

# Green Marketing Practices of Petroleum Companies in Arab Countries

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**Abstract**— Following the international trend of the necessity to preserve environment, the oil sector in arab countries sets off to posit the environmental factors on the summit of its priorities. It also encourages and supports the utilization of energy that aims at maintaining the preservation of environment, facing pollution, using clean types of fuel, and applying a technology that reduces the pernicious effects that may stem from the oil industry processes which threaten the productive process and the employees before even threatening the surrounding environment. Thus, the Green Marketing is one the most important responses to the environmental unrest. This latter is getting much a global impress than the local impress, for the problems are facing the entire globe. Eventually, research into the topic of Green Marketing is considered a new vision, which focuses on the effectual utilization of resources, and aims to give away the additional value to the agents- and parties-proper, taking into account the long-term environmental and social needs.

**Index Terms**—Green marketing, environment protection, petroleum companies, Arab countries.

## I. INTRODUCTION

Green marketing is considered as one of the most important responses to modern environmental challenges. In fact, green marketing goes beyond the local borders of countries and beyond any specific region. It is a global challenge that faces companies across the world. Green marketing is based on the principle of always providing customers and business partners with the highest added value, but with respect to environmental and social needs on the long term. In this paper we will answer the following question:

### What is the reality of green marketing adoption in the Arab Petroleum Companies?

Objectives of the study:

- 1) To know what is Green Marketing;
- 2) Monitor the reality of the Green marketing practices in petroleum companies;
- 3) To recommend required to take concerning green marketing for Governments, businesses and consumers.

## II. LITERATURE REVIEW

### A. Evolution of Green Marketing

The green marketing has evolved over a period of time. According to Peattie, the evolution of green marketing has three phases [1]. First phase was termed as "Ecological" green marketing, and during this period all marketing

activities were concerned to help environment problems and provide remedies for environmental problems. Second phase was "Environmental" green marketing and the focus shifted on clean technology that involved designing of innovative new products, which take care of pollution and waste issues. Third phase was "Sustainable" green marketing. As resources are limited and human wants are unlimited, it is important for the marketers to utilize the resources efficiently without waste as well as to achieve the organization's objective. So green marketing is inevitable. Companies that develop new and improved products and services with environment inputs in mind give themselves access to new markets, increase their profit sustainability, and enjoy a competitive advantage over the companies which are not concerned for the environment. A summary of the four traditional business orientations compared to the green marketing orientation is provided in the following tables [2].

TABLE I: SUMMARY OF THE GREEN MARKETING ORIENTATION

Orientation Symptom	Green Orientation
Typical Strategy	Environmental friendly products and innovative business practices that engender an enhanced environment.
Key Systems	Monitoring perceived organizational environmental sensitivity held by major market segments, environmental scanning, innovative product development, management of technology.
Traditional Strengths	Marketing, product innovation, logistics innovation.
Normal Focus	Customer and societal satisfaction with the total product, including service, and organizational business practices.
Typical Response to Competitive Pressure	Educate customers about companies green programs, including; waste recycling and environmental friendly disposal, packaging in recyclable containers, packaging in containers made of recycled materials, organizational commitment to buy products produced from recycled materials, employee supplier, community and customer eco-education programs and innovation.
Overall Mental Set	What we need to do in this company is to create high value, environmental friendly products; sold in high volumes through traditional distributors to a wide array of consumers. Our objectives include: to educate non-green consumers to have product from insistence for environmental friendly products, to produce high value environmental friendly products that will create brand preference for our brands by green consumers and to achieve sufficient distribution to minimize stock outs and brand switching.

Source: Miles and Munilla, 1995.

### A. The Definition of Green Marketing

The terminology used in this area has varied, it includes: Green Marketing, Environmental Marketing and Ecological Marketing. While green marketing came into prominence in the late 1980s and early 1990s, it was first discussed much

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earlier. This second point is important, for human consumption by its very nature is destructive to the natural environment. So green marketing should look at minimizing environmental harm, not necessarily eliminating it. Man has limited resources on the earth, with which she/he must attempt to provide for the worlds' unlimited wants. There is extensive debate as to whether the earth is a resource at man's disposal. In market societies where there is "freedom of choice", it has generally been accepted that individuals and organizations have the right to attempt to have their wants satisfied. As firms face limited natural resources, they must develop new or alternative ways of satisfying these unlimited wants. Ultimately green marketing looks at how marketing activities utilize these limited resources, while satisfying consumers wants, both of individuals and industry, as well as achieving the selling organization's objectives.

The American Marketing Association (AMA) proposed three different definitions of green marketing (AMA online dictionary):

1. Retailing definition: the marketing of products that are presumed to be environmentally safe.
2. Social marketing definition: the development and marketing of products designed to minimize negative effects on the physical environment or to improve its quality.
3. Environments definition: the efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns.

"A holistic and responsible strategic management process that identifies, anticipates, satisfies and fulfils stakeholder needs, for a reasonable reward, that does not adversely affect human or natural environmental well-being" [3].

As per Brundtland Commission (1987), "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [4].

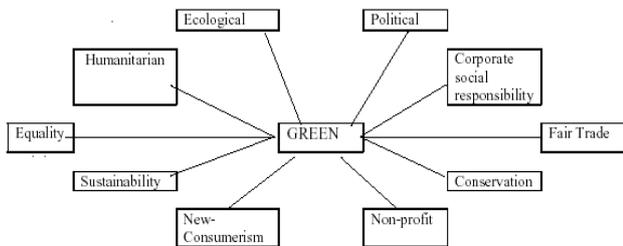


Fig. 1. The many meanings of green.

Another definition is "Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment" [5]. Therefore it ensures that the interests of the organization and all its consumers are protected, as voluntary exchange will not take place unless both the buyer and seller mutually benefit, green marketing is the process of planning, implementing, and controlling the development, pricing, promotion and the distribution of products in a manner that satisfies customers' needs, company's goals and is compatible with the environment [6]. There are two slogans like "less environmentally harmful" and "Environmentally friendly". Thus green marketing should look at minimizing environmental harm, not necessarily

eliminating it [7].

### B. Benefits of Green Marketing

Many companies have adopted green marketing strategies to take advantage of the opportunities it offers. Besides minimizing pollution and company's environmental impact, green marketing offers the following benefits to the companies adopting it:

1. Better Products: green marketing offers higher quality products, better performance, convenience and safety [8]. For example; water-saving showerheads, nontoxic garden fertilizers, energy saving light bulbs, mercury free batteries, water-saving washing machines and dishwashers, phosphate-free laundry powder, biodegradable soups and detergents, organic produce, healthier food, and nontoxic cosmetics.

2. Competitive Advantage: positioning a brand as a "green brand" leads to a more favorable perception of the brand as it entails an active communication and differentiation of the product from its competitors through its environmentally sound attributes [9], especially when companies offer innovative products with new attributes and without having to give up quality.

3. Increased Market Share: unique product innovation increases demand in current markets, attracts customers from competitors, opens up new markets, and offers access to international markets [8].

4. More Profits: better products, hence the competitive advantage and the increased market share, all contribute to increased profits. On top of that, recycling waste, using recycled materials, using fewer raw materials and using energy efficient technologies, improve efficiency and reduce operating costs while boosting profits. Moreover being environmentally responsible enhances employee morale and productivity [8].

5. Improved Company's Image: company's image plays a vital role in consumers' considerations. Company's commitment to environmental responsibility, and its efforts in developing greener products and operations, and its compliance with environmental laws, will automatically improve relations with public authorities, green activist groups and consumers, hence acquiring considerable public goodwill. It will also earn publicity with the local, regional or even international media [10].

Although the literature suggests that adopting green marketing strategies opens up new opportunities and benefits to the company, still it adds another layer of complexity to management challenge. Green marketing is more multifaceted than conventional marketing; it challenges the companies to develop products that balance consumers' needs for quality, performance, affordable prices and convenience with minimal impact on the environment, and it should project an image of high quality, including environmental sensitivity, relating to both a product's attributes and its manufacturer's track record for environmental achievement [8].

Hence, green marketing is a responsible, strategic and tactical process that requires a change in corporate thinking, takes time, commitment, and resources before meaningful results are achieved [11].

### III. METHODOLOGY AND INSTRUMENTS OF THE STUDY

The study has focused on petroleum companies in the Arab world. Because these companies were not located in one geographical area, we have chosen to gather data through a survey.

Here is good to mention other reasons for choosing survey, like: Survey provides a means of measuring a population's characteristics, self-reported and observed behaviour, awareness of programs, attitudes or opinions, and needs ...

Moreover, it is better to mention that there are numerous survey research methods, including mail, telephone, face-to-face, handout and electronic, and you choose ...

There are various types of surveys you can choose from. Basically, the types of surveys are broadly categorized into two: according to instrumentation and according to the span of time involved. The types of surveys according to instrumentation include the questionnaire and the interview (in survey research, the instruments that are utilized can be either a questionnaire or an interview (either structured or unstructured)).

That is why in our country we use to mention: research method is survey and research instrument is questionnaire. That because there is much confusion around the terms survey and questionnaire. They are often used interchangeably probably because people think they are synonymous.

A survey is the process of collecting and analyzing the data, where the questionnaire is the set of questions used to gather the information.

So, while many people think of a questionnaire as the "survey", the questionnaire is just one part of the survey process.

#### A. Structure of the Survey and Study Variables

**Part one:** General information about the company. The first part aims to obtain the following information:

a- Nature of the activity: it mainly consists of one of the multiple activities of the oil industry presented by the OAPC [12]. These activities fall into one of these groups: prospection and exploration, production and extraction, refinement, transportation and marketing;

b- Size of the company: The size of these companies will be determined according to the number of employees. A micro sized company will be employing less than 49 persons, a small sized company will be employing between 50 and 249 persons, a medium sized company will be employing between 250 and 499 persons, while a large sized company will be employing more than 500 persons;

c- Number of years of experience;

d- Capital of the company;

e- Degree of competition; and

f- Awareness about the concept of green marketing.

**Part two:** Application of green marketing.

In order to find out if the studied companies do take green marketing into consideration, we have introduced thirty one questions. The answers to these questions will follow a Likert-type scale. This scale goes from 1 to 5. (1) is synonymous to total disagreement while (5) is synonymous to total agreement with the statement. (3) Indicates neutrality. Questions in this part of the survey mainly deal with environmental issues that are related to: prospection

and drilling, choice of raw materials, production, wastes management, commercial brand, research and development, packaging, storage and outsourcing, pricing, transportation and distribution, commercial campaigns, media and finally annual reports.

#### B. Data Description

The population of the study is composed of all petroleum companies that are active in Algeria, Saudi Arabia, Qatar, Kuwait, Oman, Egypt, Libya and United Arab Emirates. As for the sample, the study has tried to reach the highest number of companies in the population. summarizes the number of distributed questionnaires and the number of answered questionnaires(see Table II).

TABLE II: SURVEY STATISTICS BY COUNTRY

Country	Number of distributed questionnaires	Number of recovered questionnaires	Percentage
Algeria	100	51	44.34
Saudi Arabia	30	20	17.39
United Arab Emirates	18	14	12.17
Qatar	10	08	6.95
Oman	20	08	6.95
Egypt	06	06	5.21
Kuwait	06	04	3.47
Libya	10	04	3.47
Total	200	115	100

Source : Based on the results of sorting and classification of the survey

The present study has focused on petroleum companies in Arab countries regardless the nationality of these companies, whether they were domestic or foreign. This choice can be justified by many reasons but most importantly because:

a. Arab countries do host the most important and the higher number of petroleum companies in the world. In addition, some of these Arab countries do play a key role in the oil market like Saudi Arabia who holds the highest oil reserves in the world [13];

b. The Arab countries are most likely to suffer from environmental issues that are related to the oil industry;

c. The renowned environmental responsibility of petroleum companies who are active in the Arab world;

d. The high level of environmental awareness in the Arab world and the sample was composed of 100 petroleum companies from all previously cited Arab countries. The distributed survey was specifically meant to: (1) health, safety and environment executives (HSE); and (2) marketing or sales managers. Each company has received two surveys, one for each service.

#### C. Sample Description

In the present study, two hundred questionnaires were distributed on 100 petroleum companies. Each company has received two questionnaires, one for HSE executives and one for marketing or sales managers. Only 115 out of 200 questionnaires were returned (57,5%). Most of the companies have only answered to one questionnaire only. After examination, seven of the answered questionnaires revealed to be invalid, which leaves us with only 108 valid questionnaires. In the following, we will present the descriptive statistics of the collected data:

Sector of activity: As mentioned earlier, the oil industry comprises several sectors. Table III presents the distribution of the studied companies according to their sector of activity. According to this table, 46,7% of the companies are specialized in prospection and exploration, 39,3% in production(extraction), 8,4% in transportation, 5,6% in marketing and 0% in refinement. The latter could be due to the fact that refinement is not a separate activity by itself, as it can be included with one of the previous activities.

TABLE III: DISTRIBUTION OF SURVEYED COMPANIES BY FIELD OF ACTIVITY

Nature of the activity	Frequency	Percentage
Prospection and exploration	50	46.7
Production (extraction)	42	39.3
Refinement	00	00
Transportation	09	8.4
Marketing	06	5.6
Total	107	100

Source : Based on SPSS 22 survey analysis

b- Size: the distribution of companies' sizes is summarized in Table IV, The latter shows that 36,4% of the studied companies are mid-sized (comprising between 250 and 499 employee), 29,9% are large sized companies (comprising more than 500 employees), 25,2% are small-sized companies and finally 8,4% are micro-sized companies. It is clear that micro sized companies constitute a small proportion of the studied sample. This is mainly due to the fact that the oil industry requires large human resources.

TABLE IV: DISTRIBUTION OF SURVEYED COMPANIES BY SIZE

Size of the company (number of employees)	Frequency	Percentage
≤ 49 employees	09	8.4
Between 50 and 249 employees	27	25.2
Between 250 and 499 employees	39	36.4
≥ 500 employees	32	29.9
Total	107	100

Source: Based on SPSS 22 survey analysis

a- Years of experience: according to Table V, 46,7% of the studied companies have an experience of more than 26 years, 22,4% of the studied companies have between 16 and 25 years of experience, 19,6% of the studied companies have between 6 and 16 years of experience, and finally 11,2% of the studied companies have an experience of less than five years.

TABLE V: DISTRIBUTION OF SURVEYED COMPANIES BY YEARS OF EXPERIENCE

Years of experience	Frequency	Percentage
≤ 5	12	11.2
Between 6 and 15 years	21	19.6
Between 16 and 25	24	22.4
≥ 26	50	46.7
Total	107	100

Source : Based on SPSS 22 survey analysis

d- Level of competition: table 6 shows that only 2,8% of the studied companies had no direct competitors, 33,6% of the studied companies had a low level of competition, 33%

of the studied companies had a moderate level of competition, 32,7% of studied companies stated that they had a high level of competition. We can conclude that the oil industry witnesses a high level of competition whether on the national or on the international level.

TABLE VI: DISTRIBUTION OF SURVEYED COMPANIES ACCORDING TO THE LEVEL OF COMPETITION

Level of competition	Frequency	Percentage
No direct competitors	03	2.8
Low number of competitors	36	33.6
Medium number of competitors	33	30.8
High number of competitors	35	32.7
Total	107	100

Source : Based on SPSS 22 survey analysis

Awareness about the concept of green marketing: the studied companies have been categorized according to their level of awareness about the concept of green marketing. It is important to mention that a considerable number of companies where practicing it without knowing that these efforts fall under the concept of green marketing. Table 7 shows that 50,5% of the studied companies are aware of the concept of green marketing while the remaining 49,5% are not.

TABLE VII: DISTRIBUTION OF COMPANIES ACCORDING TO THEIR AWARENESS ABOUT GREEN MARKETING

Awareness about the concept of green marketing	Frequency	Percentage
Yes	54	50.5
No	53	49.5
Total	107	100

Source: Based on SPSS 22 survey analysis

We can conclude that the companies under study practice a highly polluted activity, with a considerable impact on earth, air and water. In fact, petroleum companies do not have a positive public image. Their impact on the environment is mainly emphasized by large investments and large exploitation activities. However, the studied companies accord an enormous importance to environmental issues. In addition to this, the studied companies are trying to distinguish themselves from competition through the integration of environmental considerations in various phases of oil exploitation.

#### D. Consistency and Reliability of the Data

The survey has been examined, improved and validated by university professors and experts in the field of environmental issues from petroleum companies in the Arab countries. In addition, we have applied the alpha Cronbach coefficient in order to measure the internal consistency of the data. This coefficient checks the probability of obtaining invalid data when reproducing the same study on the same sample under the same conditions. It takes a value between 1 and 0. The closer it is to 1, the higher the consistency. The closer it is to 0, the lower the consistency. Data is said to be consistent when the coefficient reaches a value of 0.6 or higher. The coefficient of reliability, which is the square root of alpha Cronbach coefficient has also been calculated. These tests have been conducted under SPSS 22. Results are summarized in the following table.

TABLE VIII: CONSISTENCY AND RELIABILITY COEFFICIENTS OF THE SURVEY

Study variable	Number of statements	Alpha Cronbach	Coefficient of reliability
Application of green marketing	30	0.958	0.917

Source: Based on SPSS 22 survey analysis

Table VIII shows that coefficient is above 0.6. This is an indication that the survey is internally consistent and reliable.

E. Methods (for Analyzing Data)

The present study relies on both Excel 2010 and SPSS 22. In order to analyze the existing relationship between the variables, we have used the following methods:

- \* Alpha correlation coefficient in order to verify the reliability and the internal consistency of the different variables.
- \* Factor analysis in order to identify the internal structure of the variable green marketing.
- \* Chi-Square test in order to assess the statistical significance of differences between petroleum companies' characteristics and their level of environmental responsibility.

IV. VI. RESULTS

A. Statistical Analysis of the Variables:

At first, we have applied the Exploratory Factor Analysis for the variable green marketing of the study. In addition, we have conducted the following tests:

1) *Goodness of fit to normal distribution:* in order to check the goodness of fit of data to the normal distribution, we have applied the Kolmogorov-Smirnov test. Results show that the significance level for each variable is higher than 0.05. Thus, data for each variable follows a normal

distribution. These findings are also confirmed by the visual inspection of each variable's histogram.

2) *Extreme values test:* in order to check if data is free of extreme values, we have conducted the Mahalanobis test. Results show that the values of the MAH-1 column are lower than the tabular value of Chi-square at a degree of freedom equal to 49 (Number of groups - 1) and at a significance level equal to 0,001. We can conclude that the data set does not include extreme values.

3) *Test of non-correlation between independent variables:* In order to check for un-correlation between the independent variables, we have calculated the matrix determinant for each variable. Since the latter is higher than 0.0001, we can conclude that there is no correlation between the independent variables.

4) *Sample adequacy test:* the size of the sample in the present study is higher than 100. However, we have applied the KMO test in order to verify the sufficiency of the sample. Results show that the sample is sufficient. In addition, we have applied the Bertlett test of Sphericity in order to check the sample adequacy. Results show that the level of significance was lower than 0.05.

5) *Results of factor analysis of the incorporation Green Marketing:* At first, the survey included 30 statements concerning the incorporation of green marketing. However, after factor analysis, five statements have been removed due to the fact that they are uncorrelated. Table IX illustrates factor analysis concerning the application of green marketing as a dependent variable. The matrix is composed of four dimensions. The first dimension explains production and pricing activities that are friendly to environment. The second dimension explains storage activities that are friendly to environment, in addition to the use of green labeling card. The third dimension represents green distribution. The fourth dimension explains green promotion.

TABLE IX: MATRIX OF ROTATED FACTORS CONCERNING THE APPLICATION OF GREEN MARKETING

Statement	Factor one	Factor two	Factor three	Factor four	Covariance	Stability of the measuring instrument
Our company works on choosing the less contaminating raw materials	0,789				0,794	0,891
Our company takes into account the environmental impact when developing new products . through trying to diminish the environmental impact as well as possible.	0,781				0,799	0,893
Our company adjusts the available products to make them less harmful to the environment.	0,630				0,753	0,867
Our company seeks to eliminate(eradicate) the pollution resulting from industrialization.	0,451				0,837	0,914
Our company sets specific procedures to get rid of the dangerous materials by the end of product's cycle.	0,222				0,748	0,864

Our company takes on the international developments in preserving the environment.	0,668				0,726	0,852
Our company has a specific (specialistic) organization for research and development in the field of environment preservation.	0,444				0,557	0,746
Our company works on decreasing raw materials and the usable energy in the processes of filling and packaging.	0,633				0,722	0,849
Our company uses the recyclable materials of filling and packaging or those which can be used again or those naturally decomposed.	0,739				0,748	0,864
Our company creates data related to environment preservation on its products.	0,590				0,722	0,849
Our company uses commercial names, posters, stamps, or pictures to confirm that its products are not harmful to environment.	0,762				0,653	0,808
Our company pays attention to the increase of product's prices which preserve environment.	0,726				0,819	0,904
Our company decides on its depending on the real value of its products.	0,686				0,629	0,793
That our company takes concern in about environmental issues leads to increase in the costs of transportation and distribution which, in turn, affects its product's prices.			0,751		0,828	0,909
That our company looks after (take concern in) the environmental issues leads to an increase in storing and handling costs, which in turn, affects its product's prices.			0,859		0,785	0,886
When choosing location for stores and building, our company is sensitive to environmental damage.		,7030			0,798	0,893
Our company employs transporting and handling means less in energy.			0,690		0,649	0,805
Packages which our company loads the products in can be reused.			0,715		0,679	0,824
Our company enjoys a slogan expressing environment preservation.		0,722			0,702	0,837
Our company comments on product's environmental characteristics during its advertising campaigns.		0,403			0,689	0,830
Our company seeks to realise credibility during its advertising campaigns.		,7000			0,863	0,928
Our company admits its harmful –to environment				0,806	0,671	0,819

mistakes to the media.						
Our company`s salesman are of awareness about the benefits that our products entail to environment.				0,272	0,644	0,802
Our company issues annual reports about its environmental contribution.				0,495	0,745	0,863
The increasing cost of green marketing doesn`t repeal our company`s pursue in green policies.				,6970	0,667	0,816
Percentage of explained variance	%53,2	%8,7	%6,5	%4,4		
Name for each dimension	Production and pricing activities that are friendly to environment	Green labeling card	Green distribution activities	Green promotion activities		

Source : Statistical appendix for Factor Analysis\* Total variance explained: 72,9% \* Alpha coefficient: 95,8% \* Factor stability: 82,03% \*Bartlett test: 0.749 \* Significance level:0,000 \* Eigen value 13.3

TABLE X: CHI-SQUARE ANALYSIS OF THE RELATION BETWEEN THE COMPANY`S CHARACTERISTICS AND THE APPLICATION OF GREEN MARKETING

Characteristics	Chi-Square	Degrees of freedom	Test significance
Sector of activity	290,429	87	0,000
Number of employees	265,242	87	0,000
Years of experience	280,187	87	0,000
Capital	249,307	87	0,000
Level of competition	302,229	87	0,000
Awareness about green marketing	94,999	29	0,000

Sig. level: 5% Source: Statistical appendix of Chi-square analysis

In this section, there are twenty five statements. Each statement can be answered on a Likert-type scale from 1 to 5. And so, the overall score will vary between 25 and 125. A score of 65 or higher indicated that the company incorporates green marketing principles in its strategy. The choice of the value 65 comes as an attempt to obtain an objective measure of green marketing behavior inside the surveyed companies. This will mainly contribute in reducing the social desirability bias, where the survey respondents try to answer in a manner that is viewed favorably by others. Based on this criterion, it is concluded that all the surveyed companies do incorporate green marketing in their strategy. This result may be due to the fact that all companies in the selected sample have already obtained the ISO 14000 certification, which usually means that these companies do in fact take into consideration environmental issues. In addition, such a conclusion may be also due to social desirability bias as mentioned earlier.

1)Results of the Relation Between the Company`s Characteristics and the Application of Green Marketing. This hypothesis has been tested using the Chi-square test. Results are summarized in tableX . It indicates that the calculated Chi-square value for the sector of activity, the number of employees, years of experience, capital, competition and awareness of green marketing concepts are respectively: (290,429), (265,242), (280,18), (249,307), (302,229) and (94, 999) at the same significance level of (0.000). The latter is lower than (0.05). Thus, the null hypothesis stipulating that there is a statistically significant relationship between the company`s characteristics and the

application of green marketing is accepted.

## V. CONCLUSIONS

The oil industry by its nature has always presented serious threats to the environment. The latter must be protected by all counterparts including governments, petroleum companies and consumers. The available natural resources are not the property of the current generation only, but the property of all the future generations. We will present in following a set of recommendations to governments, petroleum companies and consumers:

1- Governments are required to reach the optimal energetic balance in order to preserve the rights of the future generations whether concerning oil or concerning the environment to ensure their realization "Framework Conditions for Industrial Competitiveness"[14];

2- Governments are required to instore the necessary laws in order to push petroleum companies towards the respect of the environment at all phases of oil exploitation, in addition to the proper incineration of wastes. Governments should also work hand to hand with petroleum companies in order to implement adequate laws concerning the environment;

3- Governments should encourage law complying companies through various means such as granting financial aids, offering tax exemptions and creating specific funds that aim to protect the environment;

4- Petroleum companies are advised to create a research and development section that deals specifically with environmental challenges. These companies should also provide their marketing team with environmental data concerning their products. Efforts in this sense have proven to have immediate effects on the competitive advantages of these companies, For instance, Pacific Gas and Electric Company recently decided that energy conservation is a more profitable investment than nuclear power. Du Pont converted its in-house pollution-prevention program into a consulting operation [15];

5- Marketing executives are advised to communicate environmental facts while advertising their products. They are also advised to precisely define the most important

environmental concepts that are present on their products packages;

6- Consumers are advised to choose products that come from environment respecting companies. This will encourage the remaining companies to adopt the concept of green marketing;

7- Consumer protection associations should play a key role when it comes to sensitizing customers about environmental issues. They should also push companies to adopt a green strategy; and

8- Governments are required to learn from the experiences of developed countries especially when it comes to their strategies concerning the instauration of an advanced environmental culture.

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She has been working as a professor/ researcher at the University of Ouargla since 2009. For the moment, she has participated in nine international conferences and has also published four papers in the field of marketing. Dr. Korichi has been awarded best doctoral thesis project in 2011. She has also been a member of several research projects with a permanent affiliation to her local research lab named "Business performance in the era of globalization".