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MARKETING PROMOTION OF INNOVATIVE ACTIVITIES – THE EXAMPLE OF THE RENEWABLE ENERGY RESOURCES SECTOR (RES) IN THE LUBLIN REGION

Promocja marketingowa działań innowacyjnych na przykładzie sektora OZE w regionie lubelskim

The development of the Lubelskie Province should be focused on strategic fields of economy of Poland and the Province. The entrepreneurship growth among the Lubelskie Province citizens may stimulate the mainspring of development¹. The rational usage of energy from the so called renewable sources, i.e. river, wind, solar rays, geothermal energy and biomass, is one of the vital components of sustainable development and brings measurable ecological and energy effects. The growing participation of the RES in the world energy and fuel balance contributes to the usage and saving efficiency of energy resources. It also improves the condition of the environment through reducing the emission of pollution to waters and atmosphere and reducing the amount of produced waste. The Province development strategy should include the development of the production from the renewable sources, the usage of regional energy sources, the promotion of ecoenergy among the end-users and the development of research and implementation activity. These activities require conscious, purposeful and professional promotional actions aimed at diversified target groups and stakeholders. The aim of this article is to show the impact of promotional activities on the development of the sector of Renewable Energy Sources (RES), as well as an in-depth analysis and review of the available documentation regarding activities that promote the RES sector. This work puts forward the following hypothesis: customized promotional activities are essential for effective development of the RES sector. The research methods used in this study include desk research, carried out on secondary sources (both internal and external), participant observation (as an expert of the Lublin City Office and the Marshal's Office of the Lubelskie Province in Lublin) and non-participant observation. The research was carried out between January and June 2015.

Key words: promotion, RES sector

Introduction

RES can be a vital share in the energy balance of the region. They can contribute to the increase in the energy safety of the region, particularly to the improvement of the energy supply in areas of underdeveloped energy infrastructure. Potentially, agriculture, housing and communication may be the biggest consumers of energy from renewable

¹ Rzemieniak M.: Managing intangible corporate values, Publisher "Dom Organizatora" TNOiK, Toruń 2013, s. 49.

sources². The RES production brings development opportunities for the Lubelskie Province due to its currently agricultural character. Therefore, promoting and supporting ideas and initiatives that include pro-environmental undertakings is consistent with the 2014-2020 Province Development Strategy adopted by the local government.

Methodology

The goal of this paper is to analyse the impact of promotional activities on the RES sector development. The article also contains an in-depth analysis and review of available documentation in the field of undertaken activities that promote the RES sector.

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The main secondary sources were:

- Agricultural bio-gasworks development directions in Poland in the years 2010-2020, adopted by the Council of Ministers, July 13th 2010.
- EU strategy for biofuels, 2006, European Commission.
- Europe 2020 – strategy for smart, sustainable and inclusive growth, 2010, European Commission.
- Energy 2020 – strategy for competitive, sustainable and secure energy sector
- Energy Engineering Development Programme for the Lubelskie Province, 2009, Lublin
- Lubelskie Province Development Strategy for the years 2014-2020, 2013, Lublin.
- Lubelskie Province Environment Protection Programme for the years 2012-2015, with a perspective until 2019, 2012 Lublin.
- National Area Development Plan 2030 – December 13th 2011.
- Poland's energy policy until 2030, November 10th 2009.
- National Renewable Energy Action Plan, December 7th 2010.
- Provincial programme for development of alternative energy sources for the Lubelskie Province, Spatial Planning Office in Lublin, 2006, Lublin.
- Regional Innovation Strategy for the Lubelskie Province until 2020, 2013 Lublin.
- Renewable energy engineering as a stimulant of social and economic development of provinces until 2020, 2011, Warsaw.
- Report on execution of the provincial programme for development of alternative energy sources for the Lubelskie Province, Spatial Planning Office in Lublin, 2011, Lublin.
- Waste Disposal Plan for the Lubelskie Province until 2017, 2012, Lublin.
- White Paper "Energy for the future – renewable sources of energy, community strategy and action plan", 1997, European Commission.

² Poland's energy policy until 2030, November 10th 2009, s. 2.

National and provincial policy in the field of renewable energy engineering

Poland's energy policy is mostly created by the resolutions of the European Union. A long-term vision of the Polish energy system development, including the renewable energy engineering development, is defined in the Poland's Energy Policy until 2030 document (PEP 2030)³. A document that derives directly from the UE law is the National Renewable Energy Action Plan. PEP 2030 defines six main directions of the national energy engineering sector development⁴.

- energy efficiency improvement;
- security improvement of fuel and energy supplies;
- diversification of electrical energy structure through the implementation of nuclear energy engineering;
- development of RES usage, including biofuels;
- development of competitive fuel and energy markets;
- limiting the energy engineering impact on the environment.

Each of the directions contains main and detailed goals, executive activities and methods of realization along with deadlines and responsible entities. Poland's Energy Policy goals encompass achieving of such an energy diversification that will allow to meet the requirements imposed on Poland in the field of the RES, energy saving and emission of greenhouse gases. According to the Policy, the sustainable use of respective energy types from the renewable sources will be supported⁵

In the field of local governments' role, the PEP 2030 states that active involvement of local government authorities in the goal execution constitutes the important element of supporting the execution of energy policy. It is important to pursue the correlation between investment plans of communes and energy companies. This is connected with the necessity to improve the condition of energy infrastructure in order to secure higher level of services for local communities, attracting investors and improving the competitiveness and attractiveness of the region⁶.

Regional strategic activities

The development of renewable energy engineering is an important element of regional policy of the Lubelskie Province Local Government. The *2006-2020 Lubelskie Province Development Strategy*, created in 2005, noticed the threat for the region reflected in the dependence on external energy suppliers and small participation of RES in the region energy balance. Therefore, after considering the internal potential of the Province, it was stated that one of the leading areas of economic specialisation of the region should be the development of the renewable energy sources⁷.

³ Bojar E., Pylak K.: *Innovativeness and entrepreneurship : clusters management : good practices in the World*, Publisher Lublin University of Technology, Lublin 2014, s. 56.

⁴ Energy 2020 – strategy for competitive, sustainable and secure energy sector, s. 5.

⁵ Agricultural bio-gasworks development directions in Poland in the years 2010-2020, adopted by the Council of Ministers, July 13th 2010, s. 8.

⁶ Lubelskie Province Development Strategy for the years 2014-2020, Lublin 2013, s. 3.

⁷ Lubelskie Province Environment Protection Programme for the years 2012-2015, with a perspective until 2019, Lublin 2012, s. 12.

In the middle of 2013, the updated version of the 2014-2020 Lubelskie Province Development Strategy was adopted. The Strategy presents a significant change in the approach to programming the development and executing regional policy. It is based on the territorial securing of the development policy, indicating e.g. the areas of strategic intervention. It is also oriented to specific results and effects. It assumes an integrated approach and multi-level management through, among others, mobilizing regional and local initiatives. The strategic goals presented in the document are an answer to the most important identified problems and developmental challenges of the region. Renewable energy engineering will be present in activities that increase the potential of knowledge, qualifications, technological advancement, entrepreneurship and region innovation. The support for the RES development will be carried out as a result of executing operational goals that regard supporting the most prospective directions of research and their commercialization, as well as creating the system for scientific, expert and implementation support for the development of selected economy sectors. The execution of operational goals regarding: the support for rural entrepreneurship and creating non-agricultural workplaces in rural areas, equipping rural areas with transport, communal and energy infrastructure may contribute to the increase in the RES usage. The development and modernization of the distributed generation system will also contribute to more secure fulfilment of energy needs in rural areas⁸.

The Strategy assumes that in 2020 the participation of renewable energy in the total electric energy production in the Lubelskie Province will amount to 3,0% (the value of this index is estimated at 0,9% as for 2009)⁹.

The confirmation of goals delineated in the region strategy is reflected in the *Alternative energy sources development programme for the Lubelskie Province*, adopted in 2006 and updated in 2013. The need for updating the programme document resulted from the programme and legislation changes at the state and the EU level. It was also caused by the upcoming new period of execution of the EU Cohesion Policy 2014-2020, the leading elements of which were innovation and climate protection. The development of the RES is consistent with these areas.

The Programme updated on the better use of regional potential is an important instrument affecting the region development. The Programme includes the identification and evaluation of existing and potential ways of gaining energy from alternative sources in the Lubelskie Province. It also defined the conditions and potential locations of the RES investments, as well as the possibilities of their financing from various sources.

The Regional Innovation Strategy for the Lubelskie Province until 2020 (RIS LP 2020) is, together with the Lubelskie Province Development Strategy, the basic planning document that defines the frames of economic development on the basis of research and innovations that are created in the research and scientific institutes and implemented by companies. This document provides details for the 2014-2020 Lubelskie Province Development Strategy, in the field of determining the innovation potential of the Lubelskie Province and indicating directions of its improvement and implementation

⁸ White Paper Energy for the future – renewable sources of energy, community strategy and action plan, European Commission, 1997, s. 10.

⁹ Renewable energy engineering as a stimulant of social and economic development of provinces until 2020, Warsaw 2011, s.

in the smart specialisations of the region, i.e. specialisations that show competitive advantage on the national and international scale.

The areas of region smart specialisation identified in the Strategy and concerning the renewable energy engineering are bioeconomy and low-emission energy generation. The development of bioeconomy will be connected with the production and processing of bioresources for various purposes, including the ones connected with energy¹⁰.

Both operational goals and activity directions of the Strategy are consistent with the areas of intervention and types of projects that are to be supported in the frames of the EU Financial Framework 2014-2020. On one hand, this shows that the Strategy is consistent with the state and EU policies. On the other hand – it guarantees the possibility of financing the Strategy from specific funds and programmes.

Should every European regions or states compete for the leader position in the same areas, most of them will not achieve desired goals due to the lack of necessary critical mass or scale effects. Therefore, there is a need for specialisation at the regional level.

The goal of the smart specialisation is to use the potential of respective states and regions in an optimum way through the best possible matching of development directions to specific social and economic conditions, i.e. matching in the framework of the triangle: science, business, administration.

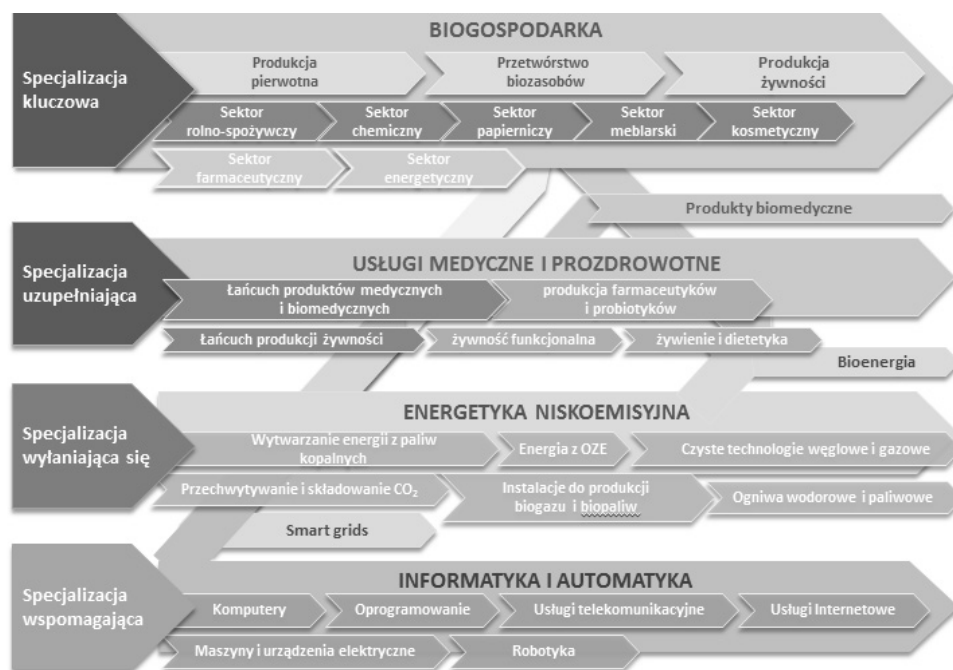


Fig. 1- Areas of smart specialisation of the Lubelskie Province
Source: Regional Innovation Strategy for the Lubelskie Province until 2020, Lublin 2013.

¹⁰ National Area Development Plan 2030 – December 13th 2011.

A smart specialisation means focusing the activities and financial means on a limited number of research, development and innovation priorities necessary for developing areas of business activity vital for the Province.

Bioeconomy encompasses all sectors and interrelated services that produce, process or use bioresources in any shape or form, including particularly the following sectors: food and agriculture, forestry, as well as interrelated industries: chemical, paper, furniture-making, cosmetic, pharmaceutical and energy.

Bioeconomy is defined as an economy based on knowledge and renewable resources. Low-emission energy generation, as an emerging specialisation of the Lubelskie Province, is reflected in identified potential of energy engineering development in the region, both conventional (based on rich resources of hard coal and shale gas) and renewable (based on resources using energy from biomass, sun, water and wind)¹¹.

Thanks to the implementation of the RIS LP 2020, the Lubelskie Province will become a region that is open to knowledge and external technologies. It will be a region that skilfully uses its potential and converts it into products and services of high added value in selected areas of bioeconomy, medicine and energy engineering – and all that with synergic use of information technology and automatics (Fig. 1).

Promotion activities for RES development

Since the Lubelskie Province struggles with unfavourable energy balance, for the couple of years it has been taking up actions in order to increase the role of renewable energy sources – not only through proper regulations in strategic documents, but also through additional activities oriented to promoting the concept of green energy production. The Lubelskie Province considers the energy sector very important, as well as interrelated possibilities of gaining energy from renewable sources. The goal of the Lubelskie Province Local Government is to provide reliable information on possibilities and of investing money and developing investments in the framework of wind energy engineering in the Lubelskie Province. The Local Government makes efforts to expand the range of information regarding possibilities of using local sources and promotes this concept. It executes its tasks in the framework of, among others, the Consulting and Advisory Team for Renewable Energy attached to The Governing Body of the Lubelskie Province. It also sees opportunity in stimulating the communal local governments, which duties encompass energy planning in the commune. The Lubelskie Province Marshal's Office has carried out a survey among the communes of the Lubelskie Province in the field of sharing information on the use of the RES and plans regarding the usage and implementation of the RES in future years. The Office received approximately 90% of the answers, most of which indicated the need for taking actions towards the promotion of the RES technology. Most communes also lack plans regarding the use of the RES potential. Approx. 30% of the communes locally use the biomass for heating and implement the solar cells technology¹².

¹¹ Report on execution of the provincial programme for development of alternative energy sources for the Lubelskie Province, Spatial Planning Office in Lublin, Lublin 2011, s. 4.

¹² Report on execution of the provincial programme for development of alternative energy sources for the Lubelskie Province, Spatial Planning Office in Lublin, Lublin 2011, s. 13.

The key directions of actions for development and social and economic changes of the region are set by strategic documents. They are most of all the base for preparing subsequent regional operational programmes and lobbying in state institutions that manage operational programmes and financial means. The series of adopted programme documents defines the possibilities of the development of energy engineering and RES in the Lubelskie Province, taking into consideration the terrain characteristics and identification of conditions necessary for running the investment. The analysis of the strategic documents of the Lubelskie Province shows that there are very favourable conditions for developing environment-friendly investments there. The local governments have the authority to develop this branch of economy so that it can generate new, the so called “green workplaces” and support regional labour market.

In the years 2009-2014 a couple of dozens of conferences, seminars and workshops were organized. Their main goal was to exchange experiences and promote new RES technologies and pro-consumer attitudes¹³.

Financial support is crucial for the development of renewable energy engineering sector, especially from the Regional Operational Programme of the Lubelskie Province and European Social Fund, but also from other sources. Moreover, the actions for the RES development taken by Lubelskie Province Local Government are executed in a form of projects that are funded from diverse external sources.

The most important projects carried out in the years 2009-2014 are those aimed at stimulating the economy of the region, building the system of services and improving the condition of the environment¹⁴:

- “Creating the Lubelskie Province investment offer on the basis of identified potential of the renewable energy sources” (a purposefulness study) - project realised in the framework of the Regional Operational Programme of the Lubelskie Province for the years 2007-2013, action no. 2.4.
- “Innovative methods and ways of gaining renewable energy sources in the Lubelskie Province – the example of good practices and experiences of the Swiss partner” . NEO – Nowa Energia dla lubelskiego (New Energy for the Lubelskie Province) financed in the framework of the partner fund – Swiss-Polish Cooperation Programme block grant.
- “Creating the expert network in the field of providing extended social consultations with emphasis on investments in bio-gasworks” in the framework of the Environmental Education Programme, Priority VII – agricultural bio-gasworks as an element supporting the RES in Poland.
- “SYSTEM-Systematic Transitional Energy Management” in the framework of the Horizon 2020 Programme.

The Lubelskie Province possesses average national potential of wind energy, which means that indicating terrains that are economically effective (located in roughly delineated strip with a high level of wind activity) is key from the standpoint of achieving the model of the so called good practices, i.e. encouraging investors to open windfarms in the province. The results of the research that analysed the province’s RES

¹³ Europe 2020 – strategy for smart, sustainable and inclusive growth, 2010, European Commission, s. 8.

¹⁴ Lubelskie Province Environment Protection Programme for the years 2012-2015, with a perspective until 2019, Lublin 2012; Waste Disposal Plan for the Lubelskie Province until 2017, Lublin 2012, s. 9.

potential show that there are 10 attractive locations for building windfarms. They make objective, expert data in the field of RES planning in the province more accessible to local communities. The whole Province has specially prepared scenario analyses of the wind energy engineering development, depending on various regulatory solutions (e.g. statutory increase in requirements on landscape protection in scenic park protection zones). The research results may be used in carrying out social consultations with the residents inhabiting the most favourable farm locations¹⁵.

In order to accurately determine the wind resources in these identified locations, the Drone unmanned airplane and the LIDAR system, which is a property of the ETHZ, have been taking measurements over a span of one week. One of the advantages of the Drone usage in estimating the wind resources is their greater mobility as compared to stationary systems. Moreover, they provide measurements of volumetric data of wind profile, are relatively cheap and can be prepared to take measurements in less than 30 minutes. The Drone that was used for assessing the wind resources in the Lubelskie Province is shown in Fig. 14. The windFlyer II Drone was designed in the ETHZ and is fully equipped with devices that measure the speed and direction of the wind. Additionally, it can also provide real-time data on atmospheric conditions, including temperature, pressure and humidity.

In the framework of the cooperation a 8-meter diameter visualization dome was built. It displays full 360 degrees of realistic visual and acoustic effects of the most economical windfarms in the Lubelskie Province, as well as their impact on the environment. Spectators can move inside freely, observe the environment and experience the energy production in the future from interactively selected standpoints. The dome consists of a moving construction of the visualisation system in the surround technology and the advanced real-time simulation software. The moving dome can be easily transported and assembled so that it can be presented in various locations and be accessible to local residents.

“Creating the expert network in the field of providing extended social consultations with emphasis on investments in bio-gasworks”¹⁶ project was prepared in response to diagnosed problems connected with an insufficient emphasis on social communication / social consulting process in the course of bio-gasworks investment preparation made by the investors. Numerous mistakes in social communication made by investors during the investment preparation stage were diagnosed. As a result, regardless of the fact that the investors were acting in accordance with the law and met the requirements concerning social consultations, the social protests effectively blocked the investment at the developing stage.

Currently, local governments have neither knowledge nor skills in the field of carrying out extended social consultations, which are crucial when planning bio-gasworks investments. Therefore, they cannot provide neutral support resulting in consensus to potential investor nor local community anxious about the potential bio-gasworks location. This issue does concern not only the Lubelskie Province, but every region where agricultural bio-gasworks investments are economically profitable due to a

¹⁵ Pałasz L.: UE regional policy a chance Polish regions, *Zeszyty Naukowe SGGW, Polityki Europejskie, Finanse i Marketing* 1(50)/2009, s. 11-19.

¹⁶ EU strategy for biofuels, 2006, European Commission.

large biomass potential. Thus, the Lubelskie Province has put forward a supra-regional project able to resolve all of the diagnosed problems systemically.

The SYSTEM project regards releasing the current and developing technologies in the field of renewable sources of electric, thermal and cooling energy in the framework of the “Safe, ecological and effective energy” program for the years 2014-2015 executed in the framework of the Horizon 2020 initiative. This project is a source of systemic and integrated support conducive to faster implementation of sustainable energy technologies and overcoming regulatory barriers. It also guarantees full insight into the energy system during the phase of determining priorities and frames for future development of the RES and low-emission heating systems.

The main innovation of the project is adapting and implementing the holistic EnerPol software that enables dynamic, multi-disciplinary evaluation of respective strategies and planning solutions while simultaneously taking into consideration both technical and economic aspects. In the framework of the SYSTEM programme, the EnerPol tool will be used for supporting and planning the energy development strategy at local and regional levels. EnerPol allows to perform a grass roots, integrated analysis of complex systems in a 30 by 30-meter scale that is integrated at the level of large regions. This software allows to make decisions on the basis of multiple variables and criteria in large range of scale and time, therefore providing the public administration with interactive tools which can be used for designing, estimating and coordinating the energy systems and interrelated financial and economic mechanisms. Furthermore, it is conducive to spreading the public acceptance. The software will be adapted for the specific local needs and will allow to formulate recommendations based on the verified data, make analysis of the best practices and hold dialogue with stakeholders. This way the public administration will be granted with possibility of being involved in processes of formulating regulations and policies at national level. Moreover, the SYSTEM will popularize practices, worked out thanks to the involvement of stakeholders, as well as better methods that could be used all over the world in order to overcome diverse challenges regarding the RES development [Waste Disposal Plan...].

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Streszczenie

Rozwój województwa lubelskiego powinien koncentrować się na strategicznych dziedzinach polskiej gospodarki oraz województwa. Szansą na uruchomienie dźwigni rozwoju jest wzrost przedsiębiorczości mieszkańców Lubelszczyzny. Racjonalne wykorzystanie energii z tzw. źródeł odnawialnych tj. energii rzek, wiatru, promieniowania słonecznego, geotermalnej lub biomasy, jest jednym z istotnych komponentów zrównoważonego rozwoju przynoszącym wymierne efekty ekologiczno-energetyczne. Wzrost udziału odnawialnych źródeł energii w bilansie paliwowo-energetycznym świata, przyczynia się do poprawy efektywności wykorzystania i oszczędzania zasobów surowców energetycznych, poprawy stanu środowiska poprzez redukcję zanieczyszczeń do atmosfery wód oraz redukcję ilości wytwarzanych odpadów. Strategia rozwoju województwa powinna zakładać rozwój produkcji ze źródeł odnawialnych, wykorzystanie regionalnych źródeł energii, promocję ekoenergii wśród odbiorców końcowych oraz rozwój działalności badawczo – wdrożeniowej. Te działania wymagają świadomych, celowych i profesjonalnych działań promocyjnych prowadzonych w kierunku różnych grup docelowych oraz interesariuszy (stakeholders).

Celem artykułu jest wykazanie wpływu działań promocyjnych na rozwój sektora OZE, a także gruntowna analiza i przegląd dostępnej dokumentacji, na podejmowaną działania propagujące sektor OZE. W publikacji stawiana jest następująca hipoteza – dla efektywnego i skutecznego rozwoju sektora OZE niezbędne są działania promocyjne, wyprofilowane pod kątem potrzeb informacyjnych otoczenia.

Metodami badawczymi zastosowanymi w niniejszym opracowaniu są badania w postaci analizy desk research prowadzone na źródłach wtórnych, zarówno zewnętrznych, jak i wewnętrznych, obserwacja uczestnicząca (jako eksperta Urzędu Miasta Lublin oraz Urzędu Marszałkowskiego w Lublinie) oraz obserwacja nieuczestnicząca. Badania zostały przeprowadzone w okresie styczeń – czerwiec 2015 r.

Słowa kluczowe: *promocja marketingowa, sektor OZE*

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