

# Environmental Key Performance Indicators of CSR activities in the energy industry

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**Abstract.** *The preoccupation towards environmental issues within companies has increased in the past years. On one hand, companies now aim at cleaner, environmental products or production lines. On the other hand, many companies have started to invest in different CSR projects, having as objective different environmental issues. In this article we focus on a set of aspects and indicators reported by energy companies, regarding their environmental performance. The need for a cleaner environment has determined policy makers and different organizations to adopt several guidelines referring to environmental activities of companies. Based on the CSR and sustainability reports of 92 top energy companies, we analyze the main environmental aspects and indicators which were revealed by these organizations in year 2015. Results of this qualitative analysis could contribute to the assessment of the extent to which environmental standards are currently taken into account by energy companies.*

**Keywords:** corporate social responsibility, environment, energy, sustainability, performance reporting.

## Introduction

Investors' and the general public's awareness regarding the importance of environmental protection has lead companies to take measures in order to limit the negative impact that their activities have on the environment. While stakeholders are now relying on sustainability information in their assessment of businesses (Nazari et al., 2015), the disclosure of environmental performance indicators, as well as environmentally-friendly measures of companies, has become imperative.

The concept of sustainability has generated a shift in the way companies incorporate corporate social responsibility within their strategy. Corporate sustainability has been defined as a "business approach that creates long-term value for the organization by incorporating economic, environmental and social dimensions into its core business decisions" (Benn and Bolton, 2011).

The ISO 26000 standard and the UN Guiding Principles on Business and Human Rights have been established in order to support the implementation of social responsible and sustainable actions within companies. The economic, social and environmental measures and performance of companies are currently disclosed in annual CSR and sustainability reports. For a good transparency of this information, companies can adopt a reporting guideline for corporate sustainability, such as the Global Reporting Initiative guideline. An analysis on corporate social responsibility reporting conducted by KPMG in

year 2015 (KPMG, 2015) has outlined disparities in the way companies present their performance and measures, and the aspects which they include in their annual reports.

As the activities of energy companies have been widely viewed as a threat to the environment, disclosing their environmental performance can provide valuable information for all stakeholders, including international organizations and governments that try to mitigate negative environmental effects. This article aims at identifying the main aspects which were presented in CSR reports, as well as the main environmental indicators published by energy companies using the GRI reporting guideline.

## **Literature review**

### **Corporate Social Responsibility in the energy sector**

The concept of corporate social responsibility has developed in time from referring to business actions aimed towards societal expectations, economic growth and the social environment of the firm, to Freeman's theory of corporate stakeholder responsibility, which promotes the idea that companies need to take into account the needs of all of their stakeholders (Freeman, 1984).

The social responsibility of companies involves their public attitude toward the economic and human resources of a company and the desire to use these resources for the good of the community and not to the restricted interests of private persons or companies (Benn and Bolton, 2011). Most of the discussions related to corporate social responsibility debate the real desire of companies of showing responsibility and of getting involved in philanthropic actions and the economic interest of companies. Many studies have shown throughout the time that the involvement of companies in social and philanthropic activities has increased the motivation and consequently the efficiency of employees and therefore all the CSR activities are explained because of the need for an increased efficiency. Another aspect is the positive image that is created around a company being involved in social and environmental activities (Benn and Bolton, 2011; Crane, McWilliams, et al. 2008). In 2011, Porter and Kramer coined the term of "shared value", based on the core principle of CSR, which emphasizes joint company and community value creation (Porter and Kramer, 2011).

Drivers for the promotion of corporate social responsibility principles in the business sectors are consumers (Smith, 1990), the government and civil society (Moon and Vogel, 2008), as well as top managers that shape the culture of the company (Crane, McWilliams, et al. 2008).

Environmental regulations and the pressure from the general public are drivers for the management of negative externalities from operations in the energy field. Depending on the type of energy delivered (transportation fuels, electricity, heat), companies that operate in the field can generate negative impacts on several environmental aspects. These include soil, water, air, wildlife (Michaelides, 2012). While the exploration of hydrocarbons can lead to affected water bodies and oil spills, nuclear plants can generate hazardous waste and wind parks can affect the wildlife (Sovacool, 2009).

The majority of corporations are involved in multiple environmental protection programs including pollution control, land protection, water protection, atmosphere protection, and others (Zhao, 2015). Measures taken to limit the environmental impact are

disclosed by energy companies on dedicated pages on their websites, or within annual reports dealing with their overall social responsibility and sustainability performance.

Integrating corporate social responsibility and sustainability within the overall strategy and disclosing activities and indicators that can provide insight into the company's social, economic and environmental endeavors, could support gaining community acceptance for investment projects (Symon, 2008), as well as provide data for comparison among companies for investors.

### **Reporting corporate social responsibility performance**

According to the 2015 KPMG survey of corporate responsibility reporting, there is an inconsistent approach to how companies elaborate their CSR reports and disclose information (KPMG, 2015).

The Global Reporting Initiative (GRI) is an international independent organization that provides guidance for companies on how to report their business impact on sustainability issues such as climate change, human rights and others (Global Reporting Initiative, 2017). GRI principles include materiality, or stating the relevance and impact of the issues addressed, stakeholder inclusiveness, the sustainability context, and completeness of the report. According to the KPMG survey, GRI was the most popular reporting guideline worldwide, with 60% of the companies that publish CSR reports referencing the guideline (KPMG, 2015).

The GRI guideline provides a set of economic, environmental and social indicators that can be included in the annual CSR report, as well as information on how to report these indicators. These can also be linked to ISO 26000 clauses on social responsibility.

Environmental aspects that are taken into account in the GRI guideline are materials, energy, water, biodiversity, emissions, effluents and waste, products and services, compliance, transport, the supplier environmental assessment, environmental grievance mechanisms and the overall environmental protection expenditures and investments.

### **Methodology**

The main objective of the research presented in this article was to determine the main key concepts and environmental indicators used by energy companies in their CSR and sustainability reporting. In order to assess the way energy companies disclose environmental performance indicators, a number of 92 CSR reports were selected from the 2015 Platts Top 250 Companies. These were selected in the order of the Platts ranking, with the condition that they had published a CSR report in the year 2015. The main environmental aspects mentioned in their CSR reports were analyzed using the Nvivo software for qualitative analysis, based on the words frequency analysis.

Companies that have referenced the GRI Guideline in the preparation of their CSR report have been selected out of the total 92 companies. A number of 75 companies was used for further analysis. Based on their CSR/sustainability reports, the disclosure of the following environmental indicators was analyzed: direct energy consumption within the organization, reduction of energy consumption, total water withdrawal, percentage of total volume of water recycled and reused, direct and indirect greenhouse gas (GHG) emissions, reduction of greenhouse gas (GHG) emissions, total water discharge, total weight of waste and total number and volume of significant spills. Out of the 75 selected reports, 3 were

excluded from the study because no or only one GRI indicator was included. The study included 36 oil and gas companies (13 active in oil and gas exploration and production, 15 integrated oil and gas companies, 6 active in oil and gas refining and marketing and 2 oil and gas storage and transportation companies), 18 electric utilities, 7 multi-utilities, 6 gas utilities, 3 independent power producers and energy traders and 2 coal and consumable fuels producers.

## Results

The key words that were included across the total 92 CSR reports were assessed based on their weighted percentage - the frequency of the word relative to the total words counted, in the Nvivo software. The top 35 most frequent words included industry specific terms such as energy, management, gas, power, oil, work, system, operations, project(s), program, activities, production and well, which were excluded from the key words list. The main CSR key words obtained with the Nvivo software from the CSR reports are presented in table 1.

As it can be observed in Table 1, the most frequent words used in the CSR reports are safety (0.45%) and employees (0.44%). These results show that the main focus of the CSR activities of energy companies are oriented towards safety, employees, or even a combination of the two resulting in the safety of the employees. CSR associated terms such as environmental (0.41%), development (0.40%) and sustainability (0.37%) follow next, although if we sum up terms with similar meaning their values increase. Therefore “sustainability” and “sustainable” sum up to a frequency of 0.60% (0.37% for “sustainability” + 0.23% for “sustainable”), while “environmental” and “environment” sum up to 0.64% (0.41% for “environmental” + 0.23 for “environment”). Another issue emphasized by energy companies is performance (0.30%).

Among the environmental components which were most frequently mentioned in CSR reports, there are water (0.35%), emissions (0.29%) and electricity (0.17%). This result shows that energy companies do have a preoccupation regarding a reduced pollution and consumption of water, and low polluting emissions. The social component also has an important role in the CSR orientation of energy companies. On one hand the term “social” has a frequency of 0.26%, while on the other hand there are other related terms also mentioned, such as training (0.22%) and health (0.21%).

**Table 1.** *Key terms used by energy companies in their CSR reporting*

Word	Weighted Percentage (%)
Safety	0.45
Employees	0.44
Environmental	0.41
Development	0.40
Sustainability	0.37
Water	0.35
Performance	0.30
Emissions	0.29
Social	0.26
Sustainable	0.23

Environment	0.23
Natural	0.23
Training	0.22
Responsibility	0.21
Health	0.21
Local	0.20
Customers	0.20
Risk	0.19
Governance	0.18
Electricity	0.17
Stakeholders	0.17

Source: Author's own results.

Responsibility is another frequently used term. It is used both in its initial form (0.21%) as well as in the form of governance (0.18%), showing the preoccupation of the company towards its stakeholders. This fact is reflected in the orientation of energy companies towards their customers, taking into account that the term has a frequency of 0.20% and stakeholders, having a frequency of 0.17%. It is important to remark that the orientation towards customers seems to be higher than the one towards stakeholders in general.

A further analysis has assessed the inclusion of information regarding emissions, water and energy use. Consistent with the result of the 2015 KPMG survey on corporate social responsibility (KPMG, 2015), most of the energy companies using the GRI guideline report their emissions. Direct greenhouse gas (GHG) emissions were reported by 89% of the companies included in the presented study. KPMG's study, that included CSR reports regardless of their structure or GRI reference, showed that 92% of utilities, 90% of oil and gas companies and 80% of mining companies report their carbon emissions.

**Table 2.** *Key environmental indicators used by energy companies in their CSR reports*

Action	GRI indicators	Percentage
Reduction of energy consumption	37	0.51
Percentage of total volume of water recycled and reused	37	0.51
Total water discharge by quality and destination	49	0.68
Total number and volume of significant spills	49	0.68
Reduction of greenhouse gas (GHG) emissions	54	0.75
Total weight of waste by type and disposal method	56	0.78
Energy indirect greenhouse gas (GHG) emissions	57	0.79
Direct energy consumption within the organization	62	0.86
Total water withdrawal by source	64	0.89
Direct greenhouse gas (GHG) emissions	64	0.89

Source: Author's own results.

Indirect greenhouse gas emissions were reported less than direct emissions, with a percentage of 79%, while only 75% of the analyzed companies published data regarding the reduction of greenhouse gas emissions. A reporting difference between direct and indirect emissions was also presented in the KPMG study, where 84% of the companies reported

their Scope 1 emissions, while 79% reported their Scope 2 emissions (KPMG, 2015). Although GHG emissions are central parts of the CSR reports published by energy companies, values regarding emissions and the reduction of the emissions were not included in some of the reports, being replaced by references to the companies' answers for the Carbon Disclosure Project.

Values for the absolute reduction of greenhouse gas emissions were included more seldom (75%) than values for Scope 1 and Scope 2 emissions. Another 12% of the CSR reports mentioned relative emission reductions (as percentage) or expressed the company's concern in reducing these emissions, as well as projects and measures taken by the organization in order to achieve this goal, without presenting the absolute value that resulted from these actions. Also in the case of energy consumption, where only 37% disclosed an absolute value for their reduced energy use, another 17% expressed the company's objective in reducing its energy consumption, without publishing an absolute value for the reduction.

Reporting on water and waste did not always comply with the GRI standard, where water withdrawal needs to be split by source, and waste needs to be split by type and disposal method. However, water seems to be an environmental aspect as important as emissions to energy companies. While not always complying with the GRI guide for water withdrawal, 89% of the CSR reports held information regarding the volume of water withdrawn (60%) or their water consumption value (29%). Information on water discharge was published by only 68% of the analyzed energy companies, while less disclosed the percentage of water that was recycled and reused (51%).

Only 68% of the analyzed reports included the number and volume of spills. The disclosure of this aspect varies across the types of energy providers. In the case of integrated oil and gas companies and oil and gas exploration and production companies, the publication of this indicator happened in 93%, respectively 92% of the cases. Out of the 3 independent power producers and energy traders, 2 published information regarding spills. Only 2 out of the 6 gas utilities, and 2 out of the 6 oil and gas refining and marketing companies reported spillage volumes in their 2015 reports.

## **Limitations**

The limitations of the research refer to some of the environmental information which are not included in CSR or sustainability reports, being published in other reports or on the company's website. This makes the review of the companies' environmental performance more difficult. When disclosure of the indicators in other sources was referenced in the CSR report, the data was included in the survey. However, there may be more information regarding environmental performance disclosed in other reports and on the companies' websites.

## **Conclusion**

The results of the study suggest that energy companies are concerned about CSR initiatives and environmental performance. Most of the energy companies that published CSR reports following the Global Reporting Initiative guideline have published indicators for their greenhouse gas emissions and their water withdrawal or water consumption. Although emissions, water use and energy consumption are taken into account by many energy

companies, the actual values that reflect measures to improve the management performance of these aspects are not as frequently disclosed in CSR reports. Also, information regarding their performance in reducing energy consumption and emissions is somewhat heterogeneous, with some companies reporting the absolute value of their reductions, while others present only the percentage of reduced energy or emissions relative to a base year. This makes it hard to compare the environmental performance of more energy companies. Organizations that have introduced a GRI index for their environmental assessment present their performance better and allow for a better structuring of the environmental indicators according to the guideline.

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