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Analysis of Current Regulations Related to Energy Management in Ecuador

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***Abstract*---**The norms written and designated by the state in some area have an established function and an objective to fulfill either momentary or sustainable over time. This article seeks to provide in a superficial way the structure of the Ecuadorian electricity sector in the administrative area. In addition to that, mention some rules applied within the system to understand the importance of compliance, which is reflected in good service and future projects to continue improving the system. As for example article 21 of the LOSPEE. A descriptive methodology was used that seeks to know and presents the level of knowledge that Ecuadorians have regarding the regulations that currently exist related to energy management in the country, an analysis and data collection that can serve as a result was obtained. Guide to this and future research; considering the opinion of the

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people and their perspective in relation to article 21 of the Organic Law of Public Electricity Services.

Keywords---administration, Ecuador, energy.

Introduction

The generation, distribution and even administration within a structure is essential for the efficiency of the electrical system at the national level. Strict compliance with established laws is the starting point for a quality service throughout the national territory (Arias, 2017; Barrezueta, 2015). In addition to that, the constant monitoring of the different work areas will be the perfect combination for positive results. Within the country, there is an established structure in charge of the administration of the electricity system, according to the electricity sector regime law the structure is comprised as shown in figure 1.

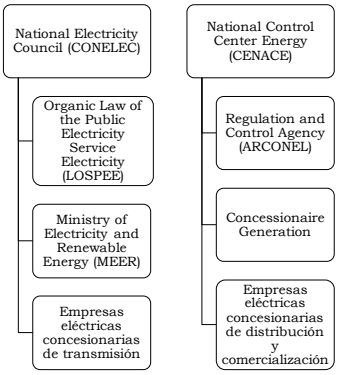

Figure 1. Structure of the electricity sector

Within each area, there are different hierarchical levels for full compliance with the standards, from ministers to the staff of each electrical substation. Each role plays a vitally important role in the administrative, technical, and managerial chain of the national electricity system (Sanchéz et al., 2017; Ghavifekr et al., 2013). There are many rules that need to be adhered to. One of the most important without a doubt and the one that is most worth analyzing in depth, can be found in chapter 3, section 1, article 21: participation in generation projects with Non-Conventional Renewable Energy, NCRE, foreseen in the PME of the organic law of the electric power public service (LOSPEE) Ruiz (2006), in Ecuador, which is defined as follows:

- “The Ministry of Energy and Non-Renewable Natural Resources, in accordance with the National Development Plan and sectoral policies, it will consider within the planning, the development of NCRE projects, and will encourage their execution through private companies and popular and solidarity economy, by calling for exclusive Public Selection Processes by type or types of technology " (p.8-9).

This law is extremely important for electrical improvements in the country, because it seeks to reduce the high level of environmental pollution that currently exists, due to the different machinery that is used for the distribution and administration of electrical energy in the country, it would also mean an important advance in the technological, economic, social and especially environmental fields. Because the use of biomass, for example, would help the system on a large scale, because it would make use of the various waste materials that exist, thus providing a generation of electrical energy, and in turn reducing environmental pollution (Kayser et al., 2003; Pouton, 2000).

The administration in general continues to propose and seek to obtain and create projects that can be beneficial in the short and long term. It is precisely that point that makes the article take a lot of strength. To conclude, through this essay, it seeks to reflect the analysis of the different regulations in force that exist, related to energy management in the country, and also seeks to know the perception that people have regarding these regulations and their compliance and importance in the field of electric energy, using a descriptive methodology, which helped to publicize the regulations that exist related to energy management in the country, in addition to the collection of data that will be of use in this and future short- and long-term research (Lund, 2007; Hall, & Bain, 2008).

Material and Method

In carrying out this research, a descriptive methodology was used because it seeks to know the current regulations that exist in the country, related to energy management. In the same vein, the research design is of a documentary and field type, so the collection of data, the description and the recording of the results is sought, without altering the information obtained in any way (McDonald & Schrattenholzer, 2001; Pérez et al., 2008).

Finally, it is important to highlight that the population selected to form part of the research in question is an infinite population, considering that (Arias, 2012) defines it as follows: "It is one in which the total number of elements that they make it up, since there is no documentary record of these because their elaboration would be practically impossible". (p. 82). This is because we want to know the level of knowledge that Ecuadorians have about the regulations that exist that have a relationship with the administration of electricity in the country. It is important to note that the sample to choose was 100 people from Ecuador, which is why this selection was made by means of a technique called non-probability sampling, since in this type of sampling the probability they possess is unknown. the elements of said population to be part of the sample. In turn, non-probabilistic sampling is classified as casual or accidental sampling, since this allows people to be arbitrarily chosen for the application of the survey, without a pre-established judgment or criterion (Paul & Bhattacharya, 2004; Vasco et al., 2008).

The use of techniques and tools necessary for the successful conduct of the investigation are mainly based on the collection of data that can serve as a guide to this and other future investigations, being selected the closed type of questionnaire, which in turn Sometimes it is classified as a simple selection type, since various response options are established, but the respondent can only make

use of a single option. Despite the situation that is being experienced today, the conditions for carrying out the collection of Data were extremely favorable because technology was used as an intermediary to have an effective connection with the population to be surveyed and the author of said research. The survey to be applied was composed of five (5) items that allow to carry out the study in a satisfactory way, because the items had a direct relationship with the objective of the research; Once the data collection instrument was administered, the information collected was analyzed through the use of the Likert scale, which explains (Mendez, 2010) "It is a psychometric scale commonly used in questionnaires, and it is the broader scale of use in research surveys ". Thus, achieving good results for future research (Guijarro et al., 1999; Joshi & Peter, 2017).

Analysis and Discussion of the Results

It is important to mention that for Hernández et al. (2017), "Collecting the data implies preparing a detailed plan of procedures that lead us to gather data with a specific purpose". Due to the analysis of the regulations that currently exist that are related to the administration of electrical energy in the country, methods were implemented that could be of help at the time of collecting the necessary data to take into account the level of knowledge that people have who they are part of Ecuador; It should be noted that in this way it was possible to have a record of very important data that can be of help for this and future investigations, emphasizing the importance that was given to the regulations established in the LOSPEE; where it is proposed to participate in the different projects that allow generating energy through non-conventional renewable sources. Therefore, the results are as follows: Regarding the acceptance of the electricity management that exists in the country, figure 2 reflects four positions.

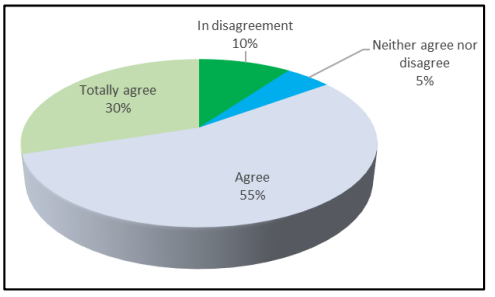

Figure 2. Acceptance of the electricity administration that exists in the country

As can be seen, 90% of the surveyed population agrees with the current electricity administration in the country, emphasizing that despite the situation that it is lived today, the political leaders have done a successful job in relation to the administration and distribution of electricity. You must have knowledge about the importance of the country's electricity sector, it is valued according to two criteria of the proposed Liker scale and this offers the importance of the structure of the country's electricity sector. In this sense, there is a controversy in relation to the importance of the structure of the electricity system in the country, since 50% of those surveyed considered that it is important to have knowledge about these structures and their operation; but another 50% disagreed, because they believe

that the leaders of the electric power companies are those who should care about this structure (Arcentales et al., 2017). The importance of the regulations established in the LOSPEE is questioned in 2 different positions, shown in figure 3.

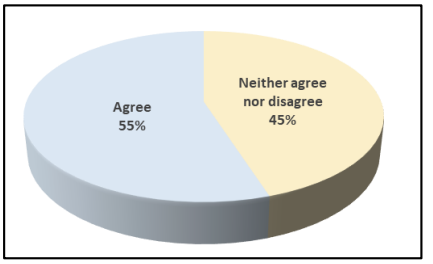

Figure 3. Importance of the standard established in the organic law of the public electric power service.

As can be seen, 55% of the population agrees with the regulations established in the LOSPEE that talks about participation in projects to generate energy through non-conventional renewable sources, thus supporting the inclusion of the green market in the electricity sector and decreasing environmental pollution, caused by existing machinery for the distribution and administration of electrical energy. It is necessary to highlight the need for an exhaustive analysis of the various regulations that are related to energy management in the country, resulting in different positions, as shown in figure 4.

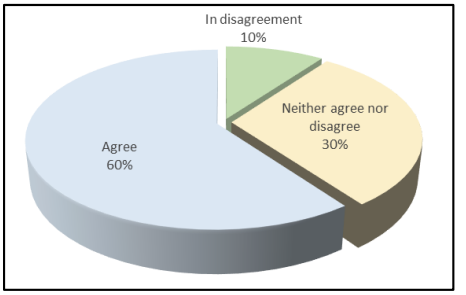

Figure 4. Need for an exhaustive analysis of the different regulations that exist related to energy management in the country.

It is noted that almost 50% question whether it is necessary to carry out an exhaustive analysis of the regulations that exist, due to the lack of information about the regulations that support the administration of electricity in the country. The importance of advertising campaigns to promote the inclusion of new ideas that are part of the regulations that are related to energy management in the country, is valued according to the criteria used on the Liker scale, where everyone agrees with the advertising campaigns that allow the inclusion of new ideas that help improve the distribution and administration of energy in the country.

Ideas go a long way from planning to execution, it is at that last point where the inconveniences come to light, and the reaction capacity must be immediate to achieve solutions. Within the administrative structure of the electricity sector,

there are a number of important ideas, the problem is to take the next step either for economic reasons or due to lack of planning, the truth is that the most promising projects and benefits need to be executed promptly. the country, where a prompt investment that can give positive results in the short and long term within the national electricity system.

Conclusion

The administrative structures were created in order to fully enforce the necessary guidelines for efficiency at the electrical level in all possible senses (in this case of electricity). It is necessary to understand that the norms, laws, ministries and companies associated with the system electrical equipment, play a vitally important role for the constant maintenance of good service to the user. The range of articles and standards applied fulfill a continuous and highly relevant function for the national electricity system of Ecuador.

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