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**Sustainable leadership, corporate social  
responsibility actions and the effects on innovation.**

**Author: Roxana Maria Farcas**

**Tutor: Emilio Dominguez Escrig**

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## **0. INTRODUCTION**

Traditionally, organisations were established purely to achieve certain purely economic benefits to satisfy the economic needs of shareholders and stakeholders.

Likewise, the scope of action has changed as companies' activities are developed in environments marked by internationalisation, diversification, and globalisation that have become relevant in recent years. This environment, in turn, has undergone certain changes that have been affected by advances in technology, the quality of the goods offered, investments in innovation, the capacity for adaptation and flexibility, as well as the correct performance of the human team within the organisations. In addition, consumer tastes and demands are more exigent.

These factors have become a challenge for companies' actions, which help to gain a competitive advantage in the market. However, this requires high adaptability of activities to sustain this advantage in the long term.

Under these premises, organisations must, on the one hand, manage to adapt their ways of production to these new trends, take risks in environments characterised by high uncertainty, among others. On the other hand, they must have the capacity to maximise production by knowing how to take advantage of technologies and through investments in R+D+i activities.

Companies must therefore have the resources to enable them to position themselves in the market. Among the resources available to companies is the human factor, which is one of the fundamental resources available to every company. However to achieve this, this vision must be integrated from the top to the lowest levels in the hierarchy of every organisation.

Another aspect that has created controversy among people is the concern for the environment and sustainable actions on the part of companies, which is a major trend in society. To obtain satisfactory results in this respect, the need has arisen for the figure of leadership, whose task is to develop this vision, communicate the needs, encouraging participation and commitment on the part of the human team. But for this to happen, it is fundamental that leaders are responsible and sustainable (Rodríguez, 2018).

They, along with their characteristics, motivate the commitment actions, which at the same time translate into Corporate Social Responsibility actions, demonstrating the commitment

adopted both to society, the economy, and the environment. The result of such CSR practices involves numerous innovations through the products offered on the market.

Given the high uncertainty, organisations are required to adopt effective leadership to meet users requirements. To this end, it is essential to adopt a responsible and environmentally sustainable type of leadership, promoting policies of commitment and Corporate Social Responsibility, the result of which will lead to innovative products and greater profitability.

Therefore, this report proposes the case study of Porcelanosa Group, a Spanish company belonging to the ceramic tiles sector, as a starting point for the introduction of these concepts. Such concepts consist of identifying how the company implements a sustainable culture through leadership, executing responsible practices, the result of which is innovation.

## **I. THEORETICAL FRAMEWORK**

### **1. LEADERSHIP**

Throughout humanity, the figure of the leader has always existed. So much so that numerous theories have emerged, leading to different perceptions by numerous authors, each with a different interpretation (Rodríguez, 2018).

According to Heath (2014), the concept of leadership has undergone an experimental evolution that has allowed it to take different forms. Traditionally, the figure of the leader has been seen as a person who tries to influence others to agree with the objectives to be achieved. However, this has evolved from an administrative approach to a more focused approach to planning and implementing strategy, driving organisations towards innovation, development and growth.

Tracy (2014, p. 3-5), states that due to the society we live in, leadership at all levels of the organisation is essential, therefore he suggests that future-oriented leadership is necessary. Tracy (ibid) suggests that organisations today need more than ever good leaders in their workforce, as people are becoming more and more difficult to control and more demanding. Thus, he defines leadership as a skill capable of fostering extraordinary behaviour in people, as well as having sufficient capacity to gain followers.

According to Robbins and Judge (2009, p. 385) leadership is "the ability to influence a group towards achieving a vision or setting goals. The source of this influence can be formal, such as what the position of a managerial hierarchy in an organisation offers".

Therefore, leadership is defined as a grouping of skills and aptitudes that a person possesses and that influences the actions of others to meet the planned objectives (Heath, 2014).

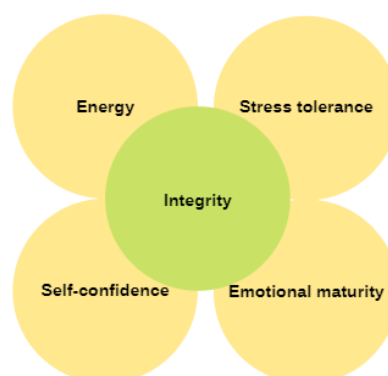
**Table 1: Definition of leadership**

LEADERSHIP	
Author	Definition
<i>Robbins and Judge (2009)</i>	"The ability to influence a group towards the achievement of a vision or the setting of goals. The source of this influence can be formal, such as that given by the position of a managerial hierarchy in an organization"
<i>Tracy (2014)</i>	"An ability that is embodied in fostering extraordinary behavior in people as well as having sufficient capacity to gain followers"

*Source: Own elaboration*

Research has also been done on the traits of good leaders and the characteristics associated with them, which determine the qualities that leaders should develop. Yukl (1992, cited in Ganga, F. and Navarrete, E., 2013, p. 57) suggests some characteristics of an effective leader, however owning them does not mean that leaders will be more or less successful (see Figure 1).

**Figure 1: Leadership characteristics according to Yukl (1992)**



*Source: Own elaboration*

Nevertheless, the evolution of leadership has led to confusion between the concepts of leadership and management. However, what does seem to be consistent is that a good manager must have the ability to be a good leader to achieve results.

According to Kotter (1999, cited in Torres, 2011), leadership and management are terms that can lead to considerable confusion. He distinguishes that leadership tends towards the results that the company intends to achieve, while management tries to maintain a proper functioning within the organisation, even without taking into account the employees of the organisation.

Bennis and Nanus (2008, cited in Torres, 2011) determine that managing implies responsibilities, fulfilling and directing; while leading is about influencing and guiding people in a certain direction. Bennis (1998, cited in Torres, 2011) also proposes the following qualities associated with leaders and managers (see Table 2).

**Tabla 2: Differences between manager and leader according to Bennis (1998)**

<b>LEADER</b>	<b>MANAGER</b>
<i>Innovate</i>	<i>Manage</i>
<i>Original</i>	<i>Is a copy</i>
<i>Develops</i>	<i>Maintain</i>
<i>Focuses on people</i>	<i>Focuses on systems and structures</i>
<i>Inspires confidence</i>	<i>Relies on control</i>
<i>Research</i>	<i>Accept reality</i>
<i>Long-term vision</i>	<i>Short-term vision</i>
<i>Asks what and why</i>	<i>Asks how and how much</i>
<i>Pursues the horizon</i>	<i>Pursues results</i>
<i>Originate</i>	<i>Imitates</i>
<i>Challenges itself</i>	<i>Status quo</i>
<i>Himself</i>	<i>Classical soldier</i>
<i>Get it right</i>	<i>Do it right</i>

Source: Own elaboration



## **1.1 Sustainable leadership**

Sustainability is perceived as a huge need for organisations in today's society. However, not all of them have internalised good sustainability practices for a variety of reasons.

Traditionally, sustainable practices were perceived as an expense, but it has been concluded that sustainable management has a positive impact on organisations (Rodríguez, 2012). Managing sustainable organisations is a new challenge that many organisations are facing to make goals part of the practice (Melo Neto, cited in de Mello, 2015).

According to Rodríguez (2012), a company becomes more sustainable when it has sufficient capacity to create long-term economic, social, and environmental value. This means greater well-being for society. He also states that "sustainability is synonymous with environmental management". Mojica (2014) states that "what makes an entity sustainable are its human, technological, innovation and management values".

Droughts, or even floods or the emission of gases from industrial factories, among many other factors, which are considered elements that put humanity at risk. Thus, Voltolini (cited in de Mello 2015) determines that the step towards sustainability is continuously at risk.

We live in a world where social and economic development is paramount, which pushes companies to adopt a more responsible vision and expand their activities around the world (Mojica, 2014). Therefore, responsibility has become a crucial element for effective leadership (Wang et. al, 2021).

Hence the need for companies to have leaders and managers capable of implementing and integrating the whole organisation in the face of sustainable strategies (Mojica, 2014). It is the role of the business leader to lead a vision towards organisational sustainability and to positively influence the rest of the members of the organisation to follow it. This is because it is through collective commitment, environmental and global awareness that the quality of life can be improved in terms of environmental, social, and economic aspects (Berté, 2009, cited in de Mello, 2015).

According to De Mello (2015), sustainable leadership distinguishes leaders from any type of organisation. It is about promoting the pace of change and sustainability. Therefore, they are increasingly indispensable for today's organisations. "It is essential that there are leaders at

the forefront of organisations who have incorporated the culture of sustainability" (Voltolini 2011, cited in De Mello, 2015, p. 212).

Another way to make an organisation sustainable and globally-minded is to take a holistic and integrated view of the organisation. It is about being able to define its profitability not only in economic terms, but also in terms of responsibilities, obligations, and the ability to get things right. Thus, sustainable leadership is "the process in which a leader manages the company when defining a vision, mission and values based on principles such as honesty, integrity, communication and commitment, and for this, he/she must go deep into him/herself and know that to guide others, the first requirement is to know how to guide him/herself" (Pascual, 2012).

Furthermore, Pascual (2012) argues that a good sustainable leader knows how to motivate his or her subordinates so that they transfer the motivation to the end-user as a result of a positive experience, which in turn leads to positive results for the company. This involves a lot of work and daily effort.

Rodríguez (2018) defines sustainable leadership as "the human, technical and emotional ability to interact and influence people or groups through values, to obtain sustainable goals and results that benefit and safeguard present and future generations". Therefore, sustainable leadership is about going deeper into the leader and his or her task in the organisation.

In addition, Rodríguez (2019), proposes the following five dimensions of sustainable leadership, "these dimensions lead to personal development in an ethical, social, rational and transcendent sense". He also defines the charitable sustainable leader, who seeks to improve the quality of life, who accepts the diversity and imperfections of others. These dimensions are:

- *Self-leadership*: a good sustainable leader must have control over himself to influence others to do the same, with morality and trust being the motivating elements for followers.
- *Conscience*: the sustainable leader must be mindful of the effects of his or her actions, working based on his or her values and beliefs.
- *Language*: a key factor in influencing others. Therefore, the sustainable leader must be skilled enough to use positive and honest language.
- *Influence*: predominant over people but without abusing the power granted.

- *Commitment*: empathising with subordinates so that tasks can be carried out correctly, working with commitment towards society, obtaining effective results.

On the other hand, Marshall et. al (2011, cited in Senior, 2018), suggest a series of characteristics, such as the following (see Figure 2).

**Figure 2: Sustainable leadership characteristics according to Marshall et. al (2011)**



*Source: Own elaboration*

According to Wang (2021), accountability is important for efficient leadership. This is a new trend that has not been intensified much and is gaining importance given the concerns in business development.

Authors such as Maak and Pless (2006, cited in Wang et. al, 2021, p. 328) define responsible leadership as "a relational and ethical phenomenon that occurs in the social processes of interaction with those who affect or are affected by leadership and have a stake in the purpose and vision of the leadership relationship".

Therefore, responsible leadership is necessary to foster the common interest of both internal and external parties. Through the common interest and excellent actions of sustainable leaders, it will be possible to set a path towards common-sense actions in organisations at all levels whether socially, economically or environmentally (Maak and Pless, 2006, cited in Wang et. al, 2021).

**Tabla 3: Definitions of sustainable leadership**

<b>SUSTAINABLE LEADERSHIP</b>	
<b>Author</b>	<b>Definition</b>
<i>Maak and Pless (2006)</i>	"A relational and ethical phenomenon that occurs in the social processes of interaction with those who affect or are affected by leadership and have a stake in the purpose and vision of the leadership relationship"
<i>Pascual (2012)</i>	"The process in which a leader manages in the company when he defines a vision, mission, and values based on principles such as honesty, integrity, communication, and commitment, and for this, he must go deep into himself and know that to guide others, the first requirement is to know how to guide himself"
<i>Rodríguez (2018)</i>	"The human, technical and emotional ability to interact and influence individuals or groups through values, for the achievement of sustainable goals and outcomes that benefit and safeguard present and future generations"

*Source: Own elaboration*

## **2. CORPORATE SOCIAL RESPONSIBILITY**

Today, Corporate Social Responsibility has gained more importance in academia as well as in business. Corporate Social Responsibility and Sustainability are often referred to as an obligation for a company to enter the market.

There are numerous studies on such concepts but none with a similar clarification. Seen in this light, it can be said that Corporate Social Responsibility has acquired two perspectives. On the one hand, it determines the actions that the company carries out. On the other hand, it refers to what the company must do. With globalisation, companies have been experiencing changes towards new challenges to overcome in society (Correa, 2007).

Concerns about Corporate Social Responsibility emerged in the early 1950s when several researchers began to study the topic in more depth. According to Bowen (1953, cited in Belver, 2017, p. 73), CSR is "the obligations of businessmen to pursue policies of action, make decisions and adopt desirable courses of action in terms of the goals and values of society".

Carroll (1991) distinguishes the following four dimensions of Corporate Social Responsibility:

- *Economic responsibilities*: traditionally, the purpose was to produce goods and services to earn an income. The main objective was to provide consumers with those products and services to satisfy their needs and to make a profit.
- *Legal responsibilities*: to carry out economic activity following the rules and regulations set by the government.
- *Ethical responsibilities*: integrate all standards and models that reflect the concerns of users, company stakeholders, workers, always under the established standards.
- *Philanthropic responsibilities*: these respond to society's concern that the company should act and carry out actions that make it a good citizen. These include the contribution of financial resources for artistic purposes, education, or simply for the welfare of the community.

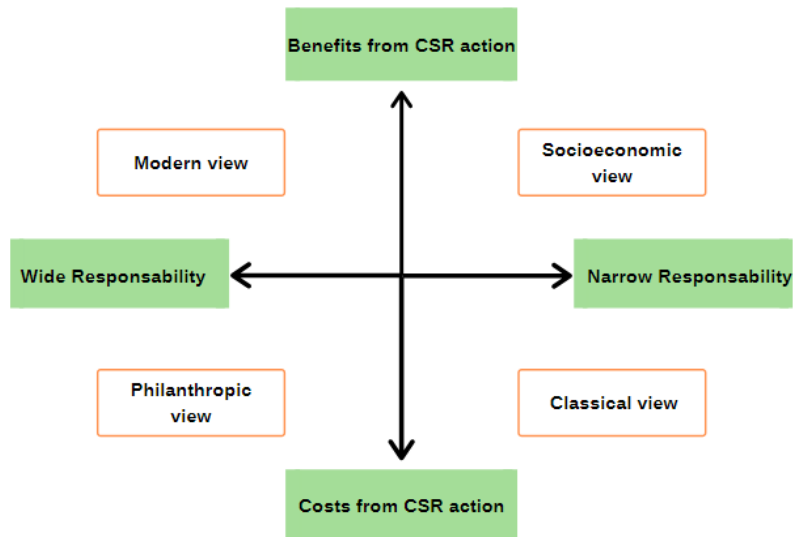
**Image 1: Corporate Social Responsibility pyramid**



Source: Adapted from Carroll (1991)

However, over the years, Corporate Social Responsibility has evolved by adopting new perspectives such as the Social Responsibility model which according to Quazi and O'Brien (2000) is based on "corporate social commitment".

**Figure 3: Social Responsibility model**



*Source: Adapted from Quazi and O'Brien (2000)*

This paper proposes two axes for the dimensions of Social Responsibility. It can be seen that the horizontal axis has a broad view of responsibility and a narrow view of accountability.

About the narrow vision, it involves the production of goods and services by the company to maximise profits, taking into account the legal responsibilities defined by the government. However, the broad vision implies a broader vision, for which the company conducts its business in a way that protects the environment, the evolution of society, the preservation of resources as well as philanthropic responsibilities.

The vertical axis defines the results and consequences of companies' actions. On the one hand, the lower part is the costs, considered as a negative factor, since certain companies act in a way that minimises costs, achieving short-term results. On the other hand, the upper part is the benefits that the company obtains based on long-term-oriented actions. According to Cabrera et. al (2005), companies aim to be responsible in the long term. Long-term focused behaviour leads to socially responsible and proactive actions, more beneficial than the development of reactive behaviours.

According to the Commission of the European Communities (2001, p. 7), Corporate Social Responsibility is "the voluntary integration by enterprises of social and environmental concerns into their business operations and their relations with their stakeholders". A socially responsible company takes its actions further and takes into account concerns, impacts of actions and relations with stakeholders.

According to De la Cuesta and Valor (2003, p. 7), Corporate Social Responsibility is "the set of obligations and commitments, legal and ethical, national and international, with stakeholders, which are derived from the impacts that the activity and operations of organisations produce in the social, labour, environmental and human rights spheres". Therefore, it integrates manufacturing, distribution or marketing activities of the products as well as the relationships that exist with stakeholders.

Therefore, it can be said that corporate social responsibility is an obligation adopted by the company through which it demonstrates its social, environmental and economic commitment.

**Tabla 4: Definitions of Corporate Social Responsibility**

<b>CORPORATE SOCIAL RESPONSIBILITY</b>	
<b>Author</b>	<b>Definition</b>
<i>Bowen (1953)</i>	"The obligations of businesspeople to pursue policies, make decisions and take desirable courses of action in terms of society's goals and values"
<i>Commission of the European Communities (2021)</i>	"The voluntary integration by companies of social and environmental concerns into their business operations and their relations with their stakeholders"
<i>De la Cuesta and Valor (2003)</i>	"The set of national and international legal and ethical obligations and commitments to stakeholders arising from the social, labor, environmental and human rights impacts of an organization's activities and operations"

Source: Own elaboration

### **3. INNOVATION**

#### **3.1 Contextualization**

With globalisation, companies have entered new economic sectors, allowing for a wealth of information. Organisations have seen their competence grow and have adopted new ways of organising manufacturing processes within their organisations. Nowadays, innovation is essential to survive and meet the demands of consumers.

In the early 1990s, innovation was introduced as a driving force for the functioning of the economy and companies. At that time, companies were looking for a way to gain and maintain a competitive edge over the competition.

"Products may be successful internationally because of their price, quality, design or simply because they have a larger sales network or have been advertised more widely" (Escorsa and Valls, 1997, p. 15).

Thus, with advances in technologies as well as information exchange between companies, innovation and economic growth have gained importance in this new era. However, innovation derives from a situation of uncertainty making it difficult for companies to introduce certain changes.

Innovation is a change made by the company, either in the products themselves or in the production processes or in the way they are organised, to achieve success in the market and improve its performance. It consists of generating an idea and, of course, for this to happen, this idea has to be put into action.

According to the OECD, EUROSTAT (2005), for companies to understand the importance of innovation, they must have a deeper understanding of the meaning of the concept as well as the impact it can have on the economy. According to the OECD, EUROSTAT (2005, p. 21) "innovation is a continuous process", as companies constantly introduce new formulas in products and processes, seeking new ways and knowledge for their application.

Innovation is fundamental to any field, be it academics or business. Innovation exists because firms can diffuse their changes in the economy. If the information does not flow



between firms and there is no exchange of information, innovation will not affect the economy (OECD, EUROSTAT, 2005).

However, innovation must be perceived as something new introduced by the company or have a significant impact to improve the product. An innovative company adopts changes and customises products to users' needs (Escorsa and Valls, 1997).

Schumpeter (1939, cited in De Gante, 2003, p. 36) considers innovation as "the creation of a new production function". What he intends to emphasise is that innovation consists of offering new products on the market, new ways of organising the functioning of an organisation as well as taking a step into new markets. Therefore, Schumpeter (1934, quoted in OECD, EUROSTAT, 2005, p. 37), once put forward the following bases on which innovation materialises:

1. Innovation requires bringing a new product to the market.
2. Innovation means adapting new product manufacturing processes.
3. Innovation opens up new markets in the economy.
4. Innovation requires sourcing the inputs for production.
5. Innovation enables the development of new ways of competing in the market.

According to Sherman Gee (1981, cited in Escorsa and Valls, 1997, p. 20), "innovation is the process in which an idea, invention or recognition of a need is used to develop a useful product, technique or service until it is commercially accepted".

Now, having said that, innovation is the implementation of ideas that have emerged from creativity within a company's operations. For innovation to have an effect, it must be integrated from the highest levels of the hierarchy to the lowest, spreading the vision of innovation to all levels (Amabile, 1996).

According to OECD, EUROSTAT (2005, p. 56) " an innovation is the introduction of a new or significantly improved product (good or service), process, new marketing method or new organisational method in the firm's internal practices, workplace organisation or external relations".

**Table 5: Definitions of innovation**

<b>INNOVATION</b>	
<b>Author</b>	<b>Definition</b>
<i>Schumpeter (1939)</i>	"Creation of a new production function". Targeting new products for the market, new forms of organization, and breaking into new markets
<i>Sherman Gee (1981)</i>	"Innovation is the process in which an idea, invention or recognition of a need is used to develop a useful product, technique or service until it is commercially accepted"
<i>Oslo Manual (2006)</i>	"An innovation is the introduction of a new or significantly improved product (good or service), process, new marketing method or new organizational method in the company's internal practices, workplace organization or external relations"

Source: Own elaboration

### **3.2 Typologies**

The OECD, EUROSTAT distinguishes four types of innovation. On the one hand, there is **product innovation**. This refers to products with a new application or significant improvement in their performance, altering some attribute or new use. This is achieved through new applied technologies, combining materials or establishing new functionalities. With this, manufacturing processes are changed and quality can be improved. To make these changes, the company must be aware of the need to keep production processes, software, and communication, the so-called ICT, up to date.

On the other hand, **innovation in production processes**, with the company looking for new ways of manufacturing as well as seeking and implementing new forms of logistics, activities to distribute the product from the warehouses to the customer. With this, manufacturing processes are changed and quality can be improved. To make these changes, the company must be aware of the need to keep production processes, software, and communication, the so-called ICT, up to date.

**Marketing innovations** are also distinguished, according to the OECD, EUROSTAT (2005, p. 60), being "the application of a new marketing method involving significant changes to a

product's design or packaging, positioning, promotion or pricing". Such innovation is carried out to increase the company's share of sales through a new way of designing the product, modifying the appearance of the products, and knowing how to promote it successfully.

Then, **innovation in the organisation** of the company stands out. It is characterised by implementing new ways of doing things, new ways of planning workplaces, and creating new relationships with agents outside the company. This is carried out to achieve better results within the organisation.

On the other hand, another type of innovation that is gaining interest in recent years is **eco-innovation**. That is, both innovation and the implementation of sustainable actions are becoming fundamental for the economy, with eco-innovation being a synergistic factor of both (Segarra-Oña et al., 2011).

According to Rullán et. al (2016), the results show that eco-innovation has a positive impact on the economy of countries, which is supported by the European Union. The European Union itself has launched an Eco-innovation Action Plan in 2011, which aims to encourage innovative actions with a focus on sustainability.

Therefore, eco-innovation, based on Schumpeter's definition, implies "creative destruction" which means that through people's actions there is an improvement in the environment (Rullán et. al., 2016). Likewise, according to Kemp and Pearson (2007, cited in Rullán et. al, 2016), this implies a more rational use of the natural resources available to have a lesser impact on them.

Based on the above typologies, companies can collaborate towards a green economy by ensuring that production processes have less impact on the environment (Rullán et. al, 2016).

According to the Eco-innovation Action Plan (2011, cited in Rullán et. al, 2016, p. 61), eco-innovation is "any innovation whose objectives are geared towards sustainable development through impact on the environment, increased resilience to environmental pressures or more efficient and responsible use of natural resources".

Therefore, innovation focused on eco-innovation and sustainable practices has a positive impact on costs, productivity and market access, these elements being a benchmark for the competitiveness and growth of organisations (Segarra-Oña et. al, 2011).

#### **4. SUSTAINABLE LEADERSHIP, CSR AND THE EFFECTS ON INNOVATION**

Organisations operate in a highly globalised and internationalised environment, adopting new ways of doing business and increasingly penetrating the market.

However, the degree of environmental concern is increasingly on the rise, which poses an immense challenge to the successful functioning of organisations. This fact has created an enormous need for organisations to pay attention to environmental factors when making any kind of decision, be it commercial, industrial or otherwise (Cerda, 2003).

While it is true that in the short term environmental concerns may increase a company's production costs, the competitiveness of companies will in turn be affected by them. However, this increase will be compensated by an increase in the welfare of society, such as less pollution and a better quality of life (Cerda, 2003).

It is therefore in the interest of organisations to be able to reduce their costs sufficiently, as well as to provide superior services at an affordable price (Porter, 1994, cited in Cerda, 2003). In terms of competitiveness, this grows when firms increase their market share, which is sustained in the long run (Krugman, 1994, cited in Cerda 2003).

Traditionally, company's concerns have been to offer a product that meets the needs of users without taking into account the negative effects this might have on the environment. However, users' concerns about the environment have increased, with companies taking a new path towards sustainability. According to Barradas (2013, p. 261), "social engagement must be an intrinsic part of the strategy and management of business leaders, so that it is seen as part of the solution to the world's problems rather than part of those problems".

To achieve more sustainable processes, companies must know how to adapt the type of leadership that favours the path towards Corporate Social Responsibility, cooperating so that CSR practices are carried out to meet the needs of today's society (Barradas, 2013).

However, large companies are the ones that need to be more aware of sustainable practices given the large number of resources they use in their manufacturing processes. All of this is influenced by the leaders available. Therefore, CSR is an element within the organisation that is related to leadership (Barradas, 2013).

Hopfenbeck (1993, cited in Cerda, 2003) considers that for a company to be able to survive, it must be able to take into account social, economic and ecological aspects when carrying out its operational tasks, as users are becoming more and more environmentally conscious. This leads to pressure on companies to implement more and more socially and ecologically friendly practices, which results in the implementation of Corporate Social Responsibility.

According to Barradas (2013, p. 267), "CSR management based on the comprehensive stakeholder model can help to generate trust in the business fabric, improve the solidity of companies through a good reputation of leaders, develop business projects and finally adopt systems that allow for the reduction of risks in the face of constantly changing economic, social and technological environments".

Therefore, Cerda (2003) points out that companies must understand the environment and surroundings from a more integral and responsible point of view, which leads to the implementation of major innovations. Hence the need for organisations to have staff committed to the environment at all levels.

It is mainly industrial companies that require increasingly innovative practices to reduce environmental impact efficiently. Once again, the need for sustainability-focused leadership that is committed to these practices and that knows how to implement them to followers is highlighted (Wang et al., 2021).

Wang's 2021 study confirms that responsible leaders contribute to organisational innovation. Therefore, consumers' environmental concerns mean that organisations and their leaders have sufficient capacity to adopt certain ways of developing sustainable and innovative practices to meet these challenges. Cerda (2003) adds to this that companies with high technological capacity adapt better to these requirements than traditional companies, whose production is not very adaptable.

The result of innovation focused on sustainability concerns is defined as eco-innovation, which is characterised by the implementation of manufacturing processes that contribute to sustainable progress. In his research, Wang et. al (2021) discusses the concept of eco-innovation and argues that all managers who have a responsible awareness of the environment encourage this new type of innovation. Therefore, he argues that sustainable leadership is important for the development of environmental innovation.

The same is true for environmental innovation since it is a very recent term and concerning innovation as such, it is partially limited. Therefore, Wang et. al (2021) introduces how responsible leadership fosters innovation at the environmental level.

For this to happen in organisations, Sharma (2000, cited in Wang et. al 2021) highlights the importance of the actions of managers of organisations at the environmental level so that these can be expanded to all levels of the organisations. Therefore, cooperation and collaboration between members are necessary for this to happen (Salim, 2019, cited in Wang et. al 2021).

Liao and Zhang (2020, cited in Wang et. al 2021, p. 330) states that "research showed that responsible leadership is positively related to environmental innovation and ultimately improves environmental performance".

In the same way, mid-level leaders must act as intermediaries to achieve responsible leadership and engage employees also to encourage environmental practices, which will influence innovation. It is essential that employees in organisations feel that they are part of the organisation to be able to carry out practices that are committed to the organisation (Riketta, 2005, cited in Wang et. al 2021).

Chang and Chen (2013, cited in Wang et. al 2021) argue that an organisation that engages in "green" practices has a positive effect on the implementation of green innovation.

Eco-innovation, also called ecological innovation, is characterised by carrying out a series of processes in the manufacture of products, which contribute to sustainable progress. Through this practice, an organisation improves its production processes as well as successfully executing its commercial activity. To achieve this, companies must know how to take advantage of their resources and strengths to achieve an adequate management of innovation.

However, eco-innovation is much more than carrying out sustainable practices within production processes, as it involves paying attention to other factors in organisations, such as relations with consumers, stakeholders, production processes and the strategy implemented by the company, among others.

The leaders of the organisations must carry out Corporate Social Responsibility actions and perceive sustainable innovation as a way to differentiate the company in front of its

competitors but always making rational use of the resources available to the company and not wasting the existing energy.

## **II. CASE STUDY: Porcelanosa Grupo**

### **5. METHODOLOGY**

Secondary sources were used to carry out the literature review research. Access was gained to the database of the Universitat Jaume I, including Business Source Premier and ABI. In addition, certain works published in the University's repository were used as examples.

Another very supportive source has been the search for articles in Google Scholar, which has provided a wealth of information on the main topic of the paper. These include the book Leadership, written by the author Brian Tracy, and the Strategic Science Magazine. The keywords on which this report is based are leader, sustainable leader, Corporate Social Responsibility and innovation.

As for the case study, the objective is to provide sufficient information to demonstrate the implementation of the sustainable leader in the company, whose practices derive from Corporate Social Responsibility and innovation actions, always focused on sustainability.

For this, the most important sources of information have continued to be secondary. Books have been consulted, such as El Imperio Porcelanosa, written by Álvarez (2015). We also used the Porcelanosa Annual Reports and the report The Green Issue nº2, as well as the Porcelanosa Lifestyle Magazine, all of which were extracted from the company's website.

Finally, a search was carried out on the Internet for several interviews with Porcelanosa Group managers to obtain more information on their actions for the company. This is because access to the company was impossible to obtain.

## **6. CERAMIC SECTOR: Castellón**

This section aims to give a brief description of the situation of the ceramic industry in Spain. To this end, reference will be made specifically to the Valencian Community, with Castellón being the main point of development of the industrial activity. According to Molina et. al (2010) the sector is distinguished by its density in the geographical area of Castellón.

Spain is characterised by its leading position in the manufacture of ceramics, taking first place in exports. Budí (2008), concludes that the ceramic district of the province of Castellón is an obvious example of how a productive activity is organised in the form of a district. This is where practically all of Spain's tile manufacturing is located, where tiles are manufactured and marketed. This work requires multiple activities of an industrial nature to be carried out.

The sector has undergone a notable expansion over the years, highlighting its strong consolidation. ASCER (website, n. d.) highlights its strong dynamism and innovation, adopting a leading position both in technological growth and in the design and quality of the products and services offered. Furthermore, states that 80% of its global turnover corresponds to exports from Spain to Europe and other countries. For 2018, the same association states that the tile industry reached a sales figure of approximately 3.6 billion euros.

Over the years, this industry has acquired sufficient experience and knowledge that has resulted in more than 190 countries having a favourable image of it. According to Merino (2019), Spain is the second-largest exporter of ceramics in the world and the leading producer in Europe. It is also the third-largest contributor to Spain's trade balance with a figure of over 2.6 billion euros.

It should also be noted that the ceramic sector generates a lot of employment, a key point for the Valencian Community. Vicente Nomdedeu (ASCER), in an interview for Access-Gestión Integral de Empleo (2018), highlighted "the creation of stable, continuous and healthy jobs". He also clarified that in 2017 there has been "an increase of 5% in direct employment, exceeding the 15,000 employment from 2016, while indirect employment exceeded 25,000 workers".

In addition to this, and in order to create a sustainable competitive position, the ceramics industry has put a lot of effort into research and development. The production process has



undergone an evolution, which has been marked by innovative practices. The innovation of the production processes themselves stands out, which has gone from conventional double firing to fast firing and finally to single firing, improvement of pressing, among others, improving the quality of the products as well as the evolution towards porcelain stoneware. These innovations have made it possible to increase productivity as well as to reduce energy costs and pollutant emissions. This is due to the aforementioned concerns of society for the environment, which has led the ceramic industry to develop new production techniques (Tortajada et. al, 2008). Expenditures made by ceramic companies on innovation are important. This is mainly expenditure on machinery for production or on acquiring new knowledge from abroad.

Given society's current concerns about sustainability, this sector continues to face multiple environmental challenges by improving its production processes to optimise them and adopt more ecological, socially conscious production processes (Tortajada et. al, 2008). Furthermore, according to data provided by ASCER (n. d.), Spain's water use is well below that of other countries.

One of the most eloquent changes has been the introduction of natural gas in the 1980s, which has made it possible to implement single-firing processes, reducing cooking times of up to 40 hours to 2 hours. In this way, new incorporations are achieved, with a lower environmental impact and making it possible to save on transport and transformation losses (ASCER, website n. d.).

ASCER (n. d.), also states that the industry has created a high commitment to sustainability by improving its production processes, thus achieving a more environmentally friendly and energy-efficient production. In addition, less water is used due to the introduction of reuse methods.

Thanks to the adoption of cleaner processes, the incorporation of natural gas and new techniques such as cogeneration have made it possible to accelerate the industry's sustainability process. Classifying the ceramic industry as "an ever-innovative industry, with a sustainable approach and adapting to a low-carbon economy" (Merino, 2019).

Therefore, it can be said that the Spanish tile sector has undergone a very pleasing change over the years, with investment efforts in R+D+i being the main source of its success. This success of the industry translates into the development of the economy in the geographical location.

## **7. Porcelanosa Grupo**

### **7.1 History**

Porcelanosa Group is a multinational company that was founded in 1973 thanks to the business idea of José Soriano. Their headquarters are located in Vila-real, Castellón. After acquiring sufficient experience and his hard-working character, as well as his great interest in technological advances, José Soriano created a company that is so well known worldwide.

According to Álvarez (2015), ceramics have always been the company's strong point. But what led to the success of the business has been the focus on its activities towards all the needs of its public. This goes from tiles and furniture to bathroom accessories, expanding the range of products.

From the beginning, the company was dedicated to the production of wall coverings, however, in only five years after its launch on the market, it evolved in such a way that it also started to produce floor coverings, giving way to the participation of the members of the organisation.

Álvarez (2015) states that, as all this was too small for the company, they decided to move into distribution and direct sales of the product. The company has now become one of Spain's largest suppliers of materials and equipment for the home, from tiles to equipment, differentiating itself from other companies in the industry.

Now, to mark this difference and differentiate production, eight companies have been created, which form part of the Porcelanosa Group. The aim of each of them is to satisfy the needs of each of the company's customers and to be able to "create a new lifestyle" (Álvarez, 2015).

On the one hand, **Venis** is the first company created in 1986, which introduced white pulp (Álvarez, 2015). The aim was to prevent people from being dismissed from the company because of the desire to introduce any technological innovation in the production processes. The company was in constant search of competitive advantages, which meant adopting any type of innovation in the production processes by introducing the single-firing system. The

products were more resistant, times were shorter and the company was able to diversify and expand its product portfolio.

Then, a year later, in 1987, **Gama Dior** was created, which generated confusion and several disputes against the Dior Paris brand, thus renaming it **Gamadecor** (Álvarez, 2015). The aim was to provide customers with a product different from the company's main product. To meet the wishes of the customers they decided to embark on the production of bathroom furniture to meet the existing demands.

After a few years of rest with the creation of the two previous brands, in 1993 they embarked on a new path with the creation of **Krion**. According to Álvarez (2015), the brand was initially founded under the name Systempool, as the aim was to offer bathtubs and showers as similar as possible to a spa. The brand uses raw materials from minerals and resins for the manufacture of washbasins, among others adapted to any type of furniture.

Another company that marks the evolution of Porcelanosa is called **L'Antic Colonial**, established in 1999 to use natural materials in production. This brand was created to fulfil the wishes of customers by attracting more and more attention from professional customers such as architects or decorators (Álvarez, 2015).

Barely two years apart, in 2001, after the death of José Soriano, the company has not declined and opted to take another turn with the creation of Noken and Butech. The idea was that with Noken, the company would cover the sanitary ware ranges, while with Butech, it would target other types of customers, distributing materials to professionals who install equipment, evolving towards an architectural consultancy (Porcelanosa Group website, n.d.).

In 2004, a new company called **Ceranco** was set up at the height of the real estate boom to meet the needs of real estate clients. With the crisis in 2007, this company was severely affected, which led Porcelanosa to change course and set up **Urbatek**. It is a firm whose main purpose is to provide solutions to those projects with high technical requirements. (Porcelanosa Group website, n.d.).

According to Álvarez (2015), a series of elements have played a part in founding each of the companies, such as the personality of José Soriano and the Colonques twins, knowing how to take advantage of every opportunity offered by the market and adapting to trends, as well as the commitment adopted towards employees and other stakeholders.

The company has known from the outset what its objectives are and how far it wants to go with them. It can also be said that it follows a strategy of product diversification. The reason for this is always the thought towards the customers since one of the objectives that the company has set itself is to offer a product of the highest quality (Álvarez, 2015).

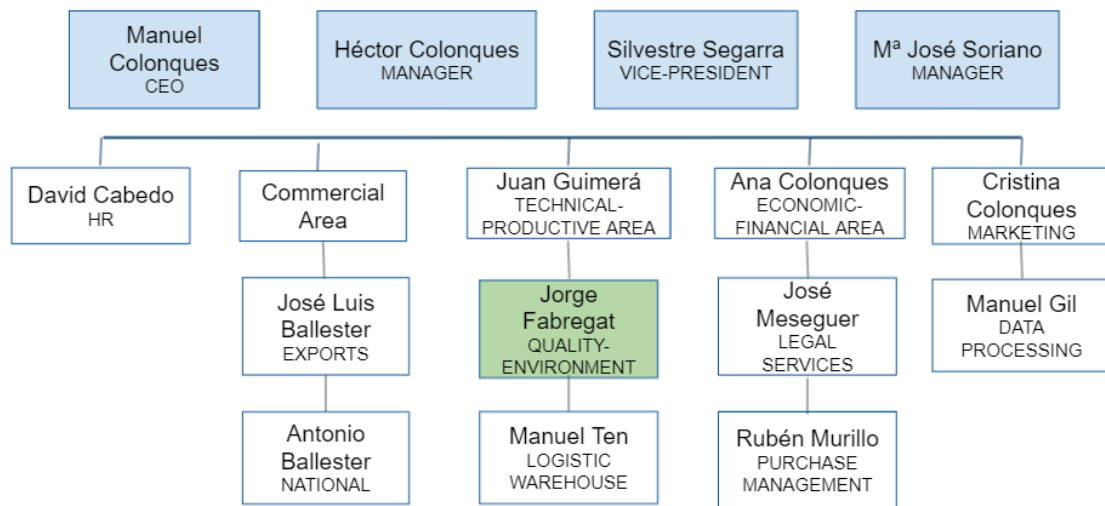
As can be read in the E3 magazine (2014), what they want at Porcelanosa is that the customer counts on their brand to obtain an admirable quality and design as well as the introduction of its products in every corner of their homes. Thus, according to Álvarez (2015), with all the company's evolutions and its ambition for industrial growth, Porcelanosa has managed to build what is now known as the Porcelanosa empire, the key to its success is "perseverance and a job that is well done" (Segarra, 2014).

Today the company stands out through the slogan "The power of a brand", defined by the organisation itself, achieving a presence in the international market with approximately 1000 shops and 43 distribution centres located in prestigious cities such as New York, Paris or London.

## **7.2 Organizational chart Porcelanosa Grupo**

This section aims to make clear which positions are occupied by each of the members of the group and what is the specialty of each one of them. In the same way, with the support of the organisation chart (Image 2), it can be seen which the leaders of the company are and the function that each one of them performs within the organisation.

**Image 2: Organizational chart Porcelanosa Grupo**



*Source: Adapted from Expansión, spanish economic daily (2019)*

Porcelanosa Group is distinguished by the outstanding character of its founders, who have always been clear about each person's role within the company without the need to create titles. It is said that meetings were even held in the corridors of the company if deemed appropriate. But these characteristics do not detract from the high hierarchical nature of the company (Álvarez, 2015).

From the beginning, the culture upheld by José Soriano and the Colonques brothers has been that no one is superior to anyone else. This has become a model to be followed by all members of the organisation. So much so that the current generation at the helm of the company's management prioritises flexibility in management (Expansión, 2019).

In image 2, it can be seen that the company is distinguished by its strong family character. The company was born as a family business, which today has family shareholders who direct the management of the company and hold several positions within it (Álvarez, 2015).

According to Expansión (2019), in addition to its family character, it is characterised by a large number of highly specialised staff with the necessary experience to carry out its operations. Thus, according to Expansión (2019), the company has always been committed to the internal promotion of team members by placing its trust in them. This provides stability and better rewards to staff by emphasising their experience and knowledge of the company acquired during their career within the company.

In addition, each of the members has settled in the position in which they feel most comfortable to offer their maximum performance. With the incorporation of each generation, it has been encouraged change in the organisation, a fact that is considered an advantage for Porcelanosa (Álvarez, 2015).

Due to the implementation of this system and the numerous investments in R+D+i, the company has managed to consolidate itself as a company of the future with a clear sustainable conscience. In addition to demonstrating its commitment to the company's personnel, this is also a fundamental factor for the company's operation. Furthermore, it provides the opportunity for promotion to its employees through internal promotion, thus providing a better quality of life for them (Álvarez, 2015).

### **7.3 Sustainable leadership, CSR actions and effects on innovation**

#### **7.3.1 Leadership: implementing a sustainable leadership**

The objective is to investigate how Porcelanosa Group implements sustainable leadership. The aim is to argue how this type of leadership is implemented in Corporate Social Responsibility practices to see how it affects both the company's production processes and its innovation. The aim is to analyse how the good practices of the leaders lead the company to act in an economically, socially and environmentally conscious way, taking into account the pleasant trajectory in the sector as well as the notable evolution towards design and new technologies.

When we talk about Porcelanosa, the adjectives elegance, luxury, and discipline often come to mind. So much so that Porcelanosa's philosophy, according to Lifestyle Magazine (n. d.), is to "create advanced, beautiful, original and always functional products, integrating ceramics, parquet, bathroom furniture, kitchens, hydromassage, spas, taps, and quality accessories, innovation and respect for the environment".

The business idea arose from the ambition and perseverance of José Soriano as a worker. José Soriano together with the brothers Héctor and Manuel Colonques are considered the three fundamental pillars on which the company was founded in 1973. Between the three of them, they have managed to make Porcelanosa Group stand out for what it is today, the Porcelanosa Empire (Álvarez, 2015).

The company's core values are innovation, quality and commitment to the environment. According to Cristina Colonques, Director of Marketing and Corporate Communications, in an interview with ReasonWhy (2020), the company conducts its business based on fundamental factors such as design, innovation and sustainability.

Thanks to the character and hard work of José Soriano, Héctor, and Manuel Colonques, they have managed to pass on these values to the next generation. This has allowed the company to prosper and overcome the limits imposed by the demands of today's society. For his part, José Soriano stood out for his cooperation and entrepreneurial spirit, demonstrating his commitment to social responsibility (Álvarez, 2015).

It is true that María José Soriano, in an interview with Las Provincias (2016), characterised her father as "a very human and optimistic person". He was a cheerful man, full of life, who transmitted the same feelings to all those in his care. Thus, she emphasizes that José Soriano has remained a reference for the current generation, and she considers that to become a responsible leader, one has to put aside the whims that one may have.

For his part, Silvestre Segarra (quoted in Álvarez, 2015), affirms that "because he did not quarrel, he was a man of dialogue to the point of exasperation", and that in case of error he always gave people the opportunity to learn from their mistakes.

During José Soriano's time in the industry, he has had to face great challenges, which have marked his career, providing him with sufficient awareness and experience to strengthen the key points on which to build Porcelanosa Group. Despite his death in 2000, both his partners and the other members of the organisation have been able to carry on with the business model that José Soriano had implemented.

After his death, family members have joined the management team, both from the Soriano family and the Colonques family, who have maintained to this day the values of commitment incorporated by José Soriano in the company's culture.

As for José Soriano's partners, they are Héctor and Manuel Colonques. They are twin brothers, who despite sharing life since birth, both stand out for their opposing characters. While Manuel Colonques stands out for being a sentimental and delicate person, with patience being one of his strong points, Héctor Colonques is identified by a more extroverted and witty character (Álvarez, 2015).

Porcelanosa's time in the tile industry has been marked by the defence of human rights, environmental awareness, and great efforts in terms of technology. This vision has been incorporated as part of its philosophy and has been integrated into all members of the organisation.

However, to demonstrate the company's commitment, it effectuates its activities through previously developed principles and values, which allow the company to carry out this commitment. According to María José Soriano (2017) for the Informe de progreso, commitment must exist from within the company and in all the members that make up the company. As a good leader, she encourages all staff to make quality and respect for the environment part of their daily activities both inside and outside the company. This commitment is justified by the company's adherence to the United Nations Global Compact in 2015, the aim of which is to demonstrate its commitment to society, members of the company and its stakeholders.

"The success of Porcelanosa Group is defined by the choices we make every day, so we must continue to carry out responsible actions that bring maximum value to our customers and our employees" María José Soriano for the Informe de progreso (Porcelanosa Grupo AIE, 2016, p. 4). The aim is to manage the resources available to the company in such a way that they meet the demands of society. To this end, María José Soriano highlights the existence of a specific department to implement the necessary actions, which is called the Corporate Social Responsibility department.

One of the basic values on which Porcelanosa Group demonstrates the existence of a sustainable leader among its members is its ecological commitment, as highlighted on the company's website. They emphasize that concerns for the environment in which the company's activities are carried out and the environment have persisted in the company since its creation. This is why Porcelanosa has demonstrated its commitment at all levels through actions focused on improving manufacturing systems and minimising their impact on the environment.

Such are the efforts made by the company that this year, 2021, both María José Soriano (CEO) and Cristina Colonques (Director of Marketing and Corporate Communications) have been named among the Top 100 Women Leaders, both of them being a reference for society.



Justifying their presence in the Top 100 Women Leaders, both highlight the importance of characteristics such as proactivity, ambition and proximity as a basis for carrying out the internal and external relations that the organisation maintains. They also stress that for successful leadership it is necessary to put into practice "the rule of the three P's: prediction, pause, and perspective" (El mundo, 2021).

Thus, on the one hand, there is **prediction**, a characteristic that allows a vision towards the future and future generations of the company. On the other hand, there is **pause**, which allows for a closer analysis of possible problems faced by the organisation, while finally there is **perspective**, which allows for the implementation of the commitment demonstrated by the company. Another of the characteristics that define leaders and that the company has been able to carry out is communication in contexts of resilience, which is a great opportunity for business success.

### **7.3.2 A step towards corporate social responsibility**

Today, Porcelanosa is facing challenges such as climate change, digitalisation of work, or the phenomenon of globalisation itself. These challenges must be focused on long-term actions in terms of sustainability and trade.

According to Maria José Soriano and Cristina Colonques for El mundo (2021) "we have the opportunity to transform our current productive and social models into transversal systems that respond to the needs of citizens based on knowledge, education, innovation and ecology. Only those who meet these objectives will consolidate themselves as leaders, and we are prepared to do so".

Through the specific department of Corporate Social Responsibility is how the company carries out its social commitment. Through this department, the organisation demonstrates the commitment it has taken, which derives from a series of actions that they carry out as Corporate Social Responsibility (Porcelanosa Grupo AIE, Informe de progreso, 2016).

It is very important for the group that its members are well aware of the values on which the company's activities are based. However, the Corporate Social Responsibility department is just another element through which the company executes a series of socially and environmentally responsible projects.

It must be highlighted that the Corporate Social Responsibility policies the company has decided to undertake, go beyond the company's concern for its staff. Although the concerns of José Soriano and Héctor and Manuel Colonques for the staff were evident from the beginning, another cause that adds to the continuous improvement of the company has been the environmental awareness that has been implemented since its beginnings, transferring this same vision to the current generations.

Thus, for Porcelanosa, concern for the environment has always been at the forefront, with sustainability, reuse, and the environment being key factors in the development of the group's philosophy. The company's commitment to the environment is demonstrated through a series of programs that the company has implemented throughout its history focused on sustainability and social awareness as read in The Green Issue no. 2 (Porcelanosa, 2020).

One of the programs that the company has implemented as a sign of its commitment is the Eco-conscious program, which is part of its Corporate Social Responsibility awareness. This program aims to encourage sustainable actions and the responsible use of available resources. The expected result of this initiative, according to Porcelanosa Group, is to convert raw materials into an environmentally responsible product (The Green Issue no. 2, Porcelanosa Grupo, 2020).

**Image 3: Eco Conscious program**



*Source: Porcelanosa Grupo web*

Advances in technology have made it possible for Porcelanosa Grupo to implement product manufacturing processes, achieving lower CO<sub>2</sub> emissions, reducing waste and making appropriate use of water resources.

All of the company's environmental concerns have led to the implementation of Eco projects. The implementation of these projects, according to The Company Book (Porcelanosa Grupo, 2020), has enabled the company to achieve environmentally friendly results, with the following standing out:

- On the one hand, to transform available inputs into sustainable products.
- On the other hand, to promote an economical use of energy.

- Finally, to reuse the material leftover from production processes to achieve more sustainable, zero-polluting and durable products, without losing sight of their aesthetic elements.

According to The Green Issue no. 2 (Porcelanosa Grupo, 2020), the eight companies that make up the group carry out certain actions on which the Corporate Social Responsibility policies applied are based, including the following:

### ***RENEWABLE ELECTRICAL ENERGY***

Energy has become a fundamental issue for companies, as all their production processes require a great deal of energy. In particular, it is industrial companies that require the most energy sources for product transformation processes.

As this has become a concern, the group has implemented a process in its facilities whereby approximately 30% of the energy used comes from the manufacturing processes themselves.

Another efficient way of using energy resources is the installation of LED lights in all plants as well as the acquisition of 100% electric vehicles that allow sustainable movement around the company's premises, thus promoting "sustainable mobility" as read in The Green Issue no. 2 (Porcelanosa Grupo, 2020).

To continue demonstrating the efficient use of energy, the GREENH2KER project has been set up in conjunction with Iberdrola. The aim is to electrify the manufacture of ceramics, with the installation of solar panels, replacing up to 50% of the gases used in the kilns. Thanks to this initiative, Porcelanosa has managed to reduce CO2 emissions, one of the company's main objectives.

This agreement is based on two basic principles. On the one hand, reusing the energy produced in the facilities as well as minimising the CO2 impact, with the incorporation of green hydrogen. On the other hand, with the installation of heat pumps in Porcelanosa Group 's factories.

## ***ECOLOGICAL PRODUCTS***

According to The Green Issue No. 2 (Porcelanosa Grupo, 2020), a large part of the products that Porcelanosa develops are defined by their ecological nuances. Through the phrase "the home of the future" the company unites such concepts as technological progress and style. From this metaphor, the company carries out a series of products that are the basis of its environmental commitment, which involves the development of innovation to be able to produce them, as detailed below. The commitment to the environment and the achievement of sustainable production are reflected through the huge investments and research into technologies, R+D+i, and the diversified nature of the organisation.

To achieve this green production, the material used by the company in its production processes is 95% or more recycled material from other production processes, which allows the company to make more efficient and effective use of available resources, both energy, and water. Generally, a large part of the products is developed from waste left over from the manufacture of other products, taking a further step towards the circular economy.

## ***AFFORESTATION***

To further set the course towards caring for the environment as well as tackling global warming, through the present program, Eco-conscious, the proposal of Afforestation is carried out. The company responsible for this initiative is L'Antic Colonial, which suggests to use of wood from sustainable forests, where trees are harvested in quantity so that they can then be felled sustainably. Through this initiative, the company aims to protect the environment.

Consequently, to show that its commitment goes beyond words, for this year the initiative is to cultivate a certain area with approximately 17,000 trees, thus reducing the impact caused by logging (Porcelanosa, 2020).

## ***REDUCING WATER CONSUMPTION***

The company is committed to Zero Waste to avoid wasting resources. Porcelanosa Group stresses that investing in saving water, as a scarce resource, is investing in the quality of life of society, which is a strategy that the company is following towards sustainability. Under this

concept, the company has installed more than 12 water treatment plants at its facilities to achieve a more considerate use of water.

Through the proposed initiative, the company challenges itself to combat the scarcity of natural resources and reduce its environmental impact by reducing water consumption by 20% (The Green Issue nº 2, Porcelanosa Grupo, 2020).

As another way of promoting water saving in households, the company has launched a campaign under the hashtag #SaveTheWaterForest. It is a campaign aimed at the company's public to raise awareness of the rational use of the available resources and to take care of the environment, with Noken being the firm committed to this concept (Noken, 2021).

### ***REDUCING/RECYCLING WASTE***

According to The Green Issue no. 2 (Porcelanosa, 2020), the company manages to recycle up to 95% of the remaining waste from production processes.

The proposal is to reuse the remaining waste from the production processes to produce new products and encourage the objective of moving the company's production towards the circular economy. To this end, the company has opted for the location of containers, which allow waste to be grouped into hazardous and non-hazardous waste, thus reducing the environmental impact derived from the use of certain materials.

### ***REDUCING PLASTIC LITTERING***

According to IUCN (2020), "plastic pollution can cause long-term damage to terrestrial and marine ecosystems and biodiversity", which can have negative effects on human health. Therefore, Porcelanosa Group has implemented a specific program for this purpose, which allows the company to reduce plastic consumption.

This is a new acquisition by the company to minimise pollution, under the name R-Eco. The aim is to reuse the plastic leftover from production processes to reduce the negative effects on the environment. It is proposed that the eight companies will carry out this initiative to achieve a reduction of up to 800 tonnes of plastic per year (Porcelanosa Grupo, 2020).

Through the measures adopted by the company, the environment is protected from harmful practices. Each one of them is committed to meeting the Sustainable Development Goals

established by the UN. In addition, the implementation of the four R's method, whose practices consist of "reduce, recycle, reuse and return".

However, together with its adhesion in 2015 to the United Nations Global Compact, Porcelanosa Group intends to continue deepening its environmental and social commitment (see Annex I). The aim of this adherence has always been the desire to be able to comply with the trends and advances that we are experiencing in the 21st century.

To comply with this pact, Porcelanosa promotes honesty and transparency with all organisations, institutions and end-users daily. These include the fight for human rights, environmental awareness, technological improvements, which are details that the company is constantly committed to, but always to transmit the same values to employees so that these practices can be carried out successfully as seen in The Company Book (Porcelanosa Grupo, 2020).

A priori, the company maintains that without a team that is aware of this commitment, it is almost impossible to carry out Corporate Social Responsibility practices (Porcelanosa Grupo AIE, 2016). For this reason, the company has drawn up a Code of Conduct that all employees must comply with, from the highest to the lowest levels. Likewise, all company employees must also comply with the Code. Through this policy, the company aims to achieve a series of objectives, which are described below.

On the one hand, it helps to reduce accidents and illnesses in the workplace and to improve the quality of the working environment. On the other hand, it promotes transparency towards employees regarding preventive aspects and encourages their cooperation. At the same time, it improves their hygiene measurements. Then, the tasks and tools used for these tasks are also analysed to avoid pathologies. It also helps to reduce fatigue, such as mental and physical tiredness, promoting job satisfaction and employee performance through the work of specialists. Finally, these actions encourage participation among members, good relations and a better working climate.

"It is about protecting the environment, which is also health, by establishing environmental protocols that allow us to fight against global warming, which lay the foundations for a green economy based on durable and reusable products, as Porcelanosa advocates in each collection" (Porcelanosa Grupo, Trendbook, 2021).

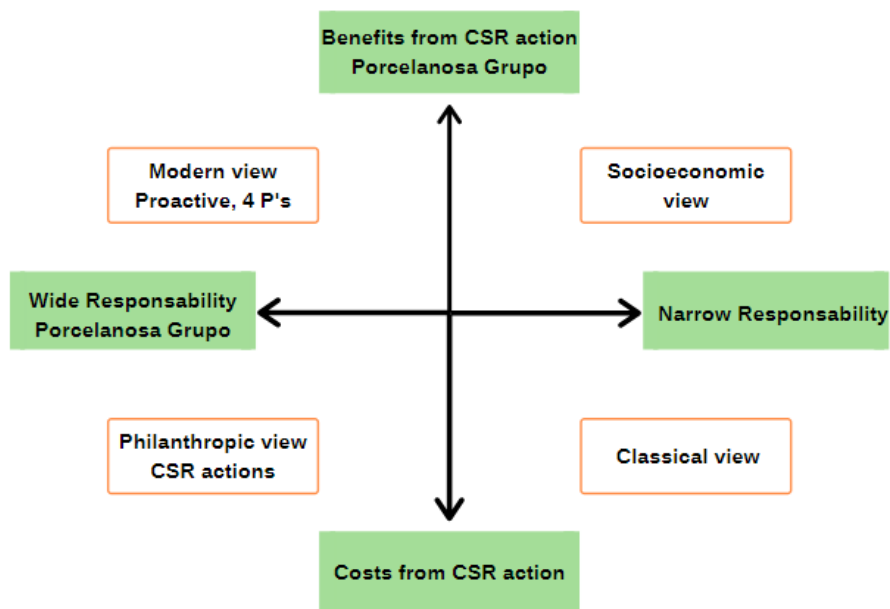
Previously, to better explain what Corporate Social Responsibility consists of, the model of Quazi and O'Brien (2000) has been taken as a model of explanation. Their model consists of the "corporate social commitment" of a company through its actions. Applying such model to

Porcelanosa Group, it can be said that the company on the horizontal axis is close to broad responsibility. Its vision is considerably broad in carrying out its actions, but always focusing these actions on respect for the environment, the evolution of society, the care of available resources, and also philanthropic responsibilities, characterising itself as a company that looks after the interests of society. The present actions are the result of the application of the previously developed policies.

In terms of the **vertical axis**, it has been shown that Porcelanosa is in the upper-end zone, which is characterised by the company's actions focused on the long term, which according to Porcelanosa Group (2018) its commitment is "rooted in time", which implies its presence both in the past, in the present and the near future.

These long-term actions are materialized from within the eight companies that comprise the group through rational and responsible actions as well as the proactive nature that both María José Soriano and Cristina Colonques (El mundo, 2021) state that this characteristic is well established within the group to improve the relationship that exists between the company and the users.

**Figure 4: Quazi and O'Brien model applied to Porcelanosa's performance model**



Source: Own elaboration

In addition to all this, care for the environment, the development of sustainable products and innovative designs have enabled the company to position itself as one of the most important tile manufacturers in Spain.

### 7.3.3 Innovation as a result of commitment

Porcelanosa Group is a company that has been marked since its beginnings by continuous research into product improvement. It is not surprising that one of the values that best define this philosophy is innovation-oriented towards sustainability, which goes beyond the production systems, but the designs of the products are also made in such a way that they contribute to it.

With all this, these concerns for the environment and society have led the company to invest heavily in R+D+i. To this end, the company has numerous R+D+i departments at its plants, whose work materialises in improving the composition of products following environmental care policies as read in its Global Report (Porcelanosa Grupo, 2021).

Through continuous research, the company aims to meet the needs of users, providing a better quality of life. According to Porcelanosa Group, "the eight firms are committed to energy saving, innovation, the use and recycling of natural resources and the production of sustainable products" as seen in the Company Book (Porcelanosa Grupo, 2019, p. 82).

Therefore, through spin-off companies, the group has succeeded in developing innovative products with a focus on sustainable production. To better reflect this fact, some of the most significant innovations by the eight companies are described below.

#### ***KRION***

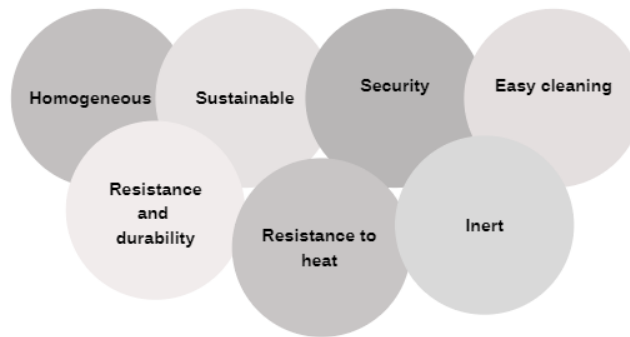
On the one hand, there is **K-LIFE**. With this, new technology has been developed to meet society's concerns about the environment, demonstrating environmental commitment through major investments in innovation. This technology is called KEAST KRION Eco-active Solid Technology, patented by Krion.

This is a new direction in the revolution of technology, promoting the environmental commitment implemented in the company, reducing the impact of the environment in a natural way. According to Porcelanosa's Global Report (Porcelanosa Grupo, 2021, p. 14), the new technology is capable of "giving the material a bacteriological character, eliminating microorganisms from its surface without the need to add chemical products to its composition, and facilitates its cleaning and disinfection". It also provides the advantage that over time the product does not lose its essence, obtaining better quality both in the product and in people's quality of life, given its innovative nature.



Through this new formula, based on mineral and resin, Krion stands out for offering the market a much more compact, cleaner, non-filterable product, thus providing a uniform paste, oriented towards sustainability and safety for society. In the same way, it manages to demonstrate its exclusivity and differentiate itself from the competition through a series of characteristics as shown in Figure 5.

**Figure 5: Krion Solid Surface characteristics**



*Source: Own elaboration*

On the other hand, **KRION SHELL** has been developed, which is a material characterised by its strength and sustainability, improving the performance of users. This material is developed in-house as Engineered Mineral Composite, used to produce sustainable products.

With the collaboration of recycled PET, Eco Resin, and Krion, the composition of this material is up to 6% recycled materials, allowing end-users to obtain eco-efficient bathrooms (Porcelanosa, 2017).

The resulting product is composed of two parts. The inner part contains minerals of recycled plastic, while the outer part contains compact and homogeneous alumina trihydrate material and pigments.

### **PORCELANOSA**

"Forest, one of the most sustainable ceramic parquets on the market" is how Porcelanosa characterises the product, which combines innovation and quality in the manufacturing process as explained in The Green Issue no. 2 (Porcelanosa Grupo, 2020, p. 24). It is a new porcelain stoneware, whose composition is 95% recycled material. The aim is to improve production and offer a product that minimises environmental impact.

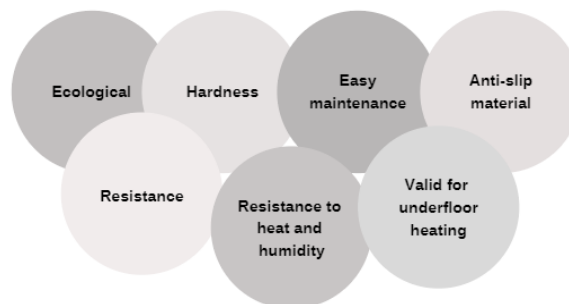
According to the company, it is "high-tech ceramics inspired by natural wood" (ibid), included in the Eco Project program, committed to an increasingly sustainable future. To demonstrate

its ecological and environmental character, its production process is based on the reuse of waste, water purification, minimisation of CO2 emissions by up to -40%, reducing the carbon footprint as well as correct use of energy.

Porcelanosa aims for end-users to perceive a different product with great innovative features as well as high quality of service, differentiating itself from the competition in the sector. According to Porcelanosa Group (2018), "Par-Ker Forest is ecology and design in one piece. Environmental awareness and aesthetics".

According to Porcelanosa Partners Ecologic (Porcelanosa Grupo, n. d.), to demonstrate the ecological commitment, it has several characteristics (see Figure 6).

**Figure 6: Forest characteristics**



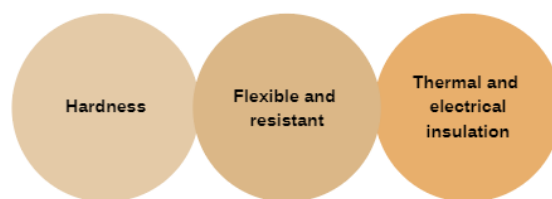
*Source: Own elaboration*

## **L'ANTIC COLONIAL**

In response to the reforestation initiative, as it says in Porcelanosa Partners Ecologic, L'Antic Colonial has launched the production of wood from sustainable forests, promoting "green housing" among users (Porcelanosa Grupo, n. d.). To this end, a new line of products called Starwood has been developed.

Starwood is an environmentally friendly product, which reduces the impact on the environment. Its production process 95% of the materials are recycled, uses less energy and water resources, reducing up to -40% of CO2 emissions into the atmosphere. From the firm they declare themselves to be lovers of natural wood, offering quality products concerning the environment. They take natural products as the basis for their products, obtaining unique and pragmatic products from them (L'Antic Colonial, 2021).

**Figure 7: Natural wood characteristics**



*Source: Own elaboration*

### **GAMADECOR**

Continuing with the initiative towards sustainable production, Gamadecor offers users an ecological product. As detailed in The Green Issue no. 2, the brand offers both bathroom and kitchen furniture, whose wood comes from forests where conscious logging is practiced, i.e. forests where more trees are grown than are harvested (Porcelanosa Grupo, 2020).

It is a product with a high level of R+D+i research, given that its creation aims to avoid waste and make efficient use of resources. To this end, as it says in Gamadecor Ecologic a system has been installed that allows the creation of a smart surface, promoting the creation of much more sustainable homes under the Smart Kitchen initiative (Porcelanosa Grupo, n. d.).

### **URBATEK**

Since its beginnings, this company has stood out for its technological innovations. The production is characterised by the reuse of water resources or heat from other productions as well as the recycling of waste for new packaging.

The XLIGHT and XTONE lines stand out among its production, born from technological innovation. Their function is both for cladding and flooring, both exterior and interior, as well as for furniture and countertops. According to The Green Issue no. 2 (Porcelanosa Grupo, 2020), the production of XTONE is made with up to 27% or more recycled material.

In the Company Book, (Porcelanosa Grupo, 2019) can also be extracted that the great flexibility of the products allows the company to adapt production to the demands, innovative technological requirements and to offer a product with a high degree of quality defined by its resistance, hardness, and minimum environmental impact.

## **BUTECH**

The company's industrial career has been marked by a broad concern for providing progressive and environmentally friendly technical solutions. Thanks to the efforts made in R+D+i, the company has managed to become a benchmark given its capacity to industrialise bathrooms. This system offers developers the opportunity to work with more efficient and environmentally sustainable products. The products are included in the Eco-conscious program, combining materials from Krion, reducing energy consumption by up to 30%, and polluting CO2 emissions by reusing waste (Porcelanosa Grupo, 2020).

A new system has been developed, Unit-Systems, new technology as an integral construction solution for bathrooms, kitchens, as well as facades. This has been implemented to reduce the pollution impact of the processes, through continuous innovations providing the highest quality of the products.

## **NOKEN**

Noken has developed excellent innovations in designs as a sign of environmental and sustainable commitment, implementing a new WaterForest program, through new technology. Under this initiative, water savings of up to 89% can be achieved in households (Noken, 2021).

On the one hand, the development of eco taps, whose function through the new Eco-star technology allows a saving of up to 60% of water. The tap is turned on with cold water, heating only when required, avoiding possible scalding or waste. In turn, the eco aerators, which allow limiting the water flow thus reducing up to 1.3 liters per minute, provides the user with the opportunity to provide the home with exclusive, durable, and environmentally friendly taps (ibid).

On the other hand, toilets have a double system that allows eco flushing. This achieves up to -56% of the water consumption from the cisterns.

Finally, the range of products has been extended, incorporating an advanced technological system applied to accessories such as the Pure Line mirrors, which combine technology and sustainability, incorporating an anti-fogging system, LED light, and loudspeakers. In addition, according to the Company Book, the same applies to towel dryers, which incorporate an Ecosystem to reduce energy consumption (Porcelanosa Grupo, 2019).

Noken products are produced from eco, recycled, or used materials, with the least energy use and the lowest CO2 emissions that boilers can produce, contributing to the environmental commitment, adapting production to the demands of society (ibid).

### **III. PROPOSAL AND RECOMMENDATIONS**

#### **8. CONCLUSIONS AND RECOMMENDATIONS**

The main objective of this paper is to study how "Sustainable leadership fosters Corporate Social Responsibility measures, the result of which leads to large investments in innovation". For this purpose, the ceramic sector of the Valencian Community has been taken into consideration, through the company Porcelanosa Group.

Mainly, technological advances, globalisation, as well as the diversification of activities have led to a certain degree of competitiveness among organisations, the effects of which are investments to thrive against the competitor.

They are a set of factors that motivate companies to adopt new forms of business to adapt production to the demands of the current market. There are many types of companies, from industrial to commercial companies. However, it is precisely the industrial ones that involve a process of transformation of raw materials that must pay attention to the manufacturing processes.

During the last decades, the Spanish ceramic sector has undergone a great evolution that has increased sales, consolidating itself as a leading sector in the province of Castellón, becoming a potential district in the Valencian Community. In the same way, it managed to become the first ceramic exporter at the European level and second at the world level, a fact that has given it a strong position in the market.

This leading position is due to the parallel evolution with changes in technologies, plus orienting production towards product quality and innovation. However, to maintain this position, the companies from this district have been required to make significant investments in R+D+i.

However, society's concerns about the environmental impact that these organisations can have encouraged them to take socially, economically, and environmentally responsible actions. Society has become increasingly demanding, requesting greater responsibility from organisations to carry out a more transparent and sustainable form of business. As highlighted by De la Cuesta and Valor (2003, p. 7), organisations must make commitments

and show certain obligations at all levels of action, whether in the social, economic or environmental sphere.

For this reason, the main objective of this work is to carry out an investigation into sustainable leadership, which leads to responsible and socially committed actions, the result of which are the initiatives and investments in innovation, taking the company Porcelanosa Group as a reference.

Based on the analysis realised on the company, a series of conclusions have been reached. On the one hand, it can be seen that Porcelanosa Group has been characterised since its beginnings by its great efforts to achieve sustainable production. The company has had clear values on which its economic activity is based, such as quality, innovation and care for the environment.

All this is due to the responsible actions of the fundamental pillars of Porcelanosa Group, which are José Soriano, Héctor and Manuel Colonques. With character and ambition, they have been able to transmit the entrepreneurial spirit to the next generations, acting under the premises of responsibility and environmental protection. Given their enterprising character, dialogue, and commitment, the three have become a reference figure for the members of the organisation, from the highest to the lowest positions, who have internalised the business model implemented by them.

Thus, it can be said that Porcelanosa Group's production has been oriented from its beginnings towards sustainability and environmental concern, taking quality and design as part of its style, by addressing the demands of consumers. With this, what they have achieved is a sustainable production, promoting sustainable consumption by consumers.

To further highlight its commitment, the company has been able to develop a wide range of products, from tiles, both for flooring and cladding, to the manufacture of furniture and accessories to reach a wider audience. At the same time, it has also developed technical solutions for developers to create future-oriented housing.

These commitments, developed from within the organisation, have led the company to create its own Corporate Social Responsibility department, through a myriad of actions as previously described in this paper are carried out to promote sustainability in society.

It should be noted that the department's objectives include the reduction of CO<sub>2</sub> emissions as the main objective, as well as the efficient use of available energy and water resources. With this in mind, eco-projects have been developed, which adopt measures to protect the environment from the impact of industrial activities.

The next step towards the commitment demonstrated by the company has been the adhesion to the United Nations Global Compact, developing the Code of Conduct, which has been integrated to all members and stakeholders of Porcelanosa Group. The aim is to improve the well-being of all those who form the company.

It can be said that given the multiple actions and commitments adopted by the company, it has been possible to detect the existence of members of its staff who are capable of carrying out these commitments. In other words, the company has always had good leaders, with the ability to promote sustainable production through a series of Corporate Social Responsibility practices, underpinning the basis of the commitment that Porcelanosa Group has managed very well in its business through a specific department for these activities.

The company's actions range from the reuse of recycled material to reforestation practices, to efficient use of available resources for production.

For Porcelanosa Group, its products must express the great efforts and investments that the company makes to offer the highest quality to its customers. Thus, the quality offered expresses the values upheld and implemented in the company's philosophy of sustainability.

Therefore, throughout its presence in the ceramics sector, Porcelanosa Group has invested heavily in technology as the driving force behind its daily production. According to CincoDías (2018), Porcelanosa has launched a major investment plan with more than 80 million euros. With the digitalisation of processes, the company has managed to position itself in the eyes of consumers and attract them. In addition to providing an improved service offering an exclusive experience.

Consequently, it can be said that the company has carried out great innovations in both processes and products, which has made society perceive Porcelanosa Group for what it has become thanks to its many efforts. Through the eight brands that form the company, Porcelanosa Group has been able to adapt its production to new technologies and changes in tastes and demands, shifting its manufacturing process towards sustainability.

The limitations of this study are that it has been carried out based on secondary sources, with special emphasis on Porcelanosa Group 's website and reports or possible interviews with the company's senior management. Therefore, it has been difficult to have access to internal company information to obtain more accurate results. For this reason, the following recommendations are proposed for possible future studies.

As can be seen, for this study, the industrial ceramics sector predominates as a starting point. Subsequently, it was considered of great interest to penetrate Porcelanosa Group as a reference company in the district.

Given that we are currently in an era of technological advances, in which consumers are becoming more and more informed and their tastes and concerns are growing, it has been considered useful to investigate sustainable leadership that fosters Corporate Social Responsibility actions that at the same time lead to major innovations.

However, this study has only been applied to Porcelanosa Group, and it would be a favourable recommendation to study other leading companies in the sector to verify the certainty of these actions. Other leading companies in the sector could be Tau, Pamesa or Argenta Cerámica SL.

Such information could be gathered through questionnaires as a primary source base. To capture more interest, quantitative (open or closed) and qualitative interviews can be combined to create a sense of approach between those involved. This would provide more in-depth results about the sector and the companies operating in it, comparing the results obtained from Porcelanosa Group. This would provide a more global vision of the sector.

On the other hand, given that consumer concerns are constantly on the rise, to demonstrate the work of sustainable leadership as an element that encourages committed actions derived from continuous R+D+i efforts, the Spanish textile sector would also be another focus that can be adapted to this research. This sector, like the ceramic sector, has undergone a great evolution in recent years.

Finally, what is proposed is a more exhaustive and in-depth study of key concepts such as sustainable leadership, Corporate Social Responsibility and innovation, since in recent years they have taken on great relevance in the business world. Nevertheless, it seems that companies have not yet internalised the presence of these practices as much as expected.



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## **10. ANNEXES**

Anexo I: Company engagement policies.

### **PORCELANOSA®**

#### **POLÍTICA DE CALIDAD, MEDIO AMBIENTE Y ENERGÍA**

PORCELANOSA establece, a través de este documento, las directrices y objetivos generales de la empresa en el ámbito de la calidad, energía y el respeto al medio ambiente.

- PORCELANOSA tiene como prioridad básica y permanente el compromiso de suministrar, con el mejor servicio, productos que satisfagan plenamente las expectativas y requisitos implícitos y explícitos de los clientes, cumpliendo para ello con la legislación y reglamentación medioambiental y energética aplicable y adoptando las medidas necesarias para llevar a cabo acciones de prevención y reducción de la contaminación que esta actividad provoca, siempre que ello sea posible, así como una reducción del consumo energético.
- Este compromiso implica mantener el liderazgo en calidad así como la competitividad de la marca desde la mejora continua de la eficacia del sistema de calidad, energía y medio ambiente.
- La obtención de productos de gran calidad y medioambientalmente sostenibles debe basarse tanto en la utilización de la prevención como herramienta esencial para la consecución de los objetivos, como en la mejora continua de métodos y procesos, fomentando para ello la adquisición y uso de productos y servicios eficientes energéticamente, así como apoyando un diseño ecoeficiente, que nos ayuden a mejorar el desempeño energético.
- La aplicación del Sistema de Gestión en su espectro más amplio, necesita la implicación de todos.

Objetivos básicos en la organización para cumplir con el compromiso principal son:

Adoptar las medidas necesarias al alcance de PORCELANOSA para prevenir la contaminación, y cuando ello no sea posible, reducirla al máximo. Especial atención requerirán puntos clave como:

Minimización de emisiones a la atmósfera y optimización de la gestión de residuos, enfocando su gestión en la medida de lo posible hacia la valorización, estableciendo igualmente las medidas oportunas para reducir al máximo la generación de residuos y evitar vertidos accidentales al medio ambiente..

Garantizar el cumplimiento de la normativa medioambiental que afecte a la organización.

Fomentar el ahorro de energía y optimizar el consumo de recursos naturales, en concreto consumo de agua y gas natural.

Formar a los miembros de la organización con el fin de conseguir los objetivos marcados en el sistema de gestión a través de la toma de conciencia y la participación, transmitiendo la importancia que esta dirección otorga a la adecuada evolución del sistema en el seno de PORCELANOSA.

Sin objetivos que cumplir no hay retos y por tanto no existen expectativas de mejora. Por ello, se establecerán periódicamente objetivos específicos, de manera que su cumplimiento sea la garantía de que el sistema de gestión (Calidad, Energía y Medio Ambiente) funciona.