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THE IMPORTANCE OF RENEWABLE ENERGY SOURCES IN A GLOBAL ECONOMY AND THEIR IMPACT ON THE LABOUR MARKET

Abstract

Renewable energy sources are currently one of the most rapidly growing sectors of the economy in the world. This is because the global economy is consuming more and more energy, and according to the estimates given in the article, the conventional sources will be available for about 40-60 years. The declining resources of conventional energy sources, the need to respond to climate change, and the rising prices of conventional sources have forced concerted actions worldwide in the field of environmentally sustainable energy.

Key words

renewable energy sources, alternative energy, economic development, ecology

Introduction

The world economy is consuming more and more energy. Experts point out that conventional sources will be available for about 40-60 years. The declining resources of conventional energy sources, the need to respond to climate change, and the rising prices of conventional sources have forced a turn towards environmentally sustainable energy as an alternative to conventional energy sources.

Renewable energy sources are currently one of the most rapidly growing sectors of the economy in the world, which is particularly noticeable in the economies of India and China. The key slogan for India's economic development is "Go Green," signaling the development of the climate change industry such as renewable energies, passive construction and sustainable transport using "green technologies"⁵¹. Although RES currently accounts for about 6% in India, their share is projected to reach 15% by 2020⁵². The Ministry of Finance of the State of China allocates 27 billion dollars to investments related to energy efficiency. Money will be distributed mainly for investments in renewable energy sources, energy-efficient products, as well as support for hybrid cars and innovation in the field of reducing carbon dioxide emissions⁵³. The situation is similar in the United States. Barack Obama also puts his money on renewable energy, believing that it is one of the elements that will overcome the crisis and create new "green" jobs. Obama is convinced that ecology must accompany economic development, so that in 20 years the US will become the world's foremost green power⁵⁴.

The key here is more efficient use of energy, which will reduce emissions and is probably the most durable and cheapest way to reduce and improve global energy security. This is best seen when compiling the economies of the most advanced and emerging countries. The most efficient economies of the world generate nearly six times as much gross domestic product as the least efficient ones, while consuming the same amount of energy. The European Commission estimates that, at the current level of development, grid losses in the European Union can be reduced by up to 48 million MWh per year, equivalent to the annual energy consumption of 13 million households in the community.⁵⁵

⁵¹Inwestowanie w Energetykę Odnawialną: aspekty ekologiczne, technologie, finansowanie i benchmarking, Łódź 2011.

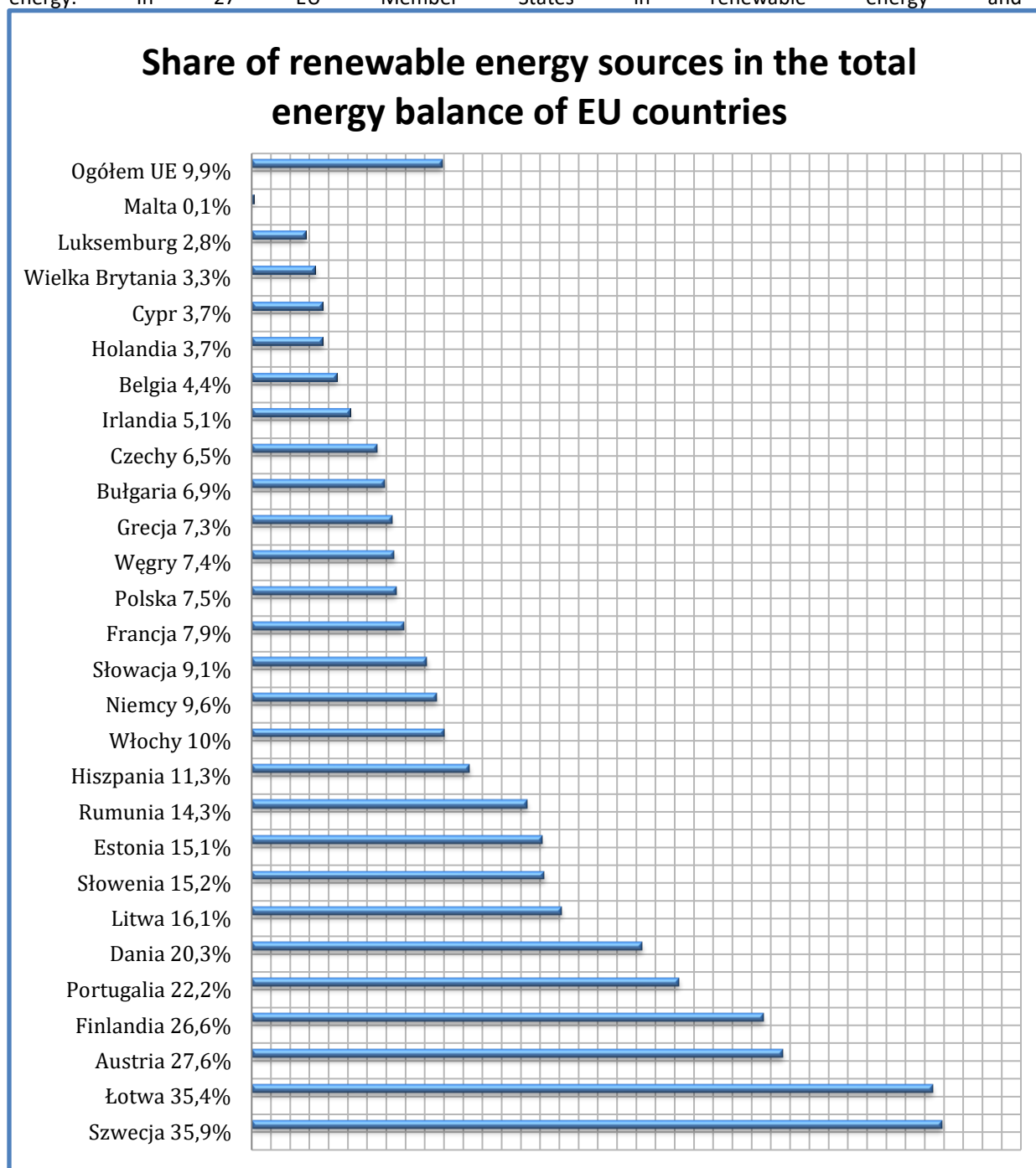
⁵²Indian Renewable Energy Status Report - Background Report for DIREC 2010, October 2010.

⁵³<http://inwestycja-w-oze.pl/category/inwestycje-w-oze-na-swiecie>

⁵⁴Inwestycja w przyszłość: Rynek energetyki odnawialnej w Polsce. Planowane inwestycje w latach 2009-2011, Rachelski i Wspólnicy Kancelaria Prawnicza Spółka Komandytowa.

⁵⁵Efektywność energetyczna i odnawialne źródła energii. Energia a wyzwania klimatyczne. ABB 2009.

Since the EU signed the Kyoto Protocol⁵⁶ enormous emphasis is placed on replacing fossil fuels with renewable energy. In 27 EU Member States in renewable energy and



Graph 1. Share of renewable energy sources in the total energy balance of EU countries in 2010. (expressed in percentages).

Source: *The state of renewable energies in Europe. 11th EurObserv'ER Report.*

related sectors there are nearly 1.5 million people employed. Compared to 2009, a growth of 25% in the number of people employed in the RES sector was recorded. Turnover generated in this sector in 2010 is estimated at 127 billion EUR. Germany is the European country that comes to the fore, both in terms of jobs and turnover.

⁵⁶Kyoto Protocol - international agreement on counteracting global warming by reducing carbon emissions. It was negotiated at the Kyoto conference in December 1997. www.unfccc.int

The requirements that apply to Poland's climate and energy package force the need to invest in renewable energy. With this process, many jobs related to sustainable energy technologies will emerge in such areas as planning, implementation or design of RES systems, followed by their exploitation and infrastructure maintenance. Thus, a huge sector is being created, which in the future will provide the Polish economy with thousands of new, well-paid jobs.

The Multiannual Financial Framework (MFF) of the European Union for the period 2014-2020 is currently under negotiation. The European Commission proposed, for the aforementioned period, the allocation of funds for the following purposes⁵⁷:

- Intelligent and sustainable development.
- Natural resources.
- Security.
- Global Europe.
- Administration.

The planned expenditure is intended to contribute to the "Europe 2020" growth strategy. This strategy is designed to create the EU as a smart, sustainable organism that aims to provide high levels of employment, productivity, prosperity and socio-economic cohesion to its citizens by eliminating development disparities between Member States.

The strategy includes the following objectives⁵⁸:

- 75% of the population aged 20-64 should be employed (currently 69%);
- 3% of EU GDP should be invested in research and development;
- Targets of the "3x20" package (including an increase of up to 30% reduction) should be met;
- Early school leavers should be reduced to less than 10% and at least 40% of the younger generation should have a higher education;
- The number of people at risk of poverty and social exclusion must be reduced by at least 20 million.

These goals show what the condition of the EU should be in 2020, in terms of key parameters. These parameters are in turn translated into individual member states so that their implementation can be controlled. Recommendations for Member States concern, among others, the creation of development that is conducive to social inclusion. It is characterized by a high level of employment and ensuring economic, social and territorial cohesion. Member States should therefore create a greater number of better jobs, especially for women, young people and older workers. This is due to investments in raising skills and training. According to EC statistics, until 2020, the number of highly qualified posts will increase by 16 million.⁵⁹ It is worth thinking about such training today. The project "Sales representative in the RES sector" offers ideal opportunities in this respect. Training within the project is possible thanks to European Union co-financing from the European Social Fund⁶⁰.

Investments in renewable energy will create needs for specific professions such as:

- the assembly of photovoltaic systems,
- the construction and assembly of wind turbines,
- the extension of the power grid,
- consultancy in the scope of investments in RES,
- equipment service - operation and maintenance.

Research by the Fraunhofer Institute ISI shows that people employed in the renewable energy sector are very often from the sectors of the economy where they have lost their jobs - mainly due to unfavorable economic

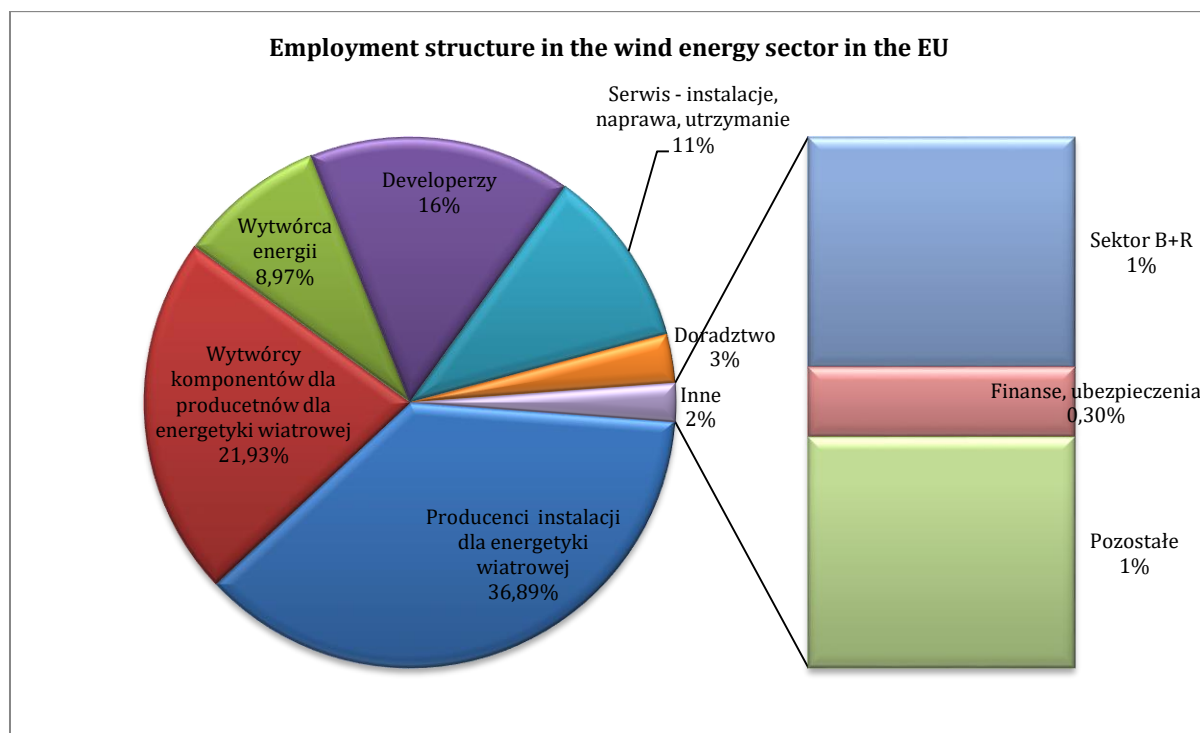
⁵⁷European Commission, 2011.A Budget for Europe 2020.COM(2011)500.

⁵⁸http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/targets/index_pl.htm

⁵⁹http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/priorities/inclusive-growth/index_pl.htm

⁶⁰ The European Social Fund (ESF) is the main financial instrument of the European Union, supporting employment in the Member States and promoting economic and social cohesion. ESF expenditure is around 10% of the total EU budget.

conditions. Such industries include shipbuilding, the steel industry, slaughterhouses or agricultural professions.⁶¹ The graph below presents the employment structure in the EU wind sector.



Graph 2: The structure of direct employment in the wind energy sector in the EU in 2008.

Source: European Wind Energy Association (EWEA), 2009.

The chart above is confirmation of a very positive and, above all, diversified, employment situation in the wind energy sector in the European Union. Wind power provided over 154,000 jobs in 2007. We can also see that employment was very diverse. It concerned both the industry - producers and manufacturers of components, the service and the research sector. Research conducted by the EWEA assumes that by 2020, 325,000 jobs will be created in wind energy. The situation will be similar in other RES sectors - solar, hydro, biomass or waste energy. There is no skilled labor force in Poland that could meet the needs of this sector. That is why it will be important to acquire skills that will enable employees to move freely in the sector of renewable energy and related services.

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ZNACZENIE ODNAWIALNYCH ŹRÓDEŁ ENERGII W GLOBALNEJ GOSPODARCE ORAZ ICH WPŁYW NA RYNEK PRACY

Abstrakt:

Odnawialne źródła energii są obecnie jednym z najprężniej rozwijających się sektorów gospodarki na świecie. Wynika to z faktu, że gospodarka światowa zużywa coraz więcej energii, a według szacunków, tradycyjnych nośników wystarczy jeszcze na ok. 40---60 lat. Malejące zasoby konwencjonalnych źródeł energii, konieczność reagowania na zmiany klimatyczne, rosnące ceny tradycyjnych nośników, wymusiły zainteresowanie energetyką zrównoważoną środowiskowo.

Słowa kluczowe:

alternatywne źródła energii, ekologia, energetyka odnawialna, rozwój gospodarczy, odnawialne źródła energii