

SUSTAINABILITY IN TARRAGONA: AN ANALYSIS OF THE MAJOR COMPANIES AND KEY SECTORS**Maria-Victòria SÁNCHEZ-REBULL, Assoc. Prof., PhD**Universitat Rovira i Virgili, Spain
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Abstract

Sustainability and in particular, environmental concerns have become increasingly prevalent in recent years, largely due to the visible effects of climate change. This global awareness has prompted a search for alternatives that allow us to move towards a more sustainable economy, influencing political and economic decision-making in all sectors. The United Nations published the 2030 Agenda in 2015, outlining 17 Sustainable Development Goals (SDGs) to address global sustainability challenges. At a local level, Catalonia has also developed its own strategies focused on sustainable economic transformation aligned with the SDGs and the European Green Deal, including for example, strategies related to the bioeconomy, energy efficiency and circular economy.

The aim of this study is to examine the current sustainability practices of major companies in Tarragona province, identifying the actions they take and certifications they have in the area of sustainability.

This work contributes to a better understanding of the current situation regarding business and economic sustainability in the province of Tarragona, by identifying opportunities for investment and growth in areas related to economic and sustainable development.

Keywords: *sustainability, certifications, Tarragona, sustainable actions***1. Introduction**

In recent years, there has been an increased global focus on sustainability, encouraging the search for alternative approaches that can promote a more sustainable economy.

The major environmental challenges that humanity faces include the scarcity of natural resources, excessive waste generation, and greenhouse gas emissions, among others, which have far-reaching consequences such as global warming and endangering our current and future ways of life (Aguilar et al., 2018 [1]). In response to these challenges, the United Nations published the 2030 Agenda in 2015, which outlines 17 Sustainable Development Goals (SDGs) aimed at eradicating poverty, protecting the planet, and ensuring prosperity for all people (United Nations, 2015 [11]).

Strategic discussions centre around the current economic model, which heavily depends on resource extraction, production, and disposal, resulting in excessive use of natural resources leading to depletion, greenhouse gas emissions, waste generation, and loss of biodiversity. To address these issues, it is crucial to re-evaluate the economic model and integrate environmental problems, with emphasis on resource efficiency and environmental preservation (Ramcilovic-Suominen & Pülzl, 2018 [10]).

The key challenge for countries is to adopt sustainable and efficient alternatives for production and consumption. This concern has been widespread to all areas and is reflected in political and economic decisions, leading to increased research into viable options that can drive a more sustainable economy. As a result, several governments have formulated plans to transition to sustainable economic models, with different trends emerging, such as bioeconomy, circular economy, green economy, energy efficiency, and more (D'Amato et al., 2017 [3]; Lewandowski, 2018 [9]).

The European Union has taken an active role in promoting sustainability by publishing policy strategies. In 2020, the "Just Transition Fund" and the "European Climate Law" were published, aimed at combating climate change and achieving carbon neutrality by 2050 for EU member states (European Commission, 2019 [5]). In response to the COVID-19 crisis, the EU's economic recovery fund, "Next Generation", was designed to revive the economy by incorporating environmental improvements and promoting sustainable economic development.

At the local level, Catalonia has also published strategies focused on transitioning to a sustainable economic model, including initiatives related to the bioeconomy, energy efficiency, and recycling. Additionally, under the "Next Generation Catalonia" fund, a recovery program has been published with a specific focus on i) reinforce the productive capacity and the capacity of the health and social health system, ii) reduce the social inequalities that have been accentuated by COVID-19 and iii) accelerate the transition towards a more sustainable and resilient economic model (Generalitat de Catalunya, 2021 [8]). This implies that the Plan was designed to be align with the United Nations SDGs, as well as the European Green Deal and the European Digital Strategy.

In order to promote sustainability in Catalonia and specifically in Tarragona, it is crucial to assess the impact on the region's major companies. This article seeks to evaluate the current state of sustainability practices among the main companies in Tarragona province. A thorough examination of the leading companies will identify their sustainability actions and relevant certifications.

The findings will shed light on the state of sustainability among Tarragona's companies, highlighting the most widely implemented actions and areas that require more attention. This

type of analysis is a valuable resource, particularly for policymakers, as it can inform regional sustainability plans and investment decisions.

The paper is organised as follows: Section 1 is the introduction, which presents an overview about sustainability policies. Section 2 focus exclusively on sustainability certifications in Spain and the identification of sustainability actions. In Section 3 the methodology and the data is presented, as well as different stages to determine the sample. Section 4 discusses the results in line with the aim of the paper. Section 5 offers the conclusion, limitations, and future lines of study.

2. The degree of investigation of the problem currently, and purpose of research

The main global objective is to prioritize sustainable development, which involves taking into account economic growth alongside social inclusion and environmental care (WCED, 1987 [13]). In 2015, the United Nations published the 2030 Agenda, which sets out 17 SDGs that all member nations should be taken into account. The SDGs seek to tackle major global challenges by addressing the social, economic and environmental challenges that countries have to face in the coming years (United Nations, 2015 [11]).

If the overall goal at the global level is to advance the SDGs, sustainability must represent the new economic paradigm in each country (Dietz et al., 2018 [4]). To this end, post-COVID-19 economic recovery plans must concentrate on constructing an economy that is clean, green, safe and more resilient.

To achieve this goal, it is crucial that businesses incorporate actions that enable them to transition to a more sustainable path. To support this transition, numerous sustainability certifications have been established.

Sustainability certifications are norms and standards, mostly voluntary, that companies can adopt to demonstrate their efforts areas in particular areas such as environmental, social and ethical safety. These certifications can be evaluated by external agencies through a verification process to ensure that the company complies with the established requirements.

Nowadays, it is essential to employ tools that integrate the environment concerns into the overall management of the company through environmental certifications. These certifications confirm that certain products, services, processes or management systems have been carried out in an environmentally conscious manner. Consequently, they are based on the inclusion of environmental criteria such as, for example, energy efficiency, the use of renewable energies, CO₂ reduction or waste minimization, among others.

It should be noted that not all of these tools are called certifications, as some may be referred to as "hashtags." Nevertheless, they are equally valid, as they are tools that help consumers to identify which products are accredited and therefore comply with a set of environmental criteria.

There are different types of certifications available depending on the company's sector. In Spain, the leading organization for environmental certifications is the Spanish Association for Standardisation and Certification (AENOR). Its certifications contribute to the achievement of the SDGs and are classified into six categories:

- Global Environmental Management
- Circular Economy
- Climate Change
- Resource Management
- Forestry Sector
- Other Industries.

The main certifications of each group are listed below, together with a brief description of what they mean for the company:

- **Global Environmental Management**, certify that the company has a business management system that implies that the different stages of the product or service it develops are environmentally friendly. This group includes the following certifications: Environmental Management System (ISO 14001) and EMAS verification (EU).
- **Circular Economy**, the objective of the circular economy model is to handle waste more efficiently by maximising reuse and recycling. This group includes Zero Waste certifications, Environmental Product Declarations (EPD) according to ISO 14025 and Eco-design Management certification (ISO 14006).
- **Climate Change**, accredit that the company adheres to environmental criteria that focused on the recovery and/or mitigation of climate change in its production or service processes. This group includes the Voluntary Verification of Greenhouse Gas Emissions Inventory (ISO 14064), the Carbon Footprint (ISO 14067) and the Regulatory Verification of Greenhouse Gas Emissions under the Kyoto Protocol.
- **Resource Management**, this group includes those certifications that accredit the company's use of different energy sources in a sustainable manner. Included in this group are: the Energy Efficiency Management System (ISO 50001), the verification of the Water Footprint (ISO 14046) and the evaluation of conformity with ISO 37120 on Sustainable Development in cities.
- **Forestry Sector**, certify that the forest enterprise (or the raw material used) has been managed in a sustainable and environmentally friendly way. This group includes the Sustainable Forest Management System and the Chain of Custody certification of forest products.
- **Other Industries**, would refer to all those environmental certifications of more specific products and/or services such as cleaning products (detergents).

Adopting an environmentally certified business model can differentiate a company from its competitors and, enhance brand reputation and, improve the image of the company by its consumers.

In addition, obtaining certification often implies a reduction in costs due to the implementation of specific measures such as the efficient use of raw materials. In certain countries, meeting environmental protection requirements can also result in tax benefits, such as deductions for investing in renewable energy equipment.

Based on certifications related to sustainable actions, the purpose of this research is to understand which of these certifications have been obtained by the main companies in the province of Tarragona. Furthermore, it will be possible to delve into the identification of the main sustainable actions carried out by the companies in each sector.

It is important to enhance the analysis of specific case studies in companies, in order to improve the implementation of these practices at the corporate level and promote sustainable economy (Ferreira et al., 2018 [6]).

3. Applied methods and materials

The following section identifies the most relevant companies in the province of Tarragona that show sensitivity towards sustainability in their actions, whether it be by avoiding dependence on non-renewable resources or by taking steps to mitigate negative environmental impacts through circular economy practices, the bioeconomy, recycling, waste minimization, or pollution reduction.

To achieve this objective, an initial list of the most important companies in the province of Tarragona was compiled using information from the SABI (Iberian Balance Sheet Analysis System) database, following the steps detailed below:

1. The top 50 companies in Tarragona with the highest operating income in each of the last five financial years (2016-2020) were listed.
2. Companies that appeared in at least three of these five financial years were selected.
3. Eliminate the companies that are extinct in 2021.
4. The different companies belonging to the same group were considered together.

The resulting selection consisted of 45 companies classified into eight sectors, as detailed in Table 1.

Table 1. Companies by sectors

Aggregate sector	Number of companies	% companies
Energy	1	2%
Food and beverages	12	27%
Others	5	11%
Automotive	6	13%
Paper	2	4%
Chemical	12	27%
Primary sector	1	2%
Services	6	13%
Total	45	100%

Source: own elaboration

The aim is to identify whether the selected companies have any environmental certifications and which certifications are the most commonly obtained within the region. In order to achieve this, their websites were searched to determine whether they have obtained one or more environmental certifications. As previously mentioned, AENOR is the leading entity for environmental certifications.

Based on the data available on their respective websites, we have examined the sustainability-related actions/activities carried out by the selected companies. The activities have been classified into the following categories:

- Efficiency in the use of water
- Wastewater treatment
- Consumption and sustainable use of resources

- Increased use of green/renewable energy
- Efficiency in the use of energy
- Requirement of sustainable actions to suppliers
- Control and/or reduction of emissions
- Reduction of the carbon and the water footprint
- Control and monitoring of odors
- Environmentally friendly production
- Animal welfare
- Waste reduction and/or management
- Minimization of environmental impact
- Local actions in the environment
- Recycling of papers and others
- Recycling of plastics/porexpan
- Reuse of biological resources
- Recycling of own packaging
- Reuse of construction debris / pallets
- Use of food waste.

4. Results obtained and discussions

Figure 1 presents a summary of the certifications obtained by the sample of companies analysed in Tarragona, categorized according to the six categories in which AENOR certifications are classified.

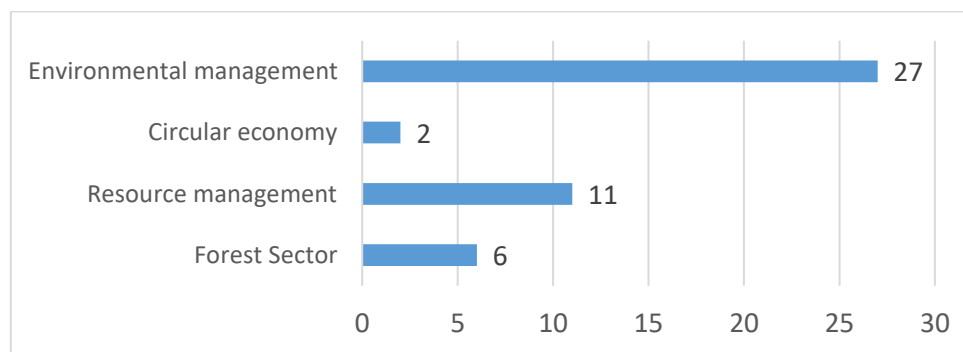


Figure 1. Environmental certifications classification of the selected companies

Source: Own elaboration

There are only four certifications, as none of the companies is certified in the Climate Change or Other Industries categories, as shown in Figure 1. Of the 45 companies analysed, 27 of them have some kind of Global Environmental Management certification, with all of them holding ISO 14001 and two of them obtaining EMAS certification. Only two companies have a certification in the Circular Economy category, while 11 companies received a Resource Management certification and six companies have obtained or demand their suppliers to hold a certification in the Forestry Sector category.

Clearly, ISO 14001 is the predominant environmental certification in Tarragona. The data suggests that companies are making efforts to demonstrate that they are managing their waste adequately. Due to its specificity, the number of companies with certifications related to the

forestry sector is lower, and the emerging certification in Circular Economy highlights that companies in this field have a long way to go.

Figure 2 shows the distribution of companies by sector that carry out sustainable actions. The actions focused on reducing the environmental impact are prevalent, representing 35.6% of companies. This is followed by water use efficiency and recycling, as well as environmentally friendly production processes, both of which account for 31.1% of the companies. Actions related to energy efficiency are undertaken by 28.9% of companies.

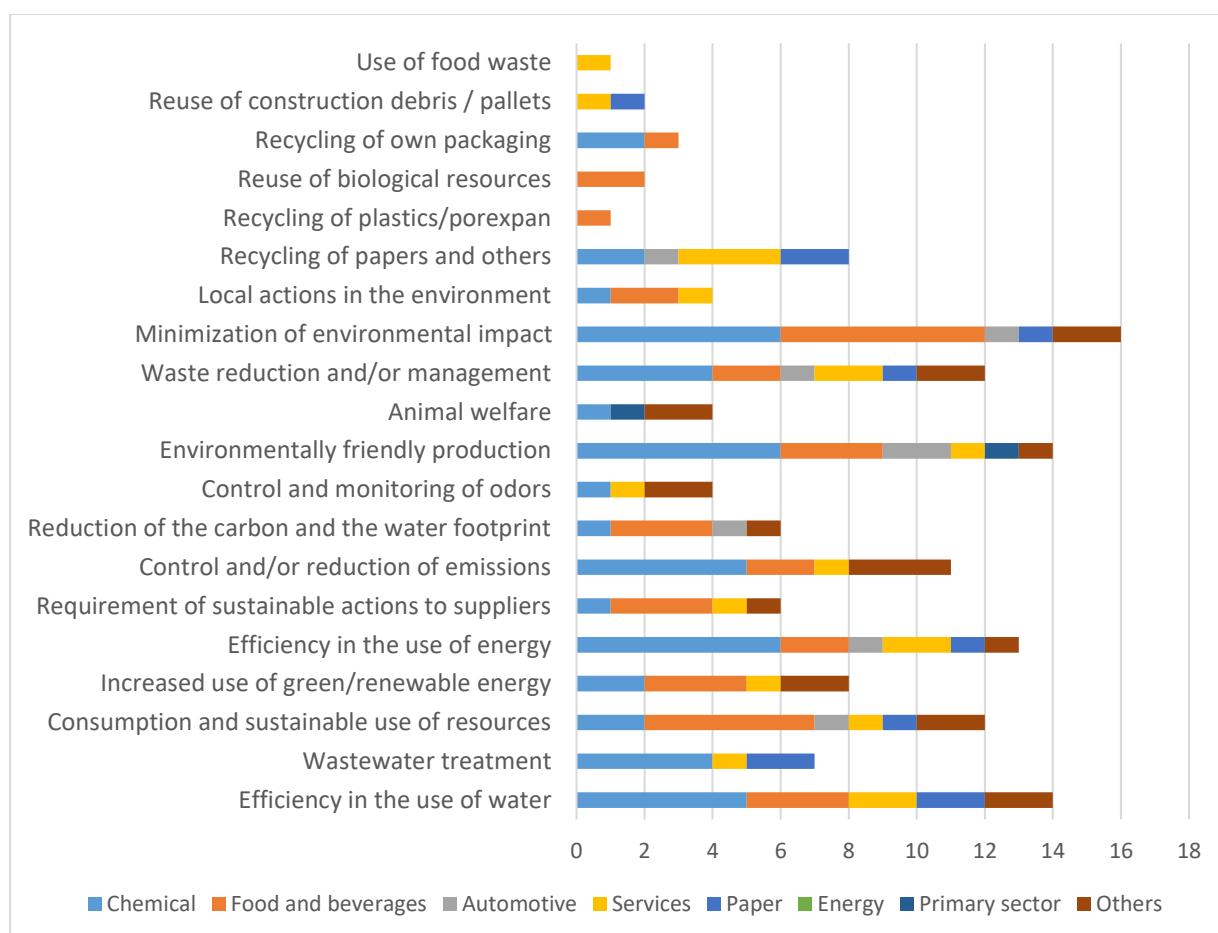


Figure 2. Sustainability actions by sector

Source: Own elaboration

Actions on sustainable consumption and reduction and/or management of waste are both implemented by 26.7% of the companies. To a lesser extent, 24.4% of the companies have actions related to the control and/or reduction of emissions. Finally, 17.8% of companies focus on increasing the use of green/renewable energy, while the same proportion have measures linked to the recycling of paper and others.

It is evident that companies in the chemical sector apply almost all of the sustainable actions listed, with the exception of the recycling of plastics/porexpan, reusing biological resources, reusing building rubble/pallets and using food waste. Companies in the food and beverages sector and the services sector also show a very wide diversity of sustainable actions, emphasizing those related to the consumption and sustainable use of resources and the minimisation of environmental impact, in the case of the food and beverages sector, and those related to the paper recycling in the services sector.

Figure 3 shows, regardless of the total number of companies related to each activity, the weight of the sector's participation in the activity. This analysis makes it possible to identify those actions that are carried out in almost all sectors. The data indicate that the most important companies in the province of Tarragona pay special attention to the consumption and sustainable use of resources and sustainable use of resources, energy efficiency, environmentally friendly production, and the reduction and/or management of waste.

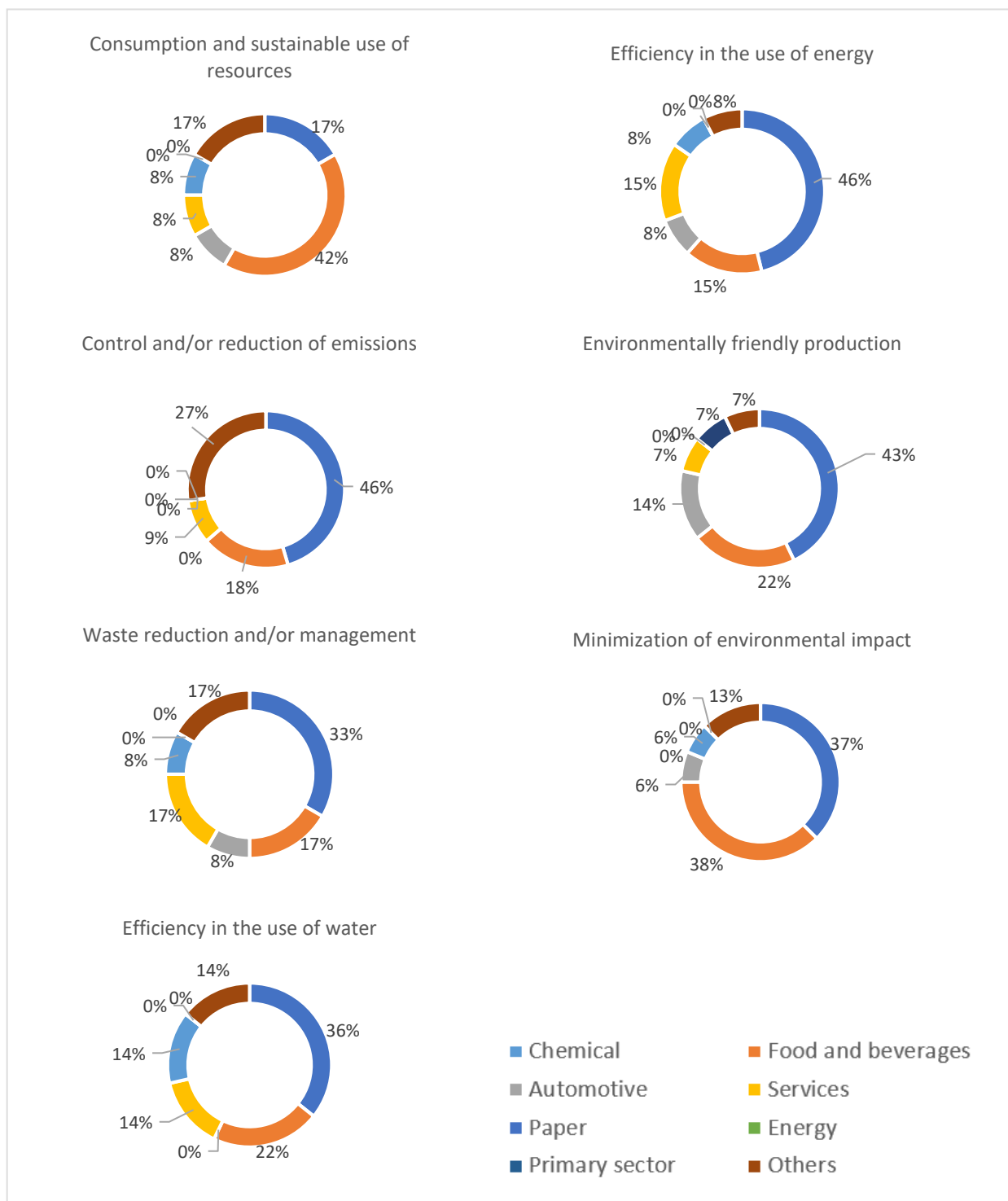


Figure 3. Weight of each sector in each sustainability action

Source: Own elaboration

5. Conclusions

One of the main challenges at the global level is to make progress on the Sustainable Development Goals (SDGs) proposed by the United Nations. For this to happen, sustainability must represent the new economic paradigm in each country (Dietz et al., 2018 [4]). In this framework, in order to achieve the goals proposed by the SDGs, there are several economic models promoted in different countries, which seek a path towards a more sustainable economy (bioeconomy, circular economy, etc.). Therefore, promoting sustainability at the regional level and integrating it into business through certifications is now a vital aspect of environmental focus.

The aim of this article is to identify whether the most significant companies in the province of Tarragona are engaged in sustainability-promoting actions and hold any relevant certifications.

Based on the findings, it can be concluded that over 30% of the 45 companies analysed undertake sustainability actions related to minimizing environmental impact, water use efficiency, and environmentally friendly production processes.

Also noteworthy but to a lesser extent are actions related to the consumption and sustainable use of resources, waste reduction and management, emissions control and/or reduction, the increased use of green/renewable energy and paper recycling and others.

If the sustainability actions for each sector are taken into account, it can be seen that all the chemical, food and beverage, and service companies have implemented various types of sustainable actions.

The main limitations of this research stem from the sample selected. As previously mentioned, the sample of companies analysed focused only on the most important companies in the province. Additionally, the analysis of each company's sustainability actions was based solely on the information available on their website. Therefore, any sustainability initiatives not disclosed on their website would not have been detected.

As future lines of research, it would be interesting to delve deeper into this analysis in order to understand the basis of sustainable practices implemented by companies in the region. The identification of case studies and their dissemination can help other companies decide to take action and focus on a more sustainable path (Fraccascia et al., 2016; Verde, 2015 [7]).

REFERENCES

1. AGUILAR, A., WOHLGEMUTH, R., TWARDOWSKI, T. Perspectives on bioeconomy. *New Biotechnology* [online]. 2018, 40, 181-184. ISSN: 1871-678 (IF: 6.49). Available: <https://doi.org/10.1016/j.nbt.2017.06.012>.
2. ASOCIACIÓN ESPAÑOLA DE NORMALIZACIÓN Y CERTIFICACIÓN (AENOR). <https://www.aenor.com/certificacion/medio-ambiente> (vizitat 23.05.2023).
3. D'AMATO, D., DROSTE, D., ALLEN, B., KETTUNEN, M., LÄHTINEN, K., KORHONEN, J., LESKINEN, P., MATTHIES, B. D., TOPPINEN, A. Green, circular, bio economy: A comparative analysis of sustainability avenues. *Journal of Cleaner Production* [online]. 2017, 168, 716-734. ISSN: 0959-6526 (IF: 10.072). Available: <https://doi.org/10.1016/j.jclepro.2017.09.053>

4. DIETZ, T., BÖRNER, J., FÖRSTER, T., VON BRAUN, J. Governance of the bioeconomy: A global comparative study of national bioeconomy strategies. Sustainability (Switzerland) [online]. 2018, 10 (9), 3190-3210. ISSN: 2071-1050 (IF: 3.889). Available: <https://doi.org/10.3390/su10093190>.
5. EUROPEAN COMMISSION. *Energía limpia para todos los europeos*, 2019. 26 p. ISBN 978-92-79-98839-3. <https://op.europa.eu/es/publication-detail/-/publication/b4e46873-7528-11e9-9f05-01aa75ed71a1> (vizited 23.05.2023).
6. FERREIRA, V., PIÉ, L., TERCEÑO, A. A systematic literature review of bio, green and circular economy trends in publications in the field of economics and business management. Sustainability (Switzerland) [online]. 2018, 10 (11), 4232-4271. ISSN: 2071-1050 (IF: 3.889). <https://doi.org/10.3390/su10114232>
7. FRACCASCIA, L., MAGNO, M., ALBINO, V. Business models for industrial symbiosis: a guide for firms. *Procedia Environmental Science, Engineering and Management*. 2016, 3 (2), 83-93. ISSN: 23929537, 23929545.
8. GENERALITAT DE CATALUNYA. *Next Generation Catalunya*, 2021. <https://fonseuropeus.gencat.cat/ca/next-generation-catalunya/> (vizitat 15.05.2023).
9. LEWANDOSKI, I. *Bioeconomy Shaping the Transition to a Sustainable, Biobased Economy*. Springer International Publishing, 2019. 356 p. ISBN 978-3-319-68151-1.
10. RAMCILOVIC-SUOMINEN, S., PÜLZL, H. Sustainable development – A ‘selling point’ of the emerging EU bioeconomy policy framework? *Journal of Cleaner Production* [online]. 2018, 172, 4170-4180. ISSN: 0959-6526 (IF: 10.072). Available: <https://doi.org/10.1016/j.jclepro.2016.12.157>
11. UNITED NATIONS. *Transforming Our World: The 2030 Agenda for Sustainable Development*, 2015. <https://doi.org/10.1891/9780826190123.ap02>.
12. VERDE, C. Strategy and Green business model: The case of Carlsberg group. *Quality - Access to Success*. 2015, 16 (148), 75-79. ISSN: 15822559.
13. WCED. *The Brundtland Report. Our Common Future: The Report of the World Commission on Environment and Development*, 1987. 300 p. <https://doi.org/10.1080/07488008808408783>.

Rezumat

Sustenabilitatea și, în special, preocupările legate de mediu au devenit din ce în ce mai răspândite în ultimii ani, în mare parte datorită efectelor vizibile ale schimbărilor climatice. Această conștientizare globală a determinat căutarea alternativelor care ne permit să ne îndreptăm către o economie mai durabilă, influențând luarea deciziilor politice și economice în toate sectoarele. Organizația Națiunilor Unite a publicat Agenda 2030 în 2015, subliniind 17 Obiective de Dezvoltare Durabilă (ODD) în abordarea provocărilor globale de sustenabilitate. La nivel local, Catalonia și-a dezvoltat, de asemenea, propriile strategii axate pe transformarea economică durabilă, aliniată la ODD-uri și Pactul verde european, inclusiv, de exemplu, strategii legate de bioeconomie, eficiență energetică și economie circulară.

Scopul acestui studiu este de a examina practicile actuale de sustenabilitate ale marilor companii din provincia Tarragona, identificând acțiunile pe care le întreprind și certificările pe care le au în domeniul sustenabilității.

Această lucrare contribuie la o mai bună înțelegere a situației actuale în ceea ce privește afacerile și sustenabilitatea economică din provincia Tarragona, prin identificarea oportunităților de investiții și creștere în domenii legate de dezvoltarea economică și durabilă.

Cuvinte-cheie: sustenabilitate, certificări, Tarragona, acțiuni sustenabile

Аннотация

Вопросы устойчивости и, в частности, экологические проблемы становятся все более распространенными в последние годы, в основном из-за видимых последствий изменения климата. Это глобальное осознание подтолкнуло к поиску альтернатив, которые позволяют нам двигаться к более устойчивой экономике, влияя на принятие политических и экономических решений во всех секторах. В 2015 году Организация Объединенных Наций опубликовала Повестку дня на период до 2030 года, в которой изложены 17 целей в области устойчивого развития (ЦУР) для решения глобальных проблем устойчивого развития. На местном уровне Каталония также разработала собственные стратегии, ориентированные на устойчивую экономическую трансформацию в соответствии с ЦУР и Европейским зеленым курсом, в том числе, например, стратегии, связанные с биоэкономикой, энергоэффективностью и безотходной экономикой.

Целью данного исследования является изучение текущей практики устойчивого развития

крупных компаний в провинции Таррагона, в выявлении предпринимаемых ими действий и анализе имеющейся сертификации в области устойчивого развития.

Эта работа способствует лучшему пониманию текущей ситуации в области бизнеса и экономической устойчивости в провинции Таррагона, определяя возможности для инвестиций и роста в областях, связанных с экономическим и устойчивым развитием.

Ключевые слова: *устойчивость, сертификаты, Таррагона, устойчивые действия*

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