



Environmental strategy and the petroleum industry: a sustainability balanced scorecard approach

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Abstract

The institutional framework designed to protect the environment demands a growing involvement of companies. The new environmental paradigm drives the business community to embrace corporate sustainability more broadly and effectively. This trend is especially pronounced in the petroleum sector since, to a greater degree than in other industries, modern society demands that wealth creation be conducted while guaranteeing social and environmental wellbeing. To achieve this aim, it is necessary to implement an environmental management model that links sustainability planning with a control and supervision system. One of the most effective is the Sustainability Balanced Scorecard approach. This method will be used in this article to evaluate the sustainable performance of a Spanish company whose activity is focused on the marketing and distribution of petroleum products. The objective of this article is to analyze the environmental management of the hydrocarbon company and whether the four perspectives of its strategic vision have satisfactorily incorporated variables that promote sustainability. 2021 is the reference year for the indicator values, which will be compared with the target values for 2022. The results show that, while financial performance reveals a margin for improvement, as well as staff education and training in sustainability, the degree of environmental satisfaction of consumers is acceptable.

Keywords Sustainability balanced scorecard adoption · Petroleum industry · Spain · Strategy implementation · Sustainability transition

Abbreviations

BSC	Balanced scorecard
CSR	Corporate social responsibility
SABI	Iberian balance sheet analysis system
SBSC	Sustainability scoreboard balance

Introduction

The role played by companies against climate change is becoming increasingly important (Khan et al. 2022). Currently, the institutional framework composed of the Sustainable Development Goals and The Paris Agreement, combined with the drive of industry 5.0, create a present and future scenario in which the development of sustainable strategies determines the performance of companies in the marketplace (van Zanten and van Tulder 2021). Stakeholders demand the execution of environmentally friendly business practices, so the success of a company no longer depends only on its financial performance but also on the execution of its environmental plans (Jassem et al. 2021; Khan et al. 2021c).

Therefore, the growing importance of social, ethical and environmental issues requires a methodological effort to meet the new challenges in terms of management systems and measurement of the effective effort of companies (Hansen and Schaltegger 2016; Khan et al. 2021b). In the modern strategic vision, companies must consider economic, social and environmental issues. These three dimensions are

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linked, as it is the nature of their interdependence that determines the ultimate results of the company. Certain parts of the business sector do not integrate sustainable policy into the strategic vision of the company, which creates complexities that can lead to economic and financial failure (Ferns et al. 2019; Khan et al. 2021a). For this reason, a growing number of individual initiatives from the production sectors, in addition to publicly expressing their commitment to sustainability, have implemented active environmental policies. In particular, the petroleum industry is one of those that has followed this trend the most. In 2012, 77% of companies in the sector had a CSR that included their environmentally friendly practices in their operating environment (O'Connor and Gronewold 2013). Ten years later, the commitment to reducing the negative environmental impacts of the sector is even greater (Moser 2001). Nevertheless, the petroleum refining industry is the third largest CO₂ stagnant sector in the world, behind the energy and cement sectors (Zhang and Yousaf 2020).

Therefore, petroleum projects require an assessment not only from a political and strategic perspective, but also from an environmental dimension. The potential of this industry to damage habitats, create negative externalities to communities located close to production or extraction centers, or the increased awareness of the non-renewable nature of oil, have increased sensitivity to green issues (George et al. 2016). To this end, it is essential to apply a sustainability assessment framework that includes social, economic, and environmental aspects, whose indicators are a benchmark for measuring the impact of corporate strategy. The BSC is an approach that finds the key components of the company to evaluate them and measure progress towards corporate achievements. Recently, it has evolved into the SBSC, which incorporates an environmental perspective that includes a combination of financial and non-financial information (Nikolaou and Tsalis 2013).

The aim of this article is to evaluate the corporate sustainable management of a Spanish company that markets and distributes petroleum products. To this end, the values of the indicators for the year 2021 will be calculated and compared with the targets for 2022. This analysis will be performed through the application of the SBSC approach. For this purpose, a strategic map will be constructed and the indicators of the four business perspectives of which the SBSC is composed will be selected and elaborated. It is essential to obtain an aim and a value for each indicator. In this way, an adequate and constant evaluation of the achievement of the proposed goals in the period in which they were set up will be conducted. This analysis will allow the conduction of competencies and skills within the organization to achieve the proposed strategic aims.

Although there are several examples in academia of the application of BSC and SBSC to various case studies in the

energy sector, including the solar energy sector (Qolipour et al. 2016; Mostafaiepour et al. 2016, 2020; Rigo et al. 2022), wind energy (Dincer and Yuksel 2019; Dinçer et al. 2020; Dong et al. 2022), biomass (Dinçer and Yuksel 2019), or the petroleum industry (Rabbani et al. 2014; Al-Qubaisi and Ajmal 2018; Rahuma and Fethi 2022), there is a scarce application of this approach to the performance of Spanish companies or organizations. Therefore, this article, in addition to serving as a reference for Spanish stakeholders, also contributes to diversify the analysis of corporate performance evaluation. In this way, the experience of a different region is analyzed, which enriches the academic portfolio on the relationship between sustainable management and the petroleum industry.

The balanced scorecard and its role in environmental sustainability

The fundamentals of the balanced scorecard

In 1992, the introduction of the BSC concept by Kaplan and Norton (Kaplan and Norton 1992) in academia implied an important paradigm change in the measurement of corporate performance (Kaplan and Norton 2007). This model involved the effective adaptation of a more strategic approach, through the incorporation of several indicators that facilitate the control of the company as an integrated whole (Kaplan and Norton 2015). In this way, the mission, vision and corporate strategy are translated into indicators that determine the achievement of the organization. These indicators are interrelated, providing a more general organizational vision and becoming a narrative element for the organization itself (Kaplan and Norton 1996).

The dynamic and constantly growing environment in which business organizations operate has contributed to the consideration of the BSC as an inclusive management tool that considers not only short-term planning actions but also strategic actions (Lee et al. 2021). Accordingly, this methodology introduces four perspectives of analysis (financial, customer, internal processes, and growth and learning), providing an integrated and holistic view of the enterprise that complements traditional business performance management systems, which focus exclusively on financial data (Mio et al. 2022).

The primary objective of the financial perspective is based on the utilization and management of the financial resources of the company in an efficient manner. This perspective determines whether the indicators corresponding to the other perspectives are meeting the objective of improving the financial indicators (Huang 2009). That is, the indicators of the financial perspective evaluate the financial results and verify that the implementation and execution

of the strategy of the company is financially beneficial to the company and, therefore, contributes to the success and growth of the company. Within this perspective, four key areas can be identified. The first of these is liquidity, whose impact is based on the indispensability of knowing the capacity of the company to face short-term debts; secondly, efficiency, which determines the capacity of the company to perform a given process; thirdly, productivity, which implies a relationship between effectiveness and efficiency in the performance of activities; and finally, financial diagnosis, focused on the relationship between balance sheet accounts and income statement accounts in order to develop a more dynamic analysis of the financial results of the company's activities (Kaplan 2012).

The second perspective of the BSC is the customer perspective, which seeks to connect the strategy and vision of the company with its customers. This strategy is implemented by the company through the establishment of representative objectives and indicators of the market segments to which it directs its activity. Among its key areas, we can highlight the degree of customer satisfaction, which measures the capacity of the company to fulfill customer expectations; customer retention, which is the ability to maintain long-term relationships with current customers; and, finally, sales growth, indicating an increase in revenues within the period under analysis.

Third, there is the internal process perspective, based on the identification of the indispensable processes by which the company must achieve customer satisfaction and shareholder approval (Nair 2004). Among its key areas are the fulfillment of deliveries within the deadline and conditions established by the customer; the delivery failures, based on the identification of erroneous deliveries to reduce them; and customer claims and complaints, which must be quantified to improve the service offer.

Finally, there is the growth and learning perspective, which is based on the professional development of the employees, and on the development of the systems and procedures that allow for continuous improvement of the company. While the first three perspectives were aimed at identifying those aspects on which the company needs to focus in order to achieve excellence, this last one focuses on providing the business infrastructure required to achieve this goal (Lee and Moon 2008). For this reason, the objectives included in this perspective have an impact on the results of the other three perspectives. In terms of its key areas, four stand out. The first of these is the quality of the work environment, translated as the employees' perception of the work environment; the second is employee training and retention, which measures employee turnover and the time spent on training new employees; third is the area of employee performance and compliance, relating the income and expenses that employees bring to the company; and finally, there is the

area of motivation and delegation of power, which is a key factor in the involvement of employees in their work within the company itself (Massingham et al. 2018).

According to (Hoque 2014), The BSC contains a large set of cause-effect relationships between the different critical variables. Thus, none of the four perspectives described above is independent, but rather function through cause-effect relationships that facilitate the control of the determining variables. These variables measure the degree of development of the strategy to be followed and serve as a guide to the achievement of the mission of the company. Thus, the strategy map makes it possible to visualize the causal relationship between the objectives and key strategies regarding these four perspectives. This facilitates the identification of the objectives and those directly responsible for the fulfillment of the corporate planning.

The sustainable perspective in the BSC: SBSC

In response to environmental regulations and new consumer demands on sustainability, companies must adopt innovative measures to ensure compliance with a strategic approach aligned with respect for the environment (Cordova and Coronado 2021). Gathering the necessary qualitative and quantitative information that leads to a credible sustainable strategic decision-making process can be arduous, but technological tools have made this process easier. However, assessing the performance of the performance of the environmental plan of the company can be even more challenging. The increasing number of variables to consider, the multiple assessment criteria, or the complex interrelationships between factors create a scenario where performance assessment, without an adequate methodology, can lead to erroneous assumptions.

Therefore, it is essential to use an approach that helps the management team understand the causal relationships between environmental initiatives and the economic and financial performance of the company. In this way, social improvements can also be enhanced by building a cooperative culture between the private sector and its environment. However, it is essential that this strategy be shared by all the agents involved in the management of the company. Both managers and employees must understand and internalize and work together to achieve environmental objectives (Epstein and Wisner 2001).

The nature of the BSC methodology allows for the incorporation of non-monetary strategic factors that are critical to the financial success of the company (Figge et al. 2002). It should be noted that, in its original approach, the BSC did not include environmental aspects as factors in the efficient management of the company (Kalender and Vayvay 2016). Traditionally, the variables considered focused on investment, capacity, availability of productive resources, level of

competition, or economies of scale. However, in the face of the growing demand for more effective long-term sustainable management, social and ecological aspects have been incorporated (Agrawal et al. 2016). For this reason, the use of the sustainability balanced scorecard is becoming increasingly widespread. The SBSC not only serves for the elaboration and design of the environmental strategy, but also stands as a valid tool for assessing the fulfillment of objectives and for the disclosure of corporate sustainability plans (Nikolaou and Tsalis 2013).

According to Butler et al. (2011) there are three different scenarios for SBSC implementation. The first scenario incorporates environmental and social variables within each of the four traditional strategies. The second scenario adds one more perspective, focused on sustainability, to the four existing ones. Finally, the third scenario is based on the creation of a BSC that analyzes only the company's environmental policy. There has been a debate in academia about which scenario is the most efficient for the implementation and control of a sustainable corporate policy, and whether there are any revealing differences (Alewine and Stone 2013; Sands et al. 2016; Nicoletti Junior et al. 2018; Jassem et al. 2021). However, the analyses show that the validity of the scenarios depends on their architecture, the case study to which they are applied, and the availability of information.

Materials and methods

Data

The company under analysis, headquartered in Madrid, specializes in the marketing and distribution, wholesale and retail, of petroleum products. Its activity is structured in two areas. The first area is focused on the wholesale trade of petroleum and chemical products, both nationally and internationally. The second area focuses on complementary activities such as logistics, storage, transportation, commercialization, retail, consulting and advice on trading of petroleum products. To this end, it has its own hydrocarbon storage plants, capillary logistics, service stations and gas centers. It is a medium-sized company, with more than thirty years of activity, which has recently initiated a policy of responsible practices to reduce the environmental impact of its activity.

Two different sources of information were used for the analysis. On the one hand, to obtain the data that were subsequently used to prepare the strategy map and the SBSC, a survey was conducted in June 2019. In it, the direction to be followed by the company and how it wants to achieve it was determined. Among the questions consulted, one group of them was used to develop the strategy map, while another group was used in the design of indicators, as well as to

determine the strategic objectives of the company. Thus, a total of fourteen questions were formulated, divided into two different categories:

Category A (elaboration of the strategic map):

1. What is the mission of the company?
2. What is the vision of the company?
3. What are the values of the company?
4. What are the key factors on which the company's success depends?
5. What measures are being taken to protect the environment?

Category B (calculation of SBSC indicators and identification of strategic objectives).

1. To whom is the information obtained addressed?
2. What are the strategic objectives of the company and the strategies to be followed to achieve them?
3. What factors are to be measured?
4. How often will the information obtained be compared?
5. With what will the values obtained be compared?
6. What are the appropriate target values for your company?
7. What is the periodic information from which you can obtain values on a regular basis?
8. What costs are you willing to incur to obtain the information?
9. How do you expect to improve the environmental impact of the business?

On the other hand, the SABI database, which belongs to the company Bureau Van Dijk, was used to obtain the data that determine the company's economic and financial performance to calculate the scorecard indicators. This database includes the economic and financial situation of the companies, specifying, among other data extracted from the Annual Accounts Deposit of the Mercantile Registry, the number of employees, the type of sector and activity pursued, their location or their legal form (SABI 2020). The financial indicators of the financial perspective of the SBSC are based on SABI data.

Methodology

The first step to perform an SBSC is the creation of a strategy map. This methodology was introduced by Kaplan and Norton as a concise way of illustrating the major strategic objectives with the areas of the company. Its function is to contribute to the understanding of the mission and vision, as well as the objectives and activities to achieve them, preparing both the company and its stakeholders for sustainable growth in the medium and long term (Elkanayati and

Shamah 2019). In this way, the proposals for improving the management and autonomy of the company through the use of a new and sophisticated strategic planning model are graphically represented (Lueg 2015; Moraga et al. 2020).

The SBSC is a complex system, since it evaluates strategic performance on a multilevel basis, taking into account all the agents, both external and internal, involved in the management of the company (Banker et al. 2011). Thus, both financial and non-financial goals, as well as the chain of activities and the interrelationships of the agents are included in the SBSC, which implies a large number of interrelated variables that may difficult the holistic understanding of the processes (Tawse and Tabesh 2022). Therefore, the elaboration of the strategy map is appropriate since its graphic representation helps to formulate, control and communicate the strategy of the company in a clear manner (Pirnay and Burnay 2022).

In this case study, the first step for the creation of the strategic map is to determine the direction the company wants to follow. Through the interviews conducted with the petroleum management personnel of the company, it has been possible to define the mission and vision that the company pursues. Its mission is focused on “being a petroleum specialist committed to the energy transition, seeking innovative and efficient solutions, while guaranteeing the supply of quality products”. In turn, the vision of the company is focused towards “energy supply based on innovation, efficiency and respect for the environment in order to generate value in a sustainable manner for the progress of society”.

Once the mission and vision of the company had been determined, the questionnaires and interviews conducted characterized the components that conform the strategic map. The indicators of this map are organized into four different perspectives: Financial, Customer, Internal Business Process and Learning and Growth (Fig. 1). In this article, we will implement the first SBCS implementation scenario presented by Butler et al. (2011), in which environmental variables are incorporated into the four existing perspectives.

Once the strategy map has been drawn up, the next step is to define the most important indicators identified through the strategic decisions of the managers. In order to help the company track the status of its objectives, the use of quantitative variables provides a reliable way for this purpose (Rigo et al. 2022). Through these indicators we can regularly and reliably measure the performance of the strategic objectives. Table 1 shows the most appropriate indicators within each perspective.

Results

Once the indicators have been defined, based on the information obtained both from the surveys and interviews and from the SABI database, two tasks are conducted. The first one focuses on the calculation of the indicators for the year 2021, and the second one has the function of determining the target values for the year 2022 as shown in Table 2:

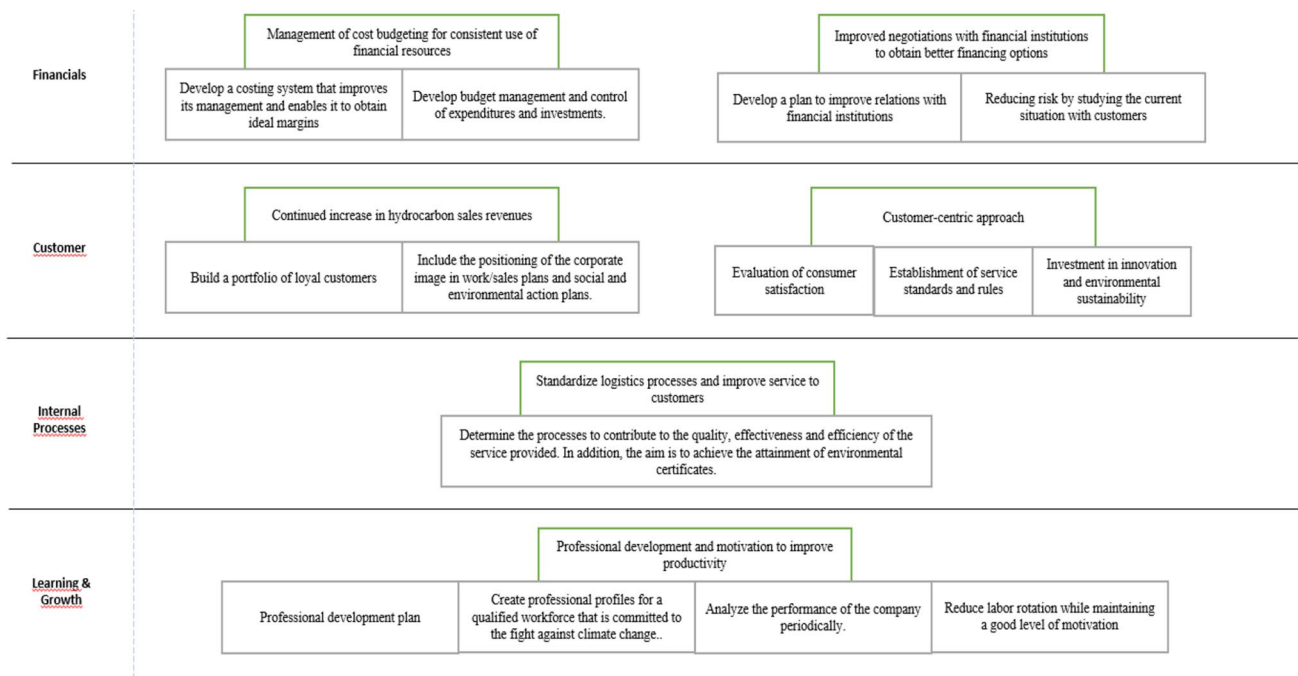


Fig. 1 Strategic map of the company

Table 1 Indicators used for the elaboration of the SBSC

Perspective	Variable	No	Index	Formula	Description
Financial	Liquidity	1	<i>Solvency Ratio</i>	$\frac{\text{Current assets}}{\text{Current liabilities}}$	Capacity to address the short-term obligations of the company
	Efficiency	2	<i>Current capital</i>	$\text{Current Assets} - \text{Current Liabilities}$	The amount of assets available for investment after the cancellation of debts
		3	<i>Economic profitability</i>	$\frac{\text{Earnings before interest and taxes}}{\text{Total assets}}$	Determines whether the results obtained are consistent with the capital employed
	Financial performance	4	<i>Financial profitability</i>	$\frac{\text{Net income}}{\text{Share holder's equity}}$	Determines the return obtained based on the funds provided by the shareholders
		5	<i>Sales growth</i>	$\frac{\text{sales} - \text{sales}_{-1}}{\text{sales}_{-1}}$	Determines whether the results obtained are consistent with the capital employed
	Financial diagnosis	6	<i>Customer defection rate</i>	$\frac{\text{customers} - \text{customers}_{-1}}{\text{customers}_{-1}}$	Determines the return obtained based on the shareholders' contributions
		7	<i>Indebtedness</i>	$\frac{\text{Total liabilities}}{\text{Total assets}}$	Determines the debt-to-equity ratio, i.e., the amount of equity financed by external sources
	Consistency	8	<i>Financial autonomy</i>	$\frac{\text{Net worth}}{\text{Total liabilities}}$	Determines the investment capacity of the company regardless of the availability of financial credit
		9	<i>Consistency</i>	$\frac{\text{Fixed assets}}{\text{Long-term liabilities}}$	Determines the long-term security for creditors
	Warranty	10	<i>Warranty</i>	$\frac{\text{Actual assets}}{\text{outstanding liabilities}}$	Evaluates the net worth situation. If the result is less than one unit, the company is at risk of bankruptcy
		11	<i>Financial expense ratio</i>	$\frac{\text{Financial expense}}{\text{Financial expense}_{-1}}$	Determines the evolution of financial expenses with respect to the previous period (increase or decrease)
	Satisfaction	12	<i>Index of customer satisfaction with the service offered</i>	$\frac{\text{Number of positive service evaluations}}{\text{Total service evaluations}}$	It is determined through a quarterly survey to evaluate price, quality, image, trust and value added
		13	<i>Index of customer satisfaction with the environmental policy of the company</i>	$\frac{\text{Number of positive environmental evaluations}}{\text{Total environmental evaluations}}$	Customer satisfaction with the company's environmental policy is determined by means of a quarterly survey
	Volume	14	<i>New customer index</i>	$\frac{\text{New customers}}{\text{Total customers}}$	Determines the ratio of new customers compared to existing customers
		15	<i>New customer revenue rate</i>	$\frac{\text{Sales due to new customers}}{\text{Total sales}}$	Determines the proportion of sales corresponding to new customers
	Loyalty	16	<i>Customer retention rate</i>	$\frac{\text{No. customers at end of the period} - \text{No. customers acquired during the period}}{\text{No. customers at the start of the period}}$	Determines the ability of the company to retain customers

Table 1 (continued)

Perspective	Variable	No	Index	Formula	Description	
Internal Business Processes	Delivery performance	17	Service time compliance	$\frac{\text{Efficient deliveries}}{\text{Total deliveries}}$	Determines the company's ability to deliver on time and in a sustainable manner	
	Wrong deliveries	18	Compliance with deliveries in satisfactory condition	$\frac{\text{Deliveries in satisfactory condition}}{\text{Total deliveries}}$	Determines the ability of the company to deliver in good condition to customers, complying with environmental standards	
	Claims and suggestions	19	Wrong delivery rate	$\frac{\text{Erroneous deliveries}}{\text{Total deliveries}}$	Determines the proportion of erroneous deliveries	
		20	Claims	$\sum \text{Claims}$	Establishes the total number of claims made	
		21	Environmental claims	$\frac{\text{Environmental claims}}{\text{Total claims}}$	Determines the proportion of environmental claims over the total number of claims made	
		22	Suggestions	$\sum \text{Suggestions}$	Establishes the total number of suggestions made	
		23	Environmental suggestions	$\frac{\text{Environmental suggestions}}{\text{Total suggestions}}$	Determines the proportion of environmental suggestions over the total number of suggestions made	
	Learning and Growth	Quality of work environment	24	Satisfaction in the work environment	$\frac{\text{Satisfied employees}}{\text{Total employees}}$	The work climate is determined through an anonymous survey, which also includes employee satisfaction with the environmental policies implemented
		Staff training and retention	25	Employee turnover	$\frac{\text{Employees who left}}{(\text{Employees at the beginning} - \text{Employees at the end})/2}$	Determines the number of employees leaving the company out of the total number of employees
			26	Training	$\sum \text{Training hours}$	Determine the hours spent on employee training
		27	Environmental awareness training	$\frac{\text{Environmental training}}{\text{Total training}}$	Determine the hours dedicated to environmental sustainability training for employees	
	Staff performance	28	Salary expense to sales ratio	$\frac{\text{Salary cost}}{\text{Sales}}$	Determines the proportion of income allocated to employee salaries	
	Motivation and empowerment	29	Employee suggestions	$\sum \text{Suggestions}$	Determines the total suggestions that have been contributed by employees	
		30	Suggestions on environmental sustainability from employees	$\frac{\text{Suggestions on environmental sustainability}}{\text{Total suggestions}}$	Determines the suggestions on environmental sustainability that have been contributed by employees	
		31	Gallup index	Calculated by conducting a 12-question survey to determine the level of employee commitment to the company		

Table 2 Elaboration of the SBSC

Perspective	Variable	No	Index	Frequency	2021	2022 Goal	
Financial	Liquidity	1	<i>Solvency Ratio</i>	Monthly	0.81	> 1	
		2	<i>Current capital</i>	Monthly	– 3,900,723.97€	> 0	
	Efficiency	3	<i>Economic profitability</i>	Monthly	– 17.19%	> 0%	
		4	<i>Financial profitability</i>	Monthly	– 108.32%	> 0%	
	Financial performance	5	<i>Sales growth</i>	Monthly	47.72%	> 5%	
		6	<i>Customer defection rate</i>	Monthly	11.01%	> 10%	
	Financial diagnosis	7	7	<i>Indebtedness</i>	Monthly	86.38%	< 40%
			8	<i>Financial autonomy</i>	Monthly	13.62%	> 20%
		9	<i>Consistency</i>	Monthly	116	> 2.00	
		10	<i>Warranty</i>	Monthly	1.16	> 1.5	
		11	<i>Financial expense ratio</i>	Monthly	5.53	< 5.00	
Customer	Satisfaction	12	<i>Index of customer satisfaction with the service offered</i>	Quarterly	76.23%	80%	
		13	<i>Index of customer satisfaction with the environmental policy of the company</i>	Quarterly	69.31%	75%	
	Volume	14	<i>New customer index</i>	Monthly	12.33%	20%	
		15	<i>New customer revenue rate</i>	Monthly	11.14%	15%	
	Loyalty	16	<i>Customer retention rate</i>	Monthly	74.87%	80%	
	Internal Business Processes	Delivery performance	17	<i>Service time compliance</i>	Monthly	97.37%	100%
			18	<i>Compliance with deliveries in satisfactory condition</i>	Monthly	92.41%	100%
		Wrong deliveries	19	<i>Wrong delivery rate</i>	Monthly	5.74%	0%
		Claims and suggestions	20	<i>Claims</i>	Monthly	5	0
			21	<i>Environmental claims</i>	Monthly	20%	0%
22			<i>Suggestions</i>	Monthly	7	12	
23			<i>Environmental suggestions</i>	Monthly	14.28%	30%	
Learning and Growth	Quality of work environment	24	<i>Satisfaction in the work environment</i>	Quarterly	87.78%	95%	
	Staff training and retention	25	<i>Employee turnover</i>	Monthly	13.85%	> 10%	
		26	<i>Training</i>	Monthly	5	10	
		27	<i>Environmental awareness training</i>	Monthly	20%	33%	
	Staff performance	28	<i>Salary expense to sales ratio</i>	Monthly	0.25%	0.5%	
	Motivation and empowerment	29	<i>Employee suggestions</i>	Monthly	3	10	
		30	<i>Suggestions on environmental sustainability from employees</i>	Monthly	0%	25%	
		31	<i>Gallup index</i>	Quarterly	73.82%	80%	

Through the analysis performed using the SBSC approach, the resulting indicators show a heterogeneous performance. Regarding the financial perspective indexes, the most unfavorable is the *Current capital* variable due to its high negative value (3,900,732.97€). This result is since the company has financed itself in the short term, exceeding the amount of current assets at its disposal. *Economic* and *financial profitability* are also indicators with a negative performance, since they reveal, respectively, a negative profitability according to the capital employed and a negative return for shareholders according to the capital they have contributed. This may be due to the relatively low activity

of the company in proportion to the productive capacity and the investment made. In fact, the *sales growth* indicator shows an increase of 47.72% between consecutive years, which shows that the activity of the company is in a phase of growth.

According to what the company's management reported in interviews, a more efficient and climate-neutral business model is being implemented that satisfies new clients. However, this strategy has a high cost for the company. The cost of supplies increased by 49.77%, personnel expenses grew by 55.67%, other operating expenses advanced by 36.31%, fixed asset depreciation up by 290.69% and other losses

amounted to 822.37%. For these reasons, the operating result decreases by 143.69% compared to 2020, resulting in a loss of 975,532€. Thus, in 2021, part of the financial perspective indexes is negative. This trend is expected to be reversed, or mitigated, in 2022.

As for the financial perspective and Internal Business Processes indicators, although some of them show negative results, there are also some that are in line with positive values. Among them, it is worth mentioning the *customer retention rate*, an indicator of the degree of customer satisfaction, which has a value of 74.87%, very close to the target value for 2022 (80%). This reflects the fact that customers are aligned with the business model proposed by the company and perceive as positive the improvements aimed at reducing the impact of corporate activity on the environment. This indicator, together with the high value of the *Compliance with deliveries in satisfactory condition* index, shows that the company is complying with its delivery commitments under the conditions agreed with its customers. This fact is related to the improvements conducted in the internal processes of the company following the recommendations received from the consultancy hired for this purpose. Among the indexes with significant margin for improvement is the *Wrong delivery rate*, which, although it does not reach an exaggerated value, can be improved. The same performance can be seen in the complaints index, both in terms of production and distribution and environmental aspects. Sustainability was the subject of only one *Suggestion*, a figure that is still far from the target of the company, which is receptive to the implementation of this type of improvement.

Finally, if we analyze the indicators from the Learning and Growth perspective, the *Training* index is one with the lowest values, since the effective training hours of the workers was much lower than expected, specifically regarding environmental protection. This fact constitutes one of the variables that determines the errors in delivery and the subsequent complaints received by the company. Through the interviews conducted with the management of the company, the justification for the scarce training hours is attributed to the shortage of time, since the workload has been very high due to the increase in turnover.

Another indicator to focus on is the *Salary expense to sales ratio*, since the year 2021 is significantly behind the target set for 2022. Analyzing the composition of this index in detail, its weak performance does not correspond so much to the salary level of the workers as to the tight number of workers in the company, far below what is advisable for its level of activity. Even so, the degree of worker satisfaction is high. This is due, according to the employees, to the sense of belonging to a company that generates wealth but at the same time is sensitive to environmental protection. In any case, the company must reduce its employee turnover, since in 2021 it has a higher percentage than expected. A high

employee turnover is a great expense for the company, especially in terms of training and education of its employees and is also a potential source of risk of accidents and job dissatisfaction. Consequently, the company should improve its training plans, especially in terms of environmental protection, as this encourages sales growth which, in turn, would increase the profit margin of the company.

Conclusions

The service and environmentally oriented nature of the petroleum company in this case study requires a holistic approach to analyze the performance of the company in an integrated manner (Hassani et al. 2017). The strategy implemented by the company, focused on sustainability, evolves towards the necessary energy transition to offer innovative solutions to its suppliers and customers, who are increasingly committed with environmental issues (Abdalla and Siti-Nabiha 2015; George et al. 2018).

The BSC, which in its beginnings focused on the performance of certain variables, has evolved into a tool that allows the evaluation and management of a strategy of a company through the interrelation of its four main perspectives (Elbanna et al. 2022). Therefore, this methodology presents an analysis approach adaptable to the situation of each company (Mendes et al. 2012). This characteristic is implicit in this case study, since it sets out the strategic lines, the stakeholders, the selection of important indexes and the organization of the company under study.

In the specific case of the petroleum company, faced with a decreasing trend in its profitability and after a detailed analysis of its activity, competition and market, it has found that becoming an environmentally friendly company could be beneficial for its medium and long-term survival. Thus, once the strategic objectives of the company had been defined because of the survey and interviews conducted with the management team and the strategy map had been drawn up, the balanced scorecard was prepared. This analysis is relevant and exposes a new business profile that has been studied in a limited number of cases. The sustainable perspective, evaluated through the SBSC, has been mostly applied to renewable energies. However, the global transition to a green economy cannot be fully realized without the participation of all productive sectors, including those that have traditionally focused on the fossil fuel economy. Therefore, the results shown in this analysis have a considerable validity for stakeholders and policymakers.

The findings show the feasible application of the SBSC in medium-sized companies, adapted to their intrinsic characteristics. Using qualitative research sources, combined with interviews and surveys, the performance of the indicators and the role of the different agents in the achievement of

the company's sustainable objectives have been identified. The scenario drawn by the indicators reflects that the company has adequate facilities and a high level of satisfaction of both current customers and internal processes that allow it to act efficiently by applying environmental protection measures. However, its critical point is the scarce training of its employees in issues related to environmental protection in their daily work and the small size of its workforce in relation to the company's level of activity. Therefore, the company should invest in training and qualification of personnel, favoring a significant increase in sales and thus contributing to the achievement of positive levels of economic and financial profitability, always from an environmentally responsible approach.

Furthermore, the fact of having information for the 2021 fiscal year and being able to compare it with the target values for 2022 made it possible to determine the degree of compliance with the established objectives and, in this way, to adopt measures to reorient the company towards their fulfillment. Although most of the indicators of a strictly economic-financial nature do not reach the 2022 target values, a deeper and more holistic analysis shows that the company has potential to grow. The implementation of the new strategic vision, which is significantly more sustainable than the previous one, has reduced liquidity and increased the company's indebtedness, mainly in the short term.

The validity of the SBSC methodology for evaluating a company's strategic system and performance makes this tool applicable to future case studies. It would be of great interest to the Academy to conduct future research on the influence of external factors on the success of companies' environmental policies. Organizational culture, associationism, the degree of innovation in the sector, or the instability of the institutional framework are all part of the business environment and, as such, have their effect on business performance.

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Declarations

Conflict of interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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