



“How consumers perceive the impact of  
Sustainable Strategies in Energy Companies -  
the case of British Petroleum”

Patrícia Charneca

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*To my grandparents,*

*For enabling me to pursue my dreams.*

*For the work. For the help. For the laughs.*

*For the love.*

*Para os meus avós,  
Por possibilitarem que persiga os meus sonhos.  
Pelo trabalho. Pela ajuda. Pelos sorrisos.  
Pelo amor.*

## **Abstract**

**Dissertation Title:** “How Consumers perceive the impact of Sustainable Strategies in Energy Companies- The case of British Petroleum”

**Author:** Patrícia Margarida Chinita Charneca

Over the years, the Energy Market has been criticized for its lack of environmental and social ethics. The way energy companies exploit oil discoveries, refine and distribute petrochemicals, produce and generate energy and other commodities, causes a big impact on the world’s well-being. At the same time, people are demanding more energy and sustainable processes, which leads to the question: how do energy companies manage to meet the increase in demand in a sustainable way? Findings reveal that implementing sustainable strategies in the core business of an energy company constitute a trust and loyal factor to consumers, as well as represent a motivation to prefer sustainable companies instead of its competitors. Education and Age were found not to have a positive correlation between the environmental awareness and the willingness to pay, since all generations have a similar awareness related to energy impact on the environment and sustainable consumption depends on the price difference between sustainable products and the regular ones, regardless of individual’s age. Nevertheless, from the British Petroleum’s clients perception, price is still more important than sustainable strategies when they have to choose which energy company to buy from. Moreover, the *Net-Zero* Carbon Emissions goal presented by the company in february of 2020, change for the better both BP’s clients and non-clients perception about the company. Therefore, the engagement in a sustainable path is not only necessary for environmental reasons but also for energy companies to be able to keep up with the consumer’s needs and expectations.

**Keywords:** Sustainability, Strategy, Corporate Social Responsibility, Energy, Energy Market, Consumers, Green Consumption, British Petroleum.

## Resumo

**Título:** “Percepção dos consumidores no impacto de Estratégias Sustentáveis em Empresas do setor Energético- Caso da British Petroleum”

**Autor:** Patrícia Margarida Chinita Charneca

Desde sempre que o mercado Energético é criticado pela sua falta de ética a nível ambiental e social. A forma como as empresas do Setor Energético exploram, refinam e distribuem petroquímicos, produzem e geram energia, causa um grande impacto a nível ambiental. Simultaneamente, os consumidores querem mais energia e produtos sustentáveis, o que origina a questão de como é que as empresas de energia conseguem satisfazer o aumento dessa procura de uma forma sustentável? Os resultados do presente estudo revelam que a implementação de estratégias sustentáveis no *core business* de uma empresa energética constitui um fator de confiança e lealdade para os consumidores, além de representar uma motivação para preferir empresas sustentáveis ao invés dos seus concorrentes. A Educação e a Idade não mostraram ter uma correlação positiva com a consciência ambiental e a disponibilidade a pagar, uma vez que todas as gerações têm uma percepção ambiental semelhante acerca do impacto da energia no ambiente. O consumo sustentável depende da diferença de preço entre os produtos sustentáveis e a sua versão tradicional, independentemente da idade. Além disso, de acordo com a percepção dos clientes da *British Petroleum*, o principal motivo pelo qual escolheram a BP como empresa fornecedora de energia continua a ser o preço e não as estratégias sustentáveis apresentadas. O objetivo *Net-Zero Carbon Emissions* até 2050, apresentado em fevereiro de 2020 demonstrou mudar para melhor a percepção da empresa, tanto da parte de clientes como de não clientes. Posto isto, a adoção de um percurso sustentável é necessária por urgências ambientais e para que as empresas energéticas consigam acompanhar as necessidades e expectativas dos consumidores.

**Palavras-chave:** Sustentabilidade, Estratégia, Responsabilidade Social Corporativa, Energia, Mercado Energético, Consumidores, Consumo “verde”, British Petroleum”

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## 1. Introduction

Energy supply is fundamental to maintain modern societies (Asif & Muneer, 2007) since people rely on fossil fuels such as coal, oil and natural gas to ensure their energy requirements (Joshi, Sheorey and Gandhi, 2019). However, about a century ago, there were several changes regarding the energy sector. Firstly, the generation points from which the power was produced and delivered were very small, localized and fragmented, due to the lack of technology levels. Therefore, it was only possible to distribute energy within the limited areas near the production sources (Valocchi, Juliano and Schurr, 2010). Meanwhile, both business model and technology were improved, and it was possible to create large power plants that were capable of covering extensive distances through high voltage (Zhou, Yang and Shao, 2016).

As the demand is expected to increase, energy usage will cause a negative impact on the environment. The continued energy resources exploitation will lead to many challenges in the society, for instance the reduction of fossil fuel reserves, global warming and fuel prices growth (Asif & Muneer, 2007). Therefore, the way energy companies generate, deliver and trade their products must transit to a more sustainable and environmentally harmless system since they are the biggest pollution producers in the world (Heede, 2014). Renewable energies are the key to reduce the negative impact of energy production and to mitigate climate change, which will impact the way energy is produced and distributed to consumers (Richter, 2012).

Besides that, the energy and gas market liberalization also led to an increase of competition in the sector (Facchinetti & Sulzer, 2016), which means that, in order to differentiate themselves from another energy companies and to gain competitive advantage, it is fundamental to focus on new approaches, such as technological advances, more competitive prices and more sustainable solutions (Oseni & Pollitt, 2017).

Nevertheless, consumers are more stringent and conscious about their ecological footprint, as well as the environmental and social impact of their purchases (Panda, Kumar, Jakhar, Luthra, Garza-Reyes, Kazancoglu and Nayak, 2020). A responsible consumption began to be practiced, which means that people are more aware than ever of the impacts of their consumption decisions on the environment, society, consumer health and life conditions in general (Veresiu, 2014). In addition, consumers' concerns regarding sustainability and the environment lead to an increased support of responsible business practices and sustainable companies, as well as search how companies address opportunities related to social and environmental issues (United Nations, 2009).

## 1.1. Research Problem and Key Research Questions

The aim of this thesis is to analyse how consumers perceive the impact of sustainable strategies in a company that produces Petroleum products and Natural Gas, such as British Petroleum (BP).

After the environmental disaster in 2010, *Deepwater Horizon oil spill*, BP has been trying to regain both shareholders and stakeholders' trust by developing sustainable strategies, enhancing safety of its activities, replacing fossil fuels to renewable ones and be involved in social responsibility actions. However, these actions require financial investments that depend on the customer preference in supporting the brand, which means that the relationship between the consumer and companies can create or deny competitive advantages previously established. The company has announced a new agenda, where sustainability has the main role, in february 2020, which makes this subject up to date.

In fact, by identifying which initiatives BP is currently developing, it is possible to understand if their target audience and consumers value the strategies related to social responsibility and sustainability, as well as understand their perception about these topics. Furthermore, it is important to understand if the reasons why consumers are loyal and believe in the company differs according to their generation, since young people are more likely to prefer brands with social responsible initiatives (*GlobeScan State of Sustainable Business*, 2018).

Many research projects have been made in order to study how companies should apply social responsibility in their core business, and why they find these strategies important to create both economic and societal value. In addition, energy industries were deeply studied when it comes to sustainability and its impact on the environment. The gap is related to the perception that consumers have when applying Corporate Social Responsibility and Sustainable Strategies in Energy Companies, and how these actions represent a key factor when deciding which brand they will prefer when they need energy commodities.

In order to answer this problem statement, the following research questions will be addressed:

**Research Question 1:** Do Consumers with different levels of Education have a higher level of awareness regarding sustainability?

**Research Question 2:** Are younger generations more willing to pay extra for sustainable products?

**Research Question 3:** Do consumers perceive BP's sustainable strategies as a motivation to prefer this company over its competitors?

This dissertation will allow a better understanding on which factors are decisive when people consume energy, if consumers value sustainable strategies and prefer to support brands with CSR in their agenda instead of its competitors and how different generations perceive energy companies' sustainable strategies. Besides that, the data collected regarding consumers' perception on energy companies will be supported with the British Petroleum case.

**List of abbreviations:**

CSR - Corporate Social Responsibility

H1, H2, H3, H4, H5, H6 - Hypothesis 1,2,3,4,5,6

RQ1, RQ2, RQ3 - Research Question 1, 2, 3

## **2. Literature Review**

In order to better understand this topic, the theoretical framework is divided into five groups of concepts: Strategy; Consumer Behavior; Sustainability and Corporate Social Responsibility. In the last topic, additional specifications about the market were developed such as Energy Sector, Energy Industry and Sustainability; Energy Companies and CSR, Energy Companies from Consumer Perspective.

### **2.1. Strategy concept**

In the business context, strategy or corporate strategy is the range of decisions that a company makes in order to set its objectives, goals and purposes, and the respective measures taken to achieve those aims (Andrews, 1997). Furthermore, companies have two distinct levels of strategy: Business/Competitive strategy and Corporate Strategy. The first one is the measurement of how a company will create competitive advantage in the business so it can compete in the market and establish its position among competitors. On the other hand, Corporate Strategy measures the business in which the company will compete in a way that focuses all resources to turn distinctive competence into competitive advantage (Andrews, 1997; Porter, 1987).

According to Barney in 1991, “firms obtain sustained competitive advantages by implementing strategies that exploit their internal strengths, through responding to environmental opportunities, while neutralizing external threats and avoiding internal weaknesses”. In fact, companies must analyse both their performance and market’s performance, so they can set specific competences and opportunities to grow and to create competitive advantage in their business. The strategy chosen will always depend on the company’s structure, culture and behaviour (Andrews, 1997). Therefore, companies’ strategies succeed when they have precisely defined organization’s objectives and have the necessary tools to organize their core business towards that goal (Porter, 1987).

However, companies must add strategies that will not only allow them to deliver more value to the market, but also to the customers (Freire, 1997).

### **2.2. Consumer Behavior**

Consumption patterns are changing due to the widespread and easy access to information. Nowadays, consumers are more stringent and conscious about their ecological footprint, as well as the environmental and social impact of their purchases (Panda et al, 2020). According to the

*Organization for Economic Co-operation and Development - OECD* -, people are more likely to purchase “products that have desirable environmental properties such as recyclability and energy efficiency, and by modifying their behaviour to support environmental goals”. With that being said, their preference depends on the “greener” choices: financial costs; information regarding product’s characteristics; their knowledge on environmental issues and their consumption impact; and their level of commitment to sustainability goals.

The fact that individuals are more aware of their negative contribution to the world’s well-being lead to the adoption of a sustainable behavior and sustainable consumption (Zralek & Burgiel, 2020). By responsible consumption, the authors mean the awareness of the impact that our consumption decisions have on the environment, society, consumer health and life conditions in general (Veresiu, 2014). Consequently, apart from satisfying their own needs, consumers are also concerned about environmental devastation (Panda et al, 2020). According to the United Nations (2009), “consumers are showing increased interest in supporting responsible business practices and are demanding more information on how companies are addressing risks and opportunities related to social and environmental issues”.

Indeed, consumers are claiming more social responsibility from companies and incessantly pressuring them to have social and environmental harmless behaviors. As OECD refers, all industry, government and society should guarantee a scenario in which consumers have the information and tools required to make their sustainable and “greener” choices. When it comes to communicating corporations values and motivations, consumers expect transparency and do not tolerate to feel deceived on, as a consequence of company’s selfish reasons (Contini, Annuziata, Rizzi and Frey, 2020). Many authors studied the correlation between consumer behavior or customer purchasing intention and green behavior. The knowledge that consumers have regarding environmental issues is positively correlated to pro-environmental behavior, choices, actions and consumption (Panda et al, 2020) - **Hypothesis 1**.

In order to keep up with change, the sustainable products market has been increasing to reach more people. According to the *2018 BSR/GlobeScan State of Sustainable Business*, Millennials and Generation Z (individuals born between 1981 and 1996, and 1996 and 2011, respectively), are more concerned about the public consequences of their consumption than other generations, thus they are willing to pay more for products or services that come from sustainable companies or companies who are committed to have a positive impact in the society and the

environment - **Hypothesis 3**. Besides that, this generation is most likely to consider that companies must address social and environmental issues in their core business and contribute to social change.

Furthermore, a study developed by Cone Communications on CSR in 2017, revealed that 87% of the consumers actually have a better image of a company that is related to social or environment initiatives; 88% of the respondents will be more loyal to a company that supports CSR and environmental issues; and 87% of the respondents would buy a “green” product if they have the opportunity. With that being said, consumers do appreciate and prefer eco-friendly brands and companies concerned about Sustainability and CSR.

### **2.3. Sustainability and Corporate Social Responsibility Concept**

Although there are a lot of studies about sustainability, this term remains vague and abstract, thus there is not a single definition. The United Nations Brundtland Commission in 1987, defended the importance of sustainability because “it meets the needs of the present without compromising the ability of future generations to meet their own needs”, which means that goods and services must be produced in ways that natural resources are not over exploit or are used in sustainable ways, without damaging the environment, and simultaneously without jeopardizing future generations necessities (Cavagnaro & Curiel, 2012).

In order to ensure the future wellbeing of individuals, sustainable development must pursue three dimensions: responsible economic growth, which will guarantee that businesses have profit; equitable social progress, that will ensure people have basic needs covered; and effective environmental protection, which will preserve and safeguard the planet (Cavagnaro & Curiel, 2012). All in all, these dimensions are restricted to resource capacities and should be balanced within a dynamic relationship in order to ensure companies are profitable, socially responsible and environmentally friendly (Costanza, Daly, Bartholomew, 1991). Connecting sustainability with consumer behavior, it is expected that consumer behavior regarding sustainability includes buying *green* products, *ethical* products and waste avoidance (Zralek & Burgiel, 2020).

On the other hand, in the business context, sustainability has become the main approach for companies that aim to create a competitive advantage in the market (Borin & Lindsey-Mullikin, 2013).

Similar to sustainability, also CSR does not have an established definition. Over the decades the debate about the activities that traditionally have been concerned to business firms changed. In

1970, Friedman defended that the companies and state system focus was on making profit and providing public goods, respectively. Therefore, there was no room for social responsibilities since the companies' aim is to use resources in order to increase gains and profits to ensure its shareholders wealth and interests. Besides that, the author argued that social problems must be solved by the state, government and other particular foundations, and firms can only have economic responsibilities.

On the other hand, authors such as Carroll (1979) criticize this point of view and defend that the only way to achieve a long-term relationship with customers is by taking care of issues that go beyond the corporation's main business. Therefore, companies must use their own resources in order to benefit and improve society, despite firms' gains. With that being said, CSR can be considered as the relationship between business and society, since they are profoundly interdependent and firms' actions always have repercussions on society (Snider, Hill and Martin, 2003). According to the United Nations (2009), firms have the power to transform and improve society as it depends on businesses to create jobs, invest, improve life conditions for the population that lives where the business operates: provide access to electricity, water, education and work, develop new technologies and provide goods and services.

Thus, CSR focuses on how companies align their values not only with shareholders expectations, but also with stakeholders (customers, investors, employees, suppliers and all community agents), who demand business to commit with social and community issues (Fontaine 2013). Without the development of strategies in response to these exigencies, stakeholders might react negatively to businesses, while responsible behavior will lead to a positive contribution to business success (United Nations, 2009).

## **2.4. Energy sector**

About a century ago, there were several changes regarding the energy sector. Firstly, the generation points, from which the power was produced and delivered, were very small, localized and fragmented, due to the lack of technology levels. Therefore, it was only possible to distribute energy within the limited areas near the production sources (Valocchi et al, 2010). Meanwhile, both business model and technology were improved, and it was possible to create large power plants that were capable of covering extensive distances through high voltage (Zhou et al, 2016).

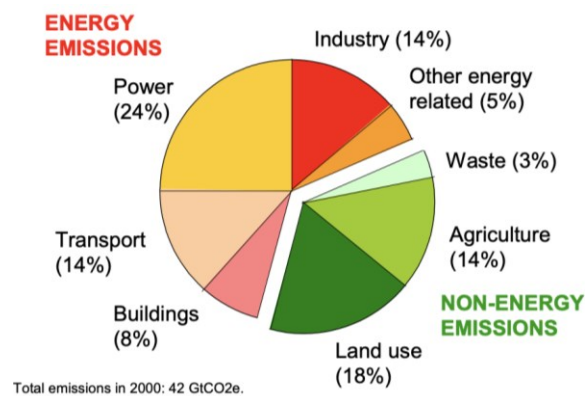
The main causes of this transformation are the high investments and the large benefits to the population that it provides (Valocchi et al, 2010). This expansion also occurs due to the demand for electricity motivated by wars, economy and the development of new technologies (Sioshansi, 2012). As a result, the energy and gas market liberalization led to an increase of competition in the sector (Facchinetti & Sulzer, 2016), which means that, in order to differentiate themselves from another energy companies and to gain competitive advantage, it is fundamental to focus on new approaches, such as technological advances, more competitive prices and more sustainable solutions (Oseni & Pollitt, 2017).

Some authors, such as Asif and Muneer in 2007, defend that nowadays energy companies can develop and exploit eco-friendly types of energy: “solar, wind, biomass, and wave and tidal energy, are abundant, inexhaustible and environmentally friendly”.

## 2.4. Energy industry and sustainability

Energy supply is fundamental to maintain modern societies (Asif and Muneer, 2007) and Energy market is led by the oil and gas industry since it produces and supplies the biggest percentage of energy used by society. Over the years the demand is expected to increase (Accenture & United Nations, 2012). Thus, it is possible to affirm that the world depends on fossil fuels such as coal, oil and natural gas to ensure people’s energy requirements. However, its exploitation will cause a negative impact on the environment because of the greenhouse gas emissions that releases huge amounts of carbon dioxide to the atmosphere (Joshi et al, 2019). Greenhouse Energy emissions are mainly resulted from “Power” (24%), “Transport” and “Industry” (14%), as it is perceivable in Figure 1.

Figure 1- Greenhouse Gas emissions 2000



Source: *The Economics of Climate Change: The Stern Review* (2006).

Therefore, the way energy companies generate, deliver and trade their products must transit to a more sustainable and environmentally harmless system, since they are the biggest pollution producers in the world (Heede, 2014). Energy industry is divided into 3 segments: exploration and production of oil and natural gas; transportation, storage and trading; refining and marketing of crude oil (Accenture & United Nations, 2012). Furthermore, and according to Key World Energy Statistics 2019, about 89% of the world's electric energy is based on fossil fuels such as coal, oil, natural gas or nuclear energy, which confirms that the production of electricity generates the largest share of the world's greenhouse gas emissions.

In fact, the continued energy resources exploitation will bring multiple challenges to society, such as “depletion of fossil fuel reserves, global warming and other environmental concerns, geopolitical and military conflicts and of late, continued and significant fuel price rise”, according to Asif and Muneer (2007). Thus, renewable energies are the key to reduce negative impact of energy production and to mitigate climate change, which will impact the way energy is produced and distributed to consumers (Richter, 2012; Asif & Muneer, 2007). Besides that, the energy industry can change by promoting national energy plans, investing in renewable fuels and increasing efficiency in their performances and operations (Accenture & United Nations, 2012).

Aligned with the idea that energy companies must innovate their traditional business model, due to the increased necessity of energy utilities, there is a necessity to make changes to prevail competitive in the energy sector (Heede, 2014).

#### **2.4.2. Energy companies and Corporate Social Responsibility**

An online platform, *One Green Planet*, has published a list of energy companies that leave the most negative impact on the entire ecosystem, and all of them are related to the Oil and Gas industry because of the high levels of pollution and gas emission they release to the environment. Countries where these companies were created, mostly developed countries, are the biggest accountable for the present situation.

In this context, companies begin to have a more sustainable approach by implementing CSR strategies in their agenda. In practice, it is verified that energy companies are concerned in reducing air emissions and waste levels, by applying new technologies in the production and extraction processes, and through investments in developing renewable energy technologies and

renewable resources, such as replacing progressively fossil fuels to renewable ones (Ruka & Rashidirad, 2019).

The biggest challenge to expand renewable energy supply is that renewable resources tend to oscillate, for instance in the case of the sun and wind that are impossible to control or predict. Therefore, the electricity system and consumers must adapt their behavior to embrace new kinds of energy, more sustainable and environmentally friendly (Paetz, Dütschke, & Fichtner, 2012).

### **2.4.3. Energy companies from Consumer perception**

Energy market aims to provide energy for as many consumers as possible, which has been increasing the exploitation of resources to respond to people's demand (Heede, 2014). In order to transform the unsustainable energy market into a sustainable one, the changes taken must be regarding both energy production and consumption patterns (Press & Arnould, 2009, Joshi et al, 2019). A more sustainable electricity system will have two significant impacts: consumers must decrease their energy consumption and invest in sustainable equipment; and they also need to shift loads, which means that consumers will be required to adapt their everyday routines (Paetz et al, 2012).

Studies were developed with the aim of identifying barriers to energy efficient purchase, for instance willingness to pay the high costs of eco-friendly appliances; unclear and biased estimates of the future energy bills; and the lack of knowledge in the amount of energy conserved by electric appliances (Joshi et al, 2019). Therefore, education is fundamental to teach people how to make Eco-friendly choices in terms of energy consumption, and according to Nicholas Stern (2006): “Educating those currently at school about climate change will help to shape and sustain future policy-making, and a broad public and international debate will support today’s policy-makers in taking strong action now”. Adding that people with more education have more structured ideas regarding sustainability, the impact of their purchases and consumption, tend to be more concerned about the environment and engage actions that support environment protection ideas. -

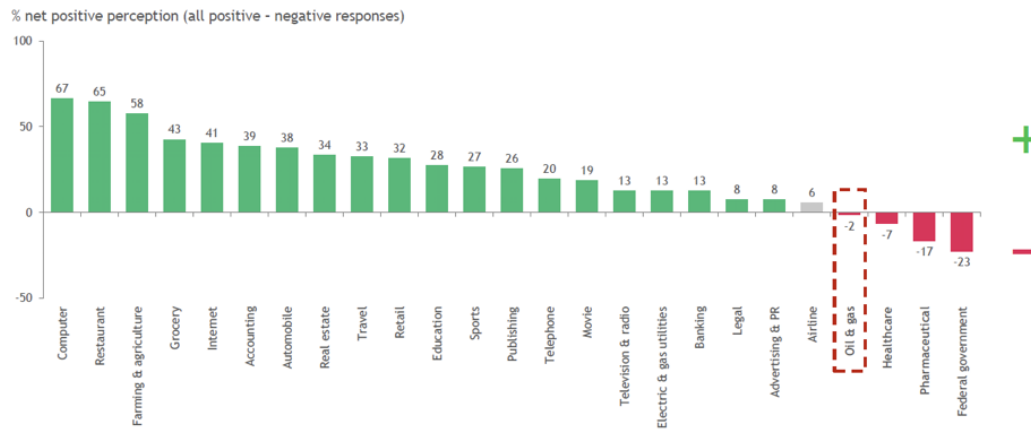
### **Hypothesis 2.**

In 2017, was published a report regarding energy consumers, *State of the Consumer*, by Pacific Gas & Georgia Power. This report provided information in order to better understand consumers perceptions and needs related to energy: consumers support clean energy investments, specially millennials that declare they are willing to pay extra to support the renewable energy

resources (**H3**); the more specific and accurate data, the better for consumers and they need to feel that companies are reliable.

With that being said, the majority of consumers want a change and are ready to support sustainable and renewable energy, as well as learning more about what they can do to control their energy use within the household and save money (Patty Durand, CEO of *Smart Energy Consumer Collaborative*, 2018 retrieved from *UtilityDive* website). Despite these conclusions, the consumer is also aware that this is a difficult change and their general perception of the Oil & Gas Industry is -2%, as Figure 2 shows.

**Figure 2- Consumer Perception of industries**



Source: *Gallup Business and Industry Sector Rankings* (2017)

## 2.5. Hypothesis

After analysing scientific articles about Consumer Behavior, Sustainability and Corporate Social Responsibility in the energy sector, the next stage of this dissertation is to formulate hypothesis regarding these topics.

**H1:** The higher the awareness of the environmental impact regarding energy consumption, the higher the willingness to pay more for sustainable products.

**H2:** The higher the education, the higher the consciousness about the energy consumption.

**H3:** Millennials and Generation Z are more willing to pay extra for sustainable products than other generations.

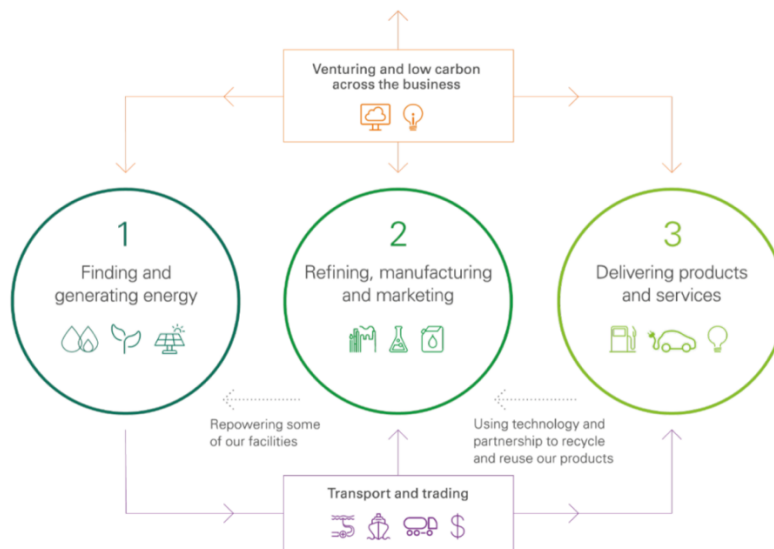
### 3. British Petroleum

#### 3.1. Company Overview

On 14th of April 1909, Anglo-Persian Oil Company was founded by William D’Arcy in London, England. Later on, the company adopted the name Anglo-Iranian Oil Company and in 1954 the name British Petroleum (BP). Nowadays, BP is one of the biggest companies in the energy sector and is considered one of the “Big Oil” or “Super-majors” - group of the 6 largest oil companies in the world that are not state owned (Chevron, Exxon Mobil, BP, Eni, Total, Royal Dutch Shell).

Over the years BP has entered new markets and geographies around the world, being present in 79 countries worldwide and employing 70,100 people. BP operates in exploitation, production, refining and distribution of petrochemicals, power generation and other commodities (Figure 3). The fact that BP provides energy for transport and industries, to heat and light homes, makes it a company that cares about the population's quality of life while supporting economic and financial growth of the countries where the company is established. In Portugal, the company arose on the 21st of January 1929 and it was the first multinational company in the energy sector operating in national territory and the second biggest of the market.

Figure 3- BP's Business Model



Source: BP's website

However, BP has been involved in environmental disasters, particularly the *Deepwater Horizon oil spill*, in 2010. This industrial disaster occurred in the Gulf of Mexico and it is considered the largest marine oil spill in the history of the petroleum industry, with approximately 210 million oil gallons leaked. Furthermore, 11 people died because of this tragedy and the company entered in an economic and moral crisis that encouraged a transition to a higher safety in its activities, as well as trying to regain both shareholders' and stakeholders' trust by developing sustainable strategies, and replace fossil fuels to renewable ones (investing in solar, wind, hydrogen and other biofuel technologies). Besides that, BP is also involved in water clean-up and greenhouse gas reductions. All these strategies resulted in the *Zero-Net Carbon Emissions in 2050* goal, announced by the company in february 2020.

### 3.2. Sustainable Initiatives

“We have got to change – and change profoundly. But it is more than having to change – we want to change, because it is the right thing for the world, and it is a tremendous business opportunity for BP.”, **Bernard Looney, Chief Executive Officer.**

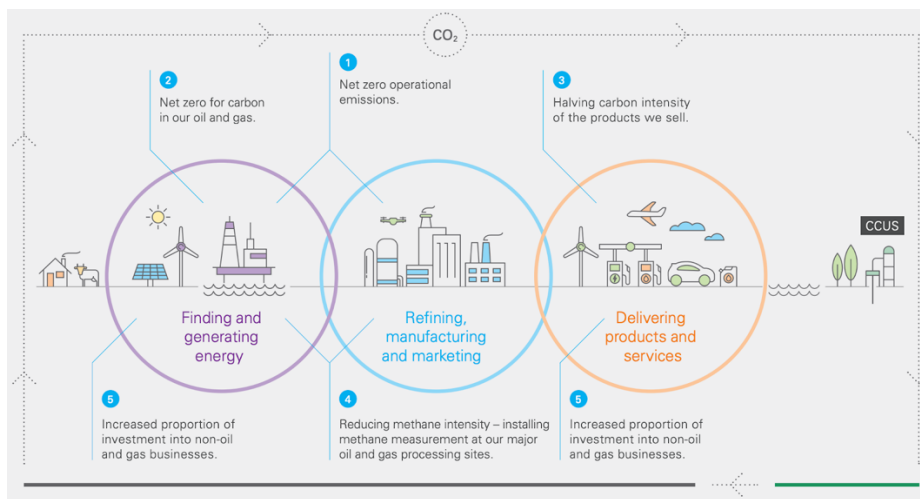
Over the years, several aspects have been affecting the business such as the global awareness regarding climate change, the technological advances, the population expectations over corporations and the volatile geopolitical structure. Therefore, a set of measures have been taken since 2017 with the aim of maintain competitiveness in the energy market and produce Oil & Gas products with efficiency: “lower cost, higher margin and close to markets”. Besides enhancing energy efficiency, the sustainable energy process includes the development of renewable energy or other zero carbon energy sources, expands the share of electricity in final energy use, changes to zero carbon fuels in areas such as transportation, develops carbon-removal technologies and, finally, promotes natural climate solutions (Figure 4).

BP releases Sustainability reports every year, and according to *Energy with Purpose - BP Sustainability Report 2019*, it is possible to understand and analyse its initiatives. BP's proposal is to reach net zero carbon in both the operations and production in 2050 or sooner. This objective will be achievable by providing and expanding low carbon business, products and services. This

way, it would be possible to improve people's lives and increase confidence among the society, shareholders and employees.

In order to achieve Net-Zero, BP established 5 aims: Net zero operations, which means tackling 415 million tonnes of emissions (55 from operations and 360 from the Oil & Gas production); Net zero Oil & Gas in the production process; Halving intensity of the products sold; Reducing Methane by 50% in the operations; More Money for New Energies by increasing the investment in Non-Oil & Gas businesses (more than \$500 million invested in low carbon activities)- Figure 4.

**Figure 4- New BP's Business Model**



Source: Author, based on *BP Sustainability Report 2019*

### 3.3. Hypothesis

Since this dissertation aims to study a specific company case, 3 hypothesis related to BP will be added to the previous ones.

**H4:** BP's sustainable strategies represent a trust or loyal factor to consumers.

**H5:** Price is still more important than sustainability strategies for BP Clients.

**H6:** BP Clients perceive BP as a Sustainable Company.

## 4. Methodology

Aligned with the research question- "How consumers perceive the impact of sustainable strategies in energy companies- British Petroleum case"- two different methods were used to

collect data: qualitative and quantitative. These two methods will provide answers to the hypothesis proposed in the Introduction and British Petroleum Chapter.

The first one consisted in conducting interviews with a BP member (Business Responsibility/ Sustainable Team), which provided information regarding CSR strategies' the company is currently implementing and developing, as well as understand its impact on both consumers and the environment. However, the interview lead to conclusions related to the company's point of view, thus missing the costumer perspective, so an online survey to the Oil & Gas industry's consumers was launched. The aim was to collect data about consumers' perception of the Oil & Gas Companies and the energy market, in terms of sustainability. Besides the information about the energy market in general, respondents were asked about their awareness of BP's strategies, if they trust the company and if BP's social responsibility/sustainable initiatives are a factor of preference between BP and other petroleum or natural gas companies.

#### **4.1. Interview**

The interview was led by the author of the present thesis and the interviewee was Anabela Silva, Marketing and External Communication Manager at BP. The interview was scheduled via email with a detailed explanation of the study's purpose. The interview took about 45 minutes and it was recorded with a smartphone so it would be possible to analyse the collected data properly. Besides that, the chosen language was Portuguese as it was the native language of both interviewer and interviewee. The interview's structure was divided into 3 sections: Energy Market and Sustainability, Consumers and BP.

In the first part of the interview, Energy Market and Sustainability, the aim was to understand whether the sustainability strategies are imposed by the market or by the consumers and which are the main challenges to establish sustainable procedures. Regarding the Consumers section, it was possible to perceive which strategies they value the most, how companies can spread their ideals and values, and finally what kind of obstacles consumers still find when in need of choosing sustainable companies and products. Furthermore, there was an effort to clarify which generation is more aware of sustainability and which one is more likely to buy the sustainable products available. To conclude, specifications were addressed regarding BP and their new sustainability program - Net Zero by 2050 -, to understand the new strategy that compromises the

company with the emissions reduction. In addition, the interviewee was asked about the current pandemic situation - COVID-19 - and its implications in the business.

## 4.2. Survey

The survey (Appendix) was created using Qualtrics and distributed through the authors' contacts, social media and *Facebook* pages related to sharing and answering various academic studies. The survey was focused on consumers between the age range of 18 to 70 years old, in order to analyse if there are any differences in the generations studied. The choice of the presented age range is due to the fact that people under 18 do not have a driver's license, and people above age seventy do not vary much from the older generations. The survey was divided into 3 parts: Socio-Demographic (Screening Questions); Energy Market and Sustainability; British Petroleum.

In the first part, the Socio-Demographic questions helped to describe the survey's respondents - their gender, age, highest level of education, current occupation, income and location. The second part is related to the Energy Market and Sustainability, and respondents rated their perception about the energy market, revealing if they are conscious of their energy consumption and behaviour, as well as the environmental impact of their purchases regarding energy, if they are more willing to choose products from a "green energy" company and pay more for sustainable products, and what factors they value the most when they choose an energy company.

The last section of the questionnaire is related to BP and participants had access to the following information about the company: "British Petroleum (BP) is an Oil & Gas company from England and one of the biggest in the energy sector. The company operates in exploration, production, refining and distribution of petrochemicals, power generation and other commodities. Currently, has been increasing the offer in renewable energies and is committed to develop strategies to achieve zero-net carbon emissions in 2050". Afterwards, they had to answer if they usually choose BP, if they are aware of the sustainable initiatives, if they consider BP a sustainable company and if the information given about the Net-Zero by 2050 changed their perception about the company.

The questionnaire had 36 questions and all respondents were exposed to the same information. However, in the survey's third section, there were specific questions depending on whether the respondent chose BP when in need of Oil & Gas products or not. On the one hand, BP clients were asked if the sustainable strategies represent a trust or loyal factor to them and if sustainable strategies are a motivation to prefer this company over other companies in the energy

sector. On the other hand, the non-BP clients were asked what the probability is of becoming one after knowing its sustainable initiatives and which factors would lead them to become BP customers.

## **5. Results and Analysis**

After collecting all the data needed, this chapter aims to analyse and discuss the main results. Both the Interview and the Online Survey to consumers provided answers to the Hypothesis established previously. The survey was analysed through SPSS and was posted online on April 25th until May 9th. During the data collection period, 432 participants started the survey, however, only 345 fully completed it.

### **5.1. Sample Characterization**

By analysing the 345 participants who completed the survey, 47.5% were male participants and 52.5% were female. The age range with the largest contributors was 20-30 with 57.1%, followed by the age range of 50-60 with 16%, 40-50 with 11.3%, 30-40 with 7%. The remaining participants were older than 60 years old and had a percentage of 5.4% and the youngest were under 20 years old and had a percentage of 3.2%.

Regarding the highest level of education, 43.5% of the participants have a Bachelor's Degree, 31.3% have graduated High School, 17.4% have a Master's Degree, 6.7% have a Technical Degree and 1.2% have a Doctorate. Moreover, the participants were asked about their current occupation and 42.9% of them are Employed, 33.9% are currently Students, 13.3% are both Students and Employed, 4.3% are Unemployed, 4.1% are Retired and 1.4% are Household workers. In terms of people within the household, the majority of the respondents have 3-4 people (63.5%), followed by 1-2 (29.3%) and 5 or more people (7.2%). The household's income was also asked and 35.4% of the participants have an income between 1000€ and 2000€ per month, 28.7% between 2000€ and 3000€, 15.4% between 3000€ and 5000€, 12.2 % have an income less than 1000€ and only 8.4% receive more than 5000€ per month.

In terms of nationality, the vast majority of the respondents were Portuguese with a percentage of 89.6% and only 10.4% corresponds to other nationalities. The Portuguese participants are located mostly in Lisbon (60.3%), Setúbal (7%), Porto (5.8%) and Faro (4.6%).

The international participants were mainly from Brazil (2.9%) although there were respondents from all continents.

## 5.2. Hypothesis Analysis

The 6 hypotheses further analysed are in accordance with the Central Limit Theorem since the sample size becomes larger ( $N \geq 30$ ), the distribution of sample means tends to have a normal distribution. This means that the bigger the  $N$ , the more results take the shape of a normal distribution (in this case,  $N=345$ ). Therefore, all hypotheses will be conducted regarding the normality assumption.

### **H1: The higher the awareness of the environmental impact regarding energy consumption, the higher the willingness to pay more for sustainable products.**

In order to analyse the first hypothesis, Cramer's V test was used because it is a statistic test that measures the association between two nominal variables (the awareness of the environmental impact and the willingness to pay more for sustainable products). Although the variable Willing to pay had 3 options to choose (“Yes”, “No” and “Depends on the price difference”), it was considered nominal as theorists assume that variables with three options could also be treated as nominals.

Through the analysis of the Crosstab below, it is possible to perceive that the majority of the respondents that are aware of the environmental impact of their purchases, regarding energy, are willing to pay more for sustainable products depending on the price difference (65.2%). In contrast, 26.8% of the respondents that are aware of this topic are willing to pay more, regardless of the price difference, and 8% won't pay more even knowing the environmental impact of that purchase. Similar to this situation, respondents that do not have awareness of the environmental impact of their purchases are willing to pay more for sustainable products depending on the price difference (73.6%). Furthermore, 16.5% would pay more for sustainable products regardless the price difference and 9.9% would not pay more.

**Table 1- Crosstab for H1**

**Are you willing to pay more for sustainable products?**

			Yes	No	Depend on the price difference	Total
<b>Are you aware of the environmental impact of your purchases, regarding</b>	<b>Yes</b>	Count	60	18	146	224
		% within Are you are of the impact?	26.8%	8.0%	65.2%	100.0%
	<b>No</b>	Count	20	12	89	121

<b>energy?</b>	% within Are you are of the impact?	16.5%	9.9%	73.6%	100.0%
<b>Total</b>	Count	80	30	235	345
	% within Are you are of the impact?	23.2%	8.7%	68.1%	100%

This means that whether people are conscious about the impact of their purchases or not, they are also price-sensitive, and they will buy sustainable products according to the price difference between sustainable products and the regular ones. Furthermore, the Cramer's V scale goes from 0 to 1 (0 means the variables are not associated and 1 the values are perfectly associated), and the value for this hypothesis is 0.117, which means that the association between the variables is very weak.

**Table 2- Cramer's V for H1**

		<b>Value</b>	<b>Approximate Significance</b>
<b>Nominal by Nominal</b>	Phi	0.117	0.096
	Cramer's V	0.117	0.096
<b>N of Valid Cases</b>	N	345	

The Pearson Chi-Square was also tested in order to understand whether the variables are independent or not. The value of the Test Statistic is 4.693,  $n = 345$  and  $p > 0.05$  since 0.096 is higher than 0.05. Therefore, we accept the hypothesis of being independent because the awareness of the environmental impact regarding energy consumption is not associated with the willingness to pay more for sustainable products.

**Table 3- Pearson Chi-Square for H1**

	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
<b>Pearson Chi-Square</b>	4.693	2	.096
<b>Likelihood Ratio</b>	4.878	2	.087
<b>Linear-by-Linear Association</b>	3.824	1	.051
<b>N of Valid Cases</b>	345		

## **H2: The higher the education, the higher the consciousness about the energy consumption.**

Hypothesis 2 states that education is positively related to consciousness about energy consumption. In order to measure the conscience, the scale used ranged from 0 to 10, being 0 associated with Not Conscious at all and 10 Extremely conscious. This hypothesis will be tested

through the Spearman Correlation Coefficient or Spearman Rho, that measures the strength of association between 2 ordinal variables (in this case, Highest Level of Education and Conscious about the Energy Consumption).

The results indicate that there was no statistically significant association between the two variables as we can observe from table 4, meaning that changes in one variable are not correlated with changes in the second variable ( $r=0.153$ ,  $n=345$ ,  $p > 0.05$ ). As the Correlation Coefficient is 0.153, the association is positive although very weak.

**Table 4- Spearman's Rho Correlation for H2**

		What is your highest level of Education?	How conscious are you of your energy behaviour and consumption?
<b>Spearman's Rho</b>	<b>What is your highest level of Education?</b>	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	345
	<b>How conscious are you of your energy behaviour and consumption?</b>	Correlation Coefficient	.153**
		Sig. (2-tailed)	.005
		N	345

For a better insight on this subject, a Crosstab was conducted as we can observe from table 5. Therefore, it is possible to perceive that the level of Energy Consumption consciousness selected by High School participants were 5 (24.1%) and 7 (22.2%). Respondents with a Technical Degree chose 8 (26.1%) and 5 (17.4%) as the levels of consciousness. Participants with a Bachelor's Degree selected 7 (23.3%) and 6 (20%); who has a Master's Degree selected 6 (21.7%) and 7 (20%) and, finally, people with a Doctorate chose 7 (50%) and 8 (25%). With that being said, the majority of the participants consider themselves to be, in a scale 0-10 of conscience regarding their energy behavior and consumption, in the level 7, 6 and 5 (22%, 16.5% and 15.9% of the total, respectively), regardless of the level of Education they hold. Thus, Hypothesis 2 is rejected.

**Table 5- Crosstab for H2**

		How conscious are you of your energy behaviour and consumption?											
		0	1	2	3	4	5	6	7	8	9	10	Total
<b>High School</b>	% within Highest level of Education?	1.9%	0%	9.3%	9.3%	8.3%	24.1%	10.2%	22.2%	7.4%	5.6%	1.9%	100%
	% of Total	0.6%	0%	2.9%	2.9%	2.6%	7.5%	3.2%	7%	2.3%	1.7%	0.6%	31.3%

<b>Technical Degree</b>	% within Highest level of Education?	4.3%	0%	0%	4.3%	8.7%	17.4%	13%	13%	26.1%	8.7%	4.3%	100%
	% of Total	0.3%	0%	0%	0.3%	0.6%	1.2%	0.9%	0.9%	1.7%	0.6%	0.3%	6.7%
<b>Bachelor's Degree</b>	% within Highest level of Education?	1.3%	2.7%	5.3%	5.3%	8.7%	14%	20%	23.3%	12%	5.3%	2%	100%
	% of Total	0.6%	1.2%	2.3%	2.3%	3.8%	6.1%	8.7%	10.1%	5.2%	2.3%	0.9%	43.5%
<b>Master's Degree</b>	% within Highest level of Education?	0%	1.7%	3.3%	5%	8.3%	6.7%	21.7%	20%	16.7%	10%	6.7%	100%
	% of Total	0%	0.3%	0.6%	0.9%	1.4%	1.2%	3.8%	3.5%	2.9%	1.7%	1.2%	17.4%
<b>Doctorate</b>	% within Highest level of Education?	0%	0%	0%	25%	0%	0%	0%	50%	25%	0%	0%	100%
	% of Total	0%	0%	0%	0.3%	0%	0%	0%	0.6%	0.3%	0%	0%	1.2%

Connecting this topic with the data collected in the interview with the BP member, it is possible to determine that “there is still a lack of environmental education outside of the large urban centers, although the mass consumption is situated there. Schools play an important role in terms of consolidating environmental literacy, so younger people can make informed and better choices while influencing their parents/grandparents to do the same”, as Anabela Silva referred.

### **H3: Millennials and Generation Z are more willing to pay extra for sustainable products than other generations.**

This Hypothesis will be analysed in the light of ETA Coefficient test since it allows to test the strength of the associations between an independent variable (Millennials and Generation Z) and a dependent variable (willing to pay extra for sustainable products). The Millennials correspond to the class age 20-30 and Generation Z refers to participants younger than 20 years. The participants of these ages will be compared with the others between 30-40, 50-60 and older than 60 years old, in terms of willingness to pay more for sustainable products and which BP product they are more likely to buy: Regular Gasoline/Diesel or Premium Gasoline/Diesel (ultimate), being the premium products better for the car engine and the environment. To answer this question, participants had access to a table with BP prices in April 2020 (see Appendix).

Regarding the willingness to pay extra for sustainable products, the majority of participants of all ages responded “Depends on the price difference”, with <20 years participants having a percentage of 72.7%, 20-30 with 73.6%, 30-40 with 56.5%, 40-50 with 59%, 50-60 with 59.6%

and >60 with 66.7%. In terms of the participants who are willing to pay more for sustainable products, <20 years had a percentage of 27.3%, 20-30 had 20.3%, 30-40 had 39.1%, 40-50 had 15.4%, 50-60 had 33.3% and >60 had 16.7%. This results presented in *table 4*, mean that there is no relation between the two variables as people, no matter their age or their generation, are not willing to pay more for sustainable products as it will always depend on the price difference between de Eco-Friendly products (more expensive in general) and the regular ones.

**Table 6- Crosstab for H3**

		Are you willing to pay more for sustainable products?			
		Yes	No	Depends on the price difference	Total
<20	Count	3	0	8	11
	% within classage	27.3%	0.0%	72.7%	100.0%
	% of Total	0.9%	0.0%	2.3%	3.2%
20-30	Count	40	12	145	197
	% within classage	20.3%	6.1%	73.6%	100.0%
	% of Total	11.6%	3.5%	42.0%	57.1%
30-40	Count	9	1	13	23
	% within classage	39.1%	4.3%	56.5%	100.0%
	% of Total	2.6%	0.3%	3.8%	6.7%
40-50	Count	6	10	23	39
	% within classage	15.4%	25.6%	59.0%	100.0%
	% of Total	1.7%	2.9%	6.7%	11.3%
50-60	Count	19	4	34	57
	% within classage	33.3%	7.0%	59.6%	100.0%
	% of Total	5.5%	1.2%	9.9%	16.5%
>60	Count	3	3	12	18
	% within classage	16.7%	16.7%	66.7%	100.0%
	% of Total	0.9%	0.9%	3.5%	5.2%
Total	Count	80	30	235	345
	% within classage	23.2%	8.7%	68.1%	100.0%
	% of Total	23.2%	8.7%	68.1%	100.0%

To better explain this Crosstab, an ETA statistic test was made because it measures the proportion of variance between a nominal and a scale variable. The value ranges from 0 to 1, being 0 lack of association and 1 perfect association. As the willingness to pay is dependent on the age, we use the Eta value of 0.145, that means there is a weak variance between the generations and the willingness to pay.

**Table 7- ETA for H3**

Nominal by Interval	Eta	Value
	Classage Dependent	.137
	Are you willing to pay more for sustainable products?	.145
	Dependent	

Furthermore, we can analyse whether participants are more likely to buy Regular Gasoline/Diesel or Premium Gasoline/Diesel (ultimate) from BP. Table 8 reveals that 90.9% of the respondents younger than 20 years prefer Regular products, as well as 20-30, 30-40 and 50-60 with a percentage of 56.3%, 60.9% and 56.1%, respectively. Participants between 40-50 years old and more than 60 years are more likely to buy Premium Gasoline/Diesel products (that are better for the car engine and for the environment), which obtained a percentage of 59% and 61.1%. Thus, the crosstab demonstrates that younger generations are not willing to pay more for sustainable products (fact that can be explained by their low purchase power). Older generations are less price sensitive than the younger ones, however, the generation with an age range of 50-60 still prefers Regular products rather than the Premium option.

**Table 8- Crosstab for H3**

		Which one are you more likely to buy? (answer even if you don't own a vehicle or your vehicle is not fuelled by Gasoline/Diesel)		Total
		Regular Gasoline/Diesel	Premium Gasoline/Diesel (Ultimate)	
<b>&lt;20</b>	Count	10	1	11
	% within classage	90.9%	9.1%	100.0%
	% of Total	2.9%	0.3%	3.2%
<b>20-30</b>	Count	111	86	197
	% within classage	56.3%	43.7%	100.0%
	% of Total	32.2%	24.9%	57.1%
<b>30-40</b>	Count	14	9	23
	% within classage	60.9%	39.1%	100.0%
	% of Total	4.1%	2.6%	6.7%
<b>40-50</b>	Count	16	23	39
	% within classage	41.0%	59.0%	100.0%
	% of Total	4.6%	6.7%	11.3%
<b>50-60</b>	Count	32	25	57
	% within classage	56.1%	43.9%	100.0%
	% of Total	9.3%	7.2%	16.5%
<b>&gt;60</b>	Count	7	11	18
	Expected Count	9.9	8.1	18.0
	% within classage	38.9%	61.1%	100.0%
	% of Total	2.0%	3.2%	5.2%
<b>Total</b>	Count	190	155	345
	% within classage	55.1%	44.9%	100.0%
	% of Total	55.1%	44.9%	100.0%

In addition, an ETA statistic test was made (table 9) and as the willingness to pay Regular/Premium products is dependent on the age, we use Eta value of 0.180, meaning that there is a weak variance between the generations and the probability to buy Premium and more Sustainable products.

**Table 9- Crosstab for H3**

		Value
Nominal by Interval	Eta	.098
		.180
		classage Dependent
		Which one are you more likely to buy? (answer even if you don't own a vehicle or your vehicle is not fueled by Gasoline/Diesel) Dependent

According to the interview with the BP representative, it is possible to understand that there is a large range of consumers because the company “impacts people from the moment they have a driver's’ license until they have about 80 years old”. However, there is a tendency to choose premium products (more sustainable) by older consumers: “premium products are mainly used by a mature public that loves vehicles and recognises the impact of a good fuel, in terms of performance and cleaning engines”, as referred the interviewed. Furthermore, with the *Pingo Doce* partnership BP can reach another audience that appreciates discounts and, for that reason, prefers to use a premium product: “with the same amount of money they can use a better fuel, that gives them extra kilometres, cleans the engine and has less environmental impact. This means that more kilometres can be achieved with the same fuel tank and less product is burned within the same amount of time, which consists in a relevant difference in terms of environmental impact”. With that being said, the age difference is not a significant factor to prefer sustainable products instead of the regular ones since “it will always depend on the price that consumers are able to afford”.

**H4: BP’s sustainable strategies represent a trust or loyal factor to consumers.**

It is important to understand if consumers value sustainable strategies and if they represent a trust or loyal factor to them so the company can continue to invest in it. A descriptive table was performed, however, instead of  $N=345$ , in this case  $N=133$  as this is the number of BP clients who participated in the study. By analysing the crosstab with the frequencies, 82% of BP’s clients approves the fact that the company’s recent investment in Sustainable strategies represents a trust or loyal factor to them. On the other hand, 18% of BP’s consumers do not agree with the statement that these strategies represent a loyal factor.

**Table 10- Crosstab for H4**

		When in need of Oil & Gas products, do you usually choose BP?		Total
		Yes		
<b>Do BP's sustainable strategies represent a trust or loyal factor to you?</b>	<b>Yes</b>	Count	109	109
		% within When in need of Oil & Gas products, do you usually choose BP?	82.0%	82.0%
		% of Total	82.0%	82.0%
	<b>No</b>	Count	24	24
		% within When in need of Oil & Gas products, do you usually choose BP?	18.0%	18.0%
		% of Total	18.0%	18.0%
<b>Total</b>		Count	133	133
		% of Total	100.0%	100.0%

Besides considering sustainable strategies as a trust and loyal factor, it is important to perceive if these strategies represent a motivation to prefer this company over other companies in the same sector as BP. By analysing the crosstab below, also 82% of the BP's consumers agree with that statement in contrast with 18% of consumers that do not opt for BP because of these factors.

**Table 11- Crosstab for H4**

		When in need of Oil & Gas products, do you usually choose BP?		Total
		Yes		
<b>Do you perceive BP's sustainable strategies as a motivation to prefer this company over other companies in the energy sector?</b>	<b>Yes</b>	Count	109	109
		% within When in need of Oil & Gas products, do you usually choose BP?	82.0%	82.0%
		% of Total	82.0%	82.0%
	<b>No</b>	Count	24	24
		% within Do you perceive BP's sustainable strategies as a motivation to prefer this company over other companies in the energy sector?	100.0%	100.0%
		% of Total	18.0%	18.0%
<b>Total</b>		Count	133	133
		% within Do you perceive BP's sustainable strategies as a motivation to prefer this company over other companies in the energy sector?	100.0%	100.0%
		% of Total	100.0%	100.0%

**H5: Price is still more important than sustainable strategies for BP Clients.**

In order to analyse the Hypothesis of both Sustainable Strategies and Price are the most important factors to choose BP for its clients, a descriptive table was performed. However, instead

of  $N=345$ , in this case  $N=133$  as this is the number of BP clients who participated in the study. In terms of preferences, there are 8 categories: Company/Brand, Price, Quality; Reliability; Durability; Accessibility/Proximity; Eco-Friendly and Sustainable Products. As it is possible to perceive in table 12, the most important factor is Price with a percentage of 58.6 of BP clients, followed by Accessibility/Proximity with 55.6% and Quality with 52.6%. In terms of sustainability, there were 2 options: Eco-Friendly and Sustainable Products, however, the percentage of BP clients who value it was very low, 12.8% and 6%, respectively. Therefore, we can understand that Price is definitively an important factor to choose BP instead of other Oil & Gas Companies, however sustainability is not a priority or a deciding factor.

**Table 12- Crosstab for H5**

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
<b>Company/Brand</b>	35	26.3%	98	73.7%	133	100.0%
<b>Price</b>	78	58.6%	55	41.4%	133	100.0%
<b>Quality</b>	70	52.6%	63	47.4%	133	100.0%
<b>Reliability</b>	39	29.3%	94	70.7%	133	100.0%
<b>Durability</b>	13	9.8%	120	90.2%	133	100.0%
<b>Accessibility/Proximity</b>	74	55.6%	59	44.4%	133	100.0%
<b>Eco-friendly</b>	17	12.8%	116	87.2%	133	100.0%
<b>Sustainable Product</b>	8	6.0%	125	94.0%	133	100.0%

Similar results were found in the interview, as the principal factor referred was the Price: “it plays a decisive role in the decision-making process, especially in times of economic and social crisis as we are facing now because of the COVID-19 pandemic. Thus, it is fundamental to ensure that BP has sustainable products with affordable prices in the market”. In fact, this is the biggest challenge that energy companies are facing because “nowadays people demand more energy but require it to be both sustainable and economic”. Therefore, BP’s responsibility is to ensure that there are sustainable options in the market so the consumers can have freedom of choice to buy the products they prefer and can afford: “companies must give consumers a choice to make their own decisions. Consumers do not want to be imposed specific products, so we need to have a range of options for each type of consumer, necessity and pocket”.

**H6: BP Clients perceive BP as a Sustainable Company.**

The last hypothesis aims to understand if BP clients perceive the company as a sustainable company. The scale used ranged from 0 to 10, being 0 “Not being sustainable at all” and 10 being

“Fully sustainable”. The number of the scale with the biggest percentage was 5 (neutral) with 39.1% of the BP clients, followed by 6 (15%) and 7 (14.3%). By compiling the values between 0-4, we understand that 20.4% of the BP clients have a negative perception of the company in terms of sustainability, and from 6-10 40.6% clients have a better perception of the company. However, by using the Net Promoter Score, the majority of the clients is a detractor (0-6 = 74.5%), 23.3% is neutral (7-8) and only 2.3% are promoters (9-10).

**Table 13- Crosstab for H6**

		How sustainable do you perceive BP?											Total	
		0	1	2	3	4	5	6	7	8	9	10		
When in need of Oil & Gas products, do you usually choose BP?	Yes	Count	3	1	4	13	6	52	20	19	12	2	1	133
		% within Do you usually choose BP?	2.3%	0.8%	3.0%	9.8%	4.5%	39.1%	15.0%	14.3%	9.0%	1.5%	0.8%	100.0%
		% of Total	0.9%	0.3%	1.2%	3.8%	1.7%	15.1%	5.8%	5.5%	3.5%	0.6%	0.3%	38.6%
	No	Count	3	2	9	20	14	114	17	21	10	0	2	212
		% within Do you usually choose BP?	1.4%	0.9%	4.2%	9.4%	6.6%	53.8%	8.0%	9.9%	4.7%	0.0%	0.9%	100.0%
		% of Total	0.9%	0.6%	2.6%	5.8%	4.1%	33.0%	4.9%	6.1%	2.9%	0.0%	0.6%	61.4%
Total	Count	6	3	13	33	20	166	37	40	22	2	3	345	
	% within Do you usually choose BP?	1.7%	0.9%	3.8%	9.6%	5.8%	48.1%	10.7%	11.6%	6.4%	0.6%	0.9%	100.0%	
	% of Total	1.7%	0.9%	3.8%	9.6%	5.8%	48.1%	10.7%	11.6%	6.4%	0.6%	0.9%	100.0%	

For a better estimated idea of these nominal and ordinal variables, a Cramer's V scale was performed and considering that  $n=345$ ,  $p=0.109$  ( $p>0.05$ ) and the value for this hypothesis is 0.213, which confirm that the association between the variables is weak.

**Table 14- Cramer's V for H6**

		Value	Approximate Significance
Nominal by Nominal	Phi	.213	.109
	Cramer's V	.213	.109
N of Valid Cases		345	

To conclude, a Pearson Chi-Square test was conducted and the value of the test statistic was 15.689,  $n=345$ ,  $p=0.109$  and  $p>0.05$ . With that being said, we accept the hypothesis that the two variables are independent, which means that there is no association between the two variables in the population.

**Table 15- Pearson Chi-Square**

	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
<b>Pearson Chi-Square</b>	15.689 <sup>a</sup>	10	.109
<b>Likelihood Ratio</b>	16.215	10	.094
<b>Linear-by-Linear Association</b>	3.661	1	.056
<b>N of Valid Cases</b>	345		

The interview reveals that more than perceiving BP as a company that promotes sustainability and offers sustainable products, consumers need to identify BP as a reliable company that is constantly aspiring to become better and innovate. “Most of all, BP must be perceived as a company that makes all efforts to ensure consumers expectations, regarding the environment or other fields”. Despite that, the transformations occurred in the company to achieve a more sustainable and eco-friendly path were not only determined by the pressure exerted by consumers: “Nowadays, we are facing a collective consciousness by consumers, however it does not mean that before energy companies did not have this concerns, because we had. The urgency in changing the procedures was caused by society’s pressure. We need to accelerate answers for the sustainable strategies’ implementation process”.

### **5.3. COVID-19**

In the beginning of 2020, the new CEO of BP was announced, Bernard Looney, and he brought with him new strategies and goals to the company, which will modify the business dynamic and consumers perception- “Reinventing BP and Managing BP”. These strategies lead to the Zero-Net Carbon Emissions in 2050 goal, explained previously in the present study. However, the pandemic of COVID-19 emerged at the same time as the release and implementation of the Net-Zero measures.

Considering the unknown repercussions and consequences of the pandemic, it is not possible to unsure if the energy market and consumers perceptions of it will stay the same. Inevitably, the social and economic crisis adjacent to the COVID-19 will have an impact on the world. On march 9<sup>th</sup>, a report released by the World Health Organization revealed that Saudi Arabia floods the market with oil, which resulted in the international prices drop by more than 20% (Alburescu, 2020). This fact was also verified in Portugal, as according to INE (Statistics Portugal), due to COVID-19, the oil prices dropped about 10.9% in february and 23.8% in march.

For a better estimated idea, it was questioned in both the online survey and the interview if COVID-19 will have a negative impact on the energy sector and if consumers' perception regarding energy and energy consumption changed because of the pandemic. On the one hand, the survey's respondents considered that the current pandemic will have a negative impact on the energy sector, with a percentage of 70.7, while only 14.2% of the respondents believe it will not have a negative impact and 15.1% do not know. In terms of the consumers perception, participants are divided, since 49.3% agrees that their perception of the energy market changed and 50.7% consider that it has not changed.

Regarding the interview with the BP member, it was confirmed that the COVID-19 had a negative impact on the business as there were significant losses in terms of profit because of the pandemic. However, the company is currently adapting strategies to other income sources that will help to inject capital in order to perform the necessary changes to achieve this goal. As Anabela Silva referred, "it might be more difficult to reach the Net-Zero carbon objective but it does not mean it would not be possible, because we are focusing all efforts to make it happen".

Specifically in Portugal, COVID-19 is also an opportunity for companies to manifest their real values and BP was involved in several initiatives to help the community. The company donated 40 thousand liters of fuel to help professionals that are fighting the pandemic (ambulances, firefighters, meal distribution's organizations, elderly care homes), 1.250 packages of food will be delivered to hospital professionals, 2 thousand protection masks were also donated to Lisbon IPO, the BP gas stations distributed more than a thousand products from the stores (personal hygiene products, food and protection equipment). According to Anabela Silva, "in Portugal, BP divided its intervention into 4 areas: to promote the message "stay safe at home"; how the company can support the supply network and gas stations; how the company can help the SNS (National Health System); and how the company can help people in need".

In fact, a world crisis panorama, like the one we are living in 2020, is an opportunity for companies to reconsider the importance of sustainability in the business: "it is more important than ever to ensure that people around us have the minimum living and labour conditions, and BP is doing its part on this topic while is still concerning in achieving the Net-Zero aim, despite the challenges ahead".

## 6. Discussion

The aim of this study is trying to understand how consumers perceive sustainable strategies implemented by energy companies. As the general consumer's perception regarding the energy market is negative (-2 according to the study made by *Gallup Business and Industry Sector Rankings*, 2017), consumers are aware of the environmental impact that providing energy involves. However, the issue is that people are demanding more energy than ever and require it to be sustainable and eco-friendly, therefore energy companies need to meet the increase in demand while proceeding in a sustainable way. In this final chapter, the main conclusions of this study will be explained and linked to what has been found previously in the existing literature.

### 6.1. Conclusions

The world is evolving towards sustainability and people are more aware of the environmental consequences of their consumption (Zralek and Burgiel, 2020). In the sample considered for this study, it was confirmed that participants are aware of the environmental impact of their purchases ( $n=224$ ), while a minority demonstrates that they are not aware ( $n=121$ ). Authors such as Nicholas Stern in 2006, defend that people's awareness is positively correlated with their level of education, since the higher the level of education an individual has, the higher their awareness about the environmental impact of their consumption. In order to test this topic and answer RQ1, "Do Consumers with different levels of Education have a higher level of awareness regarding sustainability?", H2 was formulated ("The higher the education, the higher the consciousness about the energy consumption").

Through the qualitative analysis, H2 was confirmed since it is possible to verify that in fact education is the key to consolidate environmental literacy and teach people to make better choices for the environment. However, through the surveys' analysis, it was possible to perceive that, for the populational sample used, there was no statistically significant association between the two variables ( $r=0.153$ ,  $n=345$ ,  $p > 0.05$ ). Indeed, by using Spearman's Rho, the Correlation Coefficient ( $r=0.153$ ) demonstrates a very weak association. Thus, both RQ1 and H2 are rejected. However, as the majority of the survey's respondents have either a Bachelor's Degree or have graduated High School, and are situated in big cities such as Lisbon, Setúbal, Porto or Faro, it was not possible to

confirm if people that are not from these cities or have lower levels of education have a different perception about sustainability or a different awareness regarding their energy consumption.

According to several studies such as *State of the Consumer* and *BSR/GlobeScan State of Sustainable Business*, both Millennials and Generation Z are more concerned about the environmental consequences of their purchases. Hence, they are more willing to pay extra for products or services that come from companies who are committed to have a positive impact in the world. The second research question aims to confirm this topic (RQ2: Are younger generations more willing to pay extra for sustainable products?). For a better understanding, the willingness to pay was connected with the consumers' awareness and their generations.

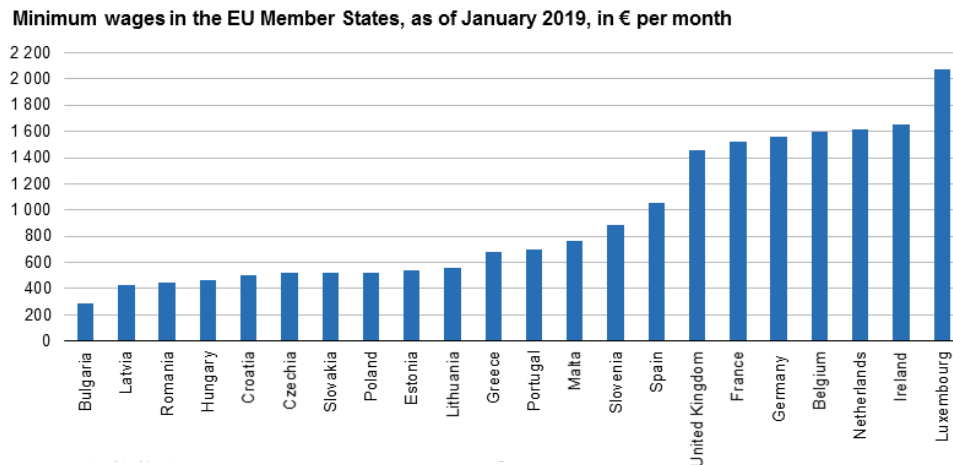
Firstly, the awareness of the environmental impact regarding energy consumption was correlated with the willingness to pay more for sustainable products (H1). Through the quantitative analysis, the Cramer's V test reveals 0.117, which means that the association between the variables is very weak and the Pearson Chi-Square demonstrates a Test Statistic of 4.693,  $n = 345$  and  $p > 0.05$ . Since 0.096 is higher than 0.05, the independence of the variables is accepted (the awareness of the environmental impact regarding energy consumption is not associated with the willingness to pay more for sustainable products). These results can be explained because the majority of participants revealed that the choice is driven by the price difference between the sustainable products and the regular products, which proves that individuals are price sensitive and their consumption is guided by the price. Therefore, this Hypothesis was not confirmed.

Lastly, it was studied if younger generations are more willing to pay for sustainable products (H3). The results prove that there is a weak variance between the generations and the willingness to pay, since the value of the Test Statistic Eta had a value of 0.145. Regardless of the age presented by the respondents, the largest majority chose the option "Depends on the Price difference". If the comparison was made through the ones who respond "Yes" in terms of willingness to pay, the younger generations (<20; 20-30) had 20.6% and older generations (30-40 to >60) had 27%; the ones who opted to the option "No", had a percentage of 5.7 in younger generations and 13.1% in older generations. Additionally, H3 was also analysed through which BP product individuals are more likely to buy: Regular Gasoline/Diesel or Premium Gasoline/Diesel (ultimate), being the premium products better for the car engine and the environment. The results were similar to the previous part, since the test Statistic Eta had a value of 0.180, which means

there is a weak variance between the generations and the probability to buy Premium and more Sustainable products.

This can be explained by the lack of job opportunities that young people have in Portugal and the precarious wages practiced when individuals enter the job market. From the table below (Figure 5), where it is possible to compare the minimum wages in EU Member States, it is possible to draw a conclusion that Portugal's citizens have a low purchasing power. For that reason, even if they are aware of their consumption impact regarding energy, their willingness to pay will depend on their income and the extra price they are able to spend on sustainable products. Thus, H3 is not confirmed.

*Figure 5- Minimum wages per month (€) in the EU Members 2019*



Source: Eurostat

In order to analyse RQ3, “Do consumers perceive BP’s sustainable strategies as a motivation to prefer this company over its competitors?,” H4 and H6 were formulated. Firstly, H4 aims to understand if BP’s sustainable strategies represent a trust or loyal factor to consumers, and 82% of the participants confirmed that topic. As well as that, also 82% of BP’s consumers state that BP’s sustainable strategies represent a motivation to prefer this company over other companies in the same sector. Thus, H4 is accepted. However, when faced with how sustainable they perceive BP (H6), a Cramer’s V was performed and the value for this hypothesis is 0.213, which reveals that the association between the variables is weak. In a scale from 0 to 10, being 0 “Not being sustainable at all” and 10 being “Fully sustainable”, the neutral value (5) had the biggest percentage, 39.1%. By using the Net Promoter Score, the majority of the clients is a detractor (0-6

= 74.5%), 23.3% is neutral (7-8) and only 2.3% are promoters (9-10), which leads to the H6's rejection.

To conclude, participants could address reasons to become BP clients so the company can have a better insight about what leads individuals to become BP customers and improve their results. The most referred factor was Proximity, since people tend to fuel their car at the closest gas station from their home or job. Besides that, an expensive price was mentioned as, in their perception, there is a huge price difference between the sustainable options and the regular ones. As well as that, it is important for a business to be more focused on renewable energies, with more specific and intensive sustainable approaches. Since consumers want to verify a quick change and are not sure if the planet and the environment can wait 30 more years for the company to improve its mechanisms of exploitation, production, refining and distribution of petrochemicals, it is mandatory that the company acts now.

## **6.2. Limitations and Future Research**

This dissertation is an important contribution to the study of the impact of sustainable strategies on consumer behavior, particularly in the energy market. In order to materialize the topic, the case of British Petroleum was used since the company has announced a new agenda, where sustainability has the main role, in February 2020, which makes the subject very timely. However, there are some limitations and it is possible to explore some topics through future research.

- Firstly, the findings are restrained by the amount of the respondents, their location and age range. Thus, the results might be biased because the populational sample is mainly from Lisbon and has an age range between 20-30 years old, and one cannot ensure if the results would be the same if there were more participants from rural areas, other countries than Portugal (only 10.4% of the responses were from foreign participants) and with lower levels of education (the minimum level of education obtained in the data collection was High School). Also, the survey had 345 answers and a higher number of participants would provide a better consumers' representation.
- The findings are related to a specific company, British Petroleum, therefore it is not possible to ensure that consumers have a same perception about other energy companies.

- The energy market has its own specifications and the findings regarding the consumers perception about sustainability strategies cannot be assumed for other industries, markets or companies.
- As BP is a company present in 79 countries worldwide, and each country has its own culture and business dynamic, it is possible that different perceptions of the energy market and the company itself exist according to the various geographical locations. Moreover, as the sample of each nationality is not equal, it was not possible to compare countries or analyse similarities.

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## **Webgrafia**

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## APPENDIX

### **Online Survey to Consumers:**

The present survey was developed for the Master in Business at Catolica Lisbon School of Business and Economics.

The aim is to collect data about consumers **perception in Oil & Gas Companies** and the energy market, in terms of **sustainability**.

The information provided will be used only for research purposes, and the answers will be collected and analysed anonymously. This questionnaire will take no longer than 5 minutes of your time.

Thank you very much for your participation. For any questions related to this survey, please feel free to contact me through: [pmccharneca@gmail.com](mailto:pmccharneca@gmail.com)

- Block 1- Socio-demographic

#### **1- What is your gender?**

- a) Male
- b) Female
- c) Don't want to answer

#### **2- How old are you?**

Insert age

#### **3- What is your highest level of Education?**

- a) Less than High School
- b) High school
- c) Technical degree
- d) Bachelor's degree
- e) Master's degree
- f) Doctorate

#### **4- What is your current occupation?**

- a) Student
- b) Student/worker
- c) Employed
- d) Unemployed
- e) Household
- e) Retired

#### **7- Where do you Live?**

Block districts

- Block 2- General Perception of Oil & Gas/Energy market

**1- What is the the first company that comes to your mind when talking about the Oil & Gas sector?**

Blank space

**2- How would you rate your perception on the Oil & Gas industry: (scale 1- Negative Perception; 5- Positive Perception)**

	1	2	3	4	5
Eco-friendly Behavior					
Sustainability					
Social Responsibility					
Green Marketing					
Environmental impact					

**3- Do you consider yourself to be aware of the energy market? (Scale 0- not aware at all; 10- highly aware)**

0-10

**4- How conscious are you of your energy behaviour and consumption? (Scale 0- not conscious at all; 10- highly conscious)**

0-10

**5- Are you aware of the environmental impact of your purchases, regarding energy?**

- Yes
- No

**6- Please put in order of preference the following factors regarding the choice of an Energy company, from order from the most important to the least important:**

- Company/Brand
- Price
- Quality
- Reliability
- Durability
- Accessibility/Proximity
- Eco-friendly
- Sustainable product

**7- Are you willing to adapt your everyday routine and change energy consumption for the benefit of the environment? (Scale 0- I'm not going to change my consumption; 10- I will definitively change my consumption)**

0-10

**8- Are you more willing to choose products from a “green energy” company?**

- Yes
- No

**9- Are you willing to pay more for sustainable energy products?**

- Yes
- No
- Depends on the price difference

- **Block 3- British Petroleum**

BP is a Oil & Gas company from England and one of the biggest in the energy sector. The company operates in exploration, production, refining and distribution of petrochemicals, power generation and other commodities. Currently, has been increasing renewable energy offer and is committed to develop strategies to achieve **zero-net carbon emissions in 2050**.

**1-When in need of Oil & Gas products, do you usually choose BP?**

- Yes
- No

**2- Why did you choose the Oil & Gas company that you usually buy?**

- Company/Brand
- Price
- Quality
- Reliability
- Durability
- Accessibility/Proximity
- Eco-friendly
- Sustainable product

**2- Are you aware of BP's sustainable initiatives?**

- Yes
- No

**3- Do you consider BP a sustainable company?**

- Yes
- No

**4- How sustainable do you perceive BP? (scale 0- Not being sustainable at all; 10- Being fully sustainable)**

0-10

**5- Do BP's sustainable strategies represent a trust or loyal factor to you?**

- Yes
- No

**6- Do you have more empathy with companies with sustainable initiatives?**

- Yes
- No

**7-Do you perceive BP’s sustainable strategies as a motivation to prefer this company over other companies in the energy sector?**

- Yes
- No

**8- Has your perception of BP changed by knowing the net-zero plan by 2050? (Scale 0- Nothing Changed; 10- Changed for the better)**

0-10

**9- The table below shows BP’s prices, being the “Gasoline” and “Diesel” the regular product, and “Gasoline +” and “Diesel +” the premium products (*Ultimate*)- better for the car engine and the environment.**

Gasoline	Gasoline +	Diesel	Diesel +
1.359€	1.519€	1.269€	1.389

**Which one are you more likely to buy? (answer even if you don't own a vehicle or your vehicle is not fueled by Gasoline/Diesel)**

- Regular Gasoline/Diesel
- Premium Gasoline/Diesel (*Ultimate*)

**10- If you were not a BP client, what is the probability of becoming one after learning about its sustainable initiatives? (Scale 0- I will not become a client; 10- I will definitely become a client)**

0-10

**11- What factor would lead you to become a BP’s costumer?**

Blank space