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Renewable energy brings an attractive horizon for Romania, the projects can generate jobs, cooperation between the interested countries, the increase of living standards and environmental protection. Renewable energy will considerably grow up in coming years thanks to environmental trends exhibited more intense in our country. Beyond the inconveniences inherent in any investment and the related risks, also beyond the natural equilibrium changes, the energy plants' using new green technology offers many advantages. Their quantification can be statistically correlated leading to a rethinking of models that shape the parameters of competitiveness. In this research we started with the assumption that the potential of renewable energy allows Romania to get a favourable competitive position, mainly if we relate to the role of geostrategic pillar in the energetic system in this region of the continent. Although our research is in early stages, we develop two models of diagnosing the renewable energy sources capacity and efficiency and also their attractiveness for entrepreneurial initiatives.

INTRODUCTION

Since energy is considered the central pillar of development of any industry and, therefore, of any country, it is desirable to treat with the utmost care and seriousness of all their aspects, starting with the primary sources, continuing with the operations efficiency, the storage and distribution, and consumption rationalization. Most of the research leans closely on the economical details related with the efficiency, the risks and the benefits quantifying, the value chain along the distribution circuit but do not go to observe and analyze what happened at the basis of this extensive network, namely with the energy sources.

We aim to realize a strategic research of the dynamics of this domain focusing on the advantages that Romania can speculate on this controversial and valuable energy market. Romanian energy strategy should sustain the economic development contributing to a GDP doubling-up in the coming years. This means an additional energy requirement, about 20 TW at the current production of about 60 TW, which will confirm the Romania regional position of energy exporter and maintain a top position on energy independence (currently the fifth place in the U.E.).

Our research is composed of extensive qualitative information gathered directly from the experts' domain or by attending a large bibliographies and carefully monitoring the information reflected by the press and publications on the studied subject. We also used some graphics and tables that justify the content of our research, helping to highlight the most important features of the competitiveness of renewable potential for the Romanian energy.

A strategic analysis of the renewable energy sector will be realise in the latter part of the research by the instrumentality of the diagnosis of Romania's renewable energy potential using two strategic analysis tools. To quantify the development potential of Romanian energy industry on its renewable pillar, very different parameters were investigated and included in the potential diagram

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model and by market attractiveness / business attractive-ness analysis. The graphics and quantitative interpreta-tions are very suggestive and reinforce the assumptions set out in the first paragraphs.

Reference Area And The Research Purposes

The present research aims to elucidate of strategically point of view some facts that Romanian energy is confronted, covering today the process of production structures recalibration imposed by Community rules and global trends.

By correlating the parameters of national competitiveness with the potential of renewable energy development allow us to affirm that this potential can and must become the basis for improving the Romania's competitive position. The latest research realise by the prodigious *Institute for Management Development* point that from the 57 analyzed countries, Romania has a very weak position, occupying the 54 place, exceeding Argentina, Ukraine and Venezuela and achieve an overall score of 46.95 / 100. The situation is particularly disadvantageous because, in 2005 Romania was ranked 45 before Russia, Italy, South Africa, and Mexico and so on.

We believe that energy can make a decisive mark on the parameters quantified for developing the competitive position and our approach was pursued on this direction.

Taking into account the economic free fall, the competitiveness must reflect the way in which countries may resist to adversities and proved the capacity to adapt to the storm times (the Institute for Management Development specialists called contemporary period "The Stress Test"). Competitiveness reflects their ability to resist facing the „events turbulence" given the present economic situation. Competitiveness is generally considered as an important cause in creating national prosperity (Durand, Madaschi & Terribile, 1998; Krugman, 1994) because it improves the living standards and the real income providing goods and services where comparative advantages exist.

The relationship between competitiveness of a country and the competitiveness of their branches of economy is not always represented as part of the whole; interdependence between these two indicators is more complex being influenced by the particular economic policy, by the geo-strategic position and available resources especially the human capacities. Not incidentally, some authors suggest a proportionality relationship between a country's competitiveness and the labour productivity, the synthetic indicator of the human resource quality and organizational efficiency.

Therefore, this paper seeks to assess the actual potential of Romanian geo-strategically renewable energy resources and determining the differences between their current exploiting procedures and their development potential. We also aim to prepare an analysis of the renewable energy attractiveness for the big companies, in fact those that matter (Termoelectrica, Hidroelectrica, Iberdrola, CEZ) – firms that select and hold in their portfolio various sources of electric energy production.

We assume Hamel and Prahalad's idea (2008, pp. 50-52), according to which the competitive race being conducted on three straight ways: the competition for predicting the energy development, the competition for shorten these followed routes (increasing the speed of investment decisions making, approving – developing the energy projects) and the competition to win a dominant market position. Romania's geographical location is a privileged one, in terms of development all competitors have the same chance but this difference between the contemporary reality and future possibilities is, in our country, buried by many inaccuracies.

Hypothesis

The fact that major players in renewable energy manifest a particular interest for Romania for all renewable components, the favourable policies promoted by the European Community and development directions of energy market, all these arguments placed our country in a clear competitive leadership in Central and South-Eastern Europe. The situation is already confirmed by the energy exporter Romania's position.

The subject of our research premise is that *the Romanian renewable energy can significantly contribute to acquire a competitive advantage,* namely to improve the competitive status of Romania seriously affected by disturbances and industrial changes in recent decades. A second research direction seeks to prove the better situation of some renewable energy sources, preferred by major companies over other sources. Thus, *hydro, wind and solar power are more interesting for investors than the geothermal and biomass*.

To prove the veracity of these two working hypotheses we proposed to apply the principles of two research methods. We mention from the beginning that results are not conclusive because of the current pre-testing stage of the research.

Research Methodology

The data exploited in this study were difficult to obtain but we used both primary and secondary sources. The most reliable information was directly collected by interviewing several energy experts from the Oltenia region (fara area). We consulted faculty professors, with energetic and economic specialisations. To design and weighting the factors influencing the competitiveness of Romanian energy production we asked the CEZ Company specialists kindness, using the interview technique. Very important was the information offered by the employees of two Local

Councils from the south of the region, which has the responsibility to conduct wind energy projects. In summary, the interlocutors have contributed with suggestions and advices for detachment of most influential vectors in renewable energy development, of favourable or restrictive factors that affect the domain potential and its competitiveness.

To compensate the lack of official information (data used are just estimations of researchers and specialized agencies) we proceeded to complete them with secondary sources covering the last ten years, namely energy publications and books, ANRE regular reports, articles published in newspapers and economic magazines, all of that betraying the sharp dynamics of the domain.

For conducting a diagnosis of particularities and potentialities of the industries that produced the renewable energy in Romania, we selected few tools of a wide variety of strategic analysis instruments combining the relevance of the conclusions that can be drawn with their novelty aspects and their preparation facility. In this regard, we have focused our attention on two modern strategic analysis and interpretation models, the potential diagram and the analysis of market attractiveness / business attractiveness.

Forwards we present a diagnosis of the competitiveness of renewable energy-producing industries. For this we appeal to a methodology used in economic general diagnose then we will adjust only for renewable resources. The general methodology reflects the following objectives:

- The knowledge of domain perspectives and its influence on future national strategy;

- Knowledge of the industrial components in terms of natural, technical, anthropogenic, commercial potential;

- identification of critical aspects and the causes which have generated;

- assessing the investment interest and the viability of the sector.

A. The basic tool used for applying the diagnosis methodology is the *potential diagram* that guarantee:

- The unilateral treatment of the diagnosis at all structural levels of renewable energy;

- The quantification of both processes and phenomena that have a quantitative expression but appreciated by adjectives;

- The description of energy activities and potentialities by criteria and characteristics;

- The differentiation of the factors inside the renewable sources and at the energy production level inside the energetic system.

Generally the steps of this method are the following:

- *identifying the area that will be diagnosed in terms of competitiveness*. The first level is the Community market influencing the functionality and viability of the Romanian general economy. We will examine the *energy industry* or, more specifically, the field of renewable energy producers. The second level is the *renewable* pathways (geothermal, solar, wind, hydropower, and biomass) which are diagnosed from the perspective of its potentialities: technical and technological, anthropogenic, ecological, commercial, financial, etc. These domain potentialities are found and coexist inside the structures of operating sources representing themselves other diagnostic levels.

- *selecting the criteria that described the activities and the potentialities*. No evaluation can be realised without a criteria system well chosen. The criterion is meant to capture what is essential to the existence and functionality of the activity and must be concise and relevant.

- *scale-setting* for criteria evaluation. We chose a grid with four states: 1. Unsatisfactory rating (barely corresponds); 2. Satisfactory rating (corresponding to a small extent); 3. Good Rating (largely corresponds); 4. Very good rating (corresponds to a large extent).

- *parameterization of evaluation grid* with the utility function described in von Neumann and Morgenstern famous model:

$$U(s_i) = a \cdot N_i + b \qquad (1)$$

with: $U(s_i)$ – the utility of "s_i" states; a, b – parameters.

Following the parameterization these utilities are available: U1=0,00; U2 =0,33; U3=0,66; U4=1,00.

- *including the diagnosing criterion into a particular state*. When the criterion can be indicate by physical, value or efficiency indicators their actual size compared with the optimal considered sizes ensure the proper classification in the state. For example a profit rate of 50% is a state of good assessment, while a profit rate of 1% represents an unsatisfactory state. Intermediate values will cover the remaining two states. When there is no possibility of quantitative estimations and the criterion is defined by qualitative assessment obtained through questionnaires, interviews, etc., the placing inside the scale states is realised by the diagnostic authors throughout a critical analysis of obtained information;

- *granting importance coefficients for each criterion* (those dimensions which distinguish criteria according to their contribution to determining the "health" of the studied entity). Setting these coefficients is an operation held, usually by consulting the experts with good knowledge of

domain. Each specialist ordered the importance of the criteria. Finally, it agrees on the size of the coefficients for each criterion. These factors are weighted with values between 0% and 100%. Sum of the coefficients will always be "1", value that we split it for the eight considered criteria.

- *Average Score determining for the "P" potential for each "i" sub-criterion*:

$$\overline{S}_{P(i)} = \sum_{i=1}^{n} U_i \cdot K_i \qquad (2)$$

where: Ui - "i" sub-criterion utility for the Pi potential;

Ki -importance coefficient for the "i" sub-criterion;

i= 1,2,...,n - diagnosed sub-criteria.

- calculating the values of "x" criterion according to the "i" sub-criteria score;

$$T_{P(x)} = \sum_{i=1}^{n} \overline{S}_{P(i)} \qquad (3)$$

- determination of the average potential "P" for each "x" criterion:

$$\overline{S}_{T p(x)} = T_{P(x)} \cdot H_x \qquad (4)$$

Hx - importance coefficient for the "x" criterion;

x= 1,2,..., 8 - diagnosed criteria.

- general diagnosis (average value for renewable energy sources potential):

$$\overline{V} = \sum_{x=1}^{8} \overline{S}_{Tp(x)} \qquad (5)$$

Conventionally, for such utilities potential diagram we can reveal the following conclusions according to the $\overline{V}$ rate:

- if $\overline{V}$ <25, the renewable energy is in critical situation (unfeasible);

- if 45> $\overline{V}$ >25, the domain correspond to "problems" evaluation. The outlook is uncertain, the recovery is possible and also a total failure;

- if 70> $\overline{V}$ >45, the industries state is good, there are all prerequisites for a profitable future development;

- if $\overline{V}$ >70, the renewable energy is viable in strong competitive environments;

- For all evaluations analytical approaches are recommended to highlight the differences between the optimal values of each criterion / sub-criterion and factual situation.

The methodology developed for diagnosing the renewable energy potential adapted from that above principles has the following sequence of steps:

- *selecting the criteria* for the characterization of these energy categories. We established eight criteria as recommended the institutions that measure competitiveness.

Economic performance is one of the most important factors category divided into intrinsic and external performance. We considered two major sub-criteria for the intrinsic economic performance, namely the economy and local employment support and the prices. External performance is measured by the net export of renewable energy and by the foreign investments volume.

Another criterion is the *government efficiency* in promoting this sector. This criterion is also determined by three sub-criteria: direct investment policy, fiscal and entrepreneurship policy and supportive institutional system.

The *business efficacy* concerns, on the one hand, the capacity and the productivity and, secondly, the financial results.

Management factor also has a major importance (the practical involvement of managers and the promoted attitudes and values).

The *infrastructure outlines* will be grouped into three divisions, basic infrastructure, related to accessibility and existing facilities in mining potential areas, the scientific infrastructure and technological one.

The class of ecological factors seeks the landscape impact of the new energy constructions and risk improving by reducing the energy production from other sources.

Perhaps the most important factor is related to existing resources divided for each origin category - wind, water, soil heat, light and solar heat.

- *assigning the coefficients for each criterion*. Those coefficients, presented in *Table 2*, were established after thorough assessments, by studying the interviews with the experts and studying a rich bibliography.

- *parameterization of evaluation grid* with the von Neumann-Morgenstern utility function (*Table 2*).

- *determining the average potential of exploiting the renewable resources*.

B. The second analysis model seeks to interpret the situation of the energy potential from renewable resources from the perspective of the companies attracted by these potential and wishing to enter or already being part of Romanian energy market. We considered those great players who can implement projects in several segments of the renewable energy market.

The MABA[1] analysis correlates the indicators of **m**arket **a**ttractiveness and the **b**usiness **a**ttractiveness. This type of analysis is considered to be a useful tool helping the decisions demarche regarding the company's business portfolio.

Regarding the energy sector, decomposed on structural levels generated by the origin of exploited sources criterion, the market attractiveness can be determined by company's external indicators like: profit rate, market size, market growth rate (expectations); market concentration, stability, competition, etc. They can be used to determine the values of these indicators the BCG matrix and the Porter's model principles.

First step of MABA analysis is the indicators establishing for the two types of attractiveness and estimating the level of their importance. The indicators can be independently established helping to obtain more objective results or also may be used some scales for measuring the indicators.

The second step defines the combinations product – market, the opportunities, the market segments or the activities analysed through the MABA instrument. After we linked the two variables of attractiveness will result a chart like the one shown in the *Figure 2* reflecting how the opportunities are prioritised for large companies working in energy production from renewable sources. This model can be very useful in making decisions process.

Research Content and Results

We elaborate further the principles applied to highlight the development potential of Romanian renewable energy, firstly through a potential diagram instrument.

The most important criterion was considered the *availability of resources* which can be exploited, parameter that received a more important coefficient even than the business efficiency of the renewable power plants. At least in terms of solar and wind sources, the potential is a great one, Romania's endowment is still much superior to its exploitation. The vantage of energy from hydraulic sources had a significant influence in defining the assessment score, while the geothermal and biomass sources have limited the value of the composite indicator, which finally was considered to have a good value.

The *internal economic performance* evaluation seeks indicators like gross profits, investment and household consumption as well as savings. Also were followed general growth indicators development and forecasts on inflation rates, employment rates in industry and real contribution to GDP. Lesser significance in the value of

this criterion was considered the prices sub-criterion aiming their acceptance by buyers and price / cost correlation. Following the evaluation it was considered that the renewable energy may become one of the sustainable competitive advantages for Romanian economy and the working population, giving it one of greatest importance. Also, the prices are competitive but the current lack of transparency in this regard diminished the aggregate indicator for this issue. The large share held by the domestic performance on the average potential can be easy observed from the table.

External economic performance is sustained only by the substantial production capacity which can be exported, the Romania export-import balance baying favourable. Although net exports declined last year the electricity remains one of the few areas in which Romania have a positive situation, receiving a good sharing. This parameter is mitigated by a very poor situation of the foreign direct investment that betrays the external dependence of this industry and, in reality, the loss of largest share of the profitability.

In terms of *ecological factors*, we take into account the energy risk improvement Romania being by now a country where the hydrocarbons sources formed the energetic basis and, further, the fundamental of the entire economy development. Given that this resource is largely imported it follows the foreign energy dependence, dependence whose risks can be greatly attenuated by expanding the production capacity from renewable energy. This very good situation of the facet is partly offset by a slightly adverse landscape impact caused by anthropogenic changes occurred the build of hydroelectric units and exploitative biomass units, by the imperatives related to the removal of agriculture lands or with other destination that will transfer toward the concessionaires dealing with wind farms and biomass production. However, the environmental factors contribute to the overall potential of renewable energy exploitation.

Government efficiency was one of the very difficult to quantify criteria so we opted to reduce the risks involved by the improper sizing of this parameter giving him a lesser importance. The subjective estimations regarded the evaluation of three sub-criteria, the investment policy, the institutional system and fiscal and entrepreneurship supporting policy. We talk about one of the worst criterion its bad influence on the potential being blamed repeatedly by cataloguing Romania as a country where law and governing bodies are rough and do not support the entrepreneurial activities.

A good ranked indicator is considered *the efficiency of renewable energy business* whose contribution is significant but can be improved; the parameter is influenced by two sub-criteria, namely the capacity and productivity (for small and large units and regarding their relationship with the consumer) and the financial results

Table 1

The parameterization and quantification of criteria used to framing the potential diagram
(diagnostic tool for the renewable energy sources potential)

Criteria	Coef.	Sub-criteria	Coef.	Evaluation	Utility	Score
1. Current resources	0,25		1	3	0,66	0,66
		Total				*0,66*
Total		**0,17**				
2. Internal economic performances	0,15	Economy and working pop. sustaining	0,60	4	1	0,60
		Prices	0,40	3	0,66	0,26
		Total				*0,86*
Total		**0,13**				
3. External economic performances	0,10	Net energy export	0,65	3	0,66	0,33
		Foreign investments attractiveness	0,35	1	0	0
		Total				*0,33*
Total		**0,03**				
4. Ecological factors	0,10	Impact on the landscape	0,40	2	0,33	0,13
		Diminishing energetic risks	0,60	4	1	0,60
		Total				*0,73*
Total		**0,07**				
5. Government efficiency	0,05	Investment policy	0,45	2	0,33	0,15
		Fiscal and entrepreneurship policy	0,25	1	0	0
		Institutions system	0,30	2	0,33	0,10
		Total				*0,25*
Total		**0.01**				
6. Business efficiency	0,20	Capacity and productivity	0,50	3	0,66	0,33
		Financial results	0,50	3	0,66	0,33
		Total				*0,66*
Total		**0,13**				
7. Management practices	0,05	Leaders involvement	0,70	2	0,33	0,23
		Values and attitudes promoted	0,30	2	0,33	0,10
		Total				*0,33*
Total		**0.02**				
8. Infrastructures	0,10	Basic infrastructure	0,60	1	0	0
		Technological infrastructure	0,20	3	0,66	0,13
		Scientific infrastructure	0,20	3	0,66	0,13
		Total				*0,26*
Total		**0,03**				
AVERAGE VALUE						**0,59**

(investments efficiency, stock quotation, financial management, etc.). Both sub-criteria have an intermediate proportion being appreciated that they could have a favourable impact on the renewable energy sector development.

Although in developed countries the *management practices* are carefully examined because their decisive impact on the development prospects, we considered, at least for now this is a less important indicator giving him a minimum share (0.05). The leader's involvement and the attitudes / practices promoted are slightly unfavourable, the contribution of this criterion on the improving potential of energy situation could always be improved.

Romania has always big *infrastructure* inconvenience and as a criterion for determining the potential, this aspect makes a pretty significant contribution. Unfortunately, this contribution is a bad one, the three sub-criteria value is not very happy. Thus, the basic infrastructure, linked with the communication ways and the availability of the most favourable regions for exploitation of renewable resources presents substantial problems (was very poorly marked). This sub-criterion is somewhat offset by the technological and scientific infrastructure where Romania is a privileged country, but those two indicators cannot recover the very low score due to the lack of basic infrastructure to support the optimal exploitation.
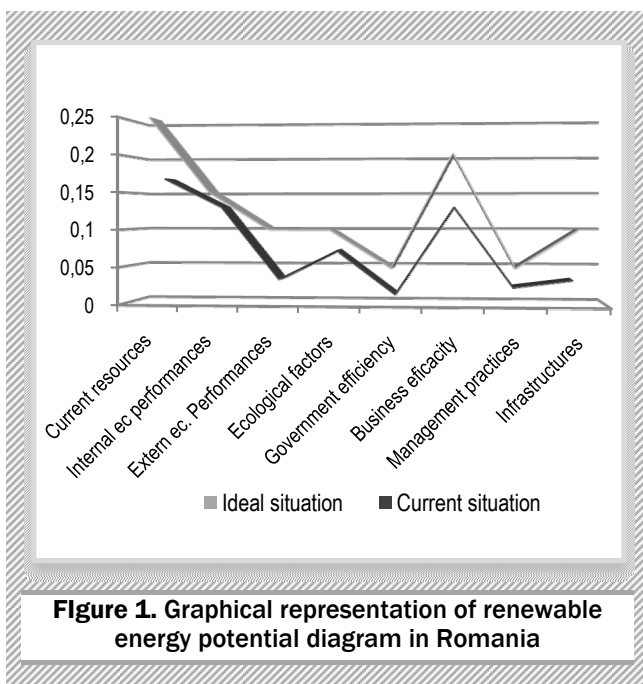
FIgure 1. Graphical representation of renewable energy potential diagram in Romania

As the conclusion of the eight major criteria evaluation should be noted the considerable weight accorded for two of these criteria, the business efficiency and the existing resources where the awarded scores, although slightly above average, helps to reduce the overall potential of renewable energy perspective.

The average value of 0.59 indicates a good potential for exploitation of renewable resources in Romania, but that could be improved to achieve a very favourable competitive position, situation that the average should exceeded 0.70, followed by the strengthening of this extremely favourable situation.

Based on the graphic representation of the domain, we can develop a series of recommendations for possible improvements. In this direction it must be identified the criteria when are large spreads between the current situation and ideal situation: the first are the economic performance related to external relations, the shortcomings of existing infrastructure, secondly is the dowry optimization of existing and underused resources and a better performance of these businesses.

A close to the optimum situation is relevant only regarding the potential of internal economic performance, the score (0.13 / 0.15) being attributed to a great impact that the renewable energy envelop the society perception and very competitive prices compared with those of conventional producers.

B. The MABA analysis. The energy business attractiveness is largely determined by indicators that directly concerns the company, namely the product-market combination, market segment or company attractiveness related to its products, services, activities

or competencies. Equally important is the position that energy production occupies in the chain value or inside the suppliers and customers network (some product-market combinations realized scale economies).

Certainly all indicators will refer to the major categories of exploiting sources inside the renewable electricity producing segment (we started from the assumption that wave and tidal energy cannot be operational on short and medium term in Romania and nuclear energy do not fall in this category). We considered pertinent to group these sources into five categories.

In the second table we presented six principal indicators characterizing the market attractiveness and their values relative to each industry and, respectively, each renewable energy source (1 to 10 values):

Table 2
Market Attractiveness parameters for the renewable energy

Market attractiveness	Geothermal	Hydro-	Wind	Biomass	Solar
Market growth	3	5	9	6	7
Natural potential	2	7	8	5	6
Technological complexity	3	3	8	4	6
Financing facilities	2	4	7	5	6
Community and Gov. support	1	3	6	5	6
Rivals number and size	7	5	3	6	3
Average	**3,0**	**4,5**	**6,8**	**5,2**	**5,7**

Is obvious that the selection of these factors was difficult and under subjectivism. Documentation on the choice of these indicators included record of the experts interviewed opinion, a thorough study of thematic bibliography, follow-up the press interviews of the companies involved representatives, namely the most important players on the Romanian and European energy market. Considering that the indicators amount is equivalent they are result five average values of market attractiveness. We can observe a very attractive market for the wind energy followed by the solar energy with a value that must be taken into account. The geothermal energy appears to be completely unattractive, primarily due to the lack of truly prolific reserves in Romania.

Regarding the attractiveness of energy units businesses exploiting renewable sources were also used five indicators:

If the first two indicators can be applied to almost any industry and any field of activity, the market players

Table 3

Business Attractiveness parameters for the renewable energy

| Business attractiveness	Geothermal	Hydro-	Wind	Biomass	Solar
Profitability	2	6	8	5	7
Initial investment and scale econ.	1	3	6	3	6
Average experience gained by the market players	2	8	7	4	6
Exploitation perspectives	4	7	9	4	7
Technical and managerial predispositions + social impact	2	5	7	4	8
Average	**2,2**	**5,8**	**7,4**	**4,0**	**2,2**

experience, service life of each energy plant managers and society predispositions are qualitative consistency indicators, are subjected to an extent far greater subjectivity and were selected taking into account the current context of delaying decisions regarding the evolutionary steps of Romanian energy.

We note that the values are determined as simple arithmetic averages and they are not very relevant because of the fact that this model is in an early stage of research. This pre-test phase based on interviews with only about ten specialists and highlighting the reference works and periodicals will be followed by questionnaires development, their application for the wind, solar and hydro plants existing in the Southwest Region or being into a project or construction phase and of course by the assumptions validation.

The second step is to define the product - market combinations, the opportunities, market segments or activities that will be the MABA analysis subject. After the linking between these two attractiveness variables we can configure a graphical representation presented in the *Figure 2* reflecting how the opportunities are prioritized for companies working in energy production from renewable sources. This model can be very useful in the making decisions demarche.

The quantitative interpretations of the synthetic results offered in 2nd and 3rd tables foresee five possible product-market combinations that will be represented in the *no 2 Figure*. We can observe an advantageous position held by energy fields placed in the top-right corner, namely the wind and solar energy production. By

contrast, the geothermal energy has the lowest interest for the energy stakeholders (a 2.2 average), provided that the geothermal energy market is also very low (3.0 average score).
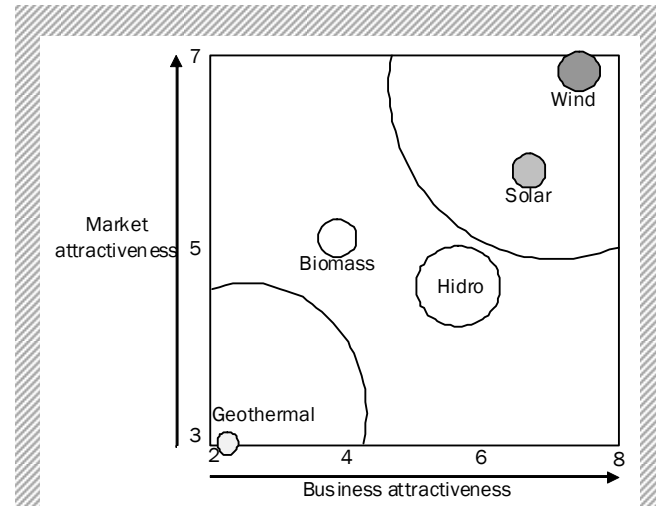
Figure 2. Graphical representation of the M.A.B.A. analysis for the renewable energy producers exploiting several resources

We should note that the representation symbols of the five domains or energy source, the circles are representing them on the MABA diagram. The size of the circles reflects the weight of each source inside the net electrical power production. Such dominance is relevant for the hydro resource whose weight is and will remain the most important even though values of attractiveness of hydropower business and market attractiveness presented average values.

The highest model vulnerability is linked with the chosen and the quantifying indicators, we had to select only a part of them and, moreover, we accorded them the same importance. The value estimation is another weakness of the model and increases the degree of subjectivity. The simplicity of the model accurately reflects the ongoing business situation but could help identify some development opportunities and creating other segments. Only the area examined, the energetic industry prevented us to propose such an approach for defining other opportunities.

6. Conclusion

The renewable energy which include the hydropower, the wind and solar power will grow considerably in coming years, driven by environmental trends which are emerging increasingly in Romania and also by the imperatives of European legislation aiming at the increasing the share of clean energy sources in total consumption. From this point of view, Romania have a remarkable position (second position in E. U. after the Czech Republic, according to

http://www.energy.eu/), the renewable share is now 17% and must be attained 24% by 2020. This trend, combined with the inefficiency of the conventional energy sources, and also with the intellectual and perceptive opening of the present generation may lead only to a healthy development of this sector.

Therefore we made a research from the strategic perspective of this domain potential, highlighting the most important positive and restrictive factors that drive the development of exploitation markets of these resources. Furthermore, we highlighted the implications that motivate the companies' electric energy producers to focus their investment towards one or other of these resources.

Based on statistical data and geographical realities is clear that Romania has a competitive advantage insufficiently exploited which may erode over time if is not speculated. Competitiveness indicators placed Romania on a poor position and traditional economic sectors are adrift, being unable to support the improvements in the countries hierarchy.

Based on the published reports realised by the specialized agencies like the National Regulatory Agency for Energy but also in other economic reviews relating it to information collected by interviewing several specialists we could build two models of strategic analysis through which we can appreciate the overall potential of the renewable energy sources and to reflect any causes of their deficiencies to optimize the exploitation and the opportunities to improve the Romanian energy system.

Helping by the potential diagram a 0,59 composite value indicator was determined considered to be a good value with good prospects for the future development. The same tool highlights the sticking points, the imperfections found in exploiting this energy sources: Firstly, the insufficient utilization of the rich dowry that Romania enjoyed but not capitalized it; these disadvantages are also consequences of the inadequate governmental support, of the sustainable infrastructure lack and due to the foreign partnerships that are not very efficient (both in terms of investments that Romania can benefit and also regarding the exports transparency).

The number of these criteria that affect the development of certain energy categories potential can be always argued, our proposed structure with eight criteria and about twenty sub-criteria is considered relevant for the current situation and for the most serious measured problems. Deepen our analysis will probably lead us to reconsider this series of factors.

The *market and business attractiveness analysis* among the renewable energy is perhaps more synthetic, reflecting the companies exploitable potential in terms of eleven benchmarks. The subjectivity degree characteristically for this research pre-testing stage diminishes the relevance of conclusive assessments but determined us to continue our analytical approach taking into account the advantage of simplicity and usefulness of the model in the decisions making process.

A MABA analysis synthesis is graphically schematized in the Figure no. 2 and emphasize the potential for highly profitable businesses with solar and wind energy and the lack of favourable prospects for the geothermal sources. The hydropower sources, and partly those to exploit the biomass energy are characterised by an average potential but may offset Romania's energy balance.

By combining the two instruments we have concluded that the Romanian renewable resource energy production has a considerable potential and must become one of the vectors to improve the competitiveness of the whole economy.

One of the renewable energy problems that we not reflected in this study is the deficiency of the control system, the equilibration system. Without a conventional power plant, no wind or solar units can develop, requiring an adjustment system, also like the large hydropower projects and biomass plants. Although the projects appear to be highly feasible and the partners are the most serious companies producing renewable energy, there are big losses for the shortcomings.

The study should be continued and completed by other analysis elements of Romania's development potential in the renewable energy domain. Based on the confirmation of the assumptions is desirable to develop also some evaluative relevant analysis which outlined specific solutions and strategic alternatives that can be implemented. We therefore propose to continue this study to undertake such analysis through which we can observe the industry strengths and internal impediments, the dangers and opportunities that may arise in this sector so important of the energy industry.

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