

ROLE OF THE LOCAL AUTHORITIES IN THE REGIONAL DEVELOPMENT OF RENEWABLE ENERGY

Abstract

This study investigates the role of the local authorities in the regional development of renewable energy with an eye to reveal the need for cooperation between the private companies and the local public authorities. Therefore, this study reveals firstly the new significance of renewable energy within the context of the Third Industrial Revolution, and secondly, the role of the local authorities in this new conceptual framework. The results of this study may be used for future research in the area of implementing renewable energy projects at regional level.

Keywords: local authorities, renewable energy, regional development, Third Industrial Revolution.

JEL CODES: Q42, R11, L32, M10.

ROLUL AUTORITĂȚILOR LOCALE ÎN DEZVOLTAREA REGIONALĂ A ENERGIEI REGENERABILE

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Rezumat

Studiul investighează rolul autorităților locale în dezvoltarea regională a energiei regenerabile cu scopul de a evidenția necesitatea cooperării între companiile private și autoritățile publice locale. Tocmai de aceea, în cadrul studiului sunt reliefate noua semnificație a energiei regenerabile în contextul celei de-a Treia Revoluții Industriale, precum și rolul autorităților locale în acest nou cadru conceptual. Rezultatele acestui studiu ar putea fi utilizate pentru cercetări viitoare în zona implementării proiectelor din domeniul energiei regenerabile la nivel regional.

Cuvinte cheie: autoritari locale, energie regenerabilă, dezvoltare regională, A Treia Revoluție Industrială.



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1. INTRODUCTION

Nowadays there is more and more acknowledged by the public authorities the fact that the issues of renewable energy and regional development have changed and have gained a global dimension. However, the local authorities are called to find proper solutions to these problems that may change the way that cities and regions are developing now and will develop in the near future.

This study investigates the role of the local authorities in the regional development of renewable energy with an eye to reveal the need for cooperation between the private companies and the local public authorities. Therefore, this study reveals firstly the new significance of renewable energy within the context of the Third Industrial Revolution, and secondly, the role of the local authorities in this context.

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. THE NEW SIGNIFICANCE OF RENEWABLE ENERGY WITHIN THE CONTEXT OF THE THIRD INDUSTRIAL REVOLUTION

Currently 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).

The energy market, for instance, may be governed by distributed and collaborative relations between the operating companies that will enlarge their activity by developing renewable energy. Nevertheless, the competition on the energy market may be hindered by the vertically integrated companies which operate on this market and have access to the distribution network. A company that controls the distribution network, and is also a player on the electricity market could be interested and could have the ability to impose terms and conditions relating to the access to that network in order to reduce the competition on the competitive energy market (Corbos, 2011: 72).

The European Union proposed two major goals at the beginning of this century: to become a society of low carbon emissions and to make Europe the most dynamic economy in the world. To become an economy of low carbon emissions actually means the transition from a fossil fuel energy system typical for the Second Industrial Revolution to a Third Industrial Revolution fueled by renewable energy. Even though this task may seem terrifying, we must remember that the transformation of European and North American economies from technology-propelled wood-based fuels to those based on the steam generated by coal was produced in half a century. Also, the metamorphosis of railway technology powered by coal and steam in oil, electricity and automobil economy lasted almost fifty years. Having in mind these historical trends, one might think that the transition to an era of renewable energy is possible in a comparable period of time (Rifkin, 2011: 61-62).

The sustainable development is a multidimensional concept, affecting and aiming at the environment and natural resources as well as the population and the industrial and agricultural production. This is why achieving sustainable development implies solutions aiming in the same time at the social, political, economic, demographic and technical field (Lazar and Lazar, 2008).

The Third Industrial Revolution means the transition to a green, renewable energy industrial era, with distributed and collaborative relations between the actors in all fields (social, political, economic, technical field, etc.).

There are five pillars of the Third Industrial Revolution (figure 1), as follows: (1) the transition from fossil fuels to renewable energy, (2) the transformation of the building stock of every continent in electrical micro power plants that produce and use renewable energy, (3) the deployment of hydrogen technology and other energy storage systems in all buildings, and across the network infrastructure, in order to accumulate renewable energies, which are of intermittent flow, (4) the use of Internet technology to transform the electricity network of every continent in a "interred" of shared power that works just like Internet (millions of buildings may generate locally - in situ - small amounts of energy and can sell the surplus to re-enter the network, sharing that electricity with their continental neighbours), and (5) the transition from the current fleet of transport vehicles to electric motor power supply vehicles able to buy and sell electricity within an interactive and intelligent continental electrical grid (Rifkin, 2011: 60).

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).

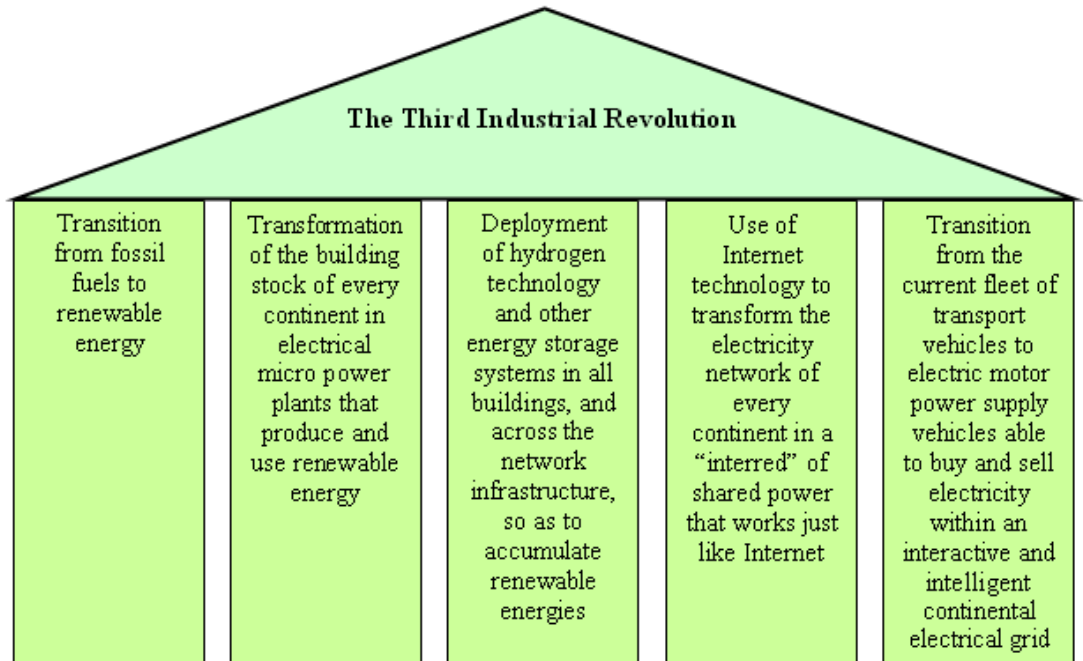


FIGURE 1 – THE FIVE PILLARS OF THE THIRD INDUSTRIAL REVOLUTION
 Source: Author, based on Rifkin, 2011: 60.

A higher degree of solar, wind or biomass use as sources for heating, cooling and electricity production could change the buildings' design concept. The architecture of the new or revamped buildings may take into account different new elements (solar panels, photovoltaic walls and roofs, wind generators, etc.) integration in buildings' envelope and resistance structure (Musatescu and Comanescu, 2009: 198).

The great economic changes of the history occur when there are converging new communication revolutions and new energy regimes, creating entirely new living environments. Nowadays the society is at the climax of a convergence of this type, meaning the link between the information and communication technologies (ICT) revolution of the last two decades and the twenty-first century energy system. The use of decentralized information and of communication technologies as command and control mechanism for organizing and managing decentralized energy is the prelude to a powerful Third Industrial Revolution. Its economic effect could multiply and extend into the second half of the twenty-first century and beyond (Rifkin, 2009: 10).

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).

In modern societies, the volume of public policies that run through different hierarchical vertical integration formulas (ie, through contracts, grants, loans, partnerships and regulations) constitutes the vast majority. From a budgetary standpoint, the policies and directly managed services are a minority, and their managers need more and more to establish relationships with other public and private actors (Longo and Ysa, 2008: 24).

Nowadays the same information and communication technologies that led to the Internet can be used to reconfigure the energy networks in the world, allowing millions of people to take stock and produce their own renewable energy from their homes, offices, shops, factories and technology parks and share it through intelligent networks, just as they are producing and sharing their information in the cyberspace (Rifkin, 2009: 11).

3. WHAT CAN LOCAL AUTHORITIES DO TO DEVELOP RENEWABLE ENERGY?

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).

The role of the state is under constant debate with changing global economic, social, and political conditions. Widespread adoption of democracy as the preferred form of government, and of the market economy as the preferred economic system points to a need for clear definitions of control and responsibility in the provision of public services (Argüden, 2011: 40).

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.

The development of renewable energy sources is increasingly planned at a regional and local level where needs and opportunities can more easily be taken into account, due to the decentralisation of energy supply which enables local and regional factors to play a more important role (Applica & Ismeri Europa, 2011: 10).

In order to implement sustainable regional renewable energy projects, some measures may be taken by the local authorities, such as: (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 community resistance; (5) to encourage the research and innovation activities, through public-private partnerships in the field of renewable energy; (6) to encourage local initiatives, through reducing bureaucracy and creating an efficient administrative framework; and (7) to encourage renewable energy generators and investors to develop more projects so as to increase the competitive advantage of renewable energy sources (Zamfir, 2011: 374).

There are different reasons why governments are supporting green business and sustainable efforts. First, they might want to accelerate the development of selected green technologies by supporting research and development. Second, they may want to bring attractive, but expensive products more quickly to market to benefit. Third, governments might want to establish companies in a leading and growing industrial segment as a part of the country's industrial policy. Fourth, they might simply be responding to international protocols and regulatory frameworks (Roland Berger Strategy Consultants GmbH, 2011: 17).

There are many challenges for both local governments and developers (investors) in the field of renewable energy and its regional development. On one hand, the policy challenge for local governments is to further stimulate and enable the development of renewable energy projects in their regions, in agreement with the national agenda, without compromising local social cohesion. On the other hand, the main challenge for developers is to tackle social resistance without diminishing the profitability and/or the legitimacy of their projects (Rebelgroup, 2011: 4).

The administration faces now the challenge of improving the competitive level of the company through the quality of services and products. Globalization and the new forces of change in the markets are driving companies to explore new options so as to provide better services and to restructure the organization. In an era of high competition the most successful companies will be those willing to make strategic changes. Among these innovations one of the most efficient administrative systems is the philosophical aspect of the company that involves communication, empathy, individual development,

group development, teamwork, planning, evaluation and correction of all daily business processes. This way can be achieved changes in attitude of all staff, encouraging the participation of all members of a company in establishing goals, objectives and strategies for a common challenge (Jimenez Figueroa and Muro Pico, 2009: 5).

The medium and long-term economic development of countries may be based on the development of renewable energy projects, having in mind that the renewable energy sector is highly dynamic and has enormous growth perspectives around the world (Del Río and Burguillo, 2009: 1325). The key goal of the state is to establish a fair playground to motivate individuals and companies to innovate and to improve the quality of life (Argüden, 2011: 41).

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 Malmberg, 2007: 1731). Public-private partnerships are usually seen as the most innovative interface between the public and the private sectors, being an essential legal instrument for the delivery of public services. Public-private partnerships are seen as a qualitative jump ahead, in the effort to combine the strong sides of the public sector and the private sector (Hodge and Greve, 2007). The public-private partnerships are voluntarily initiated by public actors as parts of larger programmes and strategies for industrial development and regional restructuring. The goal of the public actors is to support the private companies in developing their organizational capabilities in environmental management, while simultaneously developing the regional economic and social structures to improve the basis for local and regional business development (Von Malmberg, 2007: 1731).

Business is the true engine of growth and job creation, but it cannot solve the world's problems by itself. It needs supportive government policies at a national and global level to tackle this mammoth task. Government can accelerate the transition to the green world, by supporting business with incentives and favorable conditions, rewarding companies by investing in the ideas and technologies that lead to the sorts of innovative products and services that create jobs and entirely new industries (Roland Berger Strategy Consultants GmbH, 2011: 16).

4. CONCLUSIONS

This study has revealed that the local authorities are playing an important role in the regional development of renewable energy. There is a new significance of renewable energy within the context of the Third Industrial Revolution, which means the transition to a green, renewable energy industrial

era, with distributed and collaborative relations between the actors in all fields, including the cooperation between the private companies within the renewable energy field and the local public authorities.

The results of this study may be used for future research in the area of implementing renewable energy projects at regional level.

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