

IMPLEMENTING REGIONAL RENEWABLE ENERGY PROJECTS THROUGH PUBLIC-PRIVATE PARTNERSHIPS

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Abstract

This study explores the possibility of implementing regional renewable energy projects through public-private partnerships. The issues of implementing regional renewable energy projects and the contribution of the public sector to its achievement are leading points on the political agenda, being highly debated nowadays. Hence, the general picture of the renewable energy in the European Union is revealed, and the special case of the renewable energy in Romania is disclosed. Furthermore, the partnership between public administration and private companies for implementing regional renewable energy projects is explored.

Keywords: Renewable energy, Regional projects, Regional development, Public-private partnerships.

1. INTRODUCTION

Nowadays the renewable energy and its development at local and regional scale acquire a whole new signification if seen within the context of the Third Industrial Revolution. As Rifkin (2011) sustains, the humankind is now in front of the Third Industrial Revolution, which will have a significant impact into the XXI century, by fundamentally changing all aspects of working and living. The conventional top-down organization of society that characterized much of the social, economic and political life of the previous industrial revolutions based on fossil fuels is rapidly giving way to the distributed and collaborative relations of the emerging green industrial age (Rifkin, 2011).

This study investigates the possibility of implementing regional renewable energy projects through public-private partnerships, revealing the need for cooperation between the private companies and the local public authorities. Therefore, this study discloses firstly the picture of the renewable energy in the European Union, and secondly, the public-private partnerships as a solution for implementing regional renewable energy projects.

The research was conducted using a large variety of sources, such as books, research reports and articles. The research question was answered by analyzing and evaluating published sources, and by interpreting and reorganizing concepts.

2. RENEWABLE ENERGY IN THE EUROPEAN UNION

Although the distinctive potentials and contributions of renewable and efficient energy to sustainable and regional development have been recognized, its widespread implementation was delayed (Ingwe et al., 2009).

The achieved and additional mid-term potential for renewable energy sources in all EU Member States are revealed in Figure 1. The potentials are expressed in absolute terms and, consequently, those Member States possessing large renewable energy sources potentials (e.g. France, Germany, Italy, Poland, Spain, Sweden and the UK) are becoming evident (Ecofys, 2011: 21).

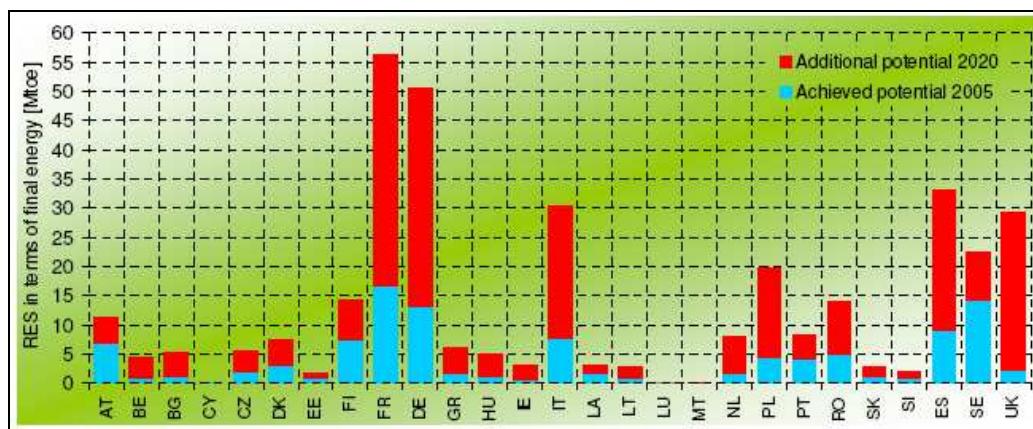


FIGURE 1 – ACHIEVED (2005) AND ADDITIONAL (2020) POTENTIAL FOR RENEWABLE ENERGY SOURCES
Source: Ecofys, 2011: 21

Knowing that energy consumption and economic growth establish a connection, either on short or long term, the key is to decide what technology of energy efficiency to use, what renewable resource to exploit, how to decrease greenhouse gases emissions, how to enhance a green architecture by consuming less of those finite resources and more of renewable ones (Pîrlogea and Cicea, 2011: 81).

Technologies for exploiting renewable energy sources were developed so that their price began to fall and if to this fact are added the subsidies received, than an investment in energy from renewable sources can recover faster than sceptics consider: for geothermal power, payback period is between 6 and 7 years; for wind farms, depending on the type of technology used, the investment is recovered in 7-10 years; for solar farms, depending on their size, the investment is recovered in 6-10 years. These times are estimated for the industrial operation, may change slightly depending on each country, but are used and considered mainly the values shown (Pîrlogea, 2012: 22).

Renewable energy sources have a large potential in Romania and moreover, each development region benefits from at least two renewable energy sources that might be exploited. Therefore, it is not

surprising that the “National Renewable Energy Action Plan” stipulates the promotion of energy production from renewable sources so that the share of electricity produced from such sources out of the total electricity gross consumption to be of 35% in 2015 and 38% in 2020 (Energy Research and Modernising Institute – ICEMENERG, 2010: 13).

The evolution of gross electricity production by fuel in TWh in Romania (Table 1 and Figure 2) reveals that renewable sources are not exploited as much as necessary.

TABLE 1 – ELECTRICITY PRODUCTION IN ROMANIA (TWh)

GROSS ELECTRICITY GENERATION BY FUEL (TWh)	2005	2006	2007	2008	2009	2010
Solid fuels	21.9	25.1	25.1	25.8	21.7	20.7
Petroleum and sub-products	1.9	1.6	1.1	0.7	1.0	0.7
Gases	9.8	12.0	11.8	10.0	7.7	7.3
Nuclear	5.6	5.6	7.7	11.2	11.8	11.6
Renewable sources	20.2	18.4	16.0	17.2	15.8	20.3
Hydro	20.2	18.4	16.0	17.2	15.8	19.9
Wind	0.0	0.0	0.0	0.0	0.0	0.3
Solar	0.0	0.0	0.0	0.0	0.0	0.0
Tide, wave and ocean	0.0	0.0	0.0	0.0	0.0	0.0
Biomass and renewable wastes	0.0	0.0	0.0	0.0	0.0	0.1
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	59.4	62.7	61.7	65.0	58.0	60.6

Source: European Commission, 2012: 113

Basically, from 2005 to 2010 no significant progress was registered in terms of gross electricity generation from renewable sources (20.2 TWh in 2005, and 20.3 TWh in 2010).

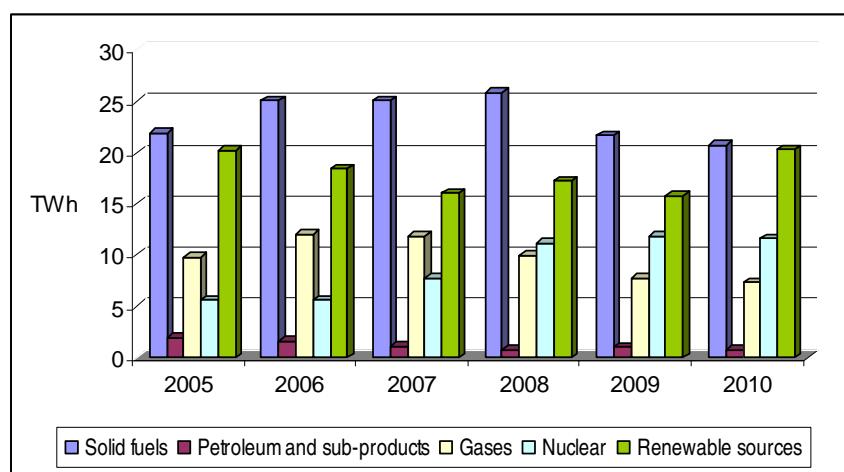


FIGURE 2 – GROSS ELECTRICITY GENERATION BY FUEL IN ROMANIA (TWh)
Source: Author, based on European Commission, 2012: 113

Furthermore, the gross electricity production in % in Romania (Table 2 and Figure 3) reveals that the renewable sources stand for approximately 34%, both in 2005 and 2010, with some variations within this period of time (29% in 2006, 26% in 2007, 26% in 2008 and 27% in 2009).

TABLE 2 – ELECTRICITY PRODUCTION IN ROMANIA (%)

GROSS ELECTRICITY GENERATION (%)	2005	2006	2007	2008	2009	2010
Solid fuels	36.9	40.1	40.7	39.8	37.5	34.1
Petroleum and sub-products	3.2	2.6	1.8	1.1	1.8	1.1
Gases	16.6	19.1	19.1	15.4	13.2	12.1
Nuclear	9.3	9.0	12.5	17.3	20.3	19.2
Renewable sources	34.0	29.3	25.9	26.5	27.3	33.5

Source: European Commission, 2012: 114

It is to mention that the proportion of the nuclear energy into the gross electricity generation has risen from 9.3% in 2005 to 19.2% in 2010.

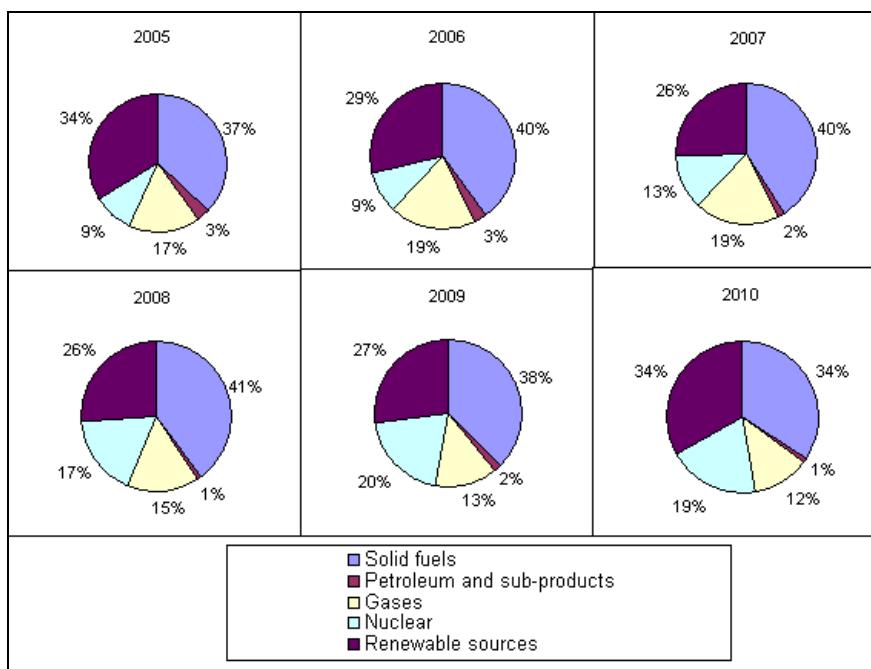


FIGURE 3 – GROSS ELECTRICITY GENERATION IN ROMANIA (%)

Source: Author, based on European Commission, 2012: 114

There are some non cost barriers in Romania regarding renewable energy, and these may be seen as reasons for delaying the development of renewable energy. The main non cost barriers in Romania regarding renewable energy identified by ECORYS (2010: 7-8) are the following:

- Romania is characterised by a period of political instability and renewable energy projects are difficult to implement because of this.

- In Romania there are no specialised agencies for renewable energy and this is one of the reasons why Romania has a complicated administrative procedure that can impose serious obstacles in renewable energy projects implementation.
- Renewable energy is not suitably promoted by the existing legislation. Also, Romanian legislation does not define well the term of “private interest”; public authorities may have their own interest in different types of projects.
- The infrastructure is not ready for receiving renewable energy. Approximately 65% from the electricity infrastructure is in high degree of physical wear, most of them being build in the 60's, including substations and transformation stations.

3. PUBLIC-PRIVATE PARTNERSHIPS – SOLUTION FOR IMPLEMENTING REGIONAL RENEWABLE ENERGY PROJECTS

The development and implementation of regional renewable energy projects may be based on the natural advantage concept, which is a process that integrates innovation and sustainability policies and actions at a regional scale. The natural advantage manifests in three overlapping areas: (1) policies and initiatives for ecological modernization and cleaner production in industry, government, and civil society; (2) conservation and restoration of natural systems and maintenance of ecosystem services; and (3) innovation, knowledge transfer and partnerships between public, private and community based organisations (Potts, 2010: 714).

Both emerging and developed economic theories have concerned, among other issues, the extent to which the state must interfere in the development of market mechanisms, and all of them recognize the need for government intervention to achieve market balance (Hotărăan, 2011: 62).

The development of regional renewable energy projects depends on the regional public policies, the infrastructure, specialized human resources and management of the plans and programs of urban development, in addition to other tools, such as methodologies and procedures that help their application. Furthermore, regulation and rules play an important role in the use and advantageous exploitation of renewable energy, as well as the way to apply public policies in the region does (Hernandez Moreno, 2009: 138).

Local authorities are playing an important role in improving the environment of cities and regions and along with other partners may draft the guidelines for sustainable urban development and establish the appropriate forms of assistance. Today, a new understanding that accepts the individual as a partner of

the public administration is gradually emerging, and this new status of the individual is referred to as "stakeholder" (Argüden, 2011: 41). The partnership of urban stakeholders for creating green cities may lead to the revitalization of waterfront areas, development of integrated urban transport systems in order to support the accessibility and mobility of citizens, and provision of housing and settlements environmentally friendly, which use renewable energy.

There is a strong need for a renewable energy partnership between public authorities, business community and civil society in order to achieve the regional development of renewable energy. In the past decade we have witnessed all over the world an increase in the public sector's interest for signing public-private agreements, a new way of managing and governing organizations that deliver public services, including the ones in the field of energy. Public-private partnerships popularity is due to the fact that governments are more and more eager to increase the quality and efficiency of public services, but in the same time they face insufficient budgetary resources to cover investment needs, coupled with public spending restrictions (European Commission, 2003). Public-private partnerships are usually seen as the most innovative interface between the public sector and the private sector, being an essential legal instrument for the delivery of public services.

The growing popularity of public-private partnerships projects is due to the advantages it may bring, such as: (1) rapid infrastructure delivery; (2) cost reduction for the public sector; (3) efficiencies gained in task allocation of large and complex operations; (4) stability gained through commitment to long-term projects; (5) accountability established through involvement of a wider range of stakeholders; (6) use of private management, experience and know-how for service delivery, that could imply service restructuring in order to make it competitive; (7) risk sharing and improved risk allocation; and (8) improvement of service quality (Hodge and Greve, 2007).

The local authorities and private companies are increasingly collaborating in the area of environmental policy and management, and public-private partnerships for regional sustainable development have been established in many countries (Von Malmborg, 2007: 1731).

In order to implement sustainable regional renewable energy projects, some long term measures may be taken, such as: (1) encouraging the research and innovation activities, through public-private partnerships in the field of renewable energy; (2) encouraging local initiatives, through reducing bureaucracy and creating an efficient administrative framework; and (3) encouraging renewable energy generators and investors to develop more projects so as to increase the competitive advantage of renewable energy sources. In the short term, the local authorities may take on the following measures: (1) to find investors for renewable energy plants; (2) to help companies, installers, consultants and

actors in the renewable energy sector to establish businesses in the region/city; (3) to buy renewable energy; and (4) to educate the population so as to reduce the local population resistance to implementation of renewable energy projects.

The investment in regional and local production of energy from renewable sources may enhance the opportunities for growth and employment in the Member States and their regions. Therefore, national and regional development measures in those areas may be supported, the exchange of best practices in production of energy from renewable sources between local and regional development initiatives may be encouraged, and the use of structural funding in this area may be better promoted (The European Parliament and the Council of the European Union, 2009: 16). Today, business organizations and not-for-profit organizations, among which is the government, need to create and maintain permanent and effective mechanisms which to enable them to adjust in a timely manner in order to respond to trends changes that characterize the environment in which they perform (Jimenez Figueroa and Muro Pico, 2009: 7).

4. CONCLUSIONS

This study has revealed that public-private partnerships could be a solution for implementing regional renewable energy projects. There is a strong need for a renewable energy partnership between public authorities, business community and civil society in order to achieve the development of renewable energy. Sustainable development can only be attained if both local public authorities and private companies work together, and if the public administration acts as a facilitator for renewable energy projects' implementation and development. Only this way the future sustainable development will have the power of the new wave of renewable energy.

The results of this study may be used for future research in the area of implementing renewable energy projects through strong partnerships between the public sector and the private sector.

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