



**INVESTIGATION INTO STAKEHOLDERS' INFLUENCE ON THE ENVIRONMENTAL STRATEGIES OF OIL COMPANIES
- A CASE STUDY OF PETROBRAS**

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ABSTRACT

In the oil industry, reputations of companies have been increasingly challenged as the combustion of fossil fuels has been perceived to be changing the climate and threatening society. Scholars have developed important literature on the topic to better understand motivations behind the environmental strategies employed by organizations from wealthy nations, but little attention is given to companies from developing countries. This article aims to explore environmental strategies adopted by Petrobras, a Brazilian oil company. The end of its oil production and exploration monopoly, its internationalization and major environmental accidents have contributed to shifting the company towards a more active environmental role. Brazil's government, investors, NGOs, internal scientists and regulatory institutions are among the most influential stakeholders in relation to Petrobras' climate change positioning. This research has also found evidence that NGOs, in particular, not only exercise direct pressure, but also use the media and regulatory institutions to influence the company.

INTRODUCTION

Increasing competition, globalization of markets and better informed consumers have forced companies to pay more attention to the non-financial aspects of their operations, more specifically to those related to their Corporate Social Responsibility (CSR). The idea that government is solely responsible for the well being of the population is now outdated. Both society and the private sector are also partially responsible, and have in fact increased their engagement in socially responsible activities (Mazurkiewicz and Grenna, 2003).

There has been increasing debate about the impact of large oil companies' activities and products on the environment. These organizations are important players in the world economy and emerging discussions such as those related to climate change have jeopardized their reputation among different stakeholders. Climate change refers to a change in climate that is attributed directly or indirectly to any human activity that alters the composition of the global atmosphere beyond natural climate variability observed over comparable time periods (UNFCCC, 2004). Combustion of fossil fuels is responsible for a significant proportion of global greenhouse gas (GHG) emissions, which is considered to be driving climate change (Austin and Sauer, 2002). Meanwhile, oil companies control significant technological, financial and organizational resources which, if applied appropriately, could have an important role in reducing these emissions (Kolk and Levy, 2001). As society tries to develop an appropriate response to the challenge of climate change, the position of the oil industry is crucial.

Numerous academic studies have been developed in the CSR field. Nevertheless, little attention has been paid to developing economies. Frynas (2006) argues that despite the fact that CSR has become an important issue in developing countries; most research conducted to date has focused on companies from Europe and North America. The same picture can be found in relation to oil companies' approach to CSR, and in particular to environmental issues. The debate has been focused on large organizations from wealthy economies, such as ExxonMobil, BP and Shell. Therefore, any investigation of the environmental strategies of oil companies from developing countries may usefully contribute to existing literature on the subject.

Oil companies from developing economies such as Brazil, China and Russia have presented strong performance indicators in recent years. Forbes Global 2000 (2011) rankings include three oil companies from these countries amongst the fifteen largest publicly traded organizations in the world.

In this scenario, special attention has been given to Brazil and its oil giant Petrobras. According to The Economist (2008), oil discoveries announced by the company at the end of 2007 could change the regional, and even the global, balance of energy power. If initial estimates are confirmed, Brazil could be one of the world's top five oil producers by 2020 (The Economist, 2011).

The main objectives developed in pursuit of the article's aims are the following:

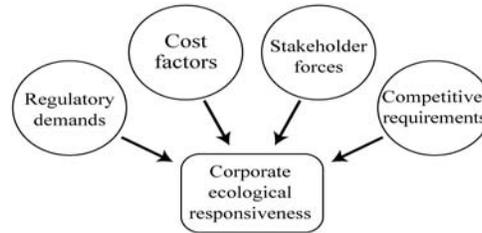
- To identify Petrobras' positioning in relation to climate change and to compare it with other major oil companies;
- To identify the main stakeholders who influence the company's climate change strategies;
- To assess levels of stakeholders' influence on Petrobras' climate change strategies;
- To provide recommendations for Petrobras in relation to the subject, with special attention on how to enhance the company's marketing strategies.

Literature Review

CSR is a topic widely covered by scholars but there is a good deal of uncertainty as to how it should be defined (Dahlsrud, 2006). However, the CSR concept usually embraces three dimensions: social, economic and environmental. The environmental dimension has been receiving special attention from researchers of late. In business literature, terms such as 'environmental marketing', 'green marketing' and 'corporate greening' have been used to describe organizations' CSR initiatives towards the environment. Karna *et al.* (2003, p.849) argue that "environmental or 'green' marketing has been seen as a tool towards sustainable development and satisfaction of different stakeholders". Peattie (1995, p.28) defines environmental marketing as "the holistic management process responsible for identifying, anticipating and satisfying the requirement of customers and society, in a profitable and sustainable way". Miles and Covin (2000) highlight that the importance of environmental performance to corporate stakeholder groups has resulted in the adoption of two mutually exclusive philosophies towards companies' environmental policy: the compliance model; and the strategic model. According to their study, "the compliance model suggests that corporations must simply comply with all applicable regulations and laws...in an attempt to maximize stockholder returns" while the strategic approach to environmental performance suggests that firms attempt to maximize stockholder returns by utilizing an environmental strategy to create a sustainable competitive advantage" (Miles and Covin 2000, p.306). Berry and Rondinelli (1998) identify four forces driving proactive environmental management: regulatory demands, cost factors, stakeholder forces and competitive requirements (Figure 1).



Figure I: Forces Driving Proactive Environmental Management



Adapted from Berry and Rondinelli (1998, p.88)

Freeman (1984) highlights the importance of the stakeholder model to identify specific groups and then further evaluate their individual importance through stakeholders' analysis.

In relation to a company's environmental responsiveness, Henriques and Sadosky (1999, p.89) highlight the existence of four critical groups: regulatory stakeholders; organizational stakeholders; community stakeholders; and the media. Regulatory stakeholders include governments; trade associations; informal networks; and a given firm's competitors. Organizational stakeholders, includes "those who are directly related to an organization and have the ability to impact its bottom line directly". This group includes customers, suppliers, employees, and shareholders. The third group, community stakeholders, includes community groups, environmental organizations, and other potential lobbies (*ibid*). Their research indicates that firms with more proactive attitudes do differ from less environmentally committed organizations in their perceptions of the relative importance of different stakeholders.

One of the best practical applications of the stakeholder theory can be observed in the CSR concept. Cornelissen (2004, p.63) points out that "CSR falls neatly within the stakeholder philosophy of strategic management, and underlines that for the majority of organizations today the input-output model of strategic management has indeed become a relic of the past". Johnson (1971, p.50) touches on the stakeholder approach in the CSR concept when he states that "a socially responsible firm is one whose managerial staff balances a multiplicity of interests. Instead of striving only for larger profits for its stockholders, a responsible enterprise also takes into account employees, suppliers, dealers, local communities, and the nation." Carroll (1991) reinforces the integration between CSR and the stakeholder theory, indicating the great relevance of stakeholder theory to the better understanding and application of CSR. He argues that "there is a natural fit between the idea of CSR and organization's stakeholders. The word 'social' in CSR has always been vague and lacking in specific direction as to whom the corporation is responsible. The concept of stakeholder personalizes social or societal responsibilities by delineating the specific groups or persons business should consider in its CSR orientation. Thus, the stakeholder nomenclature puts 'names and faces' on the societal members who are most urgent to business, and to whom it must be responsive" Carroll (1991, p.43).

Climate change strategies have drawn attention to researchers who have been developing studies mainly aiming at understanding the reasons behind different positioning among companies in the oil industry. The literature available to date is usually based on case studies of large North American and European corporations. Most scholars have divided the industry's major players into two different groups: those who support rigorous environmental policies, such as the Kyoto Protocol, and those who oppose these regulations. Rowlands (2000) suggests that ExxonMobil's position is relatively reactive, and that the company supports its positioning through different arguments, such as scientific uncertainty and negative economic impact; whereas BP is relatively proactive, accepting the threat of climate change and embracing the Kyoto Protocol. Levy and Kolk (2002) adopted a two dimensional typology (cooperativeness x assertiveness) developed by Gladwin and Water (1980) to compare major oil companies' positioning in relation to climate change. According to their study, "in the climate change context, 'cooperative' means support for mandatory emissions controls and investment in renewable energy technologies; the second dimension refers to the degree of assertiveness with which a company supports or opposes regulatory efforts" (Levy and Kolk 2002, p.288). Figure II provides the positioning of Exxon, BP, Shell and Texaco in relation to the climate change issue according to their research.

Figure II: Responses to climate change

	Uncooperative	Cooperative
Assertive	RESISTANT Exxon	PROACTIVE Shell, bp
Unassertive	AVOIDANT Texaco	COMPLIANT

Source: Levy and Kolk (2002, p.289)

Le Menestrel *et al* (2002) differentiate companies by whether priority is given to the consequences (profits; i.e. ExxonMobil) or to the processes (BP). Pulver (2007) identifies certain elements of adversarial and cooperative positions in relation to climate policies. According to her research, ExxonMobil best exemplifies a company with an adversarial position, while BP and Shell pursue cooperative approaches. In relation to the causes for different climate change strategies among the oil majors, scholars present different findings. Rowlands (2000) investigated five hypotheses aiming at explaining these differences. In his view, leadership and nationality appear to better elucidate different policies on climate change. Nevertheless, the author highlights that both BP and Shell continue to exist primarily as 'major companies', with operations dominated by oil and natural gas recovery and sales. Kolk and Levy (2001) conclude that climate policies' development amongst oil companies can only be explained by a set of company-specific factors, particularly corporate histories of profitability and location, market assessments, degrees of centralization and presence of climate scientists.

Scholars have also developed literature on oil companies' CSR in developing countries. Special attention has been given to Nigeria, Africa's largest oil producer and the fifth largest among the Organization of Petroleum Exporting Countries (OPEC) (Edoho, 2007).



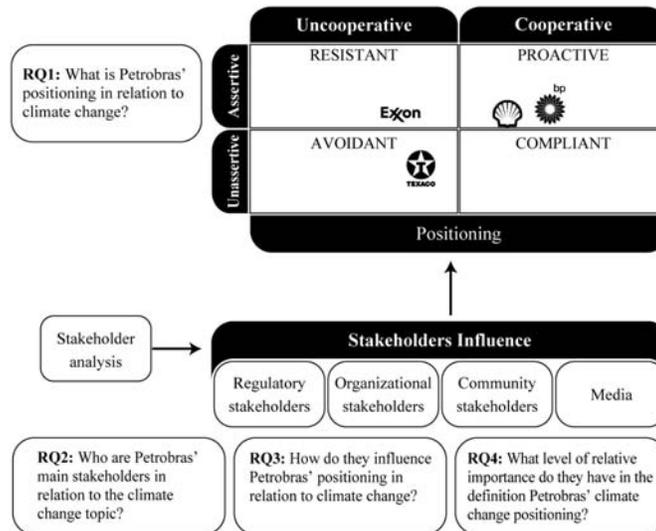
Nevertheless, the focus continues to be on large corporations from Europe and North America, such as Shell and ExxonMobile, which operate in the country. Shell, in particular, has faced a barrage of criticism over its activities in Nigeria (Evuleocha 2005).

Conceptual Framework

Figure III shows the conceptual framework which will be used to address the article's objectives. The four groups of stakeholders used by Henriques and Sadorsky (1999) in their research (regulatory, organizational, community and media) comprise the main actors behind the other motivations identified by scholars. The two dimension typology used by Levy and Kolk (2002) will be used to classify Petrobras' positioning in relation to the climate change issue. Additionally, it will allow a comparison between Petrobras and other major companies in the industry. Thus, the research question "what is Petrobras' positioning in relation to climate change?" has been developed and will be linked to this model.

In order to address the objective of identifying the main factors driving Petrobras' responsiveness to climate change, the influence of stakeholders will be explored. Therefore, a stakeholder analysis will be conducted to address research questions two, three and four, which are proposed in the conceptual framework.

Figure III: Conceptual Framework



Adapted from Levy and Kolk (2002) and Henriques and Sadorsky (1999)

METHODOLOGY

This article has adopted an inductive approach to better understand the context in which Petrobras is placed. Despite the fact that frameworks were utilized to guide this study, the development of a theory which could be subject to rigorous tests, as proposed in the deductive approach, was not feasible due to the lack of knowledge currently available in relation to the research aim.

The case study strategy was selected as it "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin 2003, p.13). Yin's definition of case study fits the article's aim of exploring Petrobras' strategies in relation to a contemporary topic (climate change) within a context which yet has not been fully explored by scholars (developing countries). Moreover, documentation and interviews were used with the aim of increasing the accuracy of the findings.

This article has used information generated from a wide range of sources. As a publicly traded organization, Petrobras has legal obligations to periodically disclose detailed financial and operational information to its shareholders and to regulatory institutions in different countries. Therefore, the revision of Petrobras' external documents, such as Annual Reports and Environmental/Social Reports was helpful in revealing insights into the company's environmental strategies. Furthermore, academic journals and books provided rich literature, which was previously reviewed, while the documentation used in this article also included reports produced by independent organizations and information provided by magazines and government agencies.

Interviews with professionals at Petrobras were conducted, as part of our primary research, utilizing the qualitative method. In order to identify professionals within Petrobras who could contribute to the research and to test the interview guide a preliminary interview was conducted with Petrobras' Corporate Image and Branding manager. The selection aimed not only to find specialists on the subject of climate change but also to try to identify respondents who could adequately provide information about different stakeholders. Ten professionals were indicated and nine of them agreed to participate in the study. Interviews were conducted by telephone during the first two weeks of August, 2008 and lasted between fifteen minutes and one hour.

RESULTS

Secondary Data

The revision of Petrobras' main external reports, as well as existing literature revealed important aspects of the company's environmental strategies evolution and motivations behind it. According to Oliveira (2003), the end of the oil production and exploration monopoly in Brazil in 1997 and a number of major environmental accidents that occurred during 2000 have, between them, contributed to changes in Petrobras' environmental strategies. Additionally, the company's Annual and Social/Environmental Reports describe other significant events which may have directly impacted Petrobras' environmental responsiveness.

Since 1953, Petrobras has grown its business in a very solid way. One can say that the monopoly, held until 1997, allowed the company to build important barriers to international competitors. Nevertheless, the end of the monopoly brought important changes to the company. Despite its strong dominance in Brazil, several structural modifications were carried out to prepare Petrobras for a more



competitive environment. In 1999, Petrobras' management structure was reformulated and the first task of the new management team was to develop a strategic plan for the company (Petrobras, 1999).

These structural changes also included the international expansion of the company. In 1999, Petrobras was operating in 12 countries outside Brazil (Petrobras, 1999). Important investments were made with the objective of consolidating Petrobras as a relevant international player and a leader in Latin America. Petrobras made important acquisitions and increased its international exploration and production activities. As of December 2010, excluding Brazil, the company was already operating in 26 countries, with 1,171 fuel stations in South America, refineries in Japan, the US and Argentina and relevant exploration and production operations in Western Africa, the Gulf of Mexico and other Latin American countries (Petrobras, 2010). Additionally, in order to finance its expansion, Petrobras started to pay more attention to the international capital markets. In 2000, the company listed its shares on the New York Stock Exchange (NYSE), attracting more foreign investors to the company (Petrobras, 2000).

The year 2000 marked a major shift in Petrobras' attitudes towards the subject. Two important environmental accidents in Brazil during that year damaged the company's image and demanded an energetic response. Over 341,000 gallons of oil were spilled in Rio de Janeiro and approximately 1.06 million gallons of oil were spilled in Paraná (Petrobras 20F, 2000). In this same year, Petrobras created the Environmental Management and Operational Safety Excellence Program (PEGASO), which included large-scale investments to improve the company's operational safety and avoid future disasters. From April 2000 to December 2010 Petrobras invested approximately US\$ 5.6 billion in the program (Petrobras 20F, 2010).

In 2001, another major accident impacted the company's reputation and required urgent action. After three explosions and the death of eleven employees, the P-36 platform located 75 miles off the Brazilian coast sank, spilling over 396,300 gallons of oil into the ocean. The PEGASO program was then reinforced, and the budget for Health, Safety and the Environment (HSE) was further increased (Petrobras, 2001). Furthermore, in 2003, Petrobras joined the United Nations' Global Compact. The Global Compact is a framework for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, the environment and anti-corruption (UNGC, 2008). In 2004, Petrobras incorporated the concepts of social and environmental responsibility into its mission and vision statements, covering all countries in which the Company operates. During the same year, the Emissions and Climate Change Subcommittee was created to discuss measures to reduce emissions from operational activities (Petrobras, 2004).

Brazil's self-sufficiency in oil production was achieved in 2006, when Petrobras was able to produce as much oil as was consumed in the country. In the same year, the company celebrated its inclusion in the Dow Jones Sustainability Index (DJSI), which tracks the financial performance of leading sustainability-driven companies worldwide.

In 2007, major oil discoveries in Brazil boosted the company's market value by 125.2% during the year to US\$243 billion. At the same time, Petrobras continued demonstrating its commitment to CSR by joining the World Business Council for Sustainable Development (WBCSD). The WBCSD, which includes approximately 200 companies, provides the opportunity for organizations to explore sustainable development, and to share knowledge, experience and best practices. In 2008, Petrobras was considered the most social and environmental responsible company in Brazil for the third consecutive year (Marketing Analysis, 2008). Moreover, the company was placed among the top twenty most respected companies in the world by the Reputation Institute (2008), heading the rankings in Brazil and in the oil industry. In 2010 Petrobras included Strategic Climate Change projects in its Strategic Plan (Petrobras 2010). Petrobras also aims at operating globally in the biofuels sector, with a relevant participation in the biodiesel and ethanol businesses. Its business plan for the 2010-2014 period is probably the most extensive in the world and foresees investments of about US\$224 billion (*ibid*).

Primary Data

This section highlights findings from interviews conducted with nine senior employees at Petrobras.

Petrobras' climate change positioning

All the respondents stated that Petrobras is a socially responsible organization. One respondent highlighted Petrobras' commitment to local communities, while another pointed to the good relationship it has with its employees as a relevant part of Petrobras' CSR.

In line with the findings from the secondary research, respondents also pointed to the main environmental accidents in 2000 and 2001 as decisive factors behind Petrobras' increasing attention to the environment.

Respondents usually recognized climate change as a topic which has been included in Petrobras' agenda over the last five years. Two respondents argued that the strategic plan revision in 2004 represented a milestone in relation to the topic.

The internationalization process of the company was identified as an important driver of Petrobras' attention to climate change. One respondent argued that: "*Petrobras international visibility has significantly increased in recent years. As oil companies are at the centre of the climate change debate, it is expected of us to provide a clear positioning in relation to the topic.*"

Respondents also highlighted Petrobras' active participation in different CSR forums, such as the Global Compact and the WBCSD.

When discussing climate change, respondents more connected to the area highlighted that Petrobras does not have any legal obligations to reduce GHG emissions. According to some of them, this fact represents a competitive advantage for Petrobras in relation to other major oil companies, especially those based in Europe which are required to reduce GHG emissions. However, from an international perspective, this may have led Petrobras to start addressing the problem at a later stage compared to companies such as BP and Shell, argued one of the respondents.

In Brazil, Petrobras has taken a leading positioning in the climate change debate, according to most respondents. One respondent further stated that:

"...we recognize climate change as a major threat to society and agree with most scientists who identify the combustion of fossil fuels as a major driver of global warming. Therefore, we have been working to improve our products, processes and to develop renewable fuels."

The fact that Petrobras has increased its investments in the development of renewable fuels was also mentioned by the majority of respondents. One respondent classified Petrobras as an important world player in the biofuels market and highlighted its investments in exporting sugar-cane ethanol, which is considered to be one of the best renewable fuels available in the world, according to the respondent.

1.1.1 Main stakeholders and their influence on Petrobras' environmental strategies

Discussion about stakeholders and their influence on Petrobras' environmental strategies, with special attention to climate change, occupied the best part of the interviews. In line with theory (Berry and Rondinelli, 1998), respondents widely regarded the influence of stakeholders as an important factor behind Petrobras' environmental responsiveness. One of the respondents stated that: "*Most of the actions taken by Petrobras to address the climate change issue are a result of stakeholder pressure.*"



Findings provided by the interviews in relation to stakeholders were divided into the four stakeholder groups identified by Henriques and Sadorsky (1999).

Regulatory Stakeholders

In this group, Brazil's government and regulatory environmental institutions were the most cited stakeholders. Influence of competitors was mentioned by one respondent when discussing the development of new products. Another respondent argued that Brazil's government has not yet established strict regulations with regard to the subject of climate change. He pointed out the differences between Brazil and other countries in relation to GHG emissions: *"Brazil has specific characteristics in relation to climate change. Approximately 75% of GHG emissions in the country are a result of rainforest burning, as opposed to most countries where combustion of fossil fuel is the main problem."*

Therefore, he argued that most attention given by Brazil's government to climate change is related to rainforest burning. One respondent argued that Brazil's government has great influence on the definition of Petrobras' management team, which is responsible for approving environmental strategies.

Respondents also highlighted Petrobras' investments to improve product quality as the company wants to export gasoline and diesel to countries in Europe and to the US, where regulations are tighter.

Organizational Stakeholders

Investors were widely cited during the interviews. Seven respondents commented on their influence on Petrobras' environmental strategies. Most respondents identified investors as having a major influence. Conversely, some of them recognized their importance, but argued that their influence is geared more to the way the company reports its environmental related activities than to its strategies.

A few respondents highlighted the existing conflict of interest in relation to Brazil's government. One respondent stated that: *"There is a conflict in relation to Brazil's governmental influence on Petrobras' environmental strategies. At the same time they are our controlling shareholders and also regulate environmental policies in the country."*

The importance of consumers was also mentioned by respondents. One person pointed out that: *"Consumers in Brazil are increasingly paying attention to the environmental impacts of our products. However, they are still not willing to pay a premium for a 'greener' product."*

Respondents stated that the company is considering assessing the social and environmental impacts of new projects in the early stages of their evaluation process. Currently, the focus is primarily given to their economic viability.

The influence of internal scientists on Petrobras' climate change strategies was also mentioned. One respondent further argued that the company is also leading the scientific discussions within Brazil's academic community.

One respondent highlighted that Petrobras is considering the CSR performance of suppliers. Nevertheless, she argued that suppliers do not influence the company's own CSR strategies.

Community Stakeholders

The importance of the third sector was acknowledged by five respondents. One of the respondents clarified that the third sector represents non-profit and voluntary organizations. The same person classified the third sector as the most influential stakeholder in relation to Petrobras' CSR strategies. She argued that: *"The third sector represents a major stakeholder. Not only do they exercise direct pressure on the company, but they also use other relevant stakeholders such as the media, local communities and regulatory institutions to disseminate their environmental related ideas."*

Another respondent agreed with this view and highlighted the importance of non-governmental organizations (NGOs):

"NGOs play a very relevant role in the environmental debate in Brazil. They have the attention and respect of the media and the general public. Our strategy is to maintain an open dialogue with them."

Petrobras has developed a sponsorship program to financially support environmental projects run by the third sector.

In relation to community groups, one respondent highlighted that in Brazil most communities are satisfied with the presence of Petrobras in their region. According to him: *"Petrobras is generally perceived as important for the development of the communities where we operate, despite the existence of environmentally related concerns among a small minority within some community groups"*.

Media

Media was the stakeholder group that was less cited during the interviews. Nevertheless, as previously mentioned, it was argued that the third sector utilizes the media to disseminate their beliefs.

One respondent indicated that the company has a very good relationship with the major mass media channels, perhaps because Petrobras is a major advertiser in Brazil. However, one respondent argued that sometimes the media broadcasts negative news about Petrobras for political reasons, usually aimed at damaging the government.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Petrobras' climate change positioning

The research conducted demonstrated that CSR is indeed a relevant subject to Petrobras. The company is regarded as socially and environmentally responsible by the senior professionals interviewed and by studies carried out by independent institutions. Different events have motivated the company towards a more active environmental responsiveness. Among these, the following appear to be most important:

- End of the oil production and exploration monopoly in 1997, which brought important structural changes to the company;
- Internationalization of Petrobras;
- Major environmental accidents in 2000 and 2001.

With regard to the company's climate change positioning (first research objective), one needs to consider two dimensions: domestic and global. From a domestic stand point, it can be inferred that Petrobras has a cooperative and assertive positioning according to the framework adopted by Levy and Kolk (2002), placing the company in the proactive quadrant. Cooperative because the company has been investing in the development and production of renewable fuels and has voluntarily set targets to prevent emissions of GHG, while assertive due to Petrobras' pioneering public position and leadership in relation to climate change in Brazil. However, from a global perspective, the fact that the company started to address the problem at a later stage compared to BP and Shell should be taken into account. Furthermore, despite supporting the Kyoto protocol, Petrobras is against mandatory GHG emission reduction targets for developing countries, where its



operations are mainly concentrated. Nevertheless, the company is an important global player in the production of biofuels, recognizes the threat of climate change and has been working to reduce its emissions. Therefore, it can be assumed that Petrobras has a cooperative positioning but is less assertive than BP and Shell. According to the framework adopted by Levy and Kolk (2002), the company would be classified in the compliant quadrant, but moving towards the proactive positioning. A revised version of the conceptual framework proposed in figure III is presented in figure IV and depicts Petrobras' positioning according to the research findings and the theory discussed.

Identification and assessment of stakeholders' influence on Petrobras' environmental strategies

In line with previous studies (Berry and Rondinelli, 1998) it was possible to identify the relevant influence of stakeholders on the definition of Petrobras' environmental strategies. It was also feasible to infer the importance of the topic to the company's reputation among different stakeholders. Addressing the second research objective resulted in the identification of the following stakeholders as the most influential in relation to the company's climate change strategies: regulatory institutions, Brazil's government, investors, internal scientist and NGOs. Consumers, competitors, community groups, suppliers and the media were also acknowledged, but considered of lesser importance. The third research objective refers to the levels of influence of these stakeholders on the company's strategies. The influence of regulatory institutions in Brazil is marked by the unique characteristics of the country in relation to climate change. Rainforest burning is the major cause of GHG emissions in the country and therefore receives more attention from regulators. The fact that Brazil is not subject to restrictions connected to the Kyoto protocol reduces the influence of international regulators. Nevertheless, domestic regulators were found to be important and to be exerting pressure on Petrobras to develop less polluting products. A relevant finding of the research was the existing conflict of interest between Brazil's government influence as a controlling shareholder and its role as regulator of environmental policies in the country. However, despite such conflict, the importance of Brazil's government has to be acknowledged as it has important influence in the definition of Petrobras' management team which is ultimately responsible for the company's decisions.

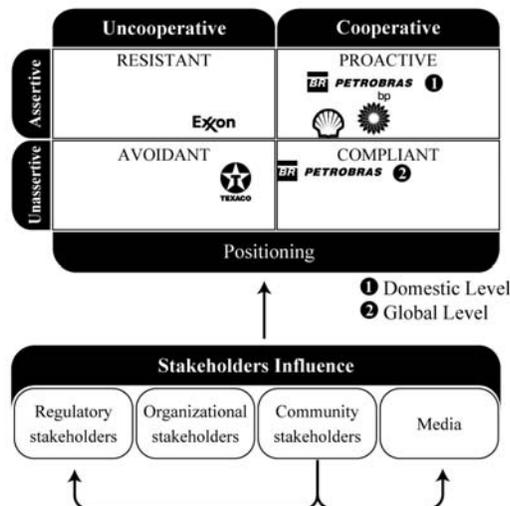
Investors were considered to have a significant influence on the company's climate change strategies. Nevertheless, respondents disagreed on their level of influence as some regarded them as one of the most relevant stakeholders and others, especially the ones with more contact with investors, found them to have more relevance in the way the company reports its environmental strategies. Among the company's employees, scientists were found to be important in the definition of Petrobras' climate change strategies. One of the most relevant findings of this research was the manner in which the third sector exerts its influence. According to the primary research, this stakeholder group not only exercises direct pressure on the company but also uses other stakeholders to disseminate its ideas. Thus, the conceptual framework proposed in figure III had to be revised to consider not only its direct influence on the company's environmental strategies but also its influence on other stakeholder groups such as the media and regulatory institutions, which then impact Petrobras' environmental responsiveness. The fact that Petrobras has established a sponsorship program for this group's environmental projects confirms the importance of the third sector and Petrobras' attention to it.

Other stakeholders were also found to be important but less influential in relation to Petrobras' environmental strategies. Increased attention by consumers to the subject was noted but the fact that they are still not willing to pay more for a "greener" product was mentioned by respondents. The lack of significant competition in Brazil, Petrobras' main market, also leads to the conclusion that the influence of competitors is negligible. In relation to suppliers, it seems that the company has more influence on their environmental activities than the other way around. In addition, the media was found to be relevant, mostly as a channel used by NGOs to broadcast their ideas and during catastrophes, when it becomes very important and influential.

Revised Conceptual Framework

The conceptual framework developed from literature has been revised according to the findings and conclusions of this research and is demonstrated below in Figure IV.

Figure IV: Revised Conceptual Framework



Adapted from Levy and Kolk (2002) and Henriques and Sadosky (1999)

Recommendations

The focus on oil companies' strategies in relation to climate change may represent a good opportunity for Petrobras to leverage its business. The company is still not subject to GHG emission restrictions and has developed a leading position in the biofuel market. Therefore, Petrobras should take advantage of this scenario to enhance its reputation among different stakeholders in Brazil and abroad. Through effective marketing initiatives, the company should pursue the construction of a "greener" image in relation to other players in the industry. Domestically, Petrobras should further communicate its investments in environmental programs and its leading position in relation



to climate change. Moreover, the company should internationally promote its biofuel program, especially Brazil's sugarcane ethanol, which is considered one of the best renewable fuels in the world.

The analysis of stakeholders' influence on the company's environmental strategies has shown that different stakeholders demand distinct actions from Petrobras within this area. This might seem obvious, but our research found gaps in their understanding amongst senior professionals interviewed in relation to the demands and importance of stakeholders regarding Petrobras' environmental responsiveness. Thus, it would be wise to internally discuss not only the company's environmental strategies but also the reasons behind them, notably the demands and importance of different stakeholders. Additionally, Petrobras should conduct further stakeholder analysis to better understand how different groups influence the company's strategies and how they influence each other to achieve their objectives.

Suggestions for Further Research

The use of an inductive approach to guide this dissertation implies the opportunity of further deductive research in relation to the subject. The conceptual framework provided by this study may be tested to quantify findings from this research and allow the construction of a more robust model. Additionally, the association of stakeholder groups to influence companies' environmental strategies should be further evaluated, as this was one of the most relevant findings of this research. Furthermore, similar studies of other companies from developing countries may represent a rich contribution to academic literature as most studies to date have focused on companies from Europe and the US.

Limitations

In addition to certain shortcomings related to the methodology, the development of this research presented other important limitations. The complexity of the topic studied and the different background of the respondents implied a diversity of views in relation to the questions discussed. This enriched the study but may have negatively impacted the drawing of conclusions. Additionally, some respondents were willing to discuss the subject in depth; while others did not have enough time or interest to talk about the subject in any kind of detail. Therefore, most of the findings related to our primary research were derived from approximately five interviews. Furthermore, Petrobras presents very specific characteristics, such as being a giant publically traded company controlled by Brazil's government, which can make the reapplication of this study difficult. In addition, the fact that the researcher works for Petrobras and has personal views in relation to the topic studied may have represented a threat to the production of an unbiased analysis of the data collected. Nevertheless, the author made every effort to minimize these limitations and assure a high quality study.

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