

The Management Of Energy Resources. Transforming Natural Resources Into Economic Goods

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Abstract: *The management of energy resources, as a component of modern management, has become one of the most important pillars in the context of European energy policy, in order to have more competitive European companies, economies, and to a large extent - states. The purpose of this paper is to bring to attention the necessity to take steps forward to create a strong link between resources and development, which is essential if one state aims to create a sustainable and brighter future. A weak management of energy affects energy prices, emissions targets, and legislation, all of which lead to several compelling reasons why, at all levels one state should focus on saving energy: in businesses, public-sector/government organizations, and homes. The energy industry is one of the most capital-consuming industries in the world. Relatively higher energy prices place a drag on economic growth everywhere except in economies that are dominated by energy production. The Romanian main energy institutions, next to the Ministry of Energy, are acting to the improvement of energy efficiency, the reduction of greenhouse gas emissions, proceeding on maintaining the energy prices stable and the promotion of the renewable energy sources.*

Keywords: management of energy resources, European energy policy, development, energy prices, emission targets, energy industry, Romanian institutions.

JEL Classification: O44, Q21, Q34, Q43, Q54.

1. Introduction

According to Business Dictionary, “management means the organization and coordination of the activities of a business in order to achieve defined objectives. Management is often included as a factor of production along with machines, materials, and money. Peter Drucker (1909-2005), the management guru, stated that the basic task of management includes both marketing and innovation. Practice of modern management originates from the 16th century study of low-efficiency and failures of certain enterprises, conducted by the English statesman Sir Thomas More (1478-1535)”.

Energy management is widely acknowledged as the best solution for direct and immediate reduction of energy consumption. Basically, it could be reached through balancing consumption, cost and environmental impact and it involves practices such as metering or the use of each opportunity to save energy. Energy represents a valuable good, and it is recommended to be regarded as business cost, as are the labour or the raw material. Two of the most important reasons why we should bet on energy management (and mostly - on energy saving) rely on the environment dimension – keeping our Planet as clean as we can, and on reconsidering the level of dependency on the fossil fuels, which represents a limited source of energy security. According to the 2020 climate & energy package proposed by the European Commission - a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020, there are three key targets:

- 20% cut in greenhouse gas emissions (from 1990 levels);
- 20% of EU energy from renewables;

- 20% improvement in energy efficiency.

Taking the necessary measures in order to accomplish the above-mentioned targets, will determinate the increase of energy security at EU level (reducing the dependency on energy imports) and also will create jobs, advance green growth and make Europe more competitive. Respecting the steps to get the targets proposed by 2020 climate & energy package will contribute in shaping the future European Energy Union and Climate, which will ensure that Europe has secure, affordable and climate-friendly energy. Wiser energy use, while fighting climate change is both a lever for new jobs and growth and an investment in Europe’s future, which could be also reached by one of its milestones tools – the energy management.

2. Energy resources, as economic goods

Energy is one of the main axes of the economy and a crucial input for nearly every good and service. As I have mentioned before, energy industry is assuring a large number of jobs, which has also a great impact on the overall economy, and also one should always remember that the energy comes from the physical environment and ultimately returns there. This means two things: energy represents a priceless good, a source of wealth but in the same time it should be carefully and properly used in order to protect the environment, or to benefit of low prices after using it. Energy represents an input for nearly all goods and services. Price shocks and supply interruptions can shake whole economies, mostly in those countries where the flow of energy is usually taken for granted. Rising energy prices took purchasing power away

from consumers, particularly from lower-income groups.

Romania, for example, has a broad range of energy resources such as: nuclear, substantial coal deposits, significant oil and gas reserves, wind, solar, biomass and it has substantial hydroelectric power installed. In order to emphasize the importance of all these energy resources of Romania so that we can talk in terms of gain, it is recommended to highlight the necessity of achieving two main goals: reducing consumption, balancing the price of energy, using as effectively as possible the natural resources with the help of the economic processing technology (reducing energy waste and pollution) and using the alternative energy sources. In the same time, Romania has to cope with a number of urgent weaknesses and vulnerabilities - some of them structural - which might affect the continued effectiveness and operational resilience of the energy sector: slow progress in improving energy efficiency throughout the production, transit and consumption cycles; rapid depletion of hydrocarbon reserves (the new discoveries are not so encouraging) - this might lead to a considerable rise in imported oil and gas resources causing a lack of stability and security of our country, inefficient and heavily polluting power production facilities, etc. The moment when Romania will have to make quite a few decisive choices, to keep abreast of the dynamic developments in world markets, technological innovation, mainstream options in EU energy policies and Romania's specific conditions and requirements is very close. But all these should begin with the Romanian authorities responsible of energy sector, which will have to assume strategic decisions related to energy poverty, security of supply

(creating more than one source of energy supply), to assure reasonable pricing according to a pre-planned schedule that is correlated with the anticipated decline of national resources, etc.

Economically speaking, any increase in energy prices, has a major impact, especially on companies and enterprises where energy has a large share of total spending. Increasing energy prices leads to lower profit level, unemployment and even to bankruptcy in some cases. The primary objective of energy management is to achieve and maintain optimum energy procurement and utilization which may help in minimizing energy costs and mitigating environmental effects. The industry directly affects the economy by using labour and capital to produce energy. This role is particularly important when economic growth and job creation are such high priorities around the world. Shaping a sustainable and brighter future by changing the balance from excessive consumerism towards an increased quality of life represents one of Romania's main challenges. While there is plenty of experience in optimizing energy generation and distribution, the industry and the researches are focusing on the demand side management (DSM), a portfolio of measures to improve the energy system at the side of consumption. The DSM has various beneficial effects, including mitigating electrical system emergencies, reducing the number of blackouts and increasing system reliability. Possible benefits can also include reducing dependency on expensive imports of fuel, reducing energy prices, and reducing harmful emissions to the environment. It has also a major role to play in deferring high investments in generation, transmission and distribution networks.

3. Energy saving – an important principle of management

The matter of conservation of energy, due to its complexity, represents a subject of management principles. Energy saving represents nowadays, the best way to ensure a secure and sustainable energy supply, an important tool to reduce greenhouse gases and emissions. Energy can be saved through increased energy efficiency throughout the whole chain from its generation to its transmission and distribution to more efficient end-use. Energy can undoubtedly be a driver of economic growth and it is crucial when considering energy policy, to bring the Governments in the position to understand that, the matter of conservation of energy it is important, beyond their focus on prices, security of supply or on environmental protection. As I have mentioned before, energy management is widely acknowledged as the best solution for direct and immediate reduction of energy consumption. Until recently, a policy orientated toward expanding production capacities to the detriment of energy conservation, it was usual. State-owned enterprises still dominate Romania's energy sector. The state is the shareholder in many important energy companies, controlling most of Romania's energy generation companies, an important part of the energy distribution and supply sector, and both national transmission operators.

Implementing long-term, sustainable corporate governance systems - at least at this level - would generate energy security in the long term. Such a system will provide an effective framework for managing the development of Romania's natural resources, while ensuring much-needed energy security and thus contributing to the regional stability.

Reduction and control of energy usage is vital as it:

- Reduces costs: one of the most compelling reasons for saving energy is cost reduction.
- Reduces carbon emissions: reducing energy consumption also reduces carbon emissions and adverse environmental effects. It is each of us responsibility to keep a clean environment for tomorrow's generation;
- Reducing risks: reducing energy use helps reduce risk of energy price fluctuations and supply shortages.

4. The transition to a sustainable development

In the context of national energy, sustainable development means ensuring energy demand, but not by increasing its use (excepting renewables, in this case), but by increasing energy efficiency, upgrading technology and restructuring the economy. Sustainable development requires a better fit between among all the stakeholders "not necessarily less government, a sharing of tasks between state, civil society and the business sector and long-term perspectives addressing the population as responsible citizens" (Meadowcroft, 2007). Demand of energy is growing continuously and essential for developing countries for their society, economic and social improvements and this requires deliver more affordable services, changes in technologies, methods, infrastructure and people behavior (Kaygusuz, 2012).

Final energy intensity is one of the main macroeconomic indicators for analyzing the efficiency of energy use and is included in the list of indicators of sustainable development of the international organizations.

According to Eurostat (the statistical office of the European Union), the energy intensity of the Romanian economy is still slightly higher than the EU average. In order to reach sustainable development, there are required further policies and measures for improving the implementation of energy efficiency. To consider various measures of energy conservation, it should be evaluated a series of sector-specific issues for which they are intended. An important potential of conservation it is provided by industry, transports and buildings (for example, we can target the energy-intensive industry: aluminum, steel, chemicals, cement, paper, etc.). The industry is currently undergoing a phase of evolution; the future of facilities management is now integrated facilities management. The companies have started to demand integrated facilities management on a very large scale, which is able to span multiple buildings, locations, and even countries and regions. Regarding households sector, the evolution of energy consumption and its efficiency were influenced by two divergent factors: the initiation of political and technical measures for increasing energy efficiency (labeling of household appliances, thermal insulation of houses) and the increase in the comfort level of population (introduction of air conditioning, increase in household appliances ownership). The latest report of International Energy Agency (IEA) – Energy Efficiency Market Report 2016 (2016), shows that the global annual energy intensity improvements need to rise immediately to at least 2.6% in a trajectory consistent with our climate goals.

In terms of legal framework, in Romania, the Law no. 121/2014 on energy efficiency, entered into force on August 2014. The Law transposes the European Union

regulations set out under Directive 2012/27/EC regarding energy efficiency, into national legislation. Through this law, the authorities aim is to establish a coherent legislative framework for the development and application of the national energy efficiency policy in order to achieve the national target for increasing energy efficiency. The established measures for energy efficiency apply to: primary resources, production, distribution, supply, transmission and final consumption. Transposition of EU legislation is a positive aspect, providing a legal framework and also some specific new financing mechanisms.

In my opinion, the first step should be made to improve energy conservation is focusing on energy efficiency, being the most effective measure in addressing the challenge of energy management and reduction of emission of greenhouse gases. Energy efficiency is the only energy resource possessed by all countries. Gardner and Stern (2002) make a clear distinction between energy efficiency and energy conservations. Energy efficiency refers to the adoption of specific technology that reduces the consumption of energy without changing the relevant behavior and energy conservations refers to changing consumer behavior towards energy savings. While the expansion of policies has been effective in generating energy savings and reducing emissions, more is required and more is possible. In order to achieve our climate goals (there is a long way to reach this point) are needed more improvements in energy intensity and energy efficiency. Global collaboration and knowledge exchange will be essential elements of strengthening action on energy efficiency in all countries. The Paris Agreement reached at COP21 in December 2015, was the key global

development that will affect the future energy efficiency market. At the Paris climate conference (COP21), 195 countries adopted the first-ever universal, legally binding global climate deal, which set out high-level intentions, goals, targets and prescriptive actions to reduce greenhouse gas (GHG) emissions.

The agreement, which is due to enter into force in 2020, sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.

How the Paris Agreement will change the business case for energy efficiency policies and investments will depend on the specific countries, sectors, technologies and developments happening elsewhere in national energy systems.

5. Conclusions

The energy industry fuels the economy, and steady availability of reasonably priced energy is a crucial to economic growth. Often called the “first fuel” of the global energy system, energy efficiency is one of the most important steps that any government can take to move towards a sustainable energy system. Global energy intensity improvements need to reach at least 2.6% per year to put the world on a sustained pathway for a decarbonised energy system. In countries with significant and various energy resources, as it is Romania, the industry can be an engine of economic recovery and development.

Energy demand and prices have been resilient throughout the recession due to growing needs in the developing world. Achieving noteworthy energy efficiency by management practices makes practical business strategy for any organization and sustainable development is basis on four pillars social, economic, environment and energy sources management. A holistic approach not only saves money, it can promote one state’s productivity levels and reputation, making energy management a core aspect for any business in the modern age. Romania should continue its efforts to reach the national and European commitments in force. Sustained efforts are necessary to reach the target “20-20-20” (foremost to succeed a decrease of 20% of the energy consumption and 20% off CO2 emissions). Also, after COP21, through Romania’s position it was expressed the strong belief that the Agreement signed in Paris sends a clear signal to investors, businesses and policy makers on the global transition towards low carbon economy, guiding actions globally on the path of limiting the global average temperature increase below 2° C. Since that moment, it was made clear the state’s favorable position related to a more concentrated cooperation, to the development of some important energy efficiency measures and to some key parameters through like energy saving practices that leads to the sustainable future for the next generations.

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