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RENEWABLE ENERGY SOURCES AND COMPARATIVE ADVANTAGE

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ABSTRACT

Renewable Energy Sources are considered a strategic factor, due to their weight to the green power production and also to the important role they play to the economic aticity as a whole.
These explicit relationship between the power sector and the economy address some questions about the impact of the power sector transformation in the Albania's economy. These study's purpose is to give a qualitative and empirical presentation of the renewable energy sources, having into focus the power sector development, the potential of the green energy production and the creation of the competitive advantage in Albania
Using the Proter Diamond analyses, we will define if the RES are a competitive advantage in Albania, or not. The main purpuse of these paper is to analyze the relationship between the Renewable Energy Source, the Foreing Direct Investments and the Economic Growth (using GDP as representative of the economic growth).

Key Words: Renewable Energy Sources, Foreign Direct Investments.

I. INTRODUCTION

The power plays a crucial role in economic, human and social point of view of our lives. All these elements are fundamental to reach the sustainable development, especially in the developing countries. Fostering the use of renewable energies instead of the traditional sources and also speeding up the transitional process, is a unique possibility for increasing the economic growth, creation a new labour force in the market, and for sure increasing the social welfare. The whole word is committed to exploit this possibility, justified by the setup of the renewable energy targets in the 164 countries plans (NDC), which will foster the fulfillment of the Paris Pact for the Climate. Today's decisions for the investments regarding the power sector, will impact the economic growth and the development for the future years. At the same time, it will determine our capacity to the decarburization of the power, as a core action element for climacteric changing.
The transition from the traditional sources of power to the use of renewable energy sources, will be a tool to reach this target, generating new development sources, the incomes increases, the creation of new labor places and the improvement and wellbeing of millions of people.
The power feeds the global economic activity. With the increase of population, the living standard have increased and the consumption, also. As a result, the total demand for power is expected to increase up to 21% till 2030 (IEA, 2015). The concerns related to climacteric changes, are motivating the governments in the word to search new ways of power providing in order to minimize the gas emission and the other climacteric effects. Today's decisions related to investments in the power sector impact in costs and benefits for at least some decades.

II.MATERIALS AND METHODS

The RES and their competitive advantage. It is rarely found a precise definition for the competitive advantage, but very often is used as distiguished competence (Wensley,1988; Fahy, 2000). Although, there are several economists that have used the concept of competitive advatage before Porter (1979, 1980, 1985 and 1990), this peroid remains and it is always a start point for this concept (Jones, 2003). Straub and Klein (2001), Barney (2002) have argued that the concept of competitive advantage is not presented as Porter used to do it up to 1985. This term is used from Dita (1984), Spence (19840, Cave (1984) and Barney (1986) in the same time as Porter, instead Penrose (1959) and Ansoff (1965) have used the concept before this period of time. The national competitiveness is one of the principal interests a nation may have and also the main task of the government administrators. Based on two schools of though, the

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economic one does not consider the term and the concept of Porter in the national competitiveness, and the other one the management school supports the competition idea, in the national level.

Based on Ketel study (2006), there is clearly expressed that Porter is moslty refering and using the description of different commercial theories in verbal terms, supporting the logical argument rather than the mathematical models in which the economic school of though prevails.

Trying to explain the national "competitiveness, it means answering to the wrong question. All that we have to understand are the production indicators and their increasing scale. To find the answer we have to focus not only to the economy as a whole but also to the specific industires and further more to the specific segments of the industry. To understand, the practices "how" and "why" are created the commercial skills, the technologies, which could be completely understood only in a single industry's level. This is the result of thousand of battles for competitive priorities gain against the rivals in other single segments or industries, in which products and processess are created and structured to support the improvement of the national productivity process[1].

The national competitiveness is one of the principal interests a nation may have and also the main task of the government administrators. There are discussed several theories and thoughts related to this theme, but never had a correct definition of the national competetitiveness. The electricity is a power that governs the economy, as an important source and as foster of the economic progress. The relation between the energy consumption and the economic growth is always very strong (Chinedu and Gbadebo, 2009)

The energy sources have always play an important role in the human society development, starting from the industrial revolution of energy, that was a incentive for modern developmenet and civilization. The energy consumption, the technological development and the global population increases, are all of them related (Afgan, Bogdan and Duiç, 2004).

As per D.Brooks (1986), in the article „Friends of the Earth", the energy is a fondamental unit of phisical word. As such, we cannot understand the development without changes in its nature, as long as it is so fondamental that any change in different flows has different climaterical impacts. Implications are so deep and for that reason one sigle and simple solution coudnt be found for the power sector. Nevertheless, some solutions are the best possible, because they bring much more positive development and with less environment damages.

During the period 1850 – 2005, the global power production and its consumption has increased by more that 50 times, from 2 miliard ktoe to 11.4 miliard ktoe (IEA, 2007). Most of the industrialized companies have support the power production. Based on the consumption per person, the population nowadays has increased the consumption with 100 time more that their pre (para ardhesit) doe s, compared to the peroidbefore the fire source of energy production (UNDP, 2000). The experts think that in a long-term period, the climat change and other threats will bring the change of the gas and hydrogen, which means that we will be more dependant to the non-carbornic source of power and to the sustainable use of biomass (Ausubel, 1996)

Lots of countries already have passed the trasition phase, replacing the phase of businesses activities oriented to import and export to the phase of orientation to the competition based on their new competences and innovative choices. (Staber, 2001). Monique Hoogwijk and Wina Graus (2008) highlight that the focus on the availabilty of the RE sources is very importatnt because of it determines the national potential. There is not a single definition of different potentials types, but we can classify them in 5 cathegories: the theorical potential – takes into account the limitations related to the natyral and climateric parametres; the geographical potential – most of the RE sources have geographical limitations; the technical potential – it is further reduced due to the technical limitations, like the convertion eficacity; the economic potential – technically the comparison is in the costs level, the tradional sources of power are considered more competitive; the market potential – it is the general amount of renewable energy that could be inserted in the market, in accordance with the market demand for energy. Countries and businesses should work hard in order to reach the competitiveness advantage in the whole meaning of the world (Kloostreman, 2001) and (Piercy, 1996).

IEA (2005) suggests that the electricity production for the developing countries, will be increased 3 times in the next 25 years. Meanwhile, the renewable energy sources, excluding the hidropowers, are expected to increase their part of energy production form 1 to 4% for the same period. The Qymyri is expected to dominate and willstill keep almost the half of the power production capacity form the developing countries up to 2030. These predictions have not taken

[1]From Adam Smith to Michael Porter "Evolution of Competitiveness Theory", Dong Sung Cho the Hwy Chang Moon, 2013, pg.93.

into account different changes and policies that could be implemented to manage the climateric changes for the coming decades, for example policies that could improuve the expansion of primary energy sources, the non-fossils one.
Martin Reeves and Mike Deimler (2009), argu that the environmental forces during the last decade, some of them complicated and co-related, not only have change the focus of the tradional sources of power production, but also have changed the way of recognation for the dinamic attitudes of competitivveness. These changes include: the volatility increase of the market positions, which discard all the suppositions related to the sustainability and the value of the scale economy advantage; the acceptance of all informations that discard the simple advantage of the information, and also exposes each company and industry to the incertity of the bounderies; so, they reflect the new economies of information, the multidimentional ones.
During the last decade, several efforts have been done in order to identify which factors are relevant for the innovation and how those factors could help to its succeful expansion. Those efforts are always augmenting, in the comparative abilities of the strong and weak points, and also, in the concentration of different systems into the technologies (Fagerberg, 2003; Changchen, 2003; Edquist, 2005).
RE sources have always played an crucial role to human society development, from the industrial revolution of energy, the technologic development and the electricity consumption, and the increase of global population, are strongly related (Afgan, Bogdan, Duic 2004).
The history of the industrial civilisation lays out in the history of the energy transition. In the less developed countries and at agrarian economies the basic needs for food and living, are fullfilled through the agrarian activity. The developed economies are more complex; their needs for energy are always increasing, due to the fact that the wood source of energy and the biomasse do not fullfill the needs for energy for Europe and United States of America. This is the reason why pepole are focused to hidropowers during the 19th sciecle. The advantage that fuel source of energy had over the renewable energy sources, has start to weaken during the last years. Now, they can compete only in financial terms, where expenses and costs of the renewable energy sources are expected to decrease in the, meanwhile the price of fossils sources may increase. Even thought the promotion policies of this trasition are not yet clear, the economic factors are pushing us and oriented to this direction, to the Renewable Energy Sources (Timmons, M.Harris, B.Roach 2014).
The water source of energy is the biggest source of global eletricity production, up to 16% of the total electricity produced last decade. In those countries where natural conditions are favorable, the hydropowers could be the cheapest source of renewable energies and usually most economic than other fuel sources. As consequence, this is the reason why hydropowers plants are very developed in many countries around the world (IEA, 2010).
As suggested by the theorical litterature, it is neccesary the government intervetion for regualtions and execution of the environmental policies, aiming the correction of the outside conditions. In this context, the market failures are understood as deviations from the perfect functioning markets, based on the neoclassical suppositions (Weitzman, 1974).
The prices mechanims are fixed, beacuse the consumption cannot be limitated, or, the costs cannot totally or partially forcasted. The market barriers can be defined as each entry or limitation of the market for the participation and the use of the good/service. This part is not necessary linked to the market failure (Jaffe and Stavins, 1994) and (Jaffe, 2004).
The key success to raise the national incomes is the production increase, the key of the production increase is the innovation; and the key of innovation is the perfect functioning of the innovations systems as a “diamond” factor. The higher rate of productivity increase gives an absolute advantage over the countries with lower “diamonds”. Based on this forecasting context, industires with higher successful factores will be those who will create the national competitive advantage in the future (Porter, 1990).
The competition of the companies, nowadays, is composed by different organizational aspects, which are linked to the research-development effectiveness and the investments in related industries. Those factors include: the succesful management of effective production, the proactive mechanisms for the market planning integration, such as the projection, engeeniering, the industrila production, innovation and the coollaboration between businesses and universitites. The collaboration purpose is to define the market characteristics and thier evolution in the strategic planning, thier capacity to reach fruitfull relationships, in the development and education of the employees through investments in professional training and the consciousness increase focused on the production (OECD, 1992).
The General Secretary of the World Organisation of Turism, Tabel Rifai, on 26 May 2016, has declared that: “Albania is a raising star in turism sector”. In this context, a developed turism cannot be understood without a development of the renewable energy sources, especially for big turistic places and for residential real estates.

Governments should be commited and exploite the alternative sources of energy in order to reach a sustainable development and to further diversify their economy. All are conscious that the power is essential to support the development of a nation in three different dimension: economic development, ecologic and social one. The core objective of the sustainable power is its system, which should provide continous elelctricity supply with affordable prices and ecologically clean, with the purpose of the improuvemnt and the efficient use of it. (UNEP, A/42/427).

A valuable theoretical contribut in this topic is the "Diamond Theory" of Porter (1990), which is based in four factors that represent the indicators of this advantage.

1. The demand conditions

The production factors include the natural ressources and those created by the humans, such as the working qualified power and/or infrastructure.

2. The supply conditions

The nature of the national supply, the focus on goods and services and also the buying power.

3. Related and supported industries

The presence of other suppliers in the market, or other industries similar to the investments one.

4. Strategy, strucure and the organizational rivalty

The national companies cometition and the conditions where the industry is created, organised and managed.

Those four "diamond" factors, in additional to the government role in the economy, and the casual events role, foster or slow down the creation of the advantage condtions for the businesses. Generally, the determinat factors that have inflluence in the desicion where companies deside to invest, can be classified in two cathegories: the first linked to the origine country and the second to the receiver country. The variables related to the origine country are the factors that make the investment more attractive abroad compared to the investment in the country. The factors related to the receiver country make the investment in the country more attractive than the investment abroad. In the litterature, the factors related to the receiver country are those factors that have attract the attention, especially the natural ressources of our country during the dwo last decades. Dunning (1993), argues that the motives and determinat factors for investments have change during the time. The investments in the development countries have been moved,due to the market demands, to the profitability ressources demand or to the vertical integration.

Developing countries, like Albania, should attract the foreign companies through:

- Better conditions of labour market, which do not include only low cost working force, but also productivity, flexibility and adaptability of the working force with the receiver country. As result, the country should offer a working force relatively capable and well-educated. Those requirements are the main reason that explain the increase of the students that aim to be granduate at least for bachelor level.
- The institutional structure: except favorable rate of taxes, the public administration should be flexible as much as needed, to insentivize all the interested to invest in our conutry. The institutions should be elastic, with less complicated neccessary documents and procedures for the foreign investors.
- Market measure: the measure of national market could not be measured only based on its population. Other factors could be significant too: the buying powetr of the total population, the access and connections to other countries, and the national competition.

The competition advantage "The Ricardian Model" (S.Suranovic:2007) was the first who has officially presented the principle of the competitive advantage accourding to which countries differe from each others based on their production capacity: a) The productivity: in the the discussion of productivity, the competitive advantage it is confused with the concept of absolut advantage, or with absolute priority. If the grain productivity of USA is higher than the grain productivity of Zwitzerland, but Zwitzerland has higher productivity of watches, than the economists sa that USA has priority of grain production, and Zwitzerland has the priority of Watches production. In this context, is is intuitive that Zwitzerland will be focused in watches and USA in grain production. As result, the ressources could be transfered from one industry with lower productivity to another with higher one. at the end, this combination of focuses with bring both watches and grain in the global market.

If each of those countries, will commercial realtionship, the production of both production will be higher and both countries will benefit from this exchange. Ricardo has show that "*the comparative advantage is present for those products that the country may produce better, compared to other countries and also if the best product is procuced with lower costs compared to the others"*. Lower average wage: the productivity is not the the only advantage that prioritize the industry. Even the combination of productivity with low average wages could be an advantage. Anyhow, we can say that not alwaysthe low wages give the advantage to all industries. Refering to the uppermentioned example, it will be profitable for USA to produce grain and to sell it to Zwitzerland.

The most important conclusion from the Ricardian Model is that the advantages from the trade exchange will be dissappeared only due to the existance of another country with lower wages, or another country with higher productivity in all industries. Ricardo has shown that the national specialization in the production of those goods that give comparative advantage (which could not be the absolute advantage), the world may increase the productivity at the same level as the ressources. the extention of the productivity leads to the increase of economic efficiency. As result, with the same ressouces, the global economy will be produce more, and to generate higher living standard for all population. The economic efficiency will be higher in national and also international level, and all countries may benefit from the free trade. Regarding to the relationship of the RE sources with the economic growth, generally speaking there is a positive relation between economic growth, the increase of GDP per capita, and the increase of the electricity consumption. This trend is more visible in the developing countries than in the developed ones, due to the lower energy efficiency level, the faster increase of the electric appliances (pajisje) usage and the increase of the approach toward the electricity uasage (C.Flavin, M.Gonzalez, A.M.Majano, A.Ochs, M.G.Rocha Oliveira, P.Tagwerker, 2014).

The power remains very important for the development and the national economic growth, but policymakers, regulators, producers and consumators have different beliefs and points of view regarding to the demands, the supply, the polution and the regulative supervision cadre. In this aspect, the oil price change in global level, has often impact in change of natural gas price, creating the fuel substitution, which at the end will impact the coal's general demand. Instead, the energy types, like the electric or the oil natural, are considered in regional and local level, where thier interdependance is always increasing; or simply said, what happens in a single local market may affect and incluse another market (Brognaux and Ward, 2015).

The model proposed from the Nicholas Apergis and Constantin Danuletiu: as per the reseach realised from N.Apergis and C.Danuletiu (2013), "Renewable Energy and Economic Growth, Evidence from the Sign of Panel Long-Run Causality", has served as a referential model, related to the evidence and the of empirical relationship that we aim to prove through our study. They both are the first researchers that have study the relationship between the renewable energy and the economic growth in 80 countries (Canning and Pedroni, 2008) taking into consideration the positive cause-effect , the direction to the renewable energy of the real GDP of the total moster, regionally taken. Their empirical findings are strong results which prouve the correlation between the renewable energy consumption and the economic growth is important and that the renewable energy has impact in the economic growth. Also, the economic growth fosters much more the usige ratio of the renewable energies. This relation helps and offers the way to follow the public policies usage which will further develop the sector of the renewable energies.

III.CONCLUSIONS

This study represents the theoretical and empirical point of view related to the Renewable Energy Sources in Albania. Pushing to skip to the renewable energy source system, it is a unique possibility to fulfill the climate purposes and to incentivize the economic growth, the creation of new labor possibilities, and as a result, even the general living conditions.

The supply of the primary energy in Albania is dominated from the energy sector development, in order to create a supportive and secure situation of the production, development and the management of the energy resources in Albania. The RES development is important, because it helps the country to fulfill at least two of the strategic targets: the certainty of the energy supply and the sustainability.

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