

# **Green but ignored? The irrelevance of television advertisements on energy sustainability in Spain and its impact on consumer perceptions**

**Ana Beriain Bañares, Miguel F. Santos Silva, Sergio Rodríguez Rodríguez**

## **Keywords**

Green Advertising - Energy Companies - Climate Change Communication - Brand Perception - Purchase Intentions - Renewable Energy

## **Introduction**

Driven by a growing concern by governments and citizens for the sustainability of our planet, companies have begun to include concepts associated with the protection of the environment in their marketing strategies. This trend, which has mainly developed since the first decade of the 21<sup>st</sup> century [1], manifests itself significantly in advertising [2,3]. According to the study sponsored by *TerraChoice* entitled “The Seven Sins of Greenwashing”, 10% of all advertisements broadcasted in the United States in 2008 contained some reference to the environment and the quantity of advertisement campaigns associating brands, products and services to the protection of the ecosystem tripled between 2006 and 2008 [4]. This increase is in line with the findings of a study sponsored by the European Commission in 2014, which revealed that 70% of the magazine advertisements analyzed contained some reference to the environment, either in the company logo, the text, the image or the background color [2].

In this context it would be reasonable to expect that the Spanish energy sector would also engage in a similar practice and increase its commitment to the environment with green communication. This has raised certain questions such as: Is this true? Would it be possible to identify a trend towards green advertising in the Spanish energy sector and with what kind of effects? How would Spanish consumers react to this possible new trend? How would green advertising affect consumers’ brand perceptions and purchasing intentions?

The purpose of this study is to examine the evolution of the Spanish domestic energy sector’s television advertising campaigns over a period of 15 years and analyze consumers’ brand perceptions and purchasing intentions.

## The Spanish Energy Market

The Spanish energy market is led by three large corporations, Endesa, Iberdrola and Naturgy and they account for more than 80% of the electric and gas market (table 1).

**Table 1.** Distribution of the Spanish energy market share.

Sources: [5,6]

	Electricity Market		Gas Market	
	N° of Customers	Share %	N° of Customers	Share %
ENDESA, S. A.	10,542,188	36.26	1,552,480	19.56
IBERDROLA SPAIN, S. A.	10,124,641	34.62	1,053,885	13.27
NATURGY ENERGY GROUP, S. A.	4,629,746	15.82	4,007,232	50.48
EDP SPAIN, S. A.	1,141,918	3.86	903,044	11.37
REPSOL, S. A.	659,291	2.24	161,873	2.04
OTHER COMPANIES	1,975,212	7.19	260,375	3.28
TOTAL	29,072,996	100	7,938,889	100

Regarding their sustainability, or decarbonization and reduction in greenhouse gas emissions, the three biggest Spanish energy companies perform quite differently. According to the data provided by the companies themselves, Iberdrola produces 45% of its energy through renewable sources, Naturgy 20.7% and Endesa 16.4% (table 2).

**Table 2.** Renewable and non-renewable energy production (GWh).

Sources: [7,8]

	Iberdrola	Naturgy	Endesa
Year	2018	2018	2018
<b>Renewables</b>	25,973	5,866	12,172
Onshore wind	11,654	1,958	-
Hydroelectric	13,590	3,359	8,339
Mini hydroelectric	670	549	-
Solar and others	58	-	-
Renewables and cogeneration	-	-	3,833

<b>Non-renewables</b>	31,737	22,441	62,021
Nuclear	23,536	4,431	24,067
Combined cycle	4,092	14,252	8,957
Cogeneration	2,472	64	-
Coal	1,637	3,694	-
Convention fuel burning	-	-	28,997
<b>Total</b>	<b>57,711</b>	<b>28,307</b>	<b>74,193</b>

According to the Spanish Observatory Annual Report for Sustainability 2019 [9], the three biggest Spanish energy companies are among the 10 companies with the highest levels of greenhouse gas emissions. Specifically, in 2018, Endesa led the ranking by being one of the most polluting companies in the country and was responsible for the production of 9.28% of the total amount of greenhouse gases. Naturgy produced 2.8% and Iberdrola 1% of the total emissions.

## 1. Literature Review

According to Banerjee et al. [10], green advertising could be defined as “any ad that meets one or more of the following criteria: 1) explicitly or implicitly addresses the relationship between a product/service and the biophysical environment, 2) promotes a green lifestyle with or without highlighting a product/service and 3) presents a corporate image of environmental responsibility.”

As stated by Zinkhan and Carlson [11], companies feel the need to promote green ads to address the development of a green consumer segment, the pressure of other stakeholder groups (owners or stockholders) or simply to foster a more responsible business model. The advantages of engaging in green advertising activities have been studied by Pringle and Thompson [12] and Varadarajan and Menon [13], who concluded that by associating themselves with important environmental causes, companies enhance their image and, consequently, retain customers. In the case of the energy sector, these advantages seem to be particularly significant. As Kong and Zhang [14] observed, the effectiveness of green ads to positively influence consumers’ brand perceptions and purchasing intentions is higher when they refer to eco-harmful products and not that effective when referring to less harmful products. Moreover, as Barrage et al. [15] showed, green campaigns may help companies control or minimize the damages resulting from an environmental accident. In their study, Barrage et al.

observed that the green advertising campaign launched by BP between 2008 and 2010 served to mitigate the losses resulting from the oil spill scandal in the Gulf of Mexico in 2010.

In this context, it should not be surprising that the ten major oil companies in the world have been using corporate advertising to counteract negative consumer opinion by focusing on the quality of their products and on their commitment towards the environment rather than on price [16].

Evaluating the honesty and sincerity of such campaigns usually is not an easy task. Studies carried out on green marketing and green advertising revealed that many companies, while actively promoting a responsible corporate image regarding the environment, refuse to fundamentally change their production processes that continue to harm our planet. This is known as greenwashing [17,18].

Organizations, such as Greenpeace, recently revealed a set of practices carried out by some Spanish energy companies that call into question the authenticity of their commitment to the protection of the environment. In 2019, Greenpeace denounced the agreement Endesa and Iberdrola reached under the Integrated Energy and Climate Plan (PNIEC) to request an extension of the Vandellós nuclear power plant's operating license until 2035, which would result in exceeding the plant's life by eight years "with the problems resulting from aging that this implies" [19]. In 2018, Endesa was forced to withdraw its own Internet campaign in which the company tried to persuade the public to believe that the production of energy with coal was less polluting than the emissions produced by vehicles [20].

According to Horiuchi et al. [21], there are four main reasons why greenwashing campaigns are a common practice in the world of marketing: 1) growth in the search for environmentally friendly products and services, 2) increased sales of green products, 3) policies to promote environmental objectives and 4) absence of laws and codes of conduct that regulate environmental marketing claims [21,22]. Nonetheless, recent studies have pointed out that green advertising campaigns can also jeopardize brand perceptions and purchasing intentions, especially when consumers perceive a disconnection between what companies communicate and their environmental performance [23]. This skepticism towards environmental claims is particularly noticeable in consumers who have strong environmental awareness [24].

Green marketing and green advertising have received growing scientific attention in the last few decades. According to Leonidou [25], the research has mainly focused on greenwashing, green advertising, corporate environmental strategies and other

marketing and environmental aspects. Less attention has been given to the effects of green advertising and green marketing on consumers' brand perceptions and on consumers' sustainable behavior [26]. This study addresses the lack of attention paid to the relationship between environmental claims and consumers' brand perceptions and purchasing intentions by examining the situation in the Spanish energy sector.

## **2. Research Hypothesis**

The main purpose of this study is to analyze Spanish energy companies television advertising campaigns over a 15-year period and examine consumers' brand image and purchase intentions. The following two research hypotheses were drawn:

H1. Advertising campaigns of Spanish energy companies have evolved over time to include green elements related to sustainability and environmental protection.

H2. Consumers' perception regarding the commitment of energy companies to the protection of the environment positively influences their purchasing decisions.

## **3. Methodology**

In the analysis of the advertising campaigns and the consumers' brand perceptions and purchase intentions, a descriptive, quantitative research methodology was used [27].

### **3.1. Analysis of Advertising Campaigns**

First, a database was created containing the domestic energy advertisements broadcast on television from January 1, 2004 to December 31, 2018. The data includes electricity, wind energy, solar energy, butane/propane gas, natural gas, heating diesel, household power line, multi-products and other household energy products. The search resulted in a total of 483 advertisements.

Second, the following were eliminated:

1. Repeated advertisements (choosing the longest version, as the shortest ones were adaptations of the longer ones).
2. Repeated advertisements dubbed into Basque, Catalan and Galician (regional languages in Spain).
3. Short versions of advertisements broadcast on television programs.

Following this screening, a database of 303 different advertisements was obtained, representing 100% of the ads broadcast on television over 15 years.

Third, each advertisement was classified by author and its textual and visual content.

For textual analysis, the analysis sheet was divided into two main categories:

- a. Generic identification data of the advertisement: the advertiser, the year of broadcast, the duration of the ad in seconds and the type of energy advertised distinguishing between butane gas, natural gas, diesel heating, electricity, wind energy, solar energy and propane.
- b. Advertising content: We recorded whether or not the ads advertised any offers and all key messages and slogans were extracted. Once the messages and slogans had been analyzed, a coding plan was drawn up in order to group them according to concepts and to quantify them.

For the visual analysis of the advertisements, the following variables were analyzed as they represent the components that make up an ad:

- a. The setting in which the story takes place (home, workplace, natural environments, etc.)
- b. Main colors used, company logos and font types.

### **3.2. Analysis of the Image of Energy Companies and Consumer Behavior**

In order to determine the opinion of Spanish consumers regarding energy companies that operate within the national territory and their purchasing intentions, a survey was taken in which a structured questionnaire with closed-ended questions was sent to the Spanish population over the age of eighteen. The sample contained 1004<sup>1</sup> panel interviews conducted online from November 13-20, 2019. To guarantee the quality of the fieldwork, we collaborated with the company Netquest<sup>2</sup>, which has at its disposal a community of individuals who participate with a single invitation only, thereby reducing the risk of self-selection and duplications and providing exclusive information. Moreover, this company holds an ISO 26362 certificate.

For the design of the sample [28], the weight of each sociodemographic segment in the Spanish population was sought according to the National Institute of Statistics, applying the same proportions to the scheduled 1,000 interviews. As the fieldwork

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<sup>1</sup> Four more interviews, in addition to the scheduled sample, were carried out and included.

<sup>2</sup> Netquest.com

was carried out, compliance with study quotas was verified. Therefore, the large sample size and the chosen sampling system allowed us to extrapolate results from the entire Spanish population, with a sample error of  $\pm 3.15\%$  and a confidence level of 95% (table 3).

**Table 3.** Sample distribution.

Source: Authors.

	Spanish Population Distribution	Number of Interviews	% Final Distribution
<b>Sex</b>			
Male	48.90	490	48.80
Female	51.10	514	51.20
<b>Age</b>			
18-24	11.90	120	11.95
25-34	15.20	154	15.34
35-44	22.30	226	22.51
45-54	20.40	203	20.22
55-65	17.20	171	17.03
65+	13.00	130	12.95
<b>Region</b>			
Northeast / Catalonia and Balearic Islands	12.40	125	12.45
Levante	14.80	151	15.04
South / Andalusia	19.30	193	19.22
Central	10.20	102	10.16
Northwest	9.30	94	9.36
North central	9.10	91	9.06
Canary Islands	4.80	48	4.78
MAB (Metropolitan area of Barcelona)	8.50	85	8.47
MAM (Metropolitan area of Madrid)	11.60	115	11.45
<b>Habitat</b>			
Provincial capital	32.40	326	32.47
Non-capital less than 50,000	47.50	476	47.41
Non-capital 50,000 or more	20.10	202	20.21

The first part of the questionnaire collected sociodemographic data such as sex, age, province, habitat, area, number of household members and social class. Next, the central questions of the questionnaire were broken down into spontaneous and

suggested knowledge of the energy companies, companies contracted on some occasion or currently contracted, aspects taken into account when choosing an energy company and their image (global assessment and brand image). The questionnaire finished by using a series of variables related to caring for the environment in order to identify the population.

The collected data was cross-referenced with sociodemographic variables to observe whether there were statistically significant differences between the various segments analyzed. These segments are sex, age, size of habitat, number of household members, social class, geographical area and level of education of the respondents.

Thus, the data collected from the advertising and consumer analysis allowed for a descriptive analysis of advertising strategies and the image of electric and gas companies.

To determine the existence of statistically significant differences in the information obtained in both studies, the t-test for proportions was carried out, which allows for the comparison of cell by cell data of a table with category variables of independent samples [29]. This test compares the values between two cells of the same row with the columns of the table. For each column, the t-test was used on the hypothesis that the population proportion of case A and case B can be considered equal versus the hypothesis that they are significantly different (either much higher or much lower) at a 95% confidence level. In the tables, significant statistical differences are represented with capital letters, which coincide with the column whose proportion is considered higher.

Finally, a multivariate analysis was performed to collect necessary information in order to define the position the company occupies in the energy market. Thus, a map of the analytical positioning was obtained in which the relative positions of the various competitors, concurrent in the same space or context and that are considered as a homogeneous group, are shown.

## **4. Key Findings**

### **4.1. Analysis of Advertising Campaigns**



During 2004-2018, the energy companies launched a total of 303 different advertisements on television<sup>3</sup>. Regarding the classification data of the advertisements analyzed, the following conclusions were drawn: over the 15-year period studied, Naturgy placed the most advertisements on television (41.3%) followed by Endesa (23.8%) then Iberdrola (15.8%). Naturgy, despite having a lower market share (23.7%) than Endesa (32.7%) and Iberdrola (30.2%), produced more television commercials. Naturgy's larger investment in advertising must be understood as being part of a communication campaign aimed at publicizing the acquisition of Unión Fenosa in 2018, which allowed the group to enter the electric market.

The Spanish energy companies advertisements focused on promoting offers such as billing discounts and discounts for contracting electricity and gas (73.9%), especially Endesa and Naturgy (Endesa 88.9%, Naturgy 83.2%, Iberdrola 62.5%) (table 4). The year 2015 recorded the most advertisements promoting offers, especially by Iberdrola and Naturgy.

**Table 4.** Communication of special offers in the advertisements of the main energy companies.

The capital letters accompanying the percentages indicate significant differences at a 95% confidence level. Source: Authors.

	TOTAL	Iberdrola (A)	Endesa (B)	Natur./GN (C)	Others (D)
Sample: Total advertisements	303	48	72	125	58
	%	%	%	%	%
Advertise special offers	73.9	62.5	88.9 AD	83.2 AD	44.8
Does not advertise special offers	26.1	37.5 BC	11.1	16.8	55.2 BC

Savings received by the customer for contracting the services of the three companies with the largest market share was the key message in their advertisements (62.7%). The impact of advertising messages promoting the concept of savings is particularly noteworthy in the case of Endesa, who over the 15-year period (2004-2018), focused three quarters of its television advertisements on the economic advantages associated with its services (75%).

<sup>3</sup> In 2019, the energy sector ranked sixteenth in television advertising investment (75.4 million euros) and a market share of 1.76%. The energy sector reduced its advertising investment in television by 9.5%, while the set of sectors decreased by 3.2% [30].

In general terms, there were few direct references to green, clean and renewable energy (6.3%). Iberdrola was the only exception in this regard with 18.8% of its advertisements explicitly referring to the company’s commitment to protecting the environment. In the case of Naturgy, green messages appeared in only 6.4% of its advertisements and in the case of Endesa, there were none. It is as remarkable as it is surprising that referencing renewable, green and clean energy has not increased over time.

When analyzing the slogans of the advertising campaigns, a large dispersion was observed in their key messages. The concept of green energy was only recorded in 2% of cases, led by Naturgy, although with a low percentage (4.8%). Iberdrola stands out for its more emotional slogans that seek empathy and audience involvement (“You” in 16.7%, “We want to be ...” in 16.7%, “I will be there...” in 14.6%).

The setting in which the advertisement story usually takes place is in the home (73.3%), especially Endesa (83.3%) and Naturgy (80%) advertisements. Although it is also the context most present in Iberdrola advertisements (56.3%), the company stands out significantly for also setting them in the mountains (31.3%) and in nature (6.3%) (table 5), which has not increased since 2004.

**Table 5.** Advertisement setting.

Source: Authors.

The capital letters accompanying the percentages indicate significant differences at a 95% confidence level.

	TOTAL	Iberdrola (A)	Endesa (B)	Natur./ GN (C)	Resto (D)
Sample: Total advertisements	303	48	72	125	58
	%	%	%	%	%
Home/kitchen/bathroom	73.3	56.3	83.3 AD	80 AD	60.3
City	3.0	-	-	4.0	6.9
Bar	1.7	4.2	-	0.8	3.4
Mountain/forest	8.9	31.3 BCD	8.3 C	-	10.3 C
Sea	0.7	-	-	1.6	-
Workplace / offices	2.3	2,1	-	4.0	1.7
TV studio set	10.9	22.9 CD	13.9 D	9.6 D	-
Desert	1.0	-	-	-	5.2
Sports/basketball/football/gym	2.0	-	4.2	1.6	1.7
Nature	2.0	6.3	-	-	5.2

Others / school / cinema / black background / outdoors	6.9	2.1	5.6	5.6	15.5 AC
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## 4.2. Rhetorical Resources Used in Advertisements

Inspired by the study carried out by Smerecnik and Renegar [31], we concurrently analyzed advertising campaigns in order to identify the presence of the rhetorical resource that Aristotle, in his work *The Art of Rhetoric*, referred to as *enthymemes*. This rhetorical figure is characterized by attributing to the audience the responsibility of identifying one of the premises of the supposed syllogistic argument. In other words, the syllogism is constructed between the author and the audience in such a way that the audience is called to invoke an absent premise on which a logical inference is later built. The effectiveness of this rhetorical figure lies in the tendency of the audience to take the truth of the premise for granted, often resulting from an incoherent and unstructured amalgam of opinions, convictions and beliefs [32,33].

The presence of visual elements in advertising campaigns that are symbolically associated with nature and the environment, such as the presence of the color green, natural landscapes, the sun, rivers and mountains, function as symbols of a connotative language [34] that corroborate the idea that these companies produce green and sustainable energy. Iberdrola’s advertisement to announce its Smart Mobility app in the autumn of 2018 is an example of this.<sup>4</sup> Schmuck et al. [35] demonstrated that the inclusion of vague references to the environment combined with the use of images that invoke nature, generates a powerful emotional persuasion mechanism that enhances a positive attitude towards brands capable of overcoming the perception of greenwashing.

As a way of strengthening a green and sustainable image, companies try to make their clients co-participants in the fight to protect the environment. To do this, they create messages that emphasize that the future of our planet is a task that involves everyone, including companies and consumers. An example of this is Iberdrola’s 2018 “Deal” campaign in which it uses as a tagline the claim, “You do it for you, you do it for the planet.”<sup>5</sup>

It would be up to each of us to assume our share of the responsibility, however, this appeal to freedom and individual responsibility is not entirely selfless. The objective

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<sup>4</sup> Video available on: <https://bit.ly/2kSYft0>

<sup>5</sup> Video available on: <https://bit.ly/2m2qW6O>

of these green marketing campaigns is to persuade the potential customer that, by consuming the company's products, they are contributing to a better future. In other words, it is always within the limited interests of the companies that customers are called to exercise their "freedom" and "responsibility." Moreover, by insisting on the idea that saving our planet depends on us, companies are at the same time drawing citizens attention away from other forms of political action that could harm their interests [31]. For example, the struggle to reduce our dependence on fossil fuels as a priority for citizens is not raised or insinuated in any advertising campaigns.

Another green marketing campaign strategy associated with the rhetoric of participation described above is one referred to as *incrementalism*. Developed mainly in politics, incrementalism consists of making people believe that the solution to a problem is found by engaging in a succession of countless small steps [31]. This strategy can be very useful for many corporations since it allows them to postpone the adoption of more revolutionary policies. Creating in the audience the idea that protecting the environment is a task that will be achieved little by little and, with the help of everyone, reduces the amount of responsibility that would fall on energy companies while mitigating the need for the urgent actions demanded by scientists and non-governmental organizations. This resource has not been used by any of the companies in this study.

Another strategy identified by Smerecnik and Renegar [31] involves the use of lowercase letters in verbal messages to downplay formality and seriousness. The font, use of lowercase letters and the presence of a general relaxed, casual atmosphere help to convey the feeling that fighting global warming is not as serious as other political and social actors argue. A good example of this practice can be seen in Fenosa Gas Natural's (now called Naturgy) 2017 personalized tariffs campaign.<sup>6</sup>

Bearing the previous strategy in mind, Iberdrola launched a number of campaigns to gradually build a differentiated brand image anchored in communicating an image of a "green brand." The presence of landscapes, rivers and mountains in a significant number of its advertisements (31.3%), as well as the uninterrupted use of the color green since 2004 to frame the brand at the end of its advertisements, demonstrates Iberdrola's intention to bring its image of protecting the environment closer to people's minds.

### **4.3. Image of Energy Companies and Consumer Behavior**

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<sup>6</sup> Video available on: <https://cutt.ly/mpNg1YZ>

Several relevant aspects emerge from the results of this study. Consumers consider Endesa to be a leading benchmark in the domestic energy market, followed by Iberdrola and Naturgy (see table 6). It is remarkable that Endesa is the most polluting company and the one least associated with protecting the environment in television advertisements, however, it is the best known and most contracted company.

An initial explanatory hypothesis could be the importance of tradition. Created on November 18, 1944 under the name “Empresa Nacional de Electricidad, S.A.” by the defunct National Institute of Industry, Endesa has controlled the energy market in Spain since its foundation. In the first five decades of its existence, it was a public company that operated in a quasi-monopoly regime (see table 1) and, after the privatization of the sector which began in 1998, it was the leading company in the market.

Another possible explanation for this result could be related to the image of Endesa in the Spanish press. Studies carried out on the media coverage of issues related to environmental pollution and protecting the environment reveal the difficulty the media has in producing content that highlights the most polluting companies. In part, this is due to the huge importance that large energy companies have in the economic sustainability of the media (advertising, sponsorship<sup>7</sup>, etc.), also, most of the negative effects on the environment do not occur overnight but gradually, which contrasts with the main criteria of newsworthiness or news factors, such as novelty and the impact and existence of images [36]. Finally, this could be attributed to the growing power of influence that these companies exercise over the media through their public relations departments [37].

**Table 6.** Awareness and contracting of gas and electricity companies

Source: Authors.

	Spontaneous Awareness Top of Mind	Spontaneous Awareness Total	Prompted Awareness	Contracted at some time	Currently contracted
Sample: Total interviews	1004	1004	1004	1004	1004
	%	%	%	%	%
Endesa	38.0	69.7	95.2	56.7	37.2
Iberdrola	27.8	66.6	92.3	48.0	28.7

<sup>7</sup> Endesa is a sponsor of the Spanish professional basketball league (ACB) and holds the naming rights of the Endesa League competition.

Naturgy	12.5	49.4	76.2	39.2	25.7
Repsol	2.0	22.7	75.7	9.0	5.8
Holaluz	2.1	13.6	26.9	3.3	2.0
EDP	4.2	11.9	26.9	10.3	7.7
Viesgo	0.9	4.0	19.4	4.4	1.3
Factor energía	0.3	1.6	11.2	0.7	0.5
Cepsa	0.5	7.7	-	-	-
Energy	1.1	3.0	-	-	-
Enagas	0.2	2.3	-	-	-
Som energía	0.4	1.8	-	-	-
Fecsa	0.4	1.7	-	-	-
CatGas	0.2	1.0	-	-	-
Catllum	0.0	0.8	-	-	-
PepeEnergy	0.1	0.8	-	-	-
Energía XXI	0.3	0.5	-	-	-
Others	4.5	28.3	-	-	-
Don't know	4.5	4.5	-	-	-

(-) Companies not suggested to the interviewees

To understand the domestic energy market in Spain, it is necessary to examine the factors that consumers consider when contracting these services.

The data collected reveals that price is the main reason for contracting these companies 44.2% and one of the top three for 78.9% of them (if all the factors had the same importance, they would have an allocated percentage of 12.5% for the first place and 37.5% for the total). Based on the data, looking at the relationship between expected and observed values, we conclude that price is the most relevant factor. Aspects that refer to the environment and renewable sources of energy production play a minor role. 11.5% first consider the company's respect for the environment and climate change and 8% consider whether the energy supplied comes from renewable sources. In order to understand the priority that consumers attribute to price, it must be noted that, according to Eurostat data, the price of energy in Spain is one of the highest in Europe, only below countries such as Germany, Denmark and Belgium and at the same level as Ireland, all of which are countries with substantially higher purchasing power than Spain [38].

**Table 7.** Purchase intention factors.

Source: Authors.

		1 <sup>st</sup> place	2 <sup>nd</sup> place	3 <sup>rd</sup> place	Total
Sample: Total interviews		%	%	%	%
Has the best prices	1004	44.2	19.2	15.4	78.9
I trust it	1004	16.5	23.6	16.8	57.0
Respects the environment and cares about climate change	1004	11.5	16.7	19.1	47.3
The energy is produced from renewable sources	1004	8.0	13.0	16.4	37.5
Sells electricity and gas	1004	6.3	6.4	8.4	21.0
It's the one I've known all my life/the usual	1004	5.5	5.4	5.4	16.2
Has customized plans	1004	4.3	11.0	12.9	28.2
Has headquarters in my autonomous community	1004	3.8	4.7	5.5	13.9

Table 8 presents consumers' evaluation of the various electricity companies. The best-rated company is Holaluz, a company that only markets energy from renewable sources and whose mantra is "100% green energy flat rate." This result seems to reveal that consumers are sensitive to the commitment of companies who protect the environment even though the contracting decision is based on tariff prices. This interpretive hypothesis is more substantial when considering the fact that Holaluz is the company best evaluated both by its customers and by the customers of other companies.

**Table 8.** Overall evaluation of energy companies.

Source: Authors.

Average according to a scale with a maximum value of 10 and a minimum of 1.

	Base: Consumer is aware of the company	Average	Base: Contracted by consumer	Average
HOLALUZ	270	5.89	20	7.9
NATURGY / GAS NATURAL FENOSA (GNF)	765	5.75	243	6.5
IBERDROLA	927	5.74	280	6.66
ENDESA	956	5.66	373	6.25

EDP	270	5.6	74	6.47
REPSOL	760	5.55	54	6.76
FACTOR ENERGÍA	112	5.48	4	7.25
VIESGO	195	5.25	13	7.23

This study also analyzed the extent to which Spanish consumers are sensitized to the environment and the kind of actions they make to minimize their footprint on the planet (table 9). Among all the actions studied, foremost was concern about recycling, while the willingness to pay more for sustainable, ecological products generates is the lowest, which registers no statistically significant differences between Endesa, Naturgy and Iberdrola customers.

Taken as a whole, the data collected indicates that consumers are either unwilling to pay the extra cost of buying products or contracting services that are more environmentally friendly or they cannot afford them. The exception to this trend are young people under the age of 34 years. According to Royne et al. [39], this predisposition of younger consumers could be explained by them having greater environmental awareness and by the connection between consumption habits being a form of self-expression.

**Table 9.** Identification with values. Source: Authors.  
Average according to a scale with maximum value 5 and minimum 1.

	Average
Sample: Total interviews	1004
I care about recycling	3.99
I try to consume local products	3.75
I consider myself as someone committed to the environment	3.73
I buy electronic products with the highest energy efficiency	3.72
I have learned how I can contribute in terms of my habits to protecting and improving the environment	3.45
I consume ecological products	3.01
I am willing to pay more for sustainable-ecological products	2.99



To complete the study, the perceived image of the various energy companies among Spanish consumers was analyzed through a series of suggested attributes (table 10). These attributes were determined from the contents of 303 advertisements analyzed, reports on the energy sector and the authors' experience in analyzing brand image in previous studies.

It is significant that, for the majority of the interviewees, the companies that operate in Spain are perceived as not being very respectful towards the environment, with Holaluz (18.9%) and Iberdrola (17.3%) being the best evaluated companies, although modestly. Also significant is the fact that, for the vast majority of consumers, Spanish energy companies do not produce green or clean energy. Iberdrola (22.8%) and Holaluz (20%) are again the two companies most associated with green energy.

**Table 10.** Brand image of energy companies.

Source: Authors.

	ENDE.	NAT.	IBE.	EDP	VIE.	HOLA.	REP.	FACT.
Base: Consumer is aware of the company	956	765	927	270	195	270	760	112
	%	%	%	%	%	%	%	%
It is trustworthy	24.5	21.6	25	13.7	6.2	17.4	13.3	8
It is a leading brand	35.9	25.8	38.5	8.1	2.1	2.6	18.6	1.8
It is modern and innovative	14.3	17.4	19.8	15.2	8.2	31.9	12.6	14.3
It has been in our home my whole life	31.6	21.6	28.9	10.0	4.6	1.1	5.5	0.9
It understands families' needs	14.1	12.9	14.8	8.9	6.7	15.2	6.8	12.5
Its products and services are the best value for money	11.6	11.1	12.9	14.1	3.6	20.0	5.0	8.0
It is honest and sincere	10.9	8.8	10.5	7.8	4.1	14.8	4.9	7.1
It is close to us/it stands by our side	16.9	12.8	16.2	10	4.6	13.7	8	8.9
It makes my life easier	14.9	13.1	15.6	10.4	6.2	13.7	8.6	6.3
It is a responsible brand	16.4	15	18.3	10.4	8.2	16.3	9.7	13.4
It is environmentally friendly and concerned about climate change	9.5	12.7	17.3	7.8	4.6	18.9	5.7	14.3

It is concerned about society	10	10.1	12.7	6.3	2.6	18.5	4.7	8.9
It makes good offers and personalized plans	15.6	13.5	16.8	14.1	5.6	23	6.3	15.2
It produces green or clean energy	8.9	11.9	22.8	5.9	2.6	20.0	4.2	9.8
It produces energy exclusively from renewable sources (wind, solar, water)	7.7	7.8	12.7	4.8	3.1	13.7	2.2	7.1

With the data obtained, a factorial analysis of correspondences was carried out to represent the positioning of the different brands on a map. The existence of a dependency relationship between the rows and the columns of the table was verified.

H0: The rows and columns of the table are independent.

Ha: The rows and the columns of the table are dependent.

Since the computed p-value is less than the significance level  $\alpha=0.05$ , the null hypothesis H0 is rejected and the alternative hypothesis Ha is accepted (table 11).

**Table 11.** Test of independence between rows and columns

Source: Authors.

Chi-squared (observed value)	162.964
Chi-squared (critical value)	122.108
GL	98
p-value	< 0.0001
alpha	0.05

Interpretation of the test shows that the output of the factorial analysis of correspondences provides the degree of inertia that the various factors accumulate. We observe that the visualization of the data in the two-dimensional graph accumulates 85.97% of the total inertia of the contingency table.

**Table 12.** Eigenvalues and inertia percentages.

Source: Authors.

	F1	F2	F3	F4	F5	F6	F7
Eigenvalue	0.086	0.011	0.007	0.006	0.002	0.001	0.000

Inertia (%)	76.527	9.443	6.330	5.223	1.520	0.731	0.226
% accumulated	76.527	85.970	92.300	97.523	99.043	99.774	100.000

The relative weight of the different items and scores is also available, as well as the distance and inertia (see tables 13 and 14).

**Table 13.** Weights, distances and square distances to the origin, inertias and relative inertias (rows). Source: Authors.

	Weight (relative)	Distance	Distance <sup>2</sup>	Inertia	Relative inertia
It is trustworthy	0.089	0.170	0.029	0.00257	0.023
It is a leading brand	0.092	0.636	0.404	0.03704	0.331
It is modern and innovative	0.092	0.275	0.076	0.00694	0.062
It has been in our home my whole life	0.072	0.635	0.403	0.02884	0.258
It understands families' needs	0.063	0.193	0.037	0.00235	0.021
Its products and services are the best value for money	0.059	0.302	0.091	0.00541	0.048
It is honest and sincere	0.047	0.179	0.032	0.00152	0.014
It is close to us/it stands by our side	0.063	0.083	0.007	0.00044	0.004
It makes my life easier	0.061	0.148	0.022	0.00134	0.012
It is a responsible brand	0.074	0.176	0.031	0.00230	0.021
It is environmentally friendly and concerned about climate change	0.062	0.290	0.084	0.00524	0.047
It is concerned about society	0.051	0.267	0.071	0.00361	0.032
It makes good offers and personalized plans	0.076	0.251	0.063	0.00476	0.043
It produces green or clean energy	0.059	0.335	0.112	0.00664	0.059
It produces energy exclusively from renewable sources (wind, solar, water)	0.041	0.270	0.073	0.00296	0.026

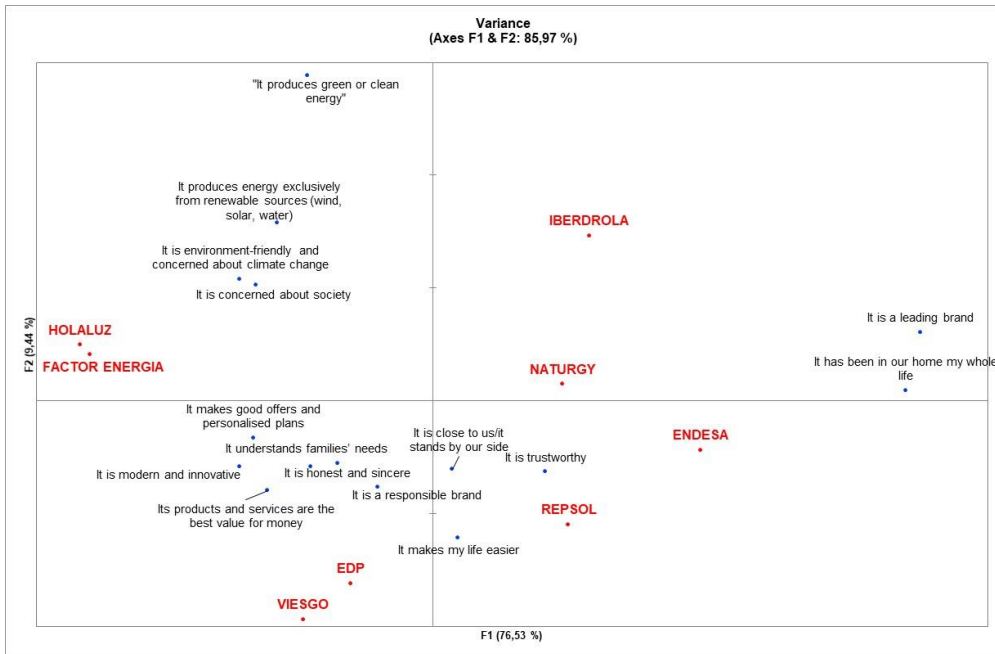
**Table 14.** Weights, distances and square distances to the origin, inertias and relative inertias (columns). Source: Authors.

	Weight (relative)	Distance	Distance <sup>2</sup>	Inertia	Relative inertia
ENDESA	0.167	0.350	0.123	0.020	0.183
NATURGY	0.148	0.169	0.029	0.004	0.038
IBERDROLA	0.194	0.248	0.062	0.012	0.107

EDP	0.101	0.239	0.057	0.006	0.052
VIESGO	0.050	0.329	0.108	0.005	0.049
HOLALUZ	0.165	0.458	0.209	0.035	0.309
REPSOL	0.080	0.333	0.111	0.009	0.079
FACTOR ENERGIA	0.094	0.468	0.219	0.021	0.183

The correlations map illustrates the market players very well. The horizontal axis, which gathers most of the variance, places the most established and well-known companies, Iberdrola, Naturgy, Endesa and Repsol, at one extreme while at the other end of the axis are the newer brands, Holaluz and Factor Energía. Endesa and Iberdrola are the brands that position themselves as benchmark brands and as brands that have accompanied Spanish families. To a lesser extent, Naturgy and Repsol share a similar position. In the case of Iberdrola, as noted above, it shares the position of being a “traditional” company that produces clean energy. EDP and Viesgo are the least known and differentiated, which is why they are located near the center of the graph. Meanwhile, the vertical axis has little relevance with only 9.44% of the variance. It should be noted that the most “social and sustainable” attributes are appropriated by the new brands and to a lesser extent by Iberdrola.

Fig. 1. Positioning Map (Factorial Analysis of Correlations)  
Source: Authors.



## 5. Discussion and Conclusions

In response to the growing awareness concerning environmental issues, companies have decided to develop green marketing and advertising campaigns. In this context, hypothesis (H1) was proposed, stating that Spanish energy companies would also begin to include messages associated with protecting the planet in their communication strategies.

In general terms, and in a context of extreme competition, Spanish energy companies have chosen to follow a cost leadership strategy instead of trying to differentiate from one another on the grounds of their commitment to the protection of the environment. Therefore, H1 (renewable energy is a value used by the main energy companies) is not confirmed. The fact that 73.9% of the ads focus on price and special offers, 6.3% allude to green energy and that only 2% explicitly refer to renewable sources of energy supports this conclusion.

This decision may have been the result of a complex dilemma. It is known that using advertising messages to build a green image is particularly effective for companies that provide environmental harmful products [40], however, it is also known that companies with low sustainable performance should be very wary of launching green marketing campaigns as they may foster consumer skepticism towards them and be seen as companies that engage in greenwashing operations [23].

Two of the three main actors in the Spanish energy sector (Endesa and Naturgy), which are also the two least sustainable companies in the market, clearly favored a strategy based on price (special offers), while the third company (Iberdrola) opted for a mixed strategy that combined price and sustainability. Some minor players, such as Holaluz, clearly opted for a strategy of differentiation by highlighting their 100% green energy.

Nevertheless, the rhetorical analysis of the instruments used in the ads obliges us to highlight an important point: instead of clearly stating their commitment to the protection of the environment, the Spanish energy companies insinuated it, thus avoiding the risks of being accused of greenwashing. Instead of “explicit claims”, they opted for “vague claims” [35]. This technique was utilized greatly by Iberdrola, who used natural settings such as mountains and forests in a third of its ads and, since 2004, has been framing its logo with an uninterrupted color of green and by Naturgy, formerly Fenosa Natural Gas, which, in addition to using a butterfly in its logo, created its new name in 2018 by combining the words “nature/natural” and “energy.”

The results of the surveys show that, in general, Spanish electricity companies are poorly evaluated by their customers, with Endesa and Naturgy being the companies with the worst image among Spanish consumers. The most notable exception to this trend is Holaruz, a company that only sells energy from renewable sources and, to a lesser extent, Iberdrola.

Taken as a whole, the results obtained in this study partially disprove research hypothesis 2 (H2) in the sense that consumers do not value the association of companies with the protection of the environment enough to act accordingly. In Spain, price is the main factor for contracting for 44.2% of the consumers. Nevertheless, it should be noted that energy in Spain is one of the most expensive in the European Union and the Eurozone, therefore, it would be unfair to say that consumers are indifferent to issues of sustainability and environmental protection. Otherwise, it would be impossible to understand why the company Holaruz is valued so positively because it is the only company in this study that sells 100% green energy. This apparent paradoxical attitude is in line with the results of studies carried out in other countries, which demonstrate that environmental awareness is not always accompanied with coherent purchasing decisions [41]. Brochado et al. [42] demonstrated that ecologically conscious consumer behavior (ECCB) is greater among environmentalists and activists. Studies focused on environmentally oriented anti-consumption (EOA) [43,44] reinforce this idea, highlighting the economic factor as one that prevents consumers from using products or services harmful to the ecosystem. Green and Pelozo [45] also showed that when consumption experiences are not subject to any type of public scrutiny, as is the case of domestic energy consumption, consumers tend to make decisions to ensure their own personal benefit instead of a collective one.

In general, the commercial advertising strategy of large Spanish energy companies is effective. By focusing their ads on price, the market leaders do not feel the need to explicitly adopt brand differentiation strategies. They simply emphasize the price and invest more in advertising than their competitors. The effectiveness of this strategy seems to be corroborated by studies showing that products advertised as being environmentally friendly are generally perceived as being more expensive [39].

As it is not easy to determine which companies actually offer the best prices due to the innumerable campaigns they launch on the market, the complexity of their billing methods and the fact that their communication is not always transparent and honest (see the multiple complaints filed by consumer protection associations) [46]. It is worth asking whether the unquestionable leadership of large companies does not reflect a somewhat acquiescent press. Baum [22] draws attention to the fact that news

media is not paying due attention to the disclosure of greenwashing campaigns. Although requiring confirmatory studies, this explanatory hypothesis seems to be supported by: 1) studies that demonstrate the important role new media play in promoting or inhibiting responsible consumption decisions [43] and 2) studies that reveal that consumers who are unwilling to pay a premium for environmentally friendly products tend to argue that companies in general act responsibly towards the environment [47].

In short, left to itself, the energy market in Spain seems to be unable to respond to the global climate emergency situation. Purchase decisions depend by and large on consumers' perception of the prices offered and not on the commitment companies make publicly with regard to protecting the environment.

## **6. Limitations and Future Research**

In this study we analyzed all of the advertising campaigns broadcasted on television in Spain over a span of 15 years. The sample used to examine brand perceptions and purchase intentions is representative of the Spanish population and has a very low sampling error, however, several limitations must be recognized. First, the image that Spanish people have of energy companies is not shaped exclusively by television ads. We cannot state that the image perceived by the consumer stems solely from television campaigns despite the large advertising investment made by energy companies in this area of advertising. Future research should study social media communication strategies and other conventional and unconventional means of communication, including sports and cultural sponsorships to which energy companies dedicate part of their budget. It would also be interesting to analyze how companies and consumers are behaving in other markets. Finally, as Sovacool highlights [48], understanding the energy sector requires further contributions from social sciences.

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