2006, outlines forecasts of electricity generation growth. The need for electricity generation is expected to double over the period from 2010 (210.1 TWh) to 2030 (420.1 TWh). The forecast seems to overshoot slightly, as annual generation in 2010 was 191.5 TWh, 18.7 TWh less than forecasted. Similarly, consumption has also proved to be less than this forecast, ending at 148 TWh in 2010, while the forecast was around 200 TWh. The general picture is nevertheless that demand will increase significantly and that substantially more generation capacities are needed.

The Energy Strategy of Ukraine also outlines the Ukrainian government plans for capacity expansion by nuclear power plants, and future utilisation of renewable energy sources for electricity generation. The base case scenario, estimated using the forecasted growth of electricity generation, shows that the share of electricity generated by renewable energy sources (RES) is expected to increase from 22 TWh to 34 TWh between 2010 and 2030, hence around 17% of the estimated economic potential for renewables [13].

World practice restoring natural energy rather dynamic. Compare: 2004 in projects to produce "clean energy" invested \$ 20 billion in 2009 - is now \$ 160 billion last year the volume of investments in this sector grew by a record 25%, reaching \$ 200 billion. Main motivation for investors - certainly so-called green tariffs and other governmental privileges that attract considerable capital in innovative industries. "Green Tariff" is to establish a separate tariff for electricity generated from renewable sources. The value of "green" tariff is calculated by the formula: rate that exists in the electricity market, multiplied by a factor set for the production of energy from various renewable energy sources (RES).

The development of green energy - an important element of the European integration of Ukraine. Representatives of the European Commission has stated that the environment and reduce harmful emissions is a prerequisite for the continuation of productive bilateral cooperation. Yes, most of the projects that they are willing to fund international organizations, aimed at the development of renewable energy.

Ukraine for the first time since independence was steadily moving in the "green" direction. In November 2010, our country first entered the ranking of Ernst & Young, which expects quarterly index of investment attractiveness of countries to develop renewable energy sector. Ukraine ranked 32 in the top 40 countries where investment conditions for the development of alternative energy are the best. Investors are increasingly interested in investing it in such country and present interest in renewable energy is not accidental.

The system of "green" tariff can be used as:

- different variations of preferential tariffs,
- selling electricity produced from renewable energy set a fixed rate for a specified period of time. So for example, in 20 of 27 states - members of the European Union used the first option. Since September 2008, the second version of using "green" tariff operates in Ukraine. This tariff commitments binds wholesale electricity market to buy green electricity at relatively high rates, led connected to the euro, which provides payback projects in terms acceptable to investors: 7-10 years.

The level of "green" for each alternative energy company established depending on a retail tariff for industrial consumers of class tension and a factor that depends on the power generation business. The value of each piece rate varies by the National Electricity Regulatory Commission of Ukraine with regard to the euro currency.

However, Ukrainian by-laws set administrative limitations on Oblenergo to buy the electricity at prices, which are higher, than the wholesale tariff. It is also explained by the fact, that there is no mechanism in Ukraine to compensate higher costs for Oblenergos for buying electricity through "green" tariff and thus to avoid price distortions, that may arise in regions with high amount of "green" power plants. So, there is no consistent legislative framework for Oblenergos to buy electricity from alternative resources directly from producers. Final consumers may buy electricity from alternative resources directly from power plants either under the contracted prices or under the "green" tariff. However, there is no incentive for consumers to pay the "green" tariff except own environmental concerns. Power plants with higher capacity and lower production costs will be more flexible in terms of electricity sales prices and could go for contractual prices lower than "green" tariffs.

Figure 2 shows the existing mechanism of electricity sale under the green tariff. Green tariff actually becomes a consumer burden, as it will be paid by final consumers when the regulated tariffs are raised in the consequence of the rise of wholesale prices. Energy wholesale market "Energorynok" estimates the average wholesale prices for all the electricity bought from different generators. However, when the regulated tariff is raised, Oblenergo's margin will decrease as a consequence of growing average wholesale prices.

As of January 5, 2012 the value of green tariff for electricity generated from alternative energy sources are: wind power - 122.77 cop. / KWh, solar energy - 505.09 cop. / KW-h of electricity biomass - 134.46 cop. / kWh., with water energy (small hydro) - 84.18 cop. / kWh. Energy market experts say that Green Tariff in Ukraine is quite high. For example, Germany has a range of green tariffs ranging from 39 cop. / KWh (objects hydropower over 50 MW) to the maximum 448.15 cop. / KWh (solar systems up to 30 kW). Higher rates in Ukraine are associated with higher economic risk, which may face investor.

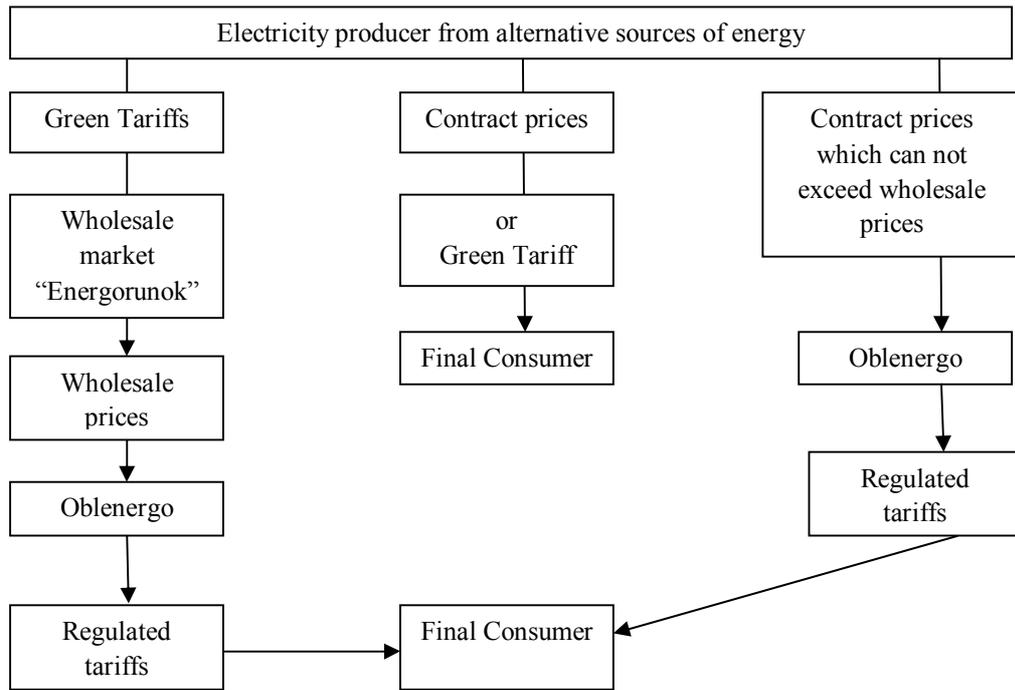


Figure 2 shows the current mechanism of electricity sale from alternative resources of energy in Ukraine [13].

In January 2012, as stated on the website of the National Commission, which provides state regulation in the energy sector (NERC), the green tariff uses 60 generating companies: 8 - wind power, 2 - from biomass, 18 - from solar energy and 32 - with water energy (small hydro). All market players are equal, and, as noted in the Association of the Alternative Fuel and Energy of Ukraine, while no company refused to "green" tariff. If you analyze the business of alternative energy in Ukraine, enjoying preferential tariff law, it becomes clear imbalance in the industry. Number of objects alternative energy in Ukraine, which operates on a "green" tariff is shown in figure 3:

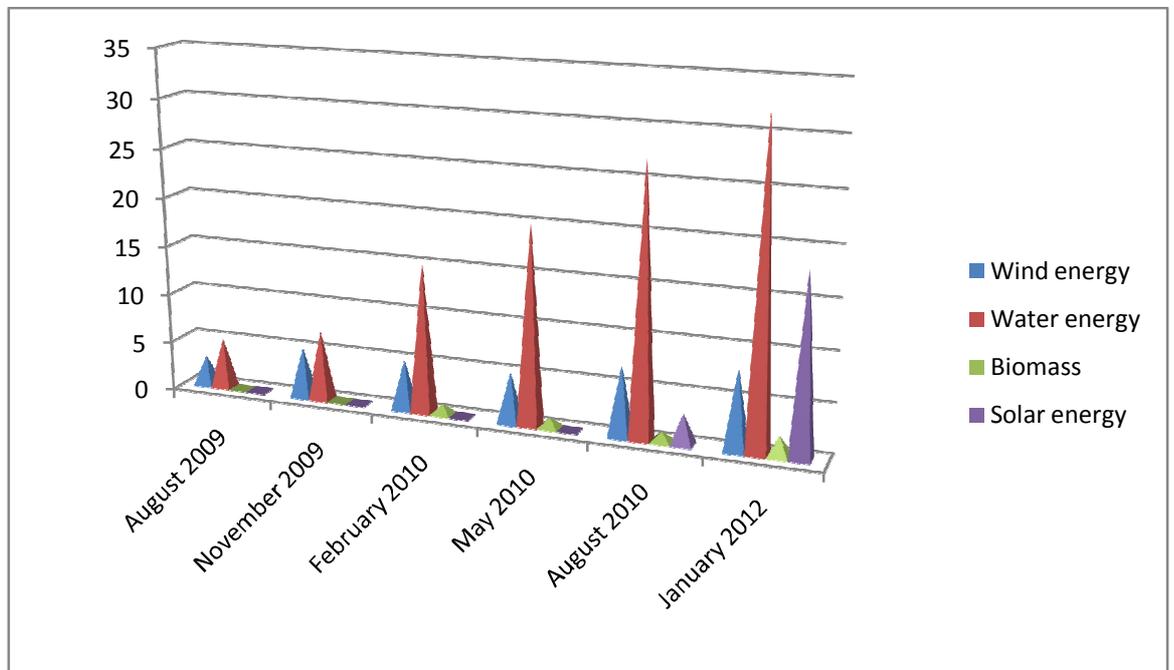


Figure 3 Number of objects alternative energy in Ukraine, which operates on a "green" tariff from 2009 to 2012 years [12].

The "green" tariff in Ukraine is a feed-in tariff differentiated for:

- 1) each company that produces electricity from alternative sources of energy,
- 2) each type of alternative energy
- 3) each single facility.

The green tariff for electric energy from biomass is more than 1.9135 UAH/kWh including VAT. The difference between the "green" tariff and retail energy tariff gives biogas producers an opportunity to realize higher earnings than other energy producers.

Effects of "green" tariff in Ukraine recorded only in 2030, with each year the prize for the production of "clean" energy will decrease. This is a common international practice - reduce the rate of increase in the share of national energy is renewable. That is - an incentive not only to build "green" energy power faster, but also to develop technologies that reduce the cost of "green" kilowatt. If some European countries the share of alternative energy (excluding large hydro) for many years more than 10%, we have only the next year may exceed 2%. So in Ukraine decrease green tariffs provided after 2014. Thus, the coefficient for electric power facilities that were built after 2014, 2019 and 2024 will decrease by 10, 20 and 30%, respectively [13].

From January 1, 2012 for those wishing to get a "green" tariff introduced another limitation: the so-called rule of local component. Work at a preferential tariff will only power plant during construction which used domestic raw materials and equipment, and the work performed by local contractors. Thus the share of Ukrainian in the value of fixed assets shall be not less than 15%, from 1 January 2013 - 30%, and since 1 January 2014 - as much as 50%.

There are some challenges that may face a foreign investor:

1. Too tightened procedure for obtaining permission and a license from the National Electricity Regulatory Commission of Ukraine for sale for "green" tariffs. Even using data capacity for their own needs.
2. Energy sector in Ukraine - very opaque sector, regulated by the state and is far from a free market. For example, electricity tariffs for households are not economically justified. After all, they are not defined laws of the market and the state: considering proximity of elections and the general political weather in the country. "Energy intensity of the Ukrainian economy is 3-4 times higher than in Austria or Germany, and rates of energy - 4 times lower," - says Dominique Fache, Chairman of the Board of Directors of Enel.
3. Ukrainian banks are not willing to support projects based on different funding projects that they normally use to work with the corporate sector, offering easy loans against encumbrances. Therefore, a certain time is necessary to banks and project managers in order to reach agreement on this market.
4. Another problem, which may prove to investors is the lack of knowledge among the public and interest in the prospects for renewable energy.
5. In addition, investors do not believe that the Government of Ukraine and the National Electricity Regulatory Commission (NERC), which is the local market regulator, a clear understanding of how the "green" tariff system will operate in an environment of bilateral agreements and the balancing market, which Ukraine has promised to go until the end of 2014.
6. Investing in alternative energy involves many risks from development, construction and commissioning. The risks are much higher when the green tariff is approved only after the completion of the project, as is the case in Ukraine.

Despite these challenges Ukraine sees high potential, emerging market with an extremely high investment attractiveness in the "green" tariff for solar power, which led investors to take risks and find solutions for the above challenges. Although this segment of renewable energy and is at the initial stage of development in Ukraine, the country sees a favorable situation for the solar energy sector expansion. Without doubt, the Ukrainian market of alternative energy is slowly but steadily growing, and soon will show positive growth trends.

Today, the "green" tariff gives green light to the development of alternative, renewable energy in the 60 countries of the world. Among them - Australia, Brazil, Austria, South Africa, China, South Korea, Canada and some U.S. states. As well as Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Iran, Ireland, Israel, Italy, Lithuania, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey.

Unfortunately, in Ukraine on "green" tariff is mainly used as a backdrop for criticizing people who actually do something for the development of solar energy as a part of our energy independence and creating the foundation for solving urgent environmental problems.

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