# Indicator of corporate social responsibility based on the United Nations Global Pact and the Global Reporting Initiative to assess the management of the Commercial Agents and distributors of energy in **Colombia**

Indicadores de responsabilidad social empresarial basados en el Pacto Mundial de las Naciones Unidas y el Global Reporting Initiative para evaluar la gestión de los agentes comercializadores y distribuidores de energía en Colombia

Mónica Andrea Cortés V 1\* Mary Luz Muñoz Z.<sup>2</sup> Martha Lucía Quintero G.3 Francisco Javier Sánchez E.4

<sup>1</sup>Colombian. M.Sc. Industrial engineering. Universidad Santiago de Cali. Servicio Nacional de Aprendizaje SENA, Centro de gestión tecnológica de servicios CGTS. Cali, Colombia. \*E-mail: monica.cortes02@usc.edu.co.

<sup>2</sup>Colombian. M.Sc. Masters in Industrial engineering. Universidad del Valle. Cali, Colombia. E-mail: maryluz10@gmail.com.

<sup>3</sup>Colombian. Ph.D. in Company management. Teacher Escuela de Ingeniería Industrial. Universidad del Valle. Cali, Colombia. Grupo de investigación en Logística y Producción. E-mail: martha.quintero@correounivalle.edu.co.

<sup>4</sup>Colombian. M.Sc. Marketing. Universidad Libre. Servicio Nacional de Aprendizaje SENA, Centro de Gestión Tecnológica de Servicios CGTS. Cali, Colombia. E-mail: sanchez 94@hotmail.com.

Received: 24-01-2018 Accepted: 30-08-2018

How to quote: Cortés V., M. A., Muñoz Z., M. L., Quintero G., M. L., Sánchez E., F. J. (2018). Indicator of corporate social responsibility based on the United Nations Global Pact and the Global Reporting Initiative to assess the management of the Commercial Agents and distributors of energy in Colombia. Informador Técnico, 82(2), 211-244. https://doi.org/10.23850/22565035.1360

#### **Abstract**

A strategic methodology for business management is proposed based on the development of indicators under the guidelines of the United Nations Global Compact (UN) and the Global Reporting Initiative (GRI4). The analysis of the information starts from the analysis of five referents of the UN: Universal Declaration of Human Rights; Declaration of the International Organization for Work; Rio Declaration on the Environment and the United Nations Convention against Corruption, and the guide for the preparation of Sustainability Reports G4. As a result, management indicators are constructed in Corporate Social Responsibility (CSR) that allows measuring the performance of the trading companies and distributors of the Colombian electricity sector.

Keywords: corporate social responsibility; energy sector; marketing agents and distributors; united nations global compact; global reporting initiative.

#### Resumen

Se propone una metodología estratégica para la gestión empresarial basada en el desarrollo de indicadores según las directrices del Pacto Mundial de las Naciones Unidas (UN Nations Global Compact) y la Global Reporting Initiative (GRI4). La información proviene del análisis de cinco referencias de la ONU: Declaración Universal de los Derechos Humanos; Declaración de la Organización Internacional para el Trabajo; La Declaración de Río sobre el Medio Ambiente y la Convención de las Naciones Unidas contra la Corrupción, y la guía para la preparación de Informes de Sostenibilidad G4. En consecuencia, los indicadores de gestión se construyen en Responsabilidad Social Corporativa (RSE) que permiten medir el desempeño de las empresas comercializadoras y distribuidoras del sector eléctrico colombiano.

*Palabras clave:* responsabilidad social corporativa; sector energético; agentes de ventas y distribuidores; Pacto Mundial de las Naciones Unidas; Iniciativa de información global.

### Introduction

Corporate Social Responsibility (CSR) is considered a pillar that integrates principles, values, the welfare of workers, the community and respect for the environment, which allows the strategic platform of companies to be built independently of the sector to which they belong.

According to Icontec (2008), Corporate Social Responsibility (CSR) is understood as the voluntary commitment that organizations assume in face of concerted expectations in matters of integral human development, complying with the legal provisions that allow organizations to ensure growth economic, social development and ecological balance.

In the same way, it should be mentioned that it also relates compliance by legislation and internal regulations immersed in its activity, respect for international agreements and treaties on human and worker rights, prevention of corruption and responsibility towards its partners, suppliers, workers and anyone that relates to the organization.

Companies that practice social responsibility obtain many benefits such as improving the organizational climate, they are more attractive for clients and investors, which is why they can become more competitive and generate more profitability. To develop a sustainable organizational culture, it is necessary to introduce proactive management and co-responsibility that closely links the "stakeholders" or groups of interest for the integral enrichment of society.

At present, companies are more aware of the importance of incorporating social, labor, environmental and human rights concerns as an integral part of the business model; therefore, the formulation and execution of action plans based on common goals have been implemented based on the practices and/or methodologies proposed by organizations specializing in sustainable development.

The methodological development of a technological tool for the evaluation of the trading companies and distributors of the electric sector in Colombia is proposed.

### **Problem Statement**

Companies in the electricity sector have identified that controlling the impact of their business management means that a key element in the incorporation of decisions and strategies for sustainable development is CSR, given that it constitutes the behavioral reference that pursues the commitment to assess the consequences that they have in society the actions and decisions for the achievement of the objectives and goals that contribute to the welfare and to the improvement of the quality of life of the shareholders, suppliers, employees, families and the community.

In this sector there are some difficulties derived from the lack of storage of electricity; climatic conditions do not allow maintaining a balance of consumption between supply and demand. As expressed by Romero and Vargas (2010), historically in Colombia the costs perceived by users have been very high due to losses in the national interconnection system, as a consequence of the Ministry of Mines and Energy (MME) through decree 387 of 2007, has established costs in the rates in such a way that each agent is responsible for presenting a loss reduction plan for approval in the Energy and Gas Regulation Commission (CREG). These losses are classified into two categories associated, on one hand, with the technical conditions, such as the characteristics of the four networks that correspond to the energy delivered to a system and that actually received by the end-user, and the non-technical ones linked to the system. The inconveniences of billing and poor operational management, as well as the frauds presented by illegal connections by users.

The studies carried out by the Ministry of Energy of Mexico (2017) consider how the world production of primary energy totaled 13,790,027 million tons of oil equivalent. Topping the list: China with 18.1 %, the United States with 14.6 %, Russia with 9.7 %, Saudi Arabia with 4.7 % and India with 4.0 %. Mexico ranked in the fifteenth place, with 1.4 % of the total energy produced in the world.

In the report presented by Arias and Cadavid (2004), energy losses are contemplated by thefts, administrative management shortcomings, breach of technical criteria by suppliers. In Colombia, losses gradually reached in 2003 to 10.8 % in the rural sector. Regarding the quality of the service provided by the commercial agents, it presents an indicator of 47 interruptions per user per year, as a consequence of the different remuneration rates of the 22 distribution agents in the country. For its part, the report delivered by the statistics of the Superintendency of Public Utilities (2016) states that the quality indicators and energy losses have been negatively affected from 1998 to 2015, due to the lack of management to allocate financial resources in the infrastructure which means that of the 12 million users there are currently at least 2 million users have a daily cut for more than an hour.

Likewise, around one-third of the world population lacks modern energy, which is far from the technical progress that characterizes the current reality and, at the same time, exerts increasing pressure on the environment. This environmental deterioration is in addition to that produced by developed countries through the high production of greenhouse gases and other forms of pollution, in this context the inefficient use of energy that accelerates the degradation of the environment and scarcity is worrisome of resources such as fossil fuels.

The awareness of environmental deterioration and the detriment of ethical values and principles has been the focus of attention for international organizations and companies belonging to the electricity sector to increase their efforts in addressing strategic lines in CSR. Within the solutions found, the bodies in charge of CSR have decided to generate unified guidelines towards the performance of a socially responsible electricity generation system, implementing methodologies to demonstrate, in the annual management reports, the rendering of accounts of their operation under the framework of CSR. To articulate the quantitative data to the annual balance reports, the results found in the research, develop a table of indicators that analyze the four areas (anti-corruption, environment, human rights, and labor) of the Global Compact and the Global Reporting Initiative (GRI4) (Sustainability Reporting Guidelines, 2014).

### Location of the problem

In Colombia, the constitutional reform of 1991 allowed a radical transformation of the electricity sector. From a scheme planned and managed by technicians, but whose residual control was in the radical transformation of the electric sector, it was passed, in the year of 1995, to a scheme of free entry of agents to a competitive market in the generation segment and the regulation of the transmission and distribution segments.

The restructuring was carried out through Laws 142 (Public Services Law), and 143 (Electricity Law), 1994; they defined the regulatory framework to develop a competitive market. The new scheme, designed by CREG (the Gas and Energy Regulatory Commission), was implemented as of July 1995.

García, Cruz, and Corredor (2006) argue that the Ministry of Mines and Energy is the main institution in the Colombian energy sector. The UPME (Mining and Energy Planning Unit) has been established within the Ministry, which is responsible for the study of future energy requirements and supply scenarios, as well as the preparation of the National Energy Plan and Expansion Plan.

For Cuervo (2007) the reform of the electricity sector as part of the set of reforms that began in Latin America in the early nineties, which sought an exit to economic stagnation in the adoption of a new paradigm. With regard to the infrastructure sector, these reforms favored linking the private company to the provision of services and limited the role of the State in the definition of policies and regulation; the establishment of competition where this would be possible would help to guarantee economic efficiency, leaving this task to the regulation of non-competitive market segments. It is assumed that an independent regulation would protect investors from opportunistic government interventions, at the same time, that would defend the interests of consumers.

EMGESA (2008) reports how private companies own 60 % of the installed generation capacity, from 43 % (measured in a number of consumers) to 49 % (measured in sales of kWh) of the energy supplied to the interconnected network. Only three companies: Empresas Públicas de Medellín and ISAGEN and EMGESA control 52 % of the total generation capacity.

The electricity market is wholesale and has the purpose of providing electricity service efficiently, allowing the free entry of private sector companies that make up the Generation, Transmission, Distribution and Marketing agents with a hierarchical structure coordinated by the National Dispatch Center (CND), in accordance with Resolution 080 of 1999 of the CREG (1999).

The classification of the companies of the electric sector, dedicated to the Generation, Transmission, Marketing and Distribution in Cauca and Valle del Cauca, was carried out by consulting databases of the Electricity and Gas Regulation Commission (CREG), the Unit of Mining Energy Planning (UPME) and the Colombian Electric Information System (SIEL).

According to the Royal Danish Ministry of Foreign Affairs and United Nations Development Program (2005), the United Nations Global Compact is defined as "an international initiative with the objective of promoting corporate citizenship", which means that companies from different countries and economic sectors contribute voluntarily in the organization of processes that guarantee sustainable development in the local or international community.

For its part, the Global Reporting Initiative (GRI) (Sustainability Reporting Guidelines, 2014), allows companies to report on the performance of their business impact in the social, environmental and economic field through reports, and as stated in the guide for the elaboration of memories, is a process that materializes the vision through the implementation and improvement from the elaboration of GRI Sustainability Reports. With the purpose of disseminating the indicators that evaluate environmental, economic and social aspects

in sectors such as electricity, hence the importance of electric power, both for production and quality of life, making it not only a need to satisfy uses specific (such as lighting), but in caloric uses of motive power, and advanced technology. Just to mention that the expansion of the communications, the transmission of data and information can only be effective as long as there is energy to power such systems. In this way, the availability of energy and its efficient use is an indispensable factor in the search for equity in socioeconomic matters, particularly in remote rural and even marginal urban areas.

To help organizations demonstrate their performance, the GRI has developed a guide in which it methodologically guides the presentation of information that, in addition to its commitment to social responsibility, shows alignment with its strategic planning.

### **Investigation methodology**

The study methodology has a cross-sectional design with a mixed approach and explanatory scope, focused on distribution and marketing agents in the Colombian electricity sector, followed by a description of the research:

- A diagnosis of the energy sector is made taking as reference the agents of distribution and commercialization through search sources specialized in scientific research and statistical reports.
- The information consulted is analyzed and stratified by themes for the construction of the theoretical framework.
- Statistical data were obtained from bulletins of the Ministry of Mines and Energy in the CREG and UPME bases that report the progress of the operations of the energy units.
- The updated information of the GRI Indicators and the United Nations Global Compact was the starting point for comparing the standardized indicators and developing those that were needed in the two distribution and marketing agents.
- The qualitative aspects of the United Nations Global Compact and the GRI indicators were compared to establish the formulas of each strategic indicator. Figure 1 describes the approach and the integration of the two methodologies based on the ten (10) principles and the four (4) categories for the construction of the indicators of Corporate Social Responsibility.



Figure 1. Phases of the investigation Source: the authors.

#### Results

Establishing the relationship between the principles of the United Nations Global Compact and the Global Reporting Initiative (GRI) requires the documentary review of the Guidelines in its fourth version 4; In its first part, "Principles and Basic Contents", the links with the ten principles of the Pact are established. Likewise, it is confronted with the second part, "Manual of application", and the steps for the "Preparation of sustainability reports and Communication of progress of the Global Compact".

Each formulated indicator is reviewed and analyzed by comparing the correlation of the four subjects of the UN and the GRI indicators in accordance with the strategic processes of distributors and marketers of the electric sector.

## Principle No. 1. Companies must support and respect the protection of proclaimed human rights in the international arena

According to the United Nations Information Center (UNIC), human rights are not an issue of nations or of the government; Respect for human rights begins with the individual; therefore, it is important that organizations have policies where health and safety at work are priorities.

That is why from the management systems that are implemented, there must be a guideline that promotes safe conditions for both the employee and its stakeholders.

It is necessary to deepen the knowledge of international and local laws, to enforce them; companies are obliged to implement training programs that allow the employee to know and appropriate their duties and rights with complete freedom.

### Principle No 2. Companies must ensure they are not complicit in human rights abuses

According to this principle, complicity means being involved in some type of abuse of human rights. For this reason, it is increasingly necessary that the management of the company is transparent, and may be subject to verification so that it can demonstrate that it does not participate in any type of complicity in the violation of these rights.

Electricity distribution and distribution companies must emphasize the need to respect human rights, and since one of the most important interest groups is the military authorities, they must ensure and make joint efforts so that management for the benefit of the company does not harm the people who live in the areas of influence.

The relationship of principles 1 and 2 of the United Nations Global Compact and the GRI indicators can be evidenced in tables 1 to 4, as described below:

**Table 1.**Principles No 1, 2 of the Global Compact and GRI indicators (HR1 to HR5)

	,		A DE GRI (4)	
CATEGORY	SUBCATE- GORY	ASPECT	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
		tme		Percentage of contracts that include and promote HH DD = (Number of contracts that include and promote HH / Total DD in Number of legalized contracts). * 100.  Income (\$) for contracts that include and promote DD HH = (Income in \$ of contracts that include and promote DD HH / Total revenue in \$ of the Contracting).
		Investme	<b>HR2:</b> Percentage of hours of employee training on policies and procedures related to those aspects of human rights relevant to their activities, including the percentage of employees trained.	Percentage of training on human rights issues = (Number of training hours on human rights issues) / (Total hours of training *) * 100.  Percentage of employees trained in HR = (Number of employees trained in HR / total number of employees of the company) * 100.
Social performance	Human rights	No. discrimination	_	Percentage of complaints attended to cases of discrimination = (Total number of complaints attended to in cases of discrimination) / (Not total of registered complaints for cases of discrimination) * 100.  Percentage of effectiveness of established action plans = (Total number of action plans in case of discrimination effectively closed) / (Not total of action plans established for cases of discrimination) * 100.
		Freedom of association and collective bargaining	<b>HR4:</b> Percentage of identification of centers and providers in which the freedom of association and the right to benefit from collective agreements can be violated or threatened, and measures adopted to defend these rights.	Percentage of centers and suppliers linked to associations = (Number of employees belonging to associations) / (total number of employees) * 100.
		Child labor	<b>HR5:</b> Percentage of identification of centers and providers with a significant risk of cases of child exploitation, and measures taken to contribute to the abolition of exploitation.	Percentage of employees in child-care = (Total number of contracted workers of child-aged age) / (Total number of employees hired) * 100  Percentage of suppliers and contractors that hire child-age personnel = (Total number of suppliers and contractors that hire child-age personnel) / (Total number of suppliers and contractors) * 100.
			Source: the	

The related indicators in table 1 are briefly described below.

# HR1: Number and percentage of significant contracts and investment agreements that include human rights clauses or that have been subject to human rights analysis

This indicator is of special relevance for organizations operating in regions where the protection of human rights is a concern and information can be collected taking into account the percentage of significant contracts that contain clauses or have been analyzed in terms of rights. Human rights, with respect to the total of significant contracts.

Contracts that are subject to considerations of the company that affect direct operations or that prevent the mission from being fulfilled, can also be established for the amount of the value.

Bearing in mind that this indicator explains how human rights are integrated into the economic decisions of an organization, an additional one has proposed in which the percentage of investment in contracts in which the company defines expectations regarding performance in terms of human rights as a requirement to invest in new business or to hire a supplier.

# HR2: Hours of employee training on policies and procedures related to those aspects of human rights relevant to their activities, including the percentage of trained employees

This indicator offers information about the organization's knowledge of human rights. Indicator proposal is included regarding the percentage of hours of training in human rights aspects to the total training hours approved by the Training Plan in the company.

#### HR3: Number of cases of discrimination and corrective measures are taken

According to the GRI 4 Sustainability Reporting Guidelines (2014), discrimination refers to the fact and the result of treating a person unequally; The same can be given for reasons of race, color, sex, religion, opinion, origin or social extraction as defined by the ILO (1958). These issues must be addressed by the legal departments of the companies, who record the complaints of the external or internal client so that the organization investigates, evaluates and takes actions.

Given that companies use internal audits as a means of verification to verify compliance with their legal requirements and others to which the organization subscribes, and taking into account that the corrective actions resulting from this evaluation mechanism, must be addressed through action plans, the following indicators are suggested: Percentage of complaints addressed for cases of discrimination and percentage of effectiveness of the action plans established.

# HR4: Identification of centers and providers in which the freedom of association and the right to benefit from collective agreements can be violated or threatened and measures adopted to defend these rights.

According to the ILO International Labor Office (2001), the Tripartite Declaration of Principles on Multinational Enterprises and Social Policy should respect the Universal Declaration of Human Rights and the International Covenants, which state that freedom of expression and association are the foundation of progress over time. Employees should have the freedom to associate in unions that facilitate dialogue, negotiation with their employers so that they have a voice and vote in the decisions that the company makes that may affect the worker. The indicator proposed is the following: % of associated employees.

# HR5: Identification of centers and suppliers with a significant risk of cases of child exploitation and measures taken to contribute to the abolition of child exploitation

The existence and effective application of policies on child labor are a minimum requirement for socially responsible behavior. Companies should know which of their suppliers or contractors hire people under the age of 18 and which of them work in potentially hazardous jobs.

GRI 4 suggests recording this information from the following Source: centers and suppliers with a significant risk of cases of child labor. To make this information measurable, the following indicators are proposed (Sustainability

Reporting Guidelines, 2014): Percentage of workers of child-bearing age and percentage of suppliers and contractors who hire child-minded personnel.

**Table 2.**Principles No 1, 2 of the Global Compact and GRI indicators (HR6 to HR9)

		GR	l Guide (4)	
CATEGORY	SUB CATE- GORY	ASPECTO	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
Social performance	Human rights	Forced labor	centers and providers with a significant risk of being the source of episodes of forced labor, and measures are taken to	Percentage of factories, suppliers and contractors at risk of forced labor = (Total number of suppliers and contractors at risk of forced labor) / (Total number of suppliers and contractors with which the company has commercial relations) * 100  PERCENTAGE OF EFFICIENCY OF THE ESTABLISHED PLAN OF ACTION = (Not the total of action plans in cases of forced labor, effectively closed) / (Not the total of action plans established for cases of forced labor) * 100
800		Security measures	training on the policies or procedures of the organization	Percentage of security personnel trained in Human Rights = No. of security personnel trained in HR / Total security collaborators of the company * 100  Percentage of hours of training on human rights issues = (Total hours of training on human rights issues) / (Total hours of training) * 100

Continued on next page

#### Continued from the previous

		GF	RI Guide (4)	
CATEGORY	SUB CATE- GORY	ASPECTO	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
Social performance	Human rights	Rights of the indigenous population	<b>HR8:</b> Percentage of the number of cases of violation of the rights of indigenous peoples and measures adopted	of complaints registered in cases of violation of rights
		Evaluation	·	Percentage of centers evaluated: (Number of centers evaluated in human rights / Total number of company service centers) * 100

Source: the authors.

The related indicators in Table 2 are briefly described below.

# HR6: Centers and providers with a significant risk of being the source of episodes of forced labor and measures taken to contribute to the elimination of all forms of forced labor

According to the ILO (1930), in Convention No. 29 all work or service required of any person under threat of punishment and for which said a person has not volunteered is considered forced labor. Companies must identify which of their factories, suppliers, contractors or a related party with whom they have commercial relationships have personnel with a significant risk of forced labor and if action plans have been implemented to eliminate this practice. Two indicators are identified: % of factories, suppliers, and contractors at risk of forced labor and% of the efficiency of the action plans established.

## HR7: Percentage of security personnel who have received training on the policies or procedures of the organization regarding human rights relevant to operations

This indicator makes it possible to demonstrate the company's vision of human rights, since sometimes security personnel, due to the nature of their work, can carry out actions that compromise or may violate these rights. The proposed indicators show the average hours of training per employee in human rights and the percentage of hours of training in human rights issues with respect to the total hours spent in any type of training.

## HR8: Number of cases of violation of the rights of indigenous peoples and measures adopted

Undoubtedly, bringing progress to a region, as the development of energy projects implies that it can affect an ecosystem and its population. Especially in regions such as Cauca, where there are numerous indigenous reservations. The infrastructure for the assembly of lines and substations can undoubtedly affect the community where the project is installed. It is proposed, then, two indicators that can measure the percentage of complaints about cases of violation of human rights in indigenous peoples and the percentage of effectiveness of the action plans established to mitigate the risk of occurrence.

## HR9: Number and percentage of centers that have been subject to examinations or assessments of human rights impacts

Companies that market and distribute energy must identify their stakeholders and how the operation impacts these groups; Specifically, it must be determined if human rights have been violated and what actions are being taken to prevent these incidents from happening again. This information could be obtained from lawsuits or complaints filed with the legal area and the proposed indicator is the following: % of evaluated centers.

**Table 3.**Principles No 1, 2 of the Global Compact and GRI indicators (HR10, HR11, HR12)

				ict and GRI indicators (HR10, H uide (4)	
	CATEGORY	SUB CATE- GORY	ASPECTO	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
			<b>-</b>	<b>HR10:</b> Percentage of new suppliers that they were examined in function of criteria relating to human rights.	
	ø		Evaluation of suppliers in terms of human rights		Percentage of the effectiveness of preventive actions established for risks identified in human rights = (Not total of action plans effectively closed) / (Not the total of established action plans) * 100
	Social performance	Human rights	Human rights Evaluation of s	<b>HR 11:</b> Significant negative impacts on human rights, real and potential, in the supply chain and actions are taken.	PERCENTAGE OF EFFICIENCY OF CORRECTIVE ACTIONS ESTABLISHED BY HUMAN RIGHTS IMPACTS = (Not the total of effectively closed action plans) / (Not the total of established action plans) * 100.
					Percentage of significant human resource impacts: (No criteria regarding the human rights action plan / Total criteria of the action plan) * 100
			Grievance mechanisms in matters of	<b>HR12:</b> number of complaints about human rights that have been presented addressed and resolved through formal mechanisms of claim.	Percentage of complaints resolved on human rights issues = (No resolved human rights claims / Total claims submitted) * 100.

The related indicators in Table 3 are briefly described below.

## HR10: Percentage of new providers that were examined based on criteria related to human rights

Companies that market and distribute energy must have certain criteria for the selection of their suppliers of goods and services. Each time a new business relationship starts, companies evaluate the suppliers that are most qualified to offer a good or service that is required. Among the criteria that are used to select a provider, companies that are socially responsible must include human rights as criteria. The following indicator is proposed: % of suppliers that include human rights as a matter of compliance.

### HR11: Significant negative impacts in the field of human rights, real and potential, in the supply chain and measures adopted

Once the number of evaluated suppliers that have included human rights as part of their management has been analyzed, it is important to know how they can impact the supply chain those real or potential factors that can negatively affect the goods or services provided by the company.

These impacts are evaluated when the risks of the supply chain are identified. Risks can help to evaluate those preventive actions that companies have established to control the potential sources of situations in which human rights are not taken into account. For the actual events, action plans are established and evaluated with respect to their efficiency. The indicators that are proposed are the following:% efficiency of the preventive actions established of risks identified in human rights; % Effectiveness of corrective actions established for human rights impacts; % of significant impacts in terms of human resources.

### HR12: Number of human rights complaints that have been filed, addressed and resolved through formal grievance mechanisms

In order to study the mechanisms that companies commercialize and distribute energy have when responding to human rights complaints, legal information on legal cases can be used, both internally and externally. To measure the effectiveness of the claims, the following indicator is suggested: % resolved claims on HR issues.

**Table 4.**Principle No 1 Global Compact and GRI indicators (SO1 and SO2)

		GRI Guide (	INDICATOR FORMULA ACCORDING	
CATEGORY	SUB CATEGORY	ASPECTO	NAME OF THE INDICATOR	TO AUTHORS
Social performance	Society	Communities	<b>SO1:</b> Percentage of operations where development programs, impact evaluations and participation of the local community have been implemented	Percentage of implementation of development programs/impact evaluations or participation of interest groups = (No work centers or venues in which development programs have been implemented, impact evaluations or participation of interest groups / Total work centers or venues) * 100.
Social	Local	Local	centers with significant negative	Percentage of centers with negative evaluation = (Number of centers, sites with negative evaluation) / (number of centers, sites evaluated) * 100.

Source: the authors

The related indicators in Table 4 are briefly described.

### SO1: Percentage of operations where development programs, impact evaluations and participation of the local community have been implemented

The companies that commercialize and distribute energy, due to the high impact of their operations, must identify and evaluate their environmental and social impacts; establish criteria to define which of these impacts are considered significant and define action plans or programs which should be aimed at mitigating these impacts. Taking into account the interest groups that may be affected by these impacts, the company should consider integrating wills so that the development plans or programs have participation from the local community. The proposed indicator is:

% implementation of development programs/impact evaluations or participation of interest groups.

### SO2: Operation centers with significant negative effects, possible or real, on local communities

With the diagnostic information performed to determine the SO1 indicator, the company can obtain information about the potential or actual negative impacts. According to the Mining and Energy Environmental Information System (2005), in the Environmental Guide for Distribution Projects (pp. 47), some of the negative impacts that can be generated in the construction and operation of a distribution line, both in the social environment as in the natural, are:

- Affectation of the architectural, archaeological and natural heritage.
- Impact on land use.
- Infringement of road infrastructure and public services
- Affectation to the community
- Erosion, generation of solid waste, affectation of ecosystems; among others.

The proposed indicator is: % of centers with a negative evaluation

Next, the relationship between Principle 3 of the Global Compact and the GRI indicators will be made:

### Principle No. 3. Companies must respect the freedom of association and the effective recognition of the right to collective bargaining

According to the United Nations Information Center (2003), many studies show that companies that promote freedom of association and recognition of collective bargaining can increase productivity, profits and, in general, other benefits to interested parties. This mechanism can generate confidence in the employees and will allow improving the communication by establishing dynamic means for the company to know the needs and expectations of its workforce. Table 5 establishes the GRI indicators related to this principle of the Pact.

**Table 5.**Principle No 3 Global Compact and GRI indicators (LA4 and HR4)

		GRI GUIDE (4	1)	
CATEGORY	SUBCATEGORY	Aspect	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
formance	Labor practices and decent work	Relations between workers and management	<b>LA4:</b> Minimum notice periods for operational changes and the possible inclusion of these in collective agreements	Estimated time of labor notice = No of days with which employees are given notice of operational changes.  PRELIMINARY PUBLISHMENT = No. of published news in which employees are informed of operational changes.
Social performance	Human rights	Freedom of association and collective bargaining	freedom of association and the	Percentage of associated employees = (Number of employees belonging to associations)/(total number of employees) * 100

The related indicators in Table 5 are briefly described below.

## LA4: Minimum notice periods for operational changes and the possible inclusion of these in collective agreements

Companies that commercialize and distribute energy, due to the nature of their activities, suffer significant changes in their operations, changes that may impact the activities, functions, and responsibilities. These changes must be informed in advance so that employees can modify their operations without affecting their productivity. The indicators that are proposed to monitor this aspect are the following: Estimated time of work notice and publication of the advance notice.

Next, the relationship between principle 4 of the global compact and the GRI indicators will be made:

### Principle No.4. Companies must eliminate all forms of forced or compulsory labor

According to the ILO, forced or compulsory labor is any work or service performed by any person under the threat of any penalty, or that the person who performs it has not offered to perform voluntarily.

Companies must make sure to establish clear working conditions, reflected in work contracts, which specify, among other things, schedules, duties, and rights they have so that they know that they can not be violated. In the event that it happens, the legal area must be the guarantor of the actions taken in the company so that these rights are not violated again.

The relationship of principle No 4 of the United Nations Global Compact and the GRI indicators can be evidenced in Table 6, as described below.

**Table 6.**Principle No 4 Global Compact and GRI 4 indicators

	GUI	INDICATOR FORMULA ACCORDING		
CATEGORY	SUBCATEGORY	Aspect	NAME OF THE INDICATOR	TO AUTHORS
Social performance	Human rights	Forced labor	centers and providers with a significant risk of being the source of episodes of	Percentage of factories, suppliers and contractors at risk of forced labor = (Total number of suppliers and contractors at risk of forced labor) / (Total number of suppliers and contractors with which the company has commercial relations) * 100  Percentage of efficiency of the established plan of action = (Not the total of action plans in cases of forced labor, effectively closed)/(Not the total of action plans established for cases of forced labor) * 100

Next, the relationship between Principle 5 of the Global Compact and GRI indicators will be made:

### Principle No. 5. Businesses must effectively abolish child labor

Companies must take into account national legislation and, in some cases, international legislation to determine the age at which they can hire child personnel. The literature refers to multiple reasons why children should not be hired, including limiting their chances of studying, submitting to activities that are not appropriate to their age.

That is why the measure to be taken is not dismissal, but to establish programs that allow children to ensure a better future, establish training programs that enable them to have tools for finding employment opportunities when the time comes. For now, companies must ensure that they do not employ child-minded staff and also ensure that their suppliers are observers of the principle.

Table 7 shows some indicators that can make measurable the management regarding the performance of work performance in relation to child labor that identifies the providers with a significant risk of cases of exploitation in people with early ages and the measures adopted for their mitigation.

**Table 7.**Principle No 5 Global Compact and GRI indicators

	GUÍA I	INDICATOR FORMULA ACCORDING TO		
CATEGORY	SUBCATEGORY	Aspect	NAME OF THE INDICATOR	AUTHORS
Social development	Human rights	Child labor		

Source: the authors.

Next, the relationship between Principle No. 6 of the Global Compact and the GRI indicators will be made:

## Principle No. 6. Companies must eliminate discrimination with respect to employment and occupation

According to Principle No. 6 of the Global Compact, the definition of discrimination in employment is "Any distinction, exclusion or preference that results in the rejection of inequality in the opportunities or in the treatment of job or occupation requests" made by reason of "race, color, sex, religion, political opinions, nationality of origin or social extraction".

There is a great variety of situations in which companies can discriminate; sometimes by gender, disability status, age, are some of the most common. However, there is an innumerable list of situations whereby a person who is looking for a job or who is already part of the company is discriminated against. Organizations must implement policies that reinforce non-discrimination in any of its forms in the personnel and must facilitate the mechanisms for formal denunciation in case of non-compliance with these guidelines.

In the current circumstances, companies must strive to ensure that working conditions (salary, training programs, and recruitment by gender) are transparent, verifiable before internal control bodies and before external entities.

Tables 8 to 10 propose some indicators that can make the management of the company visible with respect to compliance with this principle.

**Table 8.**Principle No 6 Global Compact and GRI indicators (LA1, LA2, LA3, LA4)

		INDICATOR FORMULA			
CATEGORY	SUBCATEGORY	ASPECT	NAME OF THE INDICATOR	ACCORDING TO AUTHORS	
Social performance	Labor practices and decent work	Job	<b>LA1:</b> Percentage of hirings and average rotation of employees, broken down by age group, sex and region.	5 5 ··	

	(		INDICATOR FORMULA	
CATEGORY	SUBCATEGORY	ASPECT	NAME OF THE INDICATOR	ACCORDING TO AUTHORS
Social performance		Job	<b>LA2:</b> Social benefits for full-time employees that are not offered to temporary or part-time employees, broken down by significant locations of activity.	Percentage of employees with benefit load = (No. of employees with a full-time contract and social benefits-No of temporary employees without social benefits) / (No of employees with a full-time contract and social benefits) * 100.
	Labor practices and decent work		<b>LA3:</b> Percentage of levels of reincorporation to work and retention after maternity or paternity leave, disaggregated by sex.	Percentage of return to work = (Number of employees who returned to work after maternity or paternity leave) / (No of employees who had to rejoin after maternity or paternity leave) * 100.
		Relations between workers and management		Estimated time of labor notice = No. of days with which employees are given notice of operational changes.

Below, a brief explanation of the related indicators in Table 8.

## LA1: Total number and rate of hiring an average rotation of employees, broken down by age group, sex, and region

Some companies that market and distribute energy are adopting as a socially responsible practice the hiring of personnel from the area of influence in a defined percentage, as a means to demonstrate a commitment to the regions where their operations may impact. The rotation indicator is also proposed, which can yield information about the organizational climate of the company, since, when an adequate environment is maintained, wages are fair and the worker is encouraged, human talent can easily be retained. Conversely, a high turnover rate may indicate that the company does not offer these guarantees to its employees. The number of people per sex can give information about the impartiality that the company offers when hiring; although it is true that in the energy sector and due to the nature of their operations, in a large percentage male personnel are hired, in administrative areas it is interesting to observe what is the relationship between the number of men with respect to the women who are hired. The indicators that are proposed for this aspect are the following:% turnover of personnel by gender; % of women hired according to age range; % of men hired according to age range.

### LA2: Social benefits for full-time employees that are not offered to temporary or part-time employees, broken down by significant locations of activity

The Human Management Area of companies can offer information on the type of benefits provided to their employees with full-time. The proposed indicator is % Employees with benefit load.

## LA3: Levels of reincorporation to work and retention after maternity or paternity leave, disaggregated by sex

The guide proposes an indicator for the levels of return to work after maternity or paternity leave as described in the table.

In Colombia, by the decision of the Constitutional Court, Article 1 of Law 1468 of June 30, 2011, that modifies Article 236 Labor Code, which provides for paternity leave in 8 working days without considering whether the two parents whether or not they are contributors to the health system. On the other hand, article 239 of the Labor Code establishes the prohibition of dismissing a woman due to pregnancy or breastfeeding.

## LA4: Minimum notice periods for operational changes and possible inclusion in collective agreements

**Table 9.**Principle No. 6. Global Compact and GRI indicators (LA5, LA6, LA7, LA8)

	GUÍ	INDICATOR FORMULA		
CATEGORY	SUBCATEGORY	ASPECT	NAME OF THE INDICATOR	ACCORDING TO AUTHORS
	Labor practices and decent work	Health and Safety at Work	<b>LA5:</b> Percentage of workers represented in formal joint health and safety committees for management and employees, established to help control and advise on occupational health and safety programs.	Percentage of employees represented in Occupational Health and Safety Committees SST = (Total number of employees belonging to an SST committee)/(Not total employees) * 100.
Social Development			occupational diseases, days	Rate of reduction of the Mortality Rate = (Number of deaths in the current year - No. of deaths in the previous year/ Number of deaths in the current year) * 100.
			<b>LA7:</b> Percentage of workers whose profession has a high incidence or risk of disease.	Percentage of employees with a high risk of illness = (Total number of employees who are at high risk of illness)/(Total number of employees) * 100.
			<b>LA8:</b> Percentage of health and safety issues covered in formal agreements with unions.	Agreements that include the issue of SST = (No. of formal agreements with unions that include OSH issues/Total number of formal agreements with unions).

Source: the authors.

Below is a brief explanation of the related indicators in the Table 9.

# LA5: Percentage of workers represented in formal Safety and Health Committees for management and employees, established to help control and advise on occupational health and safety programs

The existence of Occupational Health and Safety committees in companies that market and distribute energy is almost a priority since the nature of the operations carried out by employees are at high risk of accidents.

This indicator can demonstrate the commitment of senior management to the prevention of injuries and illnesses and thus the care of the worker. The following indicator is proposed:% of employees represented in the Occupational Health and Safety Committees (SST).

### LA6: Type and rate of injuries, occupational diseases, days lost, absenteeism and number of fatalities related to work by region and by sex

According to Decree 1607 (2002) of the Ministry of Labor and Social Security, the activities of generation, collection, and distribution of electric energy are classified as risk class IV; therefore, the level of accident rate is significantly high.

The areas of Health Safety Environment HSE can provide information about the type of injuries, occupational diseases, indicators of absenteeism and mortality rate, the latter being the most significant and which can give relevant information about the prevention measures that the company takes to take care of your employees. The following indicator is proposed: Mortality rate reduction.

#### LA7: Workers whose profession has a high incidence or risk of disease

Repetitive activities, sitting positions, and prolonged use of the computer can lead to illness. The follow-up that companies that sell or distribute energy perform on the percentage of employees with high risk of illness speaks for itself of the commitment to the welfare of their most important capital; this, added to the programmed ones that are established as a preventive measure, will be those that in the end will be able to contribute to the companies improving their reputation in front of the interested party. The proposed indicator is the following:% of employees with a high risk of illness.

### LA8: Health and safety issues covered in formal agreements with unions

Resolution 1348 of 2009, by which the Occupational Health Regulations are adopted in the generation, transmission and distribution of electric energy in companies in the electricity sector, decrees that said regulation must be mandatory and its main purpose is to protect people against risks related to chemical, physical, biological, psychosocial, mechanical, electrical and other agents that may affect the individual or collective health of the workforce.

These agreements between the company and the workers must be legalized informal agreements, in such a way that they allow to follow up the programs, plans and strategies and make possible the welfare of their collective and taking corrective, preventive and improvement actions in the event of accidents. of work and occupational diseases.

The following indicator is proposed to demonstrate the commitment of senior management to the prevention and protection of all persons participating in the company's processes: % of agreements in which the subject of OSH is included.

**Table 10.**Principle No 6 Global Compact and GRI indicators (LA9, LA10, LA11, LA12, LA13)

		INDICATOR FORMULA ACCORDING		
CATEGORY	SUB- CATEGORY	ASPECT	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
			<b>LA9:</b> Average hours of training per year per employee, broken down by sex and by job category	Training hours per employee = (Total hours of employee training)/(Number of employees).
		TRAINING AND EDUCATION	<b>LA10:</b> Percentage of skills management and continuing education programs that promote the employability of workers and help them manage the end of their careers	Percentage of execution of training programs = (Not total of training programs executed)/(Not total of training programs planned ) * 100.
Social development	Labor practices and decent work		<b>LA11:</b> Percentage of employees who receive regular evaluations of performance and professional development, disaggregated by sex and by professional category	Percentage of employees receiving performance evaluations = (Not total employees who have undergone performance evaluation)/(Not total active plant employees) * 100.
		Diversity and equal opportunities	<b>LA12:</b> Composition of the governing bodies and breakdown of the workforce by professional category and sex,	Number of employees by sex Number of employees in age groups: Under 30; between 30 and 50; over 50 years old.
		оррогишиез	age, belonging to minorities and other indicators of diversity	Number of people belonging to minority groups (indigenous, black)
		Equal pay between women and men	<b>LA13:</b> Relationship between the base salary of men with respect to that of women, disaggregated by significant activity locations	Equal pay salary index = Basic Salary for women/Basic Salarymen.

Below, a brief explanation of the related indicators in Table 10.

## LA9: Average hours of training per year per employee, broken down by sex and by job category

The indicator of hours of training per employee is proposed, disaggregated by sex and employment category.

# LA10: Skills management and continuing education programs that promote the employability of workers and help them to improve their skills in their professional careers

Companies that market and distribute energy must establish programs that make it easier for workers to adapt to changes that may happen, such as retirement or dismissal. The indicator proposed is the following:% Execution of training programs.

# LA11: Percentage of employees who receive regular evaluations of performance and professional development, disaggregated by sex and by professional category

Performance evaluations are a means to find opportunities for improvement because they make it possible to find those aspects in which the worker can develop other skills or strengthen those he possesses, in order to guarantee the company suitable profiles, operational efficiency, and excellence in the service. The indicator proposed is the following:

% of Employees receiving performance evaluations.

# LA12: Composition of the governing bodies and breakdown of the workforce by professional category and sex, age, belonging to minorities and other indicators of diversity

The ILO Convention111 (1958) on Discrimination (Employment and Occupation) of 1958 states that the term discrimination includes: "Any distinction, exclusion or preference based on grounds of race, color, sex, religion, political opinion, national extraction or social origin that has the effect of nullifying or altering equality of opportunity or treatment in employment and occupation ". Companies that consider themselves socially responsible must demonstrate equal opportunities, in such a way that the aforementioned distinctions are not an obstacle, but an opportunity to show respect for the cultural and ethnic diversity that a country like Colombia has.

# LA14: Percentage of new suppliers that were examined based on criteria related to labor practices and LA 15: Significant, actual and potential impacts of labor practices in the supply chain and measures in this regard

Companies must have clear criteria and mechanisms for evaluating suppliers, in which an aspect to maintain the commercial relationship must be the level of performance in terms of work practices. It is necessary that the company demonstrate social commitment and this would be a clear message to its "stakeholders". Once the supplier is approved, the company should monitor the level of performance of the provider in terms of fair labor practices. The proposed indicators are % of Approved Suppliers and Level of performance of the supplier according to the categories established in the company.

Table 11 presents the proposal of indicators to evaluate the labor practices of the performance evaluation of contracted suppliers.

**Table 11.**Principle No 6 Global Compact and GRI indicators (LA14, LA15, LA16, HR3)

		INDICATOR FORMULA ACCORDING			
CATEGORY	SUB- CATEGORY	ASPECT	NAME OF THE INDICATOR	TO AUTHORS / UNIT OF MEASURE	
Social development	Labor practices and decent work	Evaluation of labor practices of suppliers	<b>LA14:</b> Percentage of new suppliers that were examined based on criteria related to labor practices	Percentage of Approved Suppliers = (No. of approved suppliers in performance evaluation/Total suppliers) * 100.	
			<b>LA15:</b> Significant, real and potential impacts of labor practices in the supply chain, and measures in this regard	Level of performance of the provider according to the categories established in the company.	
	Human rights	Grievance mechanisms on labor practices	<b>LA16:</b> Percentage of complaints about labor practices that have been filed, addressed and resolved through formal grievance mechanisms	Percentage of complaints about resolved labor practices = (No complaints about resolved labor practices/No complaints about labor practices filed) * 100.	
		No. discrimination	<b>HR3:</b> Percentage of cases of discrimination and corrective measures are taken	Percentage of complaints attended for cases of discrimination = (Not the total of complaints attended for cases of discrimination)/(Not the total of registered complaints about cases of discrimination) * 100.  PERCENTAGE OF EFFICIENCY OF THE ESTABLISHED ACTION PLAN = (Not total of action plans in case of discrimination effectively closed)/(Not the total of action plans established for cases of	

Below is a brief explanation of the related indicators in Table 11.

## LA16: Number of complaints about labor practices that have been filed, addressed and resolved through formal grievance mechanisms

The companies that commercialize and distribute energy must have clear procedures so that their stakeholders can make claims about their labor practices, both for internal clients (employees, shareholders) and for external clients (users, suppliers, community). The indicator proposed is the following: % of complaints about resolved labor practices.

Next, the relationship between principles 7, 8 and 9 of the Global Compact and GRI indicators will be made:

## Principle No. 7. Companies must support preventive methods with regard to environmental problems

According to the Regional Support Center for Latin America and the Caribbean, this principle is based on prevention as a key element of the local government's strategy; a strategy that according to the Global Compact can be realized through seven elements:

- The application of preventive methods: the companies that commercialize and distribute energy must identify their environmental aspects and impacts, in accordance with the applicable regulations, establish the appropriate resources to manage the impacts that they consider significant and take the necessary actions to protect the environment.
- Adoption of standards and regulations in all places of the impact of the company: according to the Mining-Energy Environmental Information System (2005) in the Environmental Guide for Electrical Distribution Projects, it describes the regulations that apply to the water resource, solid waste, air, soil, noise. In addition, it describes the environmental studies applicable to electricity distribution projects, permits for use and exploitation of natural resources, dumping, forest harvesting, among others.
- Guarantee management of supply chains: the company must agree with its supplier's compliance with legal requirements and, in particular, on sustainability issues that include ethical, labor, human rights, and environmental issues.
- Create environmental awareness: today more than ever it is necessary to raise awareness at all levels of the organization about the deterioration that these companies can cause to the environment and how it can contribute to mitigating these impacts with prevention actions.
- Dialogues with the local community: community Participation in energy distribution projects is demarcated by the regulations and regulations of the National Constitution of 1991, Law 99 of 1993, Law 134 of 1994, Law 143 of 1994 (Title X), the Decree 1320 of 1998 and, in general, all those decrees, laws, resolutions and agreements in force at the time of the construction and operation of a project of this nature.
- Shared value: energy marketing and distribution projects must incorporate social management programs within the project activities in order to achieve the minimum environmental and social impact and the maximum benefit for the communities.

### Principle No. 8. Companies must adopt initiatives to promote greater environmental responsibility

The Regional Support Center for Latin America and the Caribbean describes and relates this principle to the application of administrative, operational and production practices that guarantee environmental protection. Companies must adopt evaluation mechanisms and continuous improvement of their operational activities, in such a way that impacts are minimized year after year and, on the contrary, the social and economic benefits of the regions where the companies have their core are enhanced action.

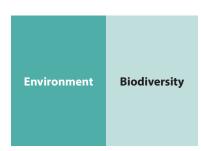
### Principle No. 9. Companies must encourage the development and diffusion of environmentally friendly technologies

Companies must inform the interested party of the significant environmental impacts, mitigation plans and training plan for all involved.

The relationship of principles 7, 8 and 9 of the United Nations Global Compact and the GRI indicators can be evidenced in Tables 12 and 13, as described below.

**Table 12.** *Principle No 7, 8 and 9 Global Compact and GRI (EN1 to EN14)* 

		I GUIDE (4)		
CATEGORY	ASPECT	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS / UNIT OF MEASURE	
	Materials	<b>EN1:</b> Materials by weight or volume	kg o m3 of materials used in the operation.	
		<b>EN2:</b> Percentage of materials used that are recycled materials	Recycled materials = (Total recycled materials)/ (Total materials used) * 10.	
	Energy	EN3: Internal energy consumption	kW hour consumed.	
		<b>EN4:</b> External energy consumption	kW hour consumed.	
Environment		EN5: Energy intensity	Energy intensity = (kWh consumed)/ (Monetary units (income or sales)).	
		<b>EN6:</b> Percentage of reduction in energy consumption.	Percentage of reduction in energy consumption = (kwh consumed the previous year-kWh consumed current year)/(kWh consumed previous year) * 100.	
		<b>EN7:</b> Percentage of reductions in the energy requirements of products and services.	Percentage of reduction in energy consumption = (kwh consumed the last year-kwh consumed current year)/(kwh consumed previous year) * 100.	
	Water	<b>EN8:</b> Percentage of total water collection according to Source.	Percentage of water intake = (m3 of water collected)/(m3 of water consumed) * 100.	
		<b>EN9:</b> Water sources that have been significantly affected by water abstraction.	List of sources affected by water abstraction.	
		<b>EN10:</b> Percentage and total volume of recycled and reused water.	Water reuse growth percentage = (m3 of water recycled and reused current year-m3 of water recycled and reused the previous year)/ (m3 of water recycled and reused last year).	
	Biodiversity	<b>EN11:</b> own, leased, managed operating facilities that are adjacent, contain or are located in protected areas and unprotected areas of great value for biodiversity.	List of operating facilities located in protected and unprotected areas.	
		<b>EN12:</b> Most significant impacts on the biodiversity of protected areas or areas of high value in terms of unprotected biodiversity that are derived from activities, products, and services.	Matrix of impacts derived from activities, products and services.	



**EN13:** Habitats protected or restored.

**EN14:** No. of species included in the IUCN Red List and in national conservation lists whose habitats are in areas affected by operations, according to the level of extinction risk

No. of species included in the IUCN Red List and national conservation lists.

Source: the authors.

Following is a brief explanation of the related indicators in the Table 12.

#### EN1: Materials by weight or volume

According to Roser and Vázquez (2008), energy resources must be produced and used in a way that protects and preserves the environment. The companies that commercialize and distribute electrical energy are implementing clean technologies that include the change of materials, such as the use of transformers that do not contain Biphenyl Policlorados (PCBs).

According to GRI 4, the materials that companies use can be classified as (Sustainability Reporting Guidelines, 2014):

Raw materials (that is, natural resources used to convert them into products or services, such as minerals, wood, among others); auxiliary materials (that is, materials necessary for the manufacturing process, but not part of the final product, such as lubricants for machinery) and semi-finished products or parts, including all kinds of materials and components that are not raw materials and that they are part of the final product; and packaging materials, such as paper, cardboard, and plastic.

### **EN5: Energy intensity**

According to GRI 4 (Sustainability Reporting Guidelines, 2014), intensity determines the energy consumption of an organization in the context of a specific measure of the organization. This measure can be established as monetary units (income, sales).

### EN6: Reduction of energy consumption and EN7: Reductions in the energy requirements of products and services

In the current context, energy demand tends to grow; that is why companies in the sector have expanded their production capacity to serve their customers. According to Roser and Vázquez (2008), when part of the growth of demand corresponds to inefficiencies, it is the responsibility of companies to educate their internal and external clients about the efficient and rational use of energy consumption. The proposed indicator relates to the kilowatts consumed from one year to another.

### EN8: Total water collection according to Source

The total water collection indicates the size and relative importance of the organization in terms of water consumption.

#### EN10: Percentage and total volume of recycled and reused water

Law 373 of 1997 obliges the entities to develop projects that favor the efficient use of water. One of the ways to use is the recycling and reuse of this resource, through studies of technical and economic feasibility for the reuse of used water.

### EN11: own, leased, managed operating facilities that are adjacent, contain or are located in protected areas and unprotected areas of great value for biodiversity

Name substations, offices, or areas where energy is distributed, which are located in protected areas or areas of great biodiversity.

# EN12: Description of the most significant impacts on the biodiversity of protected areas or areas of high value in terms of unprotected biodiversity that are derived from activities, products, and services

The companies have a matrix of aspects and impacts, which establishes by category which is a significant impact.

#### **EN13: Habitats protected or restored**

The habitats that the electric power distribution or marketing companies are impacting with their economic activity are subject to verification by the environmental authority. It is important that the company shows restoration actions, in case there is an impact on the habitats. This information may be available in the matrix of aspects and impacts or in the environmental performance reports that are delivered to regional corporations.

# EN14: Number of species included in the IUCN Red List and in national conservation lists whose habitats are in areas affected by operations, according to the level of extinction risk of the species

Companies can learn about the list of endangered species with the NGOs of the region where they operate and with regional autonomous corporations.

**Table 13.**Principle No 7, 8 and 9 Global Compact and GRI indicators (EN15 to EN28)

GRI GUIDE (4)			INDICATOR FORMULA ACCORDING TO	
ATEGORY ASPECT		NAME OF THE INDICATOR	AUTHORS / UNIT OF MEASURE	
Environment	Emissions	<b>EN15:</b> Direct emissions of greenhouse gases (Scope 1).	Volume of emissions CO2	
		<b>EN16:</b> Indirect emissions of greenhouse gases when generating energy (Scope 2).	Volume of emissions CO2	
		<b>EN17:</b> Other indirect emissions of greenhouse gases (Scope 3).	Volume of emissions CO2	
		<b>EN18:</b> Intensity of greenhouse gas emissions.	Greenhouse emissions intensity = (GHG emissions)/(Monetary units (income or sales).	
		<b>EN19:</b> Percentage of reduction of greenhouse gas emissions.	GHG reduction percentage = (vol emissions previous year-vol emissions current year) / (vol emissions previous year) * 100.	
		<b>EN20:</b> Emissions of ozone-depleting substances.	The volume of CFC emissions 11.	
		<b>EN21:</b> NOX, SOX, and other significant atmospheric emissions	kg of significant atmospheric emissions.	
		<b>EN22:</b> Total water discharge, according to its nature and destination.	The total volume of divertimentos.	
		<b>EN23:</b> Total weight of waste managed, by type and method of treatment.	Total weight of waste by the elimination method.	
		<b>EN24:</b> Total number and volume of the	The total volume of significant spills.	
듑		most significant accidental spills.	Fines or penalties for spills.	
	Effluents and waste	<b>EN25:</b> Weight of transported, imported, exported or treated waste considered hazardous under the provisions of Annexes I, II, III, and VIII of the Basel Convention2 and percentage of waste transported internationally.	Total weight of hazardous waste transported, broken down by destination.	
		<b>EN26:</b> Identification, size, state of protection and biodiversity value of water bodies and related habitats significantly affected by spills and runoff from the organization.	List of water sources where discharges have been made.	
	Products and services	<b>EN27:</b> Mitigation of the environmental	Substance reduction percentage = (substances issued last year - substances issued in the current year)/ (substances issued last year) * 100.	
		impact of products and services.	Water consumption reduction percentage = (previous year consumption - current year consumption)/(previous year water consumption) * 100.	

Below, a brief explanation of the related indicators in Table 13.

#### **EN15: Direct emissions of greenhouse gases (Scope 1)**

According to the Kyoto Protocol (United Nations, 1998), scope 1 greenhouse gases are:

- Carbon dioxide (CO2);
- Methane (CH4);
- Nitrous oxide (N2O);
- Hydrofluorocarbons (HFC);
- Perfluorinated hydrocarbons (PFC);
- Sulfur hexafluoride (SF6); y
- Nitrogen trifluoride (NF3).

#### EN16: Indirect emissions of greenhouse gases when generating energy (Scope 2)

The indirect emissions of greenhouse gases produced by generating electricity, heating, cooling and steam that are acquired from other organizations for their consumption must be identified and quantified and, if possible, broken down by:

- Business unit or installation
- Country
- Type of Source (electricity, heating, cooling, and steam); Y
- Type of activity.

### EN17: Other indirect emissions of greenhouse gases (Scope 3)

According to GRI 4 (Sustainability Reporting Guidelines, 2014), Scope 3 emissions are derived from the activities of the organization when they are produced in Sources that it does not own or control.

### EN18: Intensity of greenhouse gas emissions

La intensidad determina las emisiones de gases de efecto invernadero de una organización en el contexto de una medida específica. En este caso, se sugiere como denominador las unidades monetarias (ingresos, ventas).

### EN19: Reduction of greenhouse gas emissions

The indicator that measures the decrease in emissions compared to the previous year is proposed.

### **EN20: Emissions of ozone-depleting substances**

According to the Montreal Protocol (United Nations, 1987), the depletion of the ozone layer due to the use of substances that deplete it is a cause for concern, as it filters out most of the harmful ultraviolet radiation from the sun. This is why companies must reduce their emissions year after year, as part of their commitment to caring for the environment.

Substances that deplete the ozone layer according to this Protocol are:

- Chlorofluorocarbons (CFC)
- Halons
- Other halogenated
- Carbon tetrachloride
- Methyl Chloroform
- Bromochloromethane
- Methyl bromide

### EN21: NOX, SOX, and other significant atmospheric emissions can be disaggregated from the following significant atmospheric emissions:

- NOX
- SOX
- Persistent organic pollutants (COP);
- Volatile organic compounds (COV);
- Hazardous atmospheric pollutants (CAP);
- Particles (MP); and
- Other categories of standardized air emissions identified in the relevant regulations.

# EN26: Identification, size, state of protection and biodiversity value of water bodies and related habitats, significantly affected by spills and runoff from the organization

Principle N.10. Businesses must work against corruption in all its forms, including extortion and bribery.

According to Transparency International (2009), a non-governmental organization dedicated to fighting corruption, the definition of corruption can be described as "the abuse of power entrusted to one's own benefit" (p.7). For its part, the principal No. 10 of the Global Compact defines bribery as "An offer or receipt of any gift, loan, fee, reward or another advantage to or from any person as a way of inducing something to be done. dishonest or illegal in the conduct of the management of a company. "Also, extortion is defined as "the act of asking or tempting another to commit bribery". It becomes extortion when this demand is accompanied by threats that endanger the personal integrity or life of the people involved ".

Companies must establish clear policies against corruption; These mechanisms must be disclosed to all employees since this culture must be permeated at all levels. Additionally, the channels through which employees can report corruption must be widely publicized so that when it is known that any activity may be framed within the concept of corruption, these actions can be reported through secure mechanisms and in the to ensure that there will be no retaliation against the person making the complaint known.

The Code of Conduct and Code of Good Governance must be within the policies that are implemented in any organization, as one of the anti-corruption strategies; likewise, it is important that these documents are part of the induction and reinduction of the employees, in such a way that there is clarity in the reporting mechanisms and that they become a means for the management of the company to be transparent to its clients internal and external.

The relationship of principles 10 of the United Nations Global Compact and the GRI indicators can be evidenced in Table 14, as described below.

**Table 14.** *Principle No 10 Global Compact and GRI indicators* 

,	GRI G	INDICATOR FORMULA		
CATEGORY	SUBCATEGORY	ASPECT	NAME OF THE INDICATOR	INDICATOR FORMULA ACCORDING TO AUTHORS
	Society	Fight against corruption	<b>SO3:</b> Percentage of centers in which the risks related to corruption and significant risks detected have been evaluated.	Percentage of centers evaluated in terms of corruption = (No. of approved centers in the monitoring of corruption/Total number of centers evaluated) * 100.  PERCENTAGE OF EFFICIENCY IN RISK MANAGEMENT = (No. of efiSCC controls in the risk management/No of controls determined to manage the risk) * 100.
Social performance			<b>SO4:</b> COMMUNICATION POLICIES AND PRIORITIES AND TRAINING ON THE FIGHT AGAINST CORRUPTION.	'
			<b>SO5:</b> Percentage of confirmed cases of corruption and actions are taken.	Percentage of confirmed cases of corruption = (Number of confirmed cases of corruption/ Total cases investigated) * 100.  Percentage of implementation of measures adopted = (Total cases confirmed with measures adopted/Total confirmed cases of corruption) * 100.
		Public politics	<b>SO6:</b> Percentage of the value of political contributions, by country and recipient.	$\begin{array}{llll} \mbox{Percentage} & \mbox{of} & \mbox{political} \\ \mbox{contributions} & = & (\mbox{Total} & \mbox{of} \\ \mbox{payments} & \mbox{made} & \mbox{by} & \mbox{political} \\ \mbox{contribution})/\mbox{Total} & \mbox{of} \\ \mbox{contribution} & \mbox{payments}) * 100. \end{array}$

Next, a brief explanation of the related indicators in Table 14 is made.

# SO3: Number and percentage of centers in which the risks related to corruption and significant risks detected have been evaluated

Companies that sell and distribute energy must seek identification mechanisms and risk assessment. One of them, fraud and corruption, which can occur, for example, when energy projects are awarded without bidding. The proposed indicator, following the recommendation of the G4, is: Centers evaluated in terms of corruption.

But not only the evaluation of risks is sufficient; companies must determine control measures that mitigate the risks considered significant; that is, those that prevent the risk from materializing and affect the results of the organization. Another indicator is proposed to evaluate the effectiveness of the proposed action plans:

% OF EFFICIENCY IN RISK MANAGEMENT.

## SO4: communication policies and procedures and training on the fight against corruption

Companies that market and distribute energy have established policies against fraud and corruption, which must permeate all levels of the organization. This is, from the partners and shareholders to the employees. The information can be obtained from processes such as Human Management and Legal Management, which are responsible for permeating this information at all levels. The following indicator is proposed: Impact on the procedures used in the corruption aspect.

#### SO5: Confirmed cases of corruption and measures are taken

Companies that market and distribute energy have different mechanisms for reporting suspected cases of corruption. This information is vital to initiate investigations that can generate, in many cases, the dismissal of the employee involved or the taking of actions to prevent recidivism in the future. The following indicator is then proposed: Confirmed cases of corruption and% implementation of measures adopted.

#### SO6: Value of political contributions, by country and recipient

This indicator could yield information on the assessment of the level of corruption; At present, many companies that sell and distribute energy have procedures and codes of conduct and government that establish the guidelines to follow to maintain appropriate relations with governments. Areas such as Law and Human Resources can provide information to feed the proposed indicator.

### **Conclusions**

The proposed methodology facilitates the preparation of annual sustainability reports in the electric sector companies of commercial agents and distributors since it allows us to quantify, measure, control and monitor the management of significant impacts that affect the internal and external environment of your interest groups.

At present, there are many tools that allow demonstrating the performance in CSR; GRI integration vs. United Nations Global Compact facilitates companies that market and distribute energy to diagnose their behavior in the social, economic and environmental fields; implement action plans to increase their efficiency; follow up and monitoring so that you can strive for continuous improvement and for the welfare of all your stakeholders. Integration that allows leaders to convert the principles of the United Nations Global Compact into part of the strategy, of their institutional work, which is made transparent through the GRI.

### Recommendations

The management indicators have been formulated and reviewed with those found in the scientific literature. It is suggested that due to its structure they can be used in different strategic areas of other industries, since they allow them to demonstrate a sustainable performance, independently of the nature of the commercial operation to which it is dedicated.

#### References

- Arias, E. C., y Cadavid, J. V. (2004). La regulación económica de la distribución de la energía eléctrica. *Ecos de Economía*, 8(18), 99-139. Recuperado de: <a href="http://publicaciones.eafit.edu.co/index.php/ecos-economia/article/view/2014">http://publicaciones.eafit.edu.co/index.php/ecos-economia/article/view/2014</a>
- Comisión de Regulación de Energía y Gas (CREG). (22 de Diciembre de 1999). *Resolución No. 080.* Recuperado de: <a href="http://apolo.creg.gov.co/Publicac.nsf/Indice01/Resoluci%C3%B3n-1999-CREG080-99">http://apolo.creg.gov.co/Publicac.nsf/Indice01/Resoluci%C3%B3n-1999-CREG080-99</a>
- Congreso de Colombia. (22 de Diciembre de 1993). Ley 99 de 1993. *Diario Oficial No. 41146*. Recuperado de: <a href="http://www.secretariasenado.gov.co/senado/basedoc/ley\_0099\_1993.html">http://www.secretariasenado.gov.co/senado/basedoc/ley\_0099\_1993.html</a>
- Congreso de Colombia. (11 de Julio de 1994). Ley 142 de 1994. *Diario Oficial 41.433*. Recuperado de: <a href="http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=2752">http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=2752</a>
- Congreso de Colombia. (11 de Julio de 1994). Ley 143 de 1994. *Diario Oficial 41434*. Recuperado de: <a href="http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=4631">http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=4631</a>
- Congreso de Colombia. (31 de Mayo de 1994). Ley 134 de 1994. *Diario Oficial No. 41373*. Recuperado de: <a href="http://www.secretariasenado.gov.co/senado/basedoc/ley\_0134\_1994.html">http://www.secretariasenado.gov.co/senado/basedoc/ley\_0134\_1994.html</a>
- Congreso de Colombia. (6 de Junio de 1997). Ley 373 de 1997. *Diario Oficial No. 43058*. Recuperado de: http://www.minambiente.gov.co/images/normativa/leyes/1997/ley 0373 1997.pdf
- Congreso de Colombia. (30 de Junio de 2011). Ley 1468 de 2011. *Diario Oficial 48116*. Recuperado de: <a href="http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=43212">http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=43212</a>
- Cuervo, J. I. (2007). Ensayos sobre política pública. Bogotá: Universidad Externo de Colombia.
- García, D., Cruz, E., y Corredor, G. (2006) Impactos y consecuencias de la reforma del sector electrico en Colombia. UN Periódico, Bogotá.
- Gestión ambiental social y biofísica (2008). (2008, 1 de Diciembre). Recuperado de: <a href="http://www.ideaspaz.org/tools/download/47234">http://www.ideaspaz.org/tools/download/47234</a>
- ICONTEC. (2008). *Guía técnica colombiana GTC 180. Responsabilidad Social.* Incotec: Bogotá, Colombia. Recuperado de: <a href="http://www.valledelcauca.gov.co/planeacion/descargar.php?id=8871">http://www.valledelcauca.gov.co/planeacion/descargar.php?id=8871</a>
- International Energy Agency. (20 de Julio de 2018) *Electricity Information 2018: Overview*. Recuperado de: <a href="https://webstore.iea.org/electricity-information-2018-overview">https://webstore.iea.org/electricity-information-2018-overview</a>
- Ministerio de la Protección Social. (30 de Abril de 2009). Resolución 1348 de 2009. *Diario Oficial* 47342. Recuperado de: <a href="http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=36213">http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=36213</a>
- Ministerio de Minas y Energías.(13 de febrero de 2007). Decreto 387 de 2007. *Diario Oficial 46541*. Recuperado de <a href="http://www.creg.gov.co/html/Ncompila/htdocs/Documentos/Energia/docs/decreto\_0387\_2007.htm">http://www.creg.gov.co/html/Ncompila/htdocs/Documentos/Energia/docs/decreto\_0387\_2007.htm</a>

- Ministerio de Trabajo y Seguridad Social. (31 de Julio de 2002). Decreto 1607 de 2002. *Diario Oficial 44892*. Recuperado de: <a href="http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=5536">http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=5536</a>
- Ministerio del Interior. (13 de Julio de 1998). Decreto 1320 de 1998. *Diario Oficial 43340*. Recuperado de: <a href="https://www.mininterior.gov.co/sites/default/files/co-decreto-1320-98-consulta-previa-indigenas-\_2.pdf">https://www.mininterior.gov.co/sites/default/files/co-decreto-1320-98-consulta-previa-indigenas-\_2.pdf</a>
- Naciones Unidas. (1987). *Protocolo de Montreal del Convenio de Viena para la protección de la capa de ozono.* Montreal, Canadá.
- Naciones Unidas. (1998). *Protocolo de Kyoto de la convención marco de las Naciones Unidas sobre el cambio climático*. Kyoto, Japón. Recuperado de: <a href="https://unfccc.int/resource/docs/convkp/kpspan.pdf">https://unfccc.int/resource/docs/convkp/kpspan.pdf</a>
- Naciones Unidas. (2000) *Pacto Mundial*. Recuperado de: <a href="https://www.unido.org/sites/default/files/2010-11/GC">https://www.unido.org/sites/default/files/2010-11/GC</a>
  <a href="https://www.unido.org/sites/default/files/2010-11/GC">Brochure\_Spanish\_0.PDF</a>
- Oficina Internacional del Trabajo (OIT). (2001). *Declaración tripartita de principios sobre las empresas multinacionales y la política social*. Tercera edición, Ginebra. Pág.3. Recuperado de: <a href="http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/normativeinstrument/kd00121es.pdf">http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/normativeinstrument/kd00121es.pdf</a>
- Organización Internacional del Trabajo (OIT). (25 de junio de 1958). C111 Convenio sobre la discriminación (empleo y ocupación), (núm. 111). Recuperado de: <a href="http://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:12100:0::NO::P12100">http://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:12100:0::NO::P12100</a> ILO CODE:C111
- Organización Internacional del Trabajo (OIT). (28 de junio de 1930). C029 Convenio sobre el trabajo forzoso, 1930 (núm. 29). Recuperado de: <a href="https://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:55:0::NO::P55\_TYPE,P55\_LANG,P55\_DOCUMENT,P55\_NODE:CON,es,C029,/Document">https://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:55:0::NO::P55\_TYPE,P55\_LANG,P55\_DOCUMENT,P55\_NODE:CON,es,C029,/Document</a>
- Programa de Emisión y Colocación de Bonos EMGESA. (2015). Programa de Emisión y Colocación de Bonos Emgesa Séptimo Tramo. Recuperado de: <a href="http://www.emgesa.com.co/ES/ACCIONISTAS/INFORMACIONFINANCIERA/PresentacionResultados/Presentaci%C3%B3n%20Roadshow%20">http://www.emgesa.com.co/ES/ACCIONISTAS/INFORMACIONFINANCIERA/PresentacionResultados/Presentaci%C3%B3n%20Roadshow%20</a> <a href="mailto:Emgesa.pdf">Emgesa.pdf</a>
- Romero, L. D., y Vargas, R. A. (2010). Modelo de incentivos para la reducción de pérdidas de energía eléctrica en Colombia, *Revista de la Maestría en Derecho Económico*, (6), 221-257.
- Roser, I., y Vázquez, O. (Eds.). (2008). La Responsabilidad Social de la Empresa Española en Latinoamérica. El caso del sector eléctrico. Barcelona: Media responsable.
- Royal Danish Ministry of Foreign Affairs y United Nations Development Programme (Editores). (2005). *Implementando el Pacto Mundial.* Recuperado de: <a href="http://www.bibliotecavirtual.info/wp-content/uploads/2011/05/Implementando">http://www.bibliotecavirtual.info/wp-content/uploads/2011/05/Implementando</a> el Pacto Mundial.pdf
- Secretaría de Energía (México). (2017). Balance Nacional de Energía 2016. Recuperado de: <a href="https://www.gob.mx/cms/uploads/attachment/file/288692/Balance\_Nacional\_de\_Energ\_a\_2016\_\_2\_.pdf">https://www.gob.mx/cms/uploads/attachment/file/288692/Balance\_Nacional\_de\_Energ\_a\_2016\_\_2\_.pdf</a>
- Sistema de Información Ambiental Minero Energético (2005). *Guía ambiental para proyectos de distribución* (Página 47, Num 7.2). Recuperado de: <a href="http://www.siame.gov.co/siame/documentos/Guias\_Ambientales/Gu%C3%ADas%20Resoluci%C3%B3n%201023%20del%2028%20de%20julio%20de%20\_2005/SECTOR%20ENERG%C3%89TICO/Guia%20Ambiental%20para%20proyectos%20de%20\_distribuci%C3%B3n%20el%C3%A9ctrica.pdf">http://www.siame.gov.co/siame/documentos/Guias\_Ambientales/Gu%C3%ADas%20Resoluci%C3%B3n%201023%20del%2028%20de%20julio%20de%20\_distribuci%C3%B3n%20el%C3%A9ctrica.pdf</a>
- Superintendencia de Servicios Públicos Domiciliarios. (2017, 2 de Mayo). *Diagnóstico de la calidad del servicio de energía eléctrica en Colombia 2016*. Informe Técnico. Recuperado de: <a href="http://www.celsia.com/Portals/0/Documentos/PDF/informe-calidad-del-servicio-2016-superservicios.pdf?ver=2017-05-25-143508-477">http://www.celsia.com/Portals/0/Documentos/PDF/informe-calidad-del-servicio-2016-superservicios.pdf?ver=2017-05-25-143508-477</a>
- Sustainability Reporting Guidelines. (2014). Global Reporting Initiative (GRI). *Sustainability Reporting Guidelines*. Recuperado de: <a href="https://www.globalreporting.org/Pages/default.aspx">https://www.globalreporting.org/Pages/default.aspx</a>

Transparency International. (2009). *Informe Global de la Corrupción 2009. Corrupción y Sector Privado.* Cambridge: University Press. Recuperado de: <a href="https://www.transparency.org/whatwedo/publication/informe\_global\_de\_la\_corrupcion\_2009\_corrupcion\_y\_sector\_privado">https://www.transparency.org/whatwedo/publication/informe\_global\_de\_la\_corrupcion\_2009\_corrupcion\_y\_sector\_privado</a>