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MONITORING THE SDGs IN CENTRO REGION

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ABSTRACT

The 2030 Agenda for Sustainable Development, consisting of 17 ambitious Sustainable Development Goals (SDGs), was unanimously approved by the United Nations in September 2015. While primarily designed for countries, the successful achievement of these SDGs requires their adoption and implementation at all levels of governance. Recognizing the heterogeneous nature of countries, with distinct regional and local characteristics and challenges, it is imperative to accurately identify and address these specificities to ensure the effective implementation of the 2030 Agenda and to leave no one and no place behind.

In line with this objective, at the midpoint to 2030, the European Commission's Joint Research Centre (JRC) launched the REGIONS2030 pilot project. This initiative aims to develop a common monitoring framework for the NUTSII regions of the European Union. By successfully creating and implementing this framework at the regional level, it will be possible to gain a better understanding of regional disparities and obstacles. This knowledge will facilitate the development of tailored and specific strategies, promoting relevant cooperation within and between countries and regions. Ultimately, this will contribute to a harmonious and sustainable development across the European Union.

The present report contributes to this project by presenting a thorough analysis of the preliminary set of regional indicators designed by JRC and a description of the challenges encountered while implementing it in the Centro Region of Portugal. Additionally, recommendations are provided for the definition of a European-wide regional monitoring framework and for improving SDG monitoring in the regions. The work presented here has also led to the creation of a monitoring set that aimed to adapt to the realities and priorities of the Centro Region. It is hoped that this framework will be utilized, sustained, and further improved in the future to raise awareness and promote the successful implementation of the 2030 Agenda in the Centro Region.

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EXECUTIVE SUMMARY

This report presents the results of an investigation conducted for the Centro Region as part of the REGIONS2030 pilot project launched by the European Commission's Joint Research Centre (JRC). The investigation had two main objectives: firstly, to test and analyse the suitability of an indicator set developed by the JRC for monitoring the Sustainable Development Goals (SDGs) in European regions; and secondly, to design an SDGs monitoring framework specifically tailored to the Centro Region, taking into account its priorities and specificities. The aim was to create a sustainable framework that could be maintained by the region itself in the long term.

POLICY CONTEXT

The successful implementation of the 2030 Agenda and the achievement of the 17 Sustainable Development Goals by 2030 require a coherent and harmonized approach across all levels of governance. Monitoring the progress and impact of national and sub-national policies and activities is crucial to ensuring the adequacy of implementation.

Although the Centro Regional Coordination and Development Commission (CCDR Centro) is not a regional government, it plays a vital role in promoting development and coordinating policies in the Centro Region. With a clear understanding of the importance of effectively implementing the 2030 Agenda to enhance regional development, CCDR Centro has made monitoring its progress toward all 17 SDGs a top priority.

While Statistics Portugal (INE) has been doing an excellent job in monitoring the SDGs since 2017, the more recent edition of their report only provides disaggregated data at the NUTSII level for one-third of its indicators.

To address the challenges associated with monitoring the SDGs and ensure accurate monitoring practices, CCDR Centro actively participated in the REGIONS2030 pilot project. Through this collaboration, CCDR Centro sought guidance and solutions to enhance its monitoring capabilities and align them with best practices.

KEY CONCLUSIONS

The Centro Region successfully collected data for nearly 90% of the indicators proposed in the JRC monitoring set. However, the region encountered several challenges that may hinder the sustainability of some of these indicators in the future.

Furthermore, the region incorporated over thirty additional indicators to monitor new themes that are deemed relevant for regional monitoring or to complement existing indicators for a more comprehensive approach to the areas being monitored. Ultimately, the Centro Region's set of indicators includes a total of 109 indicators, with data collected for 100 of them.

A preliminary analysis of the statistical trends revealed that, at the midway point of the 2030 Agenda, the Centro Region is making significant progress in approximately 50% of the indicators. Therefore, efforts must be intensified to accelerate the implementation of the SDGs, with special attention given to areas showing negative progression.

MAIN FINDINGS

The preliminary set of indicators designed by the JRC to monitor the SDGs at the regional level was considered highly relevant and largely implementable for the Centro Region. However, it was observed that a significant number of themes and areas of interest for the Centro Region were not adequately represented in the proposed monitoring set. As a result, additional indicators were included in the Centro Region set to capture these themes, and their pertinence for other regions and potential inclusion in the final SDG monitoring set for European regions should be further analysed.

Furthermore, it became evident that establishing cooperation between regions and engaging with regional stakeholders is crucial to overcome various challenges encountered during the implementation of the monitoring set. This collaborative approach is essential not only for addressing the specific regional challenges highlighted by the Centro Region's monitoring set but also for fostering a more comprehensive understanding of regional development dynamics across Europe.

1. INTRODUCTION

The Centro Region of Portugal, situated in the heart of the country, is renowned for its diverse landscapes, vibrant cities, and rich cultural heritage. As a significant administrative division within Portugal, the Centro Region plays a crucial role in the country's development and progress.

Aligned with the global commitment to sustainable development, the Centro Region has embraced the 2030 Agenda for Sustainable Development, and its 17 Sustainable Development Goals (SDGs) to be achieved by 2030. Recognizing the importance of monitoring these goals and the challenges associated with it, Centro Regional Coordination and Development Commission (CCDR Centro) actively participated in the REGIONS2030 pilot project. Through collaborative efforts with other European regions, CCDR Centro sought to create a monitoring tool that would effectively align with the regional realities and specificities. By actively engaging in the REGIONS2030 pilot project, the Centro Region aimed to enhance its monitoring capabilities and contribute to a comprehensive and harmonized approach to sustainable development monitoring across Europe.

This chapter seeks to provide an overview of the characteristics and governance model within the Centro Region. By gaining a deeper understanding of the regional context in which the REGIONS2030 pilot project was implemented, we can better assess the challenges and the results obtained in this project.

1.1 The Centro Region

The Centro Region is one of the seven main regions of Portugal, located in the central part of the country. It is composed of eight sub-regions (NUTS III) and 100 municipalities, with a total population of 2.2 million inhabitants.

The region possess diverse natural landscapes and cultural heritage, attracting many tourists. The Serra da Estrela Mountain range, the highest point in mainland Portugal, is a popular destination for winter sports enthusiasts, hikers, and nature tourists. The region's coastline also draws visitors with popular destinations such as Aveiro, Figueira da Foz, and Nazaré.

The Centro Region is home to several significant industries, including textiles, ceramics, and metalworking, and has a large proportion of its economy based on agriculture, with a significant portion of the region's land dedicated to farming and forestry. The region has a unique tradition of traditional and artisanal production, with high-quality products like cheese, wine, ceramics, and agroforestry products. Additionally, it is one of the Portuguese regions with the highest renewable energy production.

However, the Centro Region is confronted with multiple challenges in achieving sustainable development. The territory has several protected areas, including natural parks and wildlife reserves, that play a vital role in conserving biodiversity and safeguarding natural habitats. Yet, these areas are vulnerable to threats from tourism, other economic activities, and the impacts of climate change. In the past decade, the region has demonstrated a lack of resilience when confronted with extreme natural disasters like forest fires, severe droughts, and floods. Unfortunately, with climate change, the frequency and intensity of such extreme events are expected to increase. It is therefore crucial to enhance the resilience of both urban and rural areas, and reinforce sustainable practices for managing natural resources, with a particular focus on water.

The region also faces economic and demographic challenges, such as decreasing population and an aging workforce, particularly in its interior areas. The heterogeneity of the region's territory presents one of its most significant and complex challenges. According to the Barometer of the Centro Regional Coordination and Development Commission[1], the four littoral sub-regions account for over 65% of the population (Statistics Portugal, Census 2021). Furthermore, there exists an economic disparity, with a 40% difference in GDP per capita in 2021 between the littoral sub-region of Região de Aveiro and the interior sub-region of Beiras e Serra da Estrela (Statistics Portugal, Regional Economic Accounts).

[1] Comissão de Coordenação e Desenvolvimento Regional do Centro. February 2023. *Barómetro - Centro de Portugal*.

1.2 The Centro Regional Coordination and Development Commission

The Centro Regional Coordination and Development Commission (CCDR Centro) is a regional public institution responsible for promoting development and coordinating policies in the Centro Region. As a regional public institution operating under the authority of the Portuguese Ministry of Territorial Cohesion, the CCDR Centro is dedicated to promote balanced and sustainable development throughout the Centro Region, working in collaboration with local authorities, organizations, and other stakeholders. It is important to note that the intervention area of the CCDR Centro does not include the totality of the NUTSII Centro Region, except for the application of structural funds.

Recently, the Regional Coordination and Development have been granted increasing autonomy and competence by the Government of Portugal, underscoring the significance of regional authorities in driving territorial development.

In preparation for the Regional Operational Program of the Centro Region 2021-2027, the CCDR Centro has developed several strategic documents. These documents aim to ensure continuity with ongoing work, establish a long-term vision, and enhance the resilience of current instruments in response to vulnerabilities exposed by the COVID-19 pandemic and the conflict in Ukraine. As a demonstration of its strong commitment to the 2030 Agenda, the CCDR has taken steps to align its most recent strategic and planning instruments - the RIS3 2021-2027 and the " Visão Estratégica para a Região Centro 2030" - with the Sustainable Development Goals (SDGs). By incorporating the SDGs into its strategic framework, the CCDR Centro recognizes the interconnectedness between regional development and the broader global agenda, striving to contribute to the achievement of the SDGs within its current and future sphere of competence.

The “Visão Estratégica para a Região Centro 2030”, which will be referred to as the "Regional Strategy of 2030" from now on, has defined eight strategic priorities[2]:

- Strengthen and diversify innovation dynamics territorially
- Promote the improvement of digital connectivity and mobility conditions
- Enhance and densify the regional urban system
- Combat the fragilities and vulnerabilities of different types of territories in the region
- Proactively adapt the region to the climate emergency and decarbonization
- Accelerate the design and implementation of responses to new and old social problems
- Promote and strengthen the improvement of the qualifications of assets and the population in general
- Promote the best conditions for internationalization and international cooperation

Each of these strategic priorities has been aligned with European and national agendas, as well as the 2030 Agenda.

After aligning its vision with the SDGs, the regional authority planned to establish a monitoring framework for the 2030 Agenda at the regional level. It has actively been monitoring regional, national, and European strategies for a significant period and developed a digital platform called Data Centro in 2012, showcasing over 1000 regional indicators.

[2] Comissão de Coordenação e Desenvolvimento Regional do Centro. October 2020. *Visão Estratégica para a Região Centro 2030*.

2. METHODOLOGY

2.1 Working approach

In this pilot project, the collaboration between the expert and the Centro Region has been valuable and decisive. Three representatives from the Commission of Coordination and Regional Development for the Centro Region (CCDR Centro) actively participated in the investigation, making significant contributions to various aspects of the project.

Their involvement included verifying the relevance of the preliminary indicator set and identifying themes and areas that needed to be monitored but were not initially included. Additionally, they have helped in identifying official entities that could provide relevant data, and actively engaged Statistics Portugal (INE), the government office responsible for national statistics, from the early stages of the project.

Regular online meetings were conducted every two weeks between the CCDR Centro and the expert to discuss the latest project developments and address any specific questions that arose. These collaborative efforts ensure the accuracy and completeness of the 2030 Agenda monitoring framework for the Centro Region.

2.2 Selection of indicators and data

The methodology employed to establish a coherent monitoring framework of the 2030 Agenda considered several factors to ensure the quality and reliability of the data used to monitor the SDGs in the Centro Region. An important aspect was the desire to compare the sustainable development of the Centro Region with other European regions, which led to prioritizing the indicators and data sources proposed by the JRC indicator set, when information is available for a high number of regions. Nonetheless, national sources were preferred if they contained more recent and reliable data.

When selecting data sources, the similarity between values in the Eurostat database and national sources was also considered. If the values were similar and the national sources provided additional geographical or population group disaggregation, then they were preferred to ensure a more comprehensive analysis of the indicator.

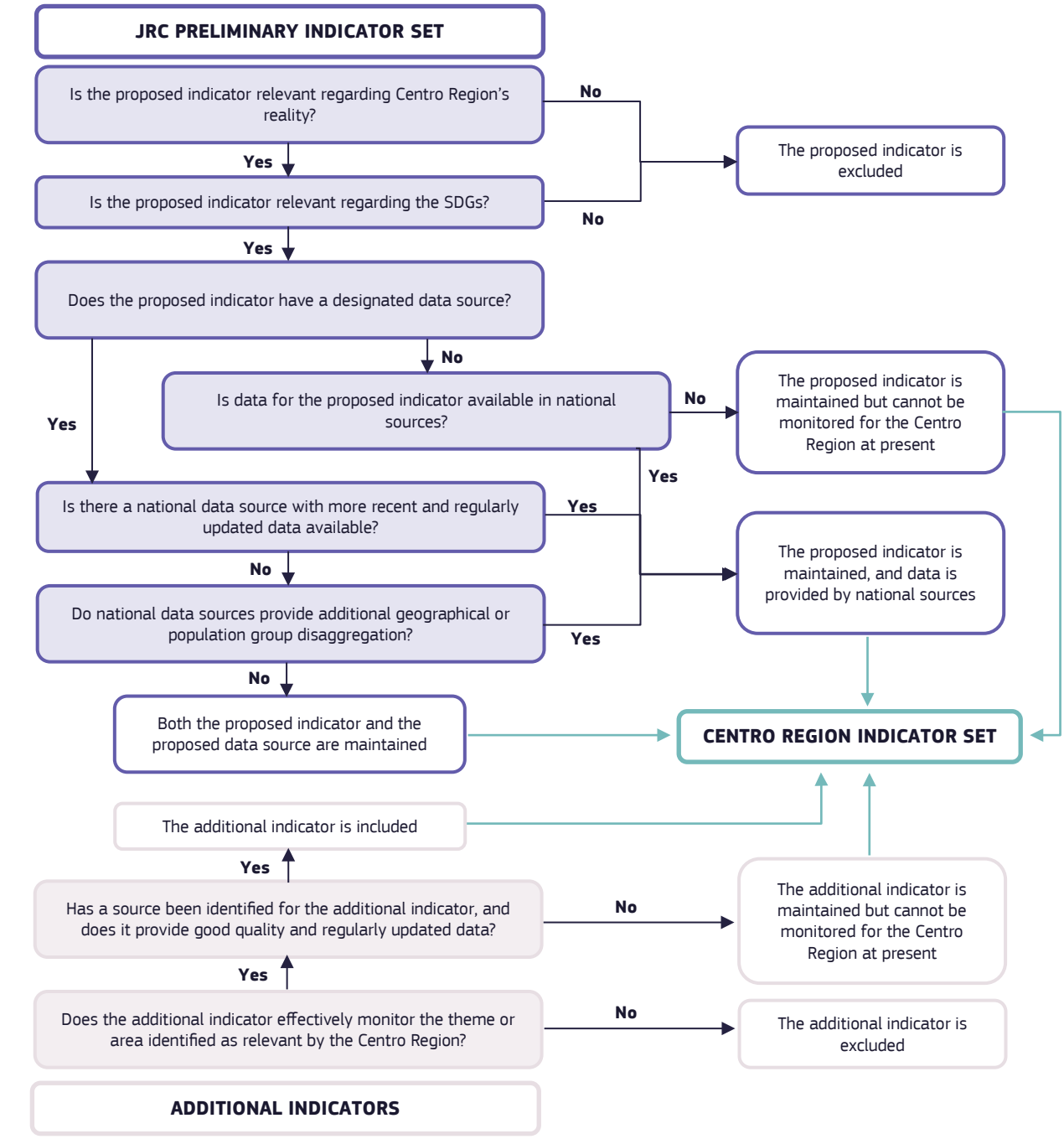
In cases where the proposed source did not provide data for the Centro Region or when national sources were preferred, if data from the selected sources were not already transformed into the desired indicator, the methodology used for the original proposed indicator was analysed and reproduced to ensure equivalency between the two indicators, when possible.

Additional indicators were identified based on relevant themes and areas that were absent from the initial set of indicators. Reliable data from national sources were prioritized for these additional indicators, while also considering their availability in other regions.

Lastly, the methodology included the assessment of the relevance of other indicators available at subnational level for monitoring the SDGs in the Centro Region, which may provide a more comprehensive or complementary evaluation of the observed SDGs and themes.

The following flowchart visually illustrates the process described above:

Figure 1. Process of selection of indicators and data.



Source: Author's own elaboration.

2.3 Data collection

The data collection for this pilot project involved gathering information from various official websites and institutions. The focus was on prioritizing published and freely accessible information from official entities to ensure the quality and long-term sustainability of the data collection.

The Statistics Portugal (INE) served as the primary source of data, providing a wealth of information with geographic breakdowns (NUTSII, NUTSIII, and Municipal levels) as well as other types of disaggregation (by sex, age, etc.). However, to ensure the completeness and accuracy of the data, and even if INE also gather data from other official entities, it was also necessary to collect information directly from other official sources.

These sources included the Portuguese Environment Agency (APA), Portuguese Association for Victim Support (APAV), Directorate-General for Statistics of Education and Science (DGEEC), Directorate-General for Maritime Policy (DGMP), Directorate-General for Justice Policy (DGPJ), Office for Strategy and Planning of the Ministry of Labour, Solidarity and Social Protection (MTSSS /GEP), Ministry of Internal Administration (MAI), European Environment Agency (EEA), and European Patent Office (EPO).

In addition to these public sources, specific data had to be requested directly from the National Civil Protection Authority (ANEPC), Directorate-General for Energy and Geology (DGEG), Commission for Citizenship and Gender Equality (CIG), Institute for Nature Conservation and Forests (ICNF), and Institute of Registries and Notary (IRN).

Out of the data collected for the indicators of the JRC proposed set, 24 were already available on the Centro Region online data portal (DataCentro).

3. ANALYSIS OF THE JRC PROPOSED INDICATOR SET

3.1 Pertinence of the proposed indicators

After a thorough evaluation of the proposed set of indicators, the Centro Region has determined that the majority of them are pertinent for monitoring the SDGs at the regional level. However, some indicators may be excluded or have better alternatives, while others may be challenging to provide good quality data for.

Nine indicators were identified as not suitable or not relevant for monitoring the SDGs at the regional level:

- **Gross Value Added (GVA) of agriculture, livestock, and fishing** (SDG 2): Since there is already an existing indicator that measures agricultural sector productivity (Productivity (Gross Value Added per worker) in agriculture, forestry, and fishing), this one may be redundant and could potentially be overlooked.
- **Deaths due to Covid-19** (SDG 3): Although this indicator may be appropriate in the short-term, it may lack long-term relevance. Therefore, it may be pertinent to track other communicable diseases as well, as new threats may potentially emerge in the future. A possible alternative is to track the indicator "Death rate due to communicable diseases" which would include, for now, HIV, tuberculosis, malaria, viral hepatitis, meningococcal infection, influenza and COVID-19.
- **Women in parliament and government** (SDG 5): Since the regional authorities in Portugal are not governments, this indicator may not be suitable. Similar situations may exist in other countries as well. As an alternative, the representation of women in decision-making positions within local governments may be observed as an indicator of progress towards gender equality.
- **Electricity production that comes from nuclear power** (SDG 7): This indicator is not applicable in the Centro Region or Portugal, and it may not be a relevant measure of sustainable development at the regional level in Europe. In this context, a more relevant alternative would be to use the "Electricity production from clean energy" indicator, as not all renewable energy sources are clean, and vice versa.
- **Employment** (SDG 8): Since unemployment rates are already being monitored, this indicator appears redundant and may not provide any additional insights or value.
- **GVA at basic prices** (SDG 8): Considering that GDP is already contemplate in this indicator set, adding GVA as another metric might not provide substantial value, as it could be seen as redundant.
- **Land use** (SDG 11): Considering that the "Efficiency evaluation of artificial land by inhabitant (%)" indicator is already being monitored, which reflects urban sprawl to some extent, it may not be necessary to include another indicator that covers similar aspects in the monitoring of SDG 11.
- **Transparency index** (SDG 16): The review of the Transparency International Portugal website suggests that this indicator closely resembles the fourth indicator proposed for this SDG in the indicator set ("Extract from QGI an indicator on corruption"). As the latter provides information at the NUTS2 level, focusing on that indicator instead and potentially eliminating this one may be a suggestion.
- **Official Development Assistance** (SDG 17): Due to the absence of a regional government or budget, the Centro Region has determined that this indicator is not suitable for measuring the seventeenth SDG at the regional level in Portugal

Additionally, although some indicators were deemed fit for purpose, they lacked data at the regional level in Portugal, and no relevant alternative data sources were found. These indicators include:

- **Self-reported unmet needs for medical examination** (SDG 3): This indicator has been reported at the national level since 2004, but the annual study conducted by Statistics Portugal (Statistics on Income and Living Conditions) does not gather enough data to ensure representativeness at the regional level.

— **Unemployment of people with disabilities** (SDG 10): This information is not available at the NUTSII level and hardly at the national level. However, Statistic Portugal has recently started to collect information on persons with limitations in carrying out activities due to a health problem every two years. It is possible that this information will become available at the NUTSII level in the near future.

— **Transport performance** (SDG 11): No subnational-level data has been identified for monitoring this indicator.

— **Stock of vehicles (passenger cars)** (SDG 11): The proposed source from JRC does not include data for the regions of Portugal. Although this indicator is available at the national level, efforts were made to contact the official authority responsible for this information to ask about regional data. However, it was communicated that the information is not available at the regional level but rather classified by postal code. This presents significant challenges in gathering this data for the Centro Region.

— **Food waste** (SDG 12): This information was collected by Statistics Portugal for the first time in 2020, but only at the national level. Regional data is not available. Currently, there is no other source to monitor this question for the Centro Region.

3.2 Data availability

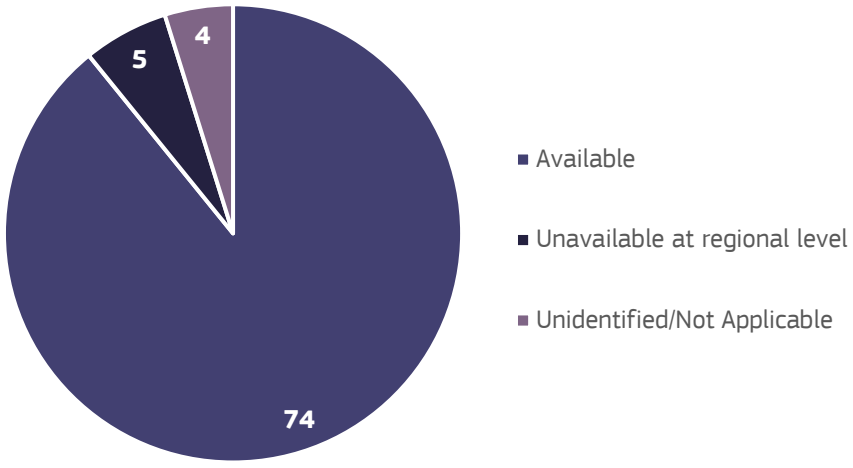
Based on the analysis of the proposed indicator set, it was observed that data availability within the Centro Region varied across the different SDGs.

Out of the total list of proposed indicators, 89% of them have available information for the Centro Region.

While efforts were made to ensure data availability at the regional level, it was confirmed that five indicators could only be accessed at the national level, and no alternative data were found to monitor the themes addressed by these indicators at regional level.

Additionally, there are four indicators for which the data sources remain unidentified or are not applicable to the Centro Region's reality.

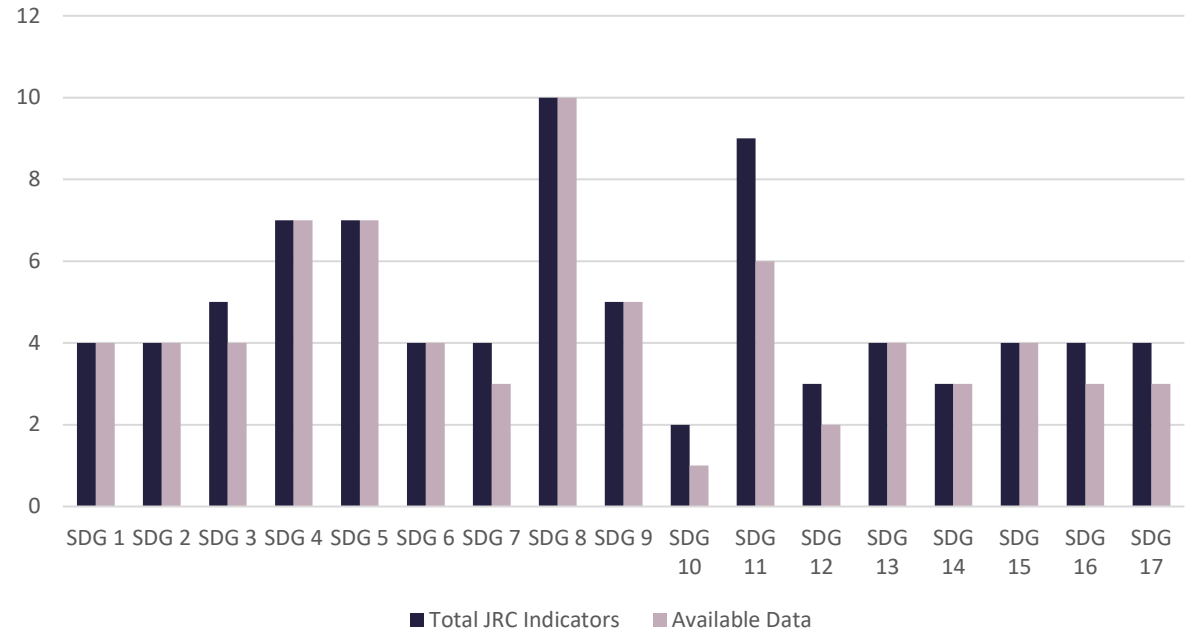
Figure 2. Data availability of JRC proposed indicator set for the Centro Region.



Source: Author's own elaboration

When considering the distribution of data gaps among SDGs, SDG 11 - Sustainable Cities and Communities, and SDG 17 - Partnership for the Goals, faced the most significant challenges in obtaining reliable and robust data at the regional level. Out of the nine proposed indicators for SDG 11, three indicators lack regional-level data, and two out of the four indicators for SDG 17 face a similar data gap. This data insufficiency necessitated the adoption of a data source where the most recent available data dates back to 2015 for one of those indicators.

Figure 3. Data availability of JRC proposed indicator set for the Centro Region by SDG.



Source: Author's own elaboration

Regarding the data sources for the 74 indicators from the proposed JRC set with available regional data, a preference was given to data from the sources identified by the Joint Research Centre for 17 of them. The selection of these sources was based on their relevance, reliability, and availability for a large number of European regions. For the remaining indicators, national sources were largely preferred, either to obtain disaggregated data or to access more recent data. As a result, 55 indicators are composed of data provided by national sources, while 2 indicators rely on data from other European sources.

4. THE CENTRO REGION SDG INDICATOR SET

4.1 Complementary set of indicators of Centro region

Despite the significant relevance of the indicators included in the JRC set, the Centro Region has acknowledged the importance of monitoring more than twenty thematic areas that are deemed crucial for tracking progress towards the 2030 Agenda. These areas, which were not initially included in the proposed set, cover a broad range of economic, social, and environmental issues that reflect some of the region's specific priorities

Moreover, complementary or alternative indicators to the JRC ones have been identified to address specific thematic areas that were deemed not adequately monitored by the JRC set. By incorporating these additional indicators alongside the proposed ones, the Centro Region aims to gain a more comprehensive understanding of sustainable development progress at the regional level.

Currently, there are 30 additional indicators for which reliable and regular data are available. However, there are four additional indicators that are considered relevant but currently lack regional-level data. These indicators include:

- Indicator of food price anomalies
- Proportion of procurement contracts for goods and services by public administration entities that adopt environmental criteria (%)
- Sustainable fishery
- Scholarships for foreign students (from the government)

Additional indicators have been incorporated across all the SDGs, except for SDG 13 – Climate action.

4.2 Final SDG Indicator Set for Centro Region

The final set of indicators for monitoring the 2030 Agenda in the Centro Region comprises a total of 109 indicators. Out of these, 75 align with the indicators from the JRC proposed monitoring set, while 34 additional indicators have been identified as new, complementary, or alternative to further enhance the monitoring process.

Table 1. Correspondence between the JRC proposed indicator set and the final indicator set adapted for the Centro Region

JRC indicators	Fit for purpose	Fit – no data	Non-fit for purpose	Alternative indicators	New indicators
1	X				
2	X				
3	X				
4	X				
5			X		

6	X				
7	X				
8	X				
9			X	87	
10		X			
11	X				
12	X				
13	X				
14	X				
15	X				
16	X				
17	X				
18	X				
19	X				
20	X				
21	X				
22	X				
23	X				
24	X				
25	X				
26	X				
27	X				
28	X				
29	X				
30	X				
31	X				
32			X	99	
33	X				

34	X				
35	X				
36	X				
37	X				
38	X				
39	X				
40			X		
41	X				
42			X		
43	X				
44	X				
45	X				
46	X				
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-					116
-					117

Source: Author's own elaboration

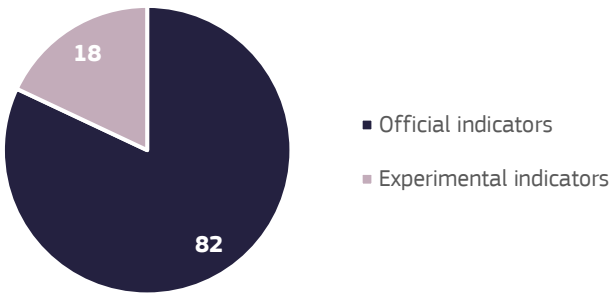
To ensure the comprehensiveness of a monitoring tool, it is crucial to utilize a significant number of relevant indicators. However, in the case of the Centro Region monitoring set, the distribution of the 109 indicators across the Sustainable Development Goals (SDGs) is not uniform, potentially affecting the quality of monitoring for certain SDGs. Specifically, SDG 3 - Good health and well-being and SDG 8 - Decent work and economic growth have the highest number of indicators, primarily due to the availability of abundant data at the subnational level. On the other hand, SDG 10 - Reduced inequality, SDG 13 – Climate action and SDG 17 - Partnership for the Goals lack sufficient information at the subnational level and new indicators that adequately monitor these SDGs for the Centro Region were hard to design. Consequently, monitoring the progress and outcomes related to these goals may be hindered due to insufficient data availability and a lack of quality indicators.

Figure 4. Number of indicators for the Centro Region set by SDG and by alignment.

Source: Author's own elaboration

Out of the 109 indicators chosen for inclusion in the monitoring set of the Centro Region, 100 indicators have available regional-level information. Among these 100 indicators, 82 are considered official indicators, while the remaining 18 indicators are classified as experimental.

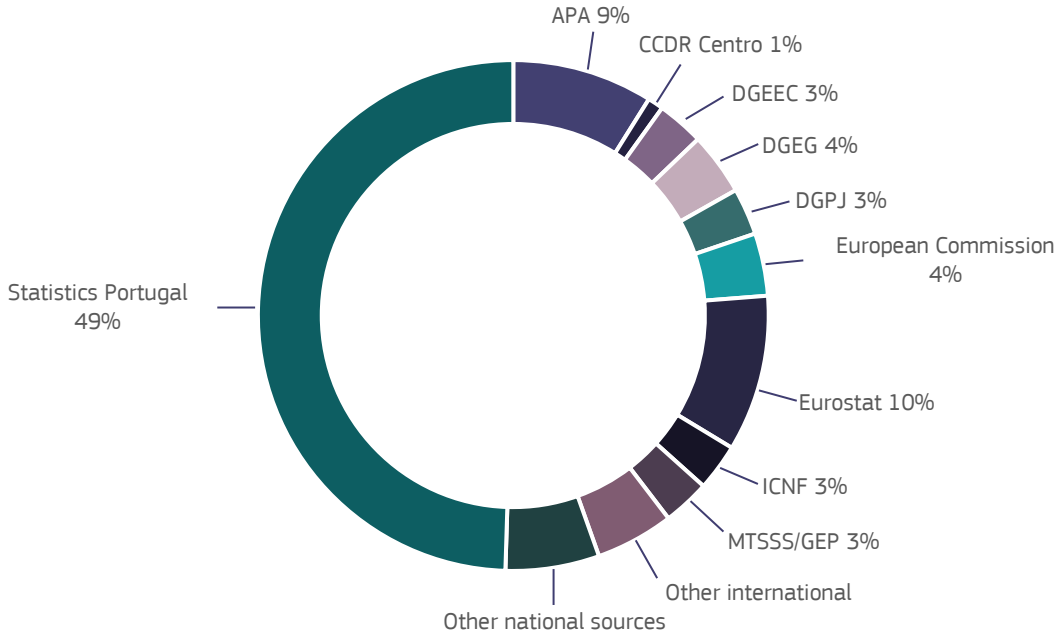
Figure 5. Number of indicators by type.



Source: Author's own elaboration

As described in the methodology, the selection of data sources for the indicators was based on specific criteria, including the overall quality of the information but also the availability of disaggregated data and the last reported year. As a result, 80 indicators draw their data from national sources, while 17 indicators rely on European databases. Additionally, three indicators came from other sources recommended by JRC, namely a study conducted by the University of Gothenburg and the OECD Regional Database.

Figure 6. Data sources.

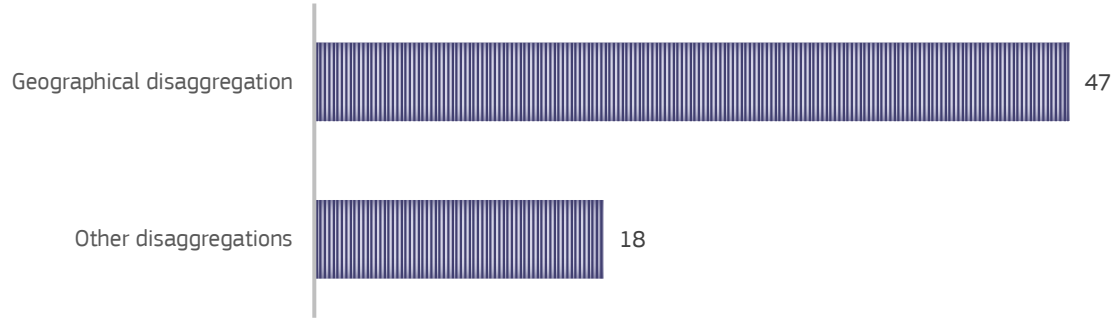


Source: Author's own elaboration

It is worth noting that 11 indicators initially had information available only at the local or national level. Therefore, to ensure regional coverage, the regional values for these indicators were derived by aggregating data from the municipalities within the Centro Region.

In conclusion, out of the total indicators with data, 47 allow for geographical disaggregation, while only 18 indicators provide disaggregation by other factors such as sex, age group, urban area typology, and more.

Figure 7. Number of indicators by type of disaggregation available



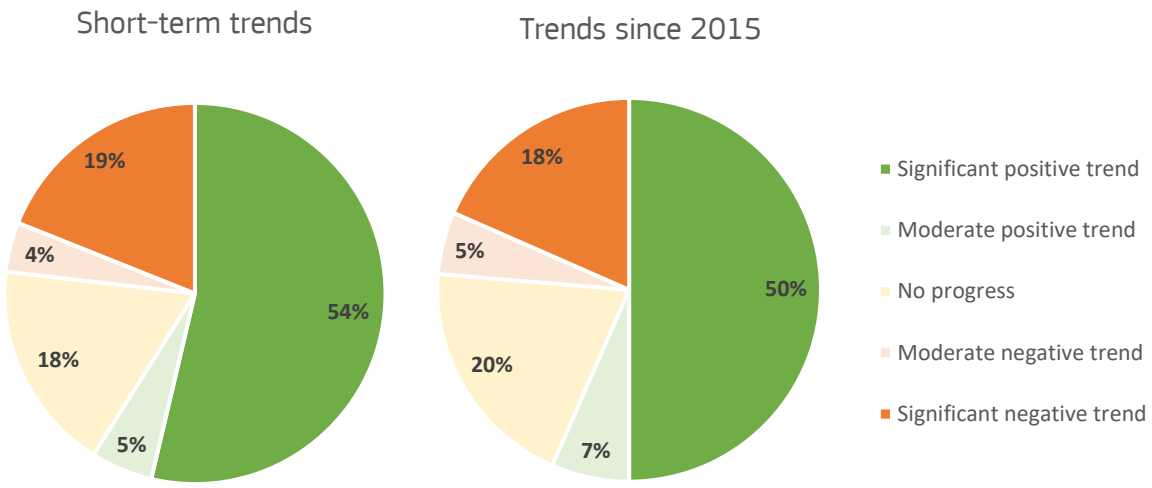
Source: Author's own elaboration

4.3 Statistical analysis of Centro Region trends

Out of the 100 indicators collected, short-term trends (based on the latest five years) can be calculated for 86 indicators, while trends since 2015 can be calculated for only 69 indicators due to data availability. Additionally, for 68 indicators, long-term trends based on the earliest available data (up to 2000) were calculated when data prior to 2015 was available. However, it is important to note that due to significant variations in the time periods considered for each indicator, these long-term trends should not be directly compared. Instead, they complement the other observed trends at the individual indicator level.

Overall, the Centro Region demonstrates a majority of positive trends, both in the short term and since 2015. However, this observation also highlights the need for continued efforts to achieve the goals of the 2030 Agenda. Notably, approximately 23% of the indicators or sub-indicators are moving away from the desired direction, indicating areas where further attention and action are required to drive progress and achieve sustainable development.

Figure 8. Short-term trends and trends since 2015 for Centro Region.



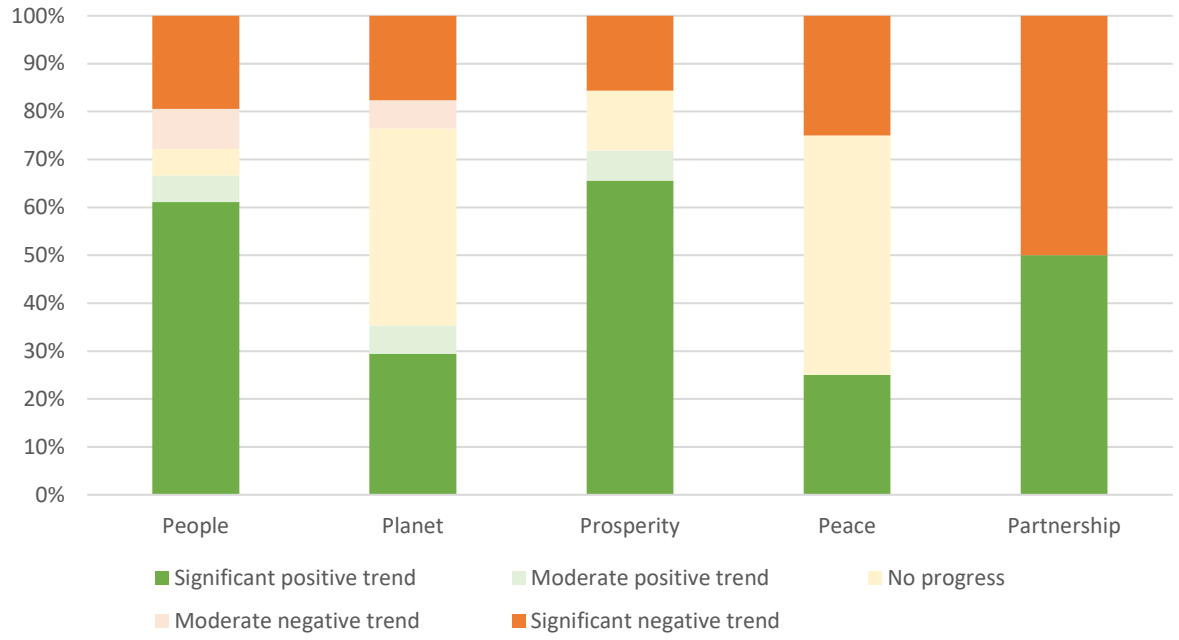
Note: Six trends are part of both the short-term trends and trends since 2015, as 2019 represents the most recent available data for these indicators.

Source: Author's own elaboration

The positive trends observed across the SDGs are not evenly distributed among the five areas of importance known as the 5P's, as defined by the United Nations. People (gathering the SDG 1 to 5), Planet (gathering SDG 6 and SDG 12 to 15), Prosperity (SDG 7 to 11), Peace (involving only SDG 16), and Partnership (represented by SDG 17).

As depicted in Figure 8, the proportion of significant positive trends is at least 60% for People and Prosperity, which is twice as much as what is observed for Planet. However, this does not imply that SDGs associated with Planet have a higher proportion of negative trends. In fact, the indicators related to Planet demonstrate a higher rate of stagnating trends, which is understandable considering that environmental characteristics take longer to change. Therefore, it is particularly important to examine long-term trends for these indicators.

Figure 9. Short-term trends for Centro Region by 5Ps of the SDGs



Source: Author's own elaboration

The trends presented above were calculated using the methodology of Eurostat in its report "Sustainable development in the European Union."[3], with adaptations to include trends with no or limited progress.

If the indicator does not have a quantitative target defined, significant progress is considered if the growth rate is greater than 1% per year, moderate progress when less than 1% per year, and stagnant progress when it is between +0.5% and -0.5%. Additionally, moderate progress in the opposite direction (less than 1% per year) and significant progress in the opposite direction (greater than 1% per year) indicate areas where additional efforts are needed to get back on track towards achieving desired outcomes.

As an administrative division without governing authority, the Centro Region does not have its own set of concrete targets for sustainable development. Consequently, in the present analysis, quantitative targets have been defined based on national and European strategies. However, it is important to note that these targets are not officially adopted by the region and may not fully reflect its unique priorities and aspirations. Therefore, they should be approached with caution when assessing the region's progress. Nevertheless, with the ongoing decentralization process, the Centro Region is expected to gain more decision-making power and the ability to define its own targets in the future. This process will allow the region to shape its objectives to its specific needs, considering local dynamics, challenges, and opportunities.

For indicators with quantitative targets, a ratio is calculated by comparing the actual progress made to the required growth rate. If the ratio is equal to or greater than 100%, it indicates that the real growth rate is sufficient to achieve the target for the indicator in 2030. Significant progress is considered when the ratio is equal to or greater than 95%, while moderate progress is achieved when it is above 60%. If the ratio falls between 0% and 60%, it is considered as stagnant progress. On the other hand, a moderate progress in the wrong direction is when the ratio is between 0% and -60%, and significant progress in the wrong direction is when the ratio is less than -60%.

To facilitate the interpretation of the data and highlight progress towards desired outcomes, symbols have been used to indicate progress in each indicator.

[3] Eurostat (2023), *Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context*, Publication Office of the European Union, Luxembourg.

Table 2. Description of the symbol that represents the progress of each indicator

Legend		
●	Without quantitative target	Significant progress towards the desired direction (greater than 1% per year) or maximum achieved
	With quantitative target	Significant progress towards the 2030 target (ratio of actual and required growth rate ≥95%) or target achieved
●	Without quantitative target	Moderate progress towards the desired direction (less than 1% per year)
	With quantitative target	Moderate progress towards the 2030 target (ratio of actual and required growth rate >60%)
●	Without quantitative target	No progress or insignificant changes (0.5% and -0.5%)
	With quantitative target	Insufficient progress towards the 2030 target (ratio of actual and required growth rate between 0% and 60%)
●	Without quantitative target	Moderate movement away from the desired direction (less than 1% per year)
	With quantitative target	Moderate movement away from the 2030 target (ratio of actual and required growth rate between 0% and -60%)
●	Without quantitative target	Significant movement away from the desired direction (greater than 1% per year)
	With quantitative target	Significant movement away from the 2030 target (ratio of actual and required growth rate >-60%)
●	No evaluation (series are to short or irregular)	

Source: Author's own elaboration

4.3.1 SDG 1 – No Poverty

Table 3. Trends of Centro Region in the indicators of SDG1

SDG Target	Indicator for Centro Region		Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
1.1 (extreme poverty)	Material and social deprivation		2021	Less is an improvement	●	●	●
1.1 (extreme poverty)	Severe material and social deprivation rate (%)		2022	Less is an improvement	●	●	●
1.2 (reduce poverty)	Proportion of resident population with less than 65 years of age living in households with very low work intensity per capita (%)		2021	Less is an improvement	●	●	●
1.2 (reduce poverty)	Proportion of resident population at-risk-of poverty or social exclusion (%)		2022	17.2%	●	●	●
1.4 (access to basic services)	Housing cost overburden rate (%)		2022	Less is an improvement	●	●	●
1.5 (exposure to vulnerability)	Number of deaths and directly affected persons attributed to disasters per 100,000 population	Number of deaths attributed to disasters per 100,000 population	2021	Less is an improvement	●	●	●
		Number of injured or ill people attributed to disasters per 100,000 population					

Source: Author's own elaboration

The population experiencing financial difficulties or social exclusion often finds themselves disproportionately vulnerable to socioeconomic and environmental phenomena, including natural disasters. Hence, it is of utmost importance to accurately monitor SDG 1 - No Poverty in order to identify these vulnerable segments of society and understanding the specific challenges they face. This knowledge enables policymakers to design appropriate social responses and implement effective policies that enhance resilience among these populations. However, it is essential to exercise caution when analysing the indicators used for monitoring within this framework, as they have only recently been implemented at the regional level.

In terms of the trend of **material and social deprivation**, it's worth noting that in 2020, there was a regression compared to the progress observed between 2018 and 2019. However, there was subsequent improvement in 2021, surpassing the results of 2019. Only a long-term analysis will reveal if this regression

was solely due to the pandemic or influenced by other factors. Also, the trend of **severe deprivation**, follows a similar pattern, with limited improvement in 2021 but significant progress in 2022.

The three most common items of deprivation include the inability to afford a week-long annual holiday away from home, the inability to replace worn-out furniture, and the inability to face an unexpected financial expense close to the poverty threshold without financial help. On the other hand, the three least common items of deprivation are the inability to have two pairs of properly fitting shoes, the inability to afford a meal with meat or fish (or vegetarian equivalent) every second day, and the inability to have an Internet connection for personal use at home.

With regard to the trend of the proportion of the **resident population at risk of poverty or social exclusion**, the region's performance has significantly improved between 2018 and 2022 However, there was a slowdown in 2020 and regression in 2021, followed by a strong improvement between 2021 and 2022, bringing it close to the goal defined for 2030 in the European Pillar of Social Right Action Plan (a 15.2% reduction compared to 2020).

Concerning the trend of the proportion of the **resident population under 65 years of age living in households with very low work intensity** per capita, there was a regression in 2020 compared to the progress observed between 2017 and 2019, which then improved in 2021 without exceeding the results of 2019.

Regarding the trend of **housing cost overburden**, there has been overall satisfactory progress globally. However, there are significant differences in progress when considering the type of urban area. Housing cost overburden has been intensifying constantly in predominantly urban areas, while in medium urban areas, there was a significative improvement in 2022, with the value almost half compared to 2018. In more rural areas, after a few years of improvement, the ratio increased again in 2022, approaching the 2018 value. It is worth noting that this data may worsen in the future due to the current housing crisis in Portugal, as the country has seen one of the highest increases in house prices in Europe[4].

In the Regional Strategy of 2030, the sixth priority outlines specific lines of intervention to reduce poverty and promote social inclusion These interventions take into account the impact of the COVID-19 pandemic on the most vulnerable populations, as reflected in the presented indicators. Two specific interventions are proposed to address the challenges identified by the region:

- Support the development of regional and sub-regional (NUTS III) frameworks for identifying typologies of social exclusion and inequality, as well as integrated approaches to addressing these complex and multidimensional phenomena, through the adoption of multisectoral and policy-mobilizing strategies that simultaneously support minimum income, socio-professional integration (through training and an inclusive job market), and access to essential goods and services (healthcare, education, housing, childcare, etc.);
- Promote projects that generate and disseminate good practices in terms of combining cultural, sports, and educational activities as ways of combating social exclusion, taking advantage, among other conditions, of communities' response to the COVID-19 pandemic.

[4] Eurostat (2023). *House price index (2015 = 100) - annual data* [Data set]. https://ec.europa.eu/eurostat/databrowser/view/PRC_HPI_A__custom_3617733/bookmark/bar?lang=en&bookmarkId=7bd4d288-a67f-45b6-9e4b-d062388871e9

4.3.2 SDG 2 – Zero Hunger

Table 4. Trends of Centro Region in the indicators of SDG2

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
2.2 (end malnutrition)	Proportion of resident population with 18 and more years old with overweight or obesity (%)	2019	Less is an improvement	○	●	●
2.3 (agricultural productivity)	Productivity in agriculture, forestry and fisheries (€/per capita)	2021	More is an improvement	●	●	●
2.4 (sustainable food production)	Proportion of agricultural area with organic farming (%)	2019	25%	●	●	○

Source: Author's own elaboration

Two out of three indicators monitoring SDG 2 are not regularly updated. Therefore, the data on overweight and obesity, as well as organic farming, are from 2019 and may have significantly changed since then.

The long-term analysis of the trend in **organic farming** shows a positive evolution in the proportion of organic farming. However, the progress is not sufficient to achieve the target set by the Farm to Fork European Strategy (to reach 25% of agriculture area). Moreover, the progress between 2016 and 2019 was only 0.1 percentage points, which suggests a significant slowdown in the transition to organic farming. It is important to note that organic farming, as defined in European legislation, may not represent all types of sustainable food production.

Regarding the trend in **agricultural productivity**, the short, medium, and long-term trends are positive, but the trend is slowing down.

In the Centro Region, the impact of climate change is already strongly felt in the agriculture and forestry domains. Thus, agricultural innovation and modernization are crucial lines of intervention, as expressed in the fifth strategic priority, "Proactively adapt the region to the climate emergency and decarbonization," of the Regional Strategy of 2030. The following are two key intervention lines:

- Support representative projects that disseminate good practices in term of innovation of agricultural production systems, particularly in territories with high water stress, but also aiming at the adoption of more resilient and adapted production models and agricultural practices to the edaphoclimatic conditions of the different regions of the area, according to their specificities
- Supporting agricultural modernization through the digitalization of agriculture (high-tech farming).

The trend of **overweight and obesity prevalence** is currently being monitored with only two data points available. From 2014 to 2019, there was a slight improvement in the proportion of people who are overweight, but this trend was not uniform. While obesity decreased by 3.3 percentage points in men, it increased by 0.3 percentage points in women.

Looking at the type of urban area, while obesity decreased in medium and predominantly urban areas (-0.6 percentage points and-2.2 percentage points respectively), it increased in predominantly rural areas (+0.4 percentage points). While definitive conclusions cannot be drawn from the limited data available, these initial trends demonstrate the importance of continuing analysis by population groups and territorial areas, especially since obesity is correlated with poverty in developed countries.

4.3.3 SDG 3 – Good Health and Well-being

Table 5. Trends of Centro Region in the indicators of SDG3

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
3.2 (preventable death of newborns)	Infant mortality (‰)	2021	Less is an improvement			
3.3 (epidemics and diseases)	Death rate due to communicable diseases	2020	Less is an improvement			
3.4 (non-communicable diseases)	Mortality rate due to intentional self-harm (suicide) per 100 000 inhabitants	2020	Less is an improvement			
3.5 (substance abuse)	Prevalence of daily alcohol consumption among population aged 15 years and older (%)	2019	More is an improvement			
3.5 (substance abuse)	Prevalence of daily smokers among population aged 15 years and older (%)	2019	Less is an improvement			
3.8 (universal health coverage)	Hospital beds (Nº)	2021	More is an improvement			
3.c (health financing and recruitment)	Medical doctors per 1000 inhabitants	2021	More is an improvement			
3.c (health financing and recruitment)	Nurses per 1000 inhabitants	2021	More is an improvement			
3.c (health financing and recruitment)	Pharmacy professionals per 1000 inhabitants	2021	More is an improvement			
3.c (health financing and recruitment)	Dentist medical doctors per 1000 inhabitants	2021	More is an improvement			

Source: Author's own elaboration

As we know, climate change, human actions such as deforestation, and other factors can lead to the emergence of new endemic and pandemic diseases. The impacts of these events on society are multiple, but it is crucial to protect the most vulnerable.

As expected, the indicator measuring the **death rate due to communicable diseases** experienced a significant deterioration in its results during 2020 and 2021, primarily attributed to the outbreak of the COVID-19 pandemic. The death rate per 100,000 inhabitants increased from 10 in 2019 to 158 in 2021.

The availability of an adequate quantity and quality of medical personnel, as well as access to essential hospital materials, plays a vital role in building resilience and mitigating the impact of both endemic and pandemic diseases. Furthermore, these factors ensure the provision of quality healthcare for everyone throughout the year.

The Centro Region has made progress in the availability of medical professionals. Since 2018, the region has achieved results comparable to the best regions of the OECD, and Portugal overall shows a good proportion of **medical doctors** with small disparities between regions. This is also true for the proportion of **nurses, pharmacy professionals, and dentists**. However, the growth rate of nurses is less significant despite the critical role they play in patient care.

Despite a limited decrease in the number of **hospital beds** in the region, it is crucial to closely monitor this trend. While the declining resident population may suggest a reduced need for hospital beds, it is important to note that the rate of "inhabitants per hospital bed" continues to show a slightly negative trend. Therefore, it is necessary to keep a vigilant eye on this situation, as it raises concerns about the adequacy of healthcare resources relative to the population's healthcare needs.

The quality and accessibility of healthcare for everyone is one of the lines of intervention of the Regional Strategy of 2030:

- Develop the provision of healthcare services with proximity, quality, and social integration, following a logic of strengthening the capacity of the National Health Service (SNS) and clarifying the conditions of coordination between the areas of Health and Labour, Solidarity, and Social Security for more effective governance, namely in medical assistance to social responses oriented towards support for the elderly.

Concerning the **infant mortality**, the Centro Region has made significant progress in reducing its rates, with consistently low rates compared to other regions in the country. This trend is in line with the best regions of the OECD since the beginning of the 21st century.

Mental health is also a crucial indicator for measuring the quality of healthcare in developed countries. The Centro Region aligns with national values in this regard. While there has been an improvement in the trend of **suicide rates** over the last two decades, the way it affects unequally men and women need to be taken into consideration. This issue disproportionately affects men, who are four times more likely to commit suicide than women, and the rate of improvement in this regard is comparatively slower for men. Therefore, any intervention or response implemented must take into account these specificities and gender differences to effectively address the mental health challenges faced by both men and women.

When it comes to **smoking and drinking habits**, there are also significant differences between genders, with men consuming much more than women. Differences can also be observed between urban and rural areas, with predominantly urban areas having more smokers and less alcohol consumption. The Centro Region is the second NUTSII region in Portugal with the highest alcohol consumption but the lowest prevalence of smoking.

The Regional Strategy of 2030 recognizes the importance of preventive healthcare and healthy lifestyles and aims to support projects that demonstrate good practices in research and intervention in the area of preventive health and promotion of healthy lifestyles, focused on the most vulnerable populations with limited access to healthcare.

4.3.4 SDG 4 – Quality Education

Table 6. Trends of Centro Region in the indicators of SDG4

SDG Target	Indicator for Centro Region		Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
4.1 (primary and secondary education)	Participation rates from pre-primary to tertiary education (%)		2020	More is an improvement			
4.2 (access to early childhood education)	Students enrolled in pre-primary education (%)		2021	96%			
4.3 (vocational and tertiary education)	Students enrolled in tertiary education		2021/ 2022	More is an improvement			
4.3 (vocational and tertiary education)	Participation rates in education		2020	More is an improvement			
4.3 (vocational and tertiary education)	Distribution of pupils and students enrolled in general and vocational programmes in lower and upper secondary education	Vocational programmes - Lower secundary	2020	More is an improvement			
		Vocational programmes - Upper secundary	2020	More is an improvement			
4.3 (vocational and tertiary education)	Lifelong learning (%)		2022	60%			
4.4 (vocational and technical skills)	Proportion of persons aged between 16 and 74 years old with digital skills at basic or above basic level (%)		2021	80%			
4.5 (gender and other disparities	Proportion of women aged between 25 and 34 years old with		2022	45%			

in education), 4.6 (youth and adult literacy)	at least higher education completed (%)					
4.6 (youth and adult literacy)	Early leavers from education and training rate (%)	2020	5%			

Source: Author's own elaboration

The seventh strategic line of the Regional Strategy of 2030 is entire focused on the training of the population, stating that it is crucial to "promote and reinforce the improvement of qualifications of active individuals and the general population from an education perspective as a factor of inclusion and empowerment of individuals and organizations in terms of the competencies required by the transformation of the region."

In the Centro Region, and in Portugal in general, there are more women with at least **higher education completed** than men. Based on the annual study conducted by Statistics Portugal, the Centro Region is very close to achieving the objective of attaining 45% of the population between 25 and 34 years old with at least a higher education completed, but this has already been attained by women since 2018. However, it is important to note that when comparing the results of the 2021 annual study with the results of the 2021 Census, there is a relatively big difference between the values at the national and regional levels, with the census values being smaller. Therefore, even though we can conclude that the results in the Centro Region are good, they must be interpretated with caution.

The number of **students enrolled in tertiary education** has remained stagnant when looking at the long-term trend, which can be attributed to the decrease in the young population compared to the start of the century. Although the number of young people has been stagnant in the last 10 years, the positive trend since 2015 may indicate a higher frequency of tertiary education, as the previous indicator apparently shows.

However, the **participation rate in education** among 20-24 year-olds demonstrates that this may not be the case. Based on Eurostat data, the Centro Region has seen its proportion of young people between 20-24 years old in education slightly decreasing since 2013, but slightly increasing in the last 5 years. These stagnant trends can also be observed at the European level, however the proportion of the Centro Region is below the European average.

Nonetheless, concerning the **early leavers from education and training rate**, the Centro Region has achieved the European target of 9% since 2019 and is approaching the Portuguese objective.

In terms of **participation rates from pre-primary to tertiary education**, there has been a decrease trend in Centro Region, possibly due to the aging population. This trend is also observed in several other European regions.

However, when considering the indicator for **lifelong learning**, which takes into account all types of education and training, there has been a significant increase in the involvement of both men and women, particularly since 2021. Women still show slightly higher involvement than men, but this increase is not enough to meet the objective of 60% set in the National Reform Programme 2022 (PNR 2022).

Unfortunately, there has been a great decrease in **participation in vocational programs** in lower and upper secondary education, which goes against the objective of the Centro Region to increase the number of people with advanced and specific competencies

As the society and processes are becoming more digital, there is a need to train the elderly population to avoid their exclusion. This is the first line of intervention expressed in the seventh strategic line presented above: "Involve the region in a process of identifying digital skills to be filled for greater effectiveness in responding to digital transformation opportunities and value the role of intermediation institutions capable of reaching the most elderly and isolated populations."

The monitoring of **basic digital skills** has recently begun, so we only have one value to present. However, with 53% of persons aged between 16 and 74 years old having digital skills at a basic or above basic level in 2021, the Centro Region is far from the national objective of achieving 80%.

Regarding the trend in **early childhood education**, there has been a significant increase in enrolment in pre-primary education. However, the national indicator is based on a rate that does not compare the same population. In Portugal, there is a strong tendency for mobility between the workplace and home, which means that children are not always enrolled in schools located in the same municipality or region as their residence. Therefore, since 2018, we have observed enrolment rates that exceed 100% in Centro Region. This rate can indicate several positive trends such as an attractive region with ample work opportunities and high-quality pre-primary schools.

4.3.5 SDG 5 – Gender Equality

Table 7. Trends of Centro Region in the indicators of SDG5

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
5.1 (gender discrimination)	Female Disadvantage Index	2021	More is an improvement	●	●	●
	Female Achievement Index	2021	More is an improvement	●	●	●
5.1 (gender discrimination)	Disparity in the average monthly earnings between Male and Female employees (%)	2021	Less is an improvement	●	●	●
5.2 (gender violence)	Fatal victims of gender-based violence at the hands of their partners or ex-partners	2021	Less is an improvement	●	●	●
5.2 (gender violence)	Proportion of women victims in crimes registered as Domestic violence by the partner or similar (%)	2021	Less is an improvement	●	●	○
5.4 (unpaid work)	Inactive women rate due to caregiving responsibilities (%)	2021	Less is an improvement	●	●	●
5.4 (unpaid work)	Gender gap in part-time employment incidence	2022	Less is an improvement	●	○	●
5.5 (women participation and leadership)	Proportion of female in research and development personnel (%)	2020	50%	○	●	●
5.5 (women participation and leadership)	Women in local government	2021	40%	●	●	●
5.5 (women participation and leadership)	Gender gap in managerial positions (%)	2022	Less is an improvement	●	○	●

Source: Author's own elaboration

Among all the topics addressed in SDG 5 - Gender Equality, the issue of gender-based violence is one of the most urgent problems to address.

According to the Observatory of Homicide Crimes of the Portuguese Association for Victim Support (APAV), established in 2014, three **women tragically lost their lives at the hands of their current or former partners** in 2021. While this represents an improvement compared to the initial year's report, which documented five similar cases, it is slightly higher than the numbers recorded in 2016 and 2017. When considering the triennial rate, which helps mitigate drastic annual fluctuations, there appears to be a concerning trend of increased cases. However, due to the limited number of cases, the narrow range of available data, and the methodology used by the Observatory, drawing definitive conclusions becomes challenging. The significance of these numbers must be approached cautiously, considering the need for more extensive and comprehensive data to accurately assess the trends and implications.

In terms of **victims of domestic violence** crimes registered by a partner or similar, there was a relatively stagnant number between 2012 and 2018, especially looking at the rate. From 2019 until 2022, there was a significant increase, especially in 2022. However, these numbers must be analysed with caution since they only concern women who report domestic violence to the authorities. As many studies have shown, a large proportion of victims of domestic violence do not report the violence to competent authorities. In Portugal, in 2021, only 46% of victims of domestic violence who contacted the Portuguese Association for Victim Support (APAV) filed a complaint or report with the competent authorities.[5] However, this number may not reflect the full extent of the problem, as many women may not be able to report their situation to any kind of entities.

Moreover, the increasing number of registered victims of domestic violence may have been partially influenced by two recent social phenomena Firstly, the Me Too movement in 2017 had a big influence in developed countries, contributing to the liberation of women's voices and initiating a better response from police and judicial systems to address the issue of gender-based violence. The APAV reports may confirm this influence as its data show that the proportion of victims reporting to competent authorities as grown form 38% in 2013/2015 to 46% in 2021. Secondly, the COVID-19 lockdowns have increased domestic violence globally, as reported by the UN Women[6], and Portugal may not have been spared[7]. The situation was particularly dire as the victims were trapped with their aggressors, and access to institutions that could help them was highly limited.

The Regional Strategy of 2030 recognizes and emphasizes the importance of ensuring equal opportunities for women, especially in the job market. In the Centro Region, there have been notable developments in this regard.

Over the past five years, there has been a decrease in the proportion of **inactive women due to caregiving responsibilities**, indicating a positive trend towards increased participation in the workforce. Additionally, there has been a decline in the **gender gap related to part-time employment** incidence since 2011. However, it is important to note that this progress has nearly stagnated since 2015, suggesting the need for continued efforts to address this issue effectively.

While there has been some progress in reducing the **disparity in average monthly earnings between men and women** in recent years. However, the Centro Region has experienced a slower rate of improvement in this area compared to the other regions of Portugal. In fact, since 2017, the Centro Region has consistently recorded the highest disparity in earnings between men and women in Portugal.

Concerning the place of **women in research and development personnel**, an area traditionally more masculine, the situation is positive, with 41% of females in research and development personnel. However, since 2017, the proportion has almost not improved at all.

The access of women to higher positions remains a great challenge. The **gender gap in managerial positions** has been stagnant since 2011 and even increased substantially in 2022.

Moreover, the evolution of the proportion of **women elected in local government** shows the real difficulty in changing the mindset of the population and political world regarding women in decisional positions. While the proportion of women in the city hall elective body has increased from 29% to 32.3% between 2017 and 2021, the proportion of women as mayors has dropped from 9% to only 5% in 2021. A Parity Law exists since 2006, requiring a representation of 40% of each gender and no more than two consecutive candidates of the same sex in the party's list of candidates in presidential, legislative, and local elections. However, there is still a strong difficulty in access for women to leadership positions, with men being placed in the majority in the head of the

5 APAV (2022) *Estatísticas APAV 2021 – Violência Doméstica*.

6 UN Women (2021) *Measuring the shadow pandemic: Violence against women during COVID-19*.

7 Barbosa, J. B. L. (2021). *Violência doméstica em tempos de COVID-19: Contributo para a análise de políticas públicas em Portugal* [Dissertação de mestrado, Iscte - Instituto Universitário de Lisboa]. Repositório do Iscte. http://hdl.handle.net/10071/24983

list. Nonetheless, it is worth noting that while 10% of municipalities had no women in the executive after the 2017 elections, in 2021 only one remained.

4.3.6 SDG 6 – Clean Water and Sanitation

Table 8. Trends of Centro Region in the indicators of SDG6

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
6.1 (universal access to water)	Proportion of dwellings served by water supply (%)	2020	More is an improvement	○	○	○
6.1 (universal access to water)	Safe water (%)	2021	More is an improvement	○	○	○
6.3 (water quality)	Proportion of surface water bodies with lower quality (%)	2021	Less is an improvement	●	●	●
6.3 (water quality)	Proportion of groundwater bodies with lower quality (%)	2021	Less is an improvement	●	●	●
6.3 (water quality)	Proportion of dwellings served by wastewater treatment (%)	2020	More is an improvement	●	●	●

Source: Author's own elaboration

The management of natural resources, particularly water, is one of the biggest challenges facing the Centro Region, as noted in the introduction of this document. Studies have shown that Portugal will be one of the European countries that will suffer the most from water scarcity by 2040[8]. Moreover, about fifty percent of the natural water resources available in Portugal come from and are shared with Spain, leading to a certain degree of dependency[9]. Therefore, it is essential to maintain the quality of regional water resources and ensure their sustainable use and reuse.

The Regional Strategy of 2030 includes several intervention lines to address this issue:

- Support the improvement of the rational use of water in agriculture, industry, and urban consumption.
- Develop actions to enhance water resources (decontamination of watersheds, water reuse, water efficiency, water transfers, hydro-agricultural efficiency, consumption and availability adaptation, etc.), environmental liability recovery (including contaminated soils, abandoned or at-risk quarries and mines, coastal erosion, polluted waters, erosion of soils affected by fires, areas affected by radioactivity, asbestos in buildings, etc.), combat desertification, promote air quality and the environment in general.

These intervention lines are even more crucial to implement since the indicators used to monitor the **surface water and groundwater bodies** show that their quality has been strongly decreasing since 2015. The biggest contributors to water resources pollution are often the industry and agriculture sectors. However, improving the

[8] Institute for Economics & Peace. *Ecological Threat Report 2022: Analysing Ecological Threats, Resilience & Peace*, Sydney, October 2022. Available from: http://visionofhumanity.org/resources

[9] Henriques, A. G. (2018) *A Revisão da Diretiva-Quadro da Água. Revista Recursos Hídricos*. APRH. Outubro de 2018.

proportion of **dwellings served by wastewater treatment** may also contribute to improving the quality of water resources. In 2020, there were still 22% of the dwellings that were not connected to a safe wastewater treatment service.

The sixth SDG also emphasizes the importance of ensuring universal access to safe and affordable water for all citizens. In the Centro Region, it is encouraging to note that as of 2020, approximately 97% of **dwellings were served by water supply**., However, it is worth mentioning that this percentage has remained stagnant since the reporting of this indicator began.

It is important to understand that this does not mean that the last 3% do not have access to water at all. In rural areas, many residents still rely on their own water resources accessed through wells. However, the absence of connection to water supply services may suggest that the affordability of such services is a challenge, leading individuals to continue using their own water sources, even if the safety of this water cannot be ensured. Regarding this question, it is encouraging to note that almost **99% of water used for human consumption is controlled and classified as safe**.

4.3.7 SDG 7 – Affordable and Clean Energy

Table 9. Trends of Centro Region in the indicators of SDG7

SDG Target	Indicator for Centro Region		Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
7.1 (access to energy)	People affected by energy poverty	Proportion of resident population living in households without economic capacity to keep the home adequately warm (%)	2022	10%	●	●	●
		Percentage of beneficiaries of the Social Tariff for Energy compared to the resident population (%)	2022	Less is an improvement	●	●	●
7.2 (share of renewable energy)	Share of clean energy in energy production (%)		2021	More is an improvement	●	●	●
7.2 (share of renewable energy)	Share of renewable energy in energy production (%)		2021	80%	●	○	○
7.3 (energy efficiency)	Energy intensity of the economy in final energy (toe/ €)		2018	Less is an improvement	●	○	●

Source: Author's own elaboration

With the closure of the Pego coal-fired power plant in the Centro Region in November 2021 (nine years earlier than initially planned), Portugal and the Centro Region have taken a significant step towards more sustainable energy production. This was the last coal-fired power plant in Portugal, contributing 4% to national greenhouse gas emissions. However, the transition to a fully sustainable energy production system is not without challenges.

The Centro Region and the Norte Region are the largest producers of clean and renewable energy in Portugal. Although there are no nuclear facilities, most of the production comes from wind and hydro sources. While these sources are clean and renewable, they are weather-dependent and cannot produce the same amount of energy throughout the year. Although the annual production from wind and solar energy has been steadily increasing, the annual production from hydroelectricity is highly variable. Therefore, while there are positive trends in the share of **clean and renewable energy in energy production**, progress has been uneven since 2009.

The current sustainable energy production equipment is not enough to meet electricity consumption demands. It is important for all levels of society to make efforts towards more efficient use of electric power. At the societal level, the Centro Region aims to support the creation of Energy Communities, as outlined in its Regional Strategy of 2030. At the economic level, there needs to be a better ratio between energy consumption and economic production. While the **energy intensity of the economy** had decreased greatly from 2011 to 2014, it has been increasing since then. However, the results of the Centro Region in 2018 show progress compared to 2017.

Ecologically sustainable energy systems are essential for a sustainable future. Although everyone in Portugal has access to electricity, not everyone can use it as needed. In 2022, 14% of the resident population declared that they did not have the **economic capacity to keep their homes adequately warm**. However, this proportion has been decreasing significantly since 2018. Also, in the same year, 8% **benefited from a Social Tariff for Energy**. Short-term trends in these two sub-indicators show a significant reduction in energy poverty in the Centro Region.

4.3.8 SDG 8 – Decent Work and Economic Growth

Table 10. Trends of Centro Region in the indicators of SDG8

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
8.1 (economic growth)	Gross domestic product (B.1*g) at current prices	2021	More is an improvement			
8.5 (productive employment)	Activity rate of the working age population (%)	2022	More is an improvement			
8.5 (productive employment)	Unemployment rate (%)	2022	Less is an improvement			
8.3 (job creation)	Births of Enterprises (%)	2020	More is an improvement			
8.3 (job creation)	Survival rate of Enterprises borned 2 years before (%)	2021	More is an improvement			
8.5 (productive employment)	Long term unemployment rate (%)	2022	Less is an improvement			
8.5 (productive employment)	Compensation of employees (€)	2020	More is an improvement			
8.5 (productive employment)	Youth unemployment rate (%)	2022	Less is an improvement			
8.5 (productive employment)	Unemployment rate of older workers (%)	2022	Less is an improvement			
8.5 (productive employment)	Average monthly earnings (€)	2021	More is an improvement			
8.5 (productive employment)	At-risk-of-poverty rate (after social transfers) of employed population with 18 and more years old (%)	2021	4.85%			
8.6 (youth not in employment, education or training)	Rate of young people aged between 16 and 34 years old neither in employment nor in education and training (%)	2022	9%			
8.8 (labour rights)	Proportion of accidents at work (%)	2020	Less is an improvement			

Source: Author's own elaboration

There is a wealth of information available on the subnational economy and job market, much of which spans over a long period.

In the Centro Region, most of the trends have been moderate or significantly positive.

The COVID-19 pandemic had a substantial impact on the Portuguese and regional economy, but it was only temporary. In 2021 and 2022, most of the economic indicators in the Centro Region returned to their pre-pandemic levels. This was evidenced in the **unemployment rate**, the **long-term unemployment rate**, the **at-risk-of-poverty rate** among the employed population, and the number of **young people who are neither in employment nor in education or training (NEET).** The latter achieved the 2030 target in 2019 and maintained that status even in 2022.

Some indicators, such as the **activity rate of the working-age population** and **unemployment among older workers**, even continued to improve strongly in 2022.

The slowdown in economic activity due to the lockdowns likely led to a decrease in **work-related accidents**. However, in terms of fatal accidents, the number of cases in 2020 almost doubled compared to 2019 and 2018. It's important to note that even before the pandemic, the trend of occupational accidents was already improving.

One indicator that did not recover from the pandemic crisis is **youth unemployment**. Despite the Centro Region having the lowest youth unemployment rate in Portugal for several years, in 2022, it experienced the highest rate among the four NUTS2 regions with available data. However, considering the historical values of other regions, it is highly likely that the Madeira Region would have even more unfavourable results.

The **birth of new enterprises** has also experienced a decline. Although the pandemic exacerbated the situation in 2020, the indicator had already been slowly declining since 2013, following the peak of enterprise creation that occurred after the Portuguese financial crisis in 2010. While a high rate of new enterprise births may indicate a dynamic economic market and a population with entrepreneurial skills, it is essential to assess the survival rate of these enterprises to gauge the sustainability of the economy and the presence of a favourable business environment. The **survival rate of enterprises borned 2 years before** has shown positive progress in both the short and long terms, reaching nearly 59% in 2021, above the national average. This result is lower than the value recorded in 2015, which remains the highest rate observed for Centro Region.

Values related to the remuneration of the employed population were apparently not affected by the pandemic, as observed in the **average monthly earnings** and **compensation of employees**. However, this last indicator was greatly impacted during several years of the Portuguese financial crisis of 2010, as was the gross domestic product.

The data suggests that the Centro Region economy was able to adapt rapidly and was sufficiently resilient to withstand several lockdowns and severe restrictions. However, despite the positive results, the Centro Region still aims to strengthen its economy and revitalize low-density territories. The Regional Strategy of 2030 focuses on attracting talent, fostering innovation, supporting SMEs, and promoting cooperation.

4.3.9 SDG 9 – Industry, Innovation, and Infrastructure

Table 11. Trends of Centro Region in the indicators of SDG9

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
9.2 (sustainable industrialization)	Proportion of Gross Value Added of the industry sector in relation to the total of the region (%)	2022	More is an improvement	○	○	○
9.5 (promote innovation)	Gross expenditure on research and development (R&D - €)	2020	535660.5€	●	●	●
9.5 (promote innovation)	Persons employed at full-time equivalent (FTE) in research and development activities	2020	More is an improvement	●	●	●
9.5 (promote innovation)	Persons employed of high and medium-high technology manufacturing industries as a proportion of total personnel employed in manufacturing industry	2020	More is an improvement	●	●	●
9.5 (promote innovation)	Patent applications to the EPO	2021	More is an improvement	●	●	●
9.5 (promote innovation)	Enterprises in high and medium-high technology sectors	2021	More is an improvement	●	●	●

Source: Author's own elaboration

Innovation is a critical focus area for the Centro Region, and significant investments have been made to promote it. It is widely recognized that innovation is key to achieving a sustainable future. By developing and adopting new technologies and practices, we can minimize our environmental footprint, enhance resource efficiency, and build resilient and sustainable cities and communities. The Regional Strategy of 2030 highlights the importance of innovation by dedicating its first strategic line to "Strengthen and diversify innovation dynamics territorially.". The spirit of innovation is also present various other strategic lines as well. This demonstrates the Region's comprehensive commitment to harnessing the power of innovation to drive progress and address emerging challenges.

The indicators related to innovation in the Centro Region show a positive trend. For instance, the **Gross Expenditure on Research and Development** has been steadily increasing since 2013, as well as the **number of enterprises in the high and medium-high technology sectors**. As a result, there has been a rise in the number of **people employed in research and development activities**, and in **high and medium-high technology manufacturing industries**. Moreover, the weight of these industries is increasing compared to the total in the manufacturing sector.

Since 2013, the **industry sector** has been contributing to approximately 25% of **Gross Value Added**, and this value has remained relatively stable ever since.

This emphasizes the region's ability to sustain the industry sector's contribution to the economy, while still prioritizing innovation and sustainability as crucial elements for the future.

4.3.10 SDG 10 – Reduced Inequalities

Table 12. Trends of Centro Region in the indicators of SDG10

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5 years)	Trend since 2015	Long-term trend
10.4 (greater equality)	Gini coefficient of net monetary income per equivalent adult (%)	2021	Less is an improvement			
10.4 (greater equality)	Inequality of income distribution S80/S20	2021	Less is an improvement			

Source: Author's own elaboration

SDG 10 aims to address all kinds of inequalities, except for gender inequality, which has its own dedicated Sustainable Development Goal. However, the monitoring of SDG 10 in the Centro Region is limited to income inequalities, as information on other important themes such as disabilities and migration is lacking at the subnational level.

The COVID-19 pandemic has exacerbated economic and social inequalities around the world, including income inequalities[10]. Data on the **Gini coefficient** and **income distribution inequality** between the top 20% and bottom 20% of the population in the Centro Region suggests a similar effect during the pandemic years. Both indicators showed a slight improvement between 2017 and 2019, followed by a significant decline in 2020. In 2021, the most recent year reported, the numbers returned to values close to those of 2017.

However, it is important to note that since information at the regional level is only available since 2017, these trends must be analysed with caution. More comprehensive data over a longer period is needed to draw definitive conclusions about the state of income inequality in the Centro Region.

[10] Eurofound (2023), *Economic and social inequalities in Europe in the aftermath of the COVID-19 pandemic*, Publications Office of the European Union, Luxembourg.

4.3.11 SDG 11 – Sustainable Cities and Communities

Table 13. Trends of Centro Region in the indicators of SDG11

SDG Target	Indicator for Centro Region		Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
11.1 (access to housing)	Median of housing cost burden (%)		2022	Less is an improvement			
11.2 (access to transport systems)	Daily accessibility		2020	More is an improvement			
11.3 (sustainable urbanization)	Efficiency evaluation of the artificial land by inhabitant (%)		2018	More is an improvement			
11.6 (environmental impact)	PM2.5 emissions (kton)		2019	Less is an improvement			
11.6 (environmental impact)	Urban waste collected per inhabitant (kg/ inhab.)		2021	386.75			
11.2 (access to transport systems)	Victims of road accidents	Injured victims	2021	Less is an improvement			
		Dead victims	2021	100			
11.1 (access to housing)	Overcrowding rate (%)		2022	Less is an improvement			
11.6 (environmental impact)	Proportion of urban waste selective collected (%)		2020	More is an improvement			

Source: Author's own elaboration

Cities and local communities are complex systems that can be difficult to organize and change in an inclusive and sustainable way. As former UN Secretary-General Ban Ki-Moon said, "Our struggle for global sustainability will be won or lost in cities." This challenge is one of the eight strategic lines of the Regional Strategy of 2030 for the Centro Region, which aims to "valorise and densify the regional urban system according to a logic of competitiveness and internationalization of the region, as well as sustainability, rationalization, fixation, and concentration of energy and resources in the context of pronounced demographic decline."

While the Centro Region has made progress in social aspects, its environmental trends are more mixed. For example, as observed in SDG 1 regarding the good evolution of housing cost overburden, the **median housing cost burden** has been slowly decreasing in all urban and rural areas, making the Centro Region the second Portuguese region with the lowest value in 2022. However, the housing price has been increasing rapidly, and

Portugal has one of the highest average ages of young people leaving the parental household in Europe[11]. Although the younger generation stays in the parental household even after starting to work and contributing to the household revenue, this could be concealing a lack of access to housing for younger people or single people. This hypothesis is supported by the negative trend in **overcrowding rate** and the low proportion of single-person households in Portugal compared to the European Union average[12].

SDG 11 emphasizes the importance of inclusive access to public transport, but data regarding this is unavailable in the Centro Region.

The available information shows that victims of **road accidents** have been greatly decreasing in 2020 and 2021. However, this trend may not reflect better road conditions or better driver behaviour but rather the mobility restrictions during the pandemic years.

The impact of cities on the environment is another crucial point to monitor in SDG 11. The **growth of artificial areas** has exceeded the population growth rate recently, which could lead to excessive urban sprawl. However, it is encouraging to note that this effect has been less pronounced between 2015 and 2018 compared to the period from 2010 to 2015, indicating some progress in limiting excessive urbanization.

Additionally, while efforts have been made to improve **urban waste selectively collected**, there's still work to do. It is essential to prioritize waste prevention strategies to effectively reduce the **amount of urban waste collected per inhabitant,** which has been steadily increasing for nearly a decade.

Gas emissions are another significant source of pollution in cities. In particular, when it comes to **PM2.5 emissions**, there has been a slight increase observed between 2015 and 2019 in Centro Region, primarily attributed to industrial activities.

4.3.12 SDG 12 – Responsible Consumption and Production

Table 14. Trends of Centro Region in the indicators of SDG12

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
12.2 (management of natural resources)	Carbon footprint	2019	Less is an improvement			
12.4 (chemical management)	Hazardous Waste (t)	2020	Less is an improvement			
12.5 (waste management)	Proportion of municipal waste prepared for reuse and recycling (%)	2020	60%			

Source: Author's own elaboration

The circular economy is essential for achieving an environmentally sustainable economy. It is an economic system that seeks to eliminate waste by repairing, reusing, and recycling at every stage of production and consumption, with the aim of reducing the extraction and use of natural, finite resources. Achieving this requires efforts from every actor in the chain, from producers and extractors to consumers. However, monitoring this

[11] Eurostat (2023). *Estimated average age of young people leaving the parental household by sex- annual data* [Data set]. https://ec.europa.eu/eurostat/databrowser/view/yth_demo_030/default/table?lang=en

[12] Eurostat (2023). *Distribution of households by household size - EU-SILC survey* [Data set]. https://ec.europa.eu/eurostat/databrowser/view/ILC_LVPH03/default/table?lang=en&category=livcon.ilc.ilc_lv.ilc_lvph

change in paradigm is not easy, and the only available data for this SDG is based on the direct impact of some actors on the environment.

Limited data is available regarding the actual **carbon footprint**, which is estimated based on greenhouse gas emissions from various sectors such as transportation, industry, and households, excluding natural greenhouse emissions. In the Centro Region, there has been a modest decrease since 2015, although a notable increase was observed in 2017. with the highest greenhouse gas emissions per capita, following the Alentejo Region and the Autonomous Region of the Azores. However, it is noteworthy that the Centro Region, along with the Alentejo Region, are the only regions to show improvement in this indicator between 2015 and 2019. It is essential to recognize that this improvement in the Centro Region is not uniform, as all NUTSIII sub-regions, except one, have shown an increase in their carbon footprint. The overall decrease observed at NUTSII level is primarily attributed to a significant improvement in one of the two sub-regions with the highest emissions, which successfully reduced its emissions by half since 2015.

Regarding **chemical waste production**, we observe a certain degree of variability over the years, which explains the different types of trends observed depending on the initial year being compared. However, when we smooth the results using five-year or three-year rates, we can see a good decrease in the production of hazardous waste. Another interesting information to analyse is the proportion of this hazardous waste that is valorised instead of eliminated. The Centro Region valorises about 40% of its hazardous waste, compared to 52% for Portugal. However, in 2019, this proportion was about 53%, with only a 1% difference from the national average. Excluding the value of 2020, the evolution of this indicator has been positive since 2015.

The same is observed for the **proportion of municipal waste prepared for reuse and recycling**. While the Centro Region has shown great progress since 2012, approaching the national 2030 target of 60% in 2019, it decreased significantly in 2020. However, the value in 2020 is still higher than what was observed in 2012.

The worsening of this indicator may be linked to the COVID-19 pandemic, as an increase in single-use products, such as disposable masks and gloves, has been observed worldwide[13] due to hygiene concerns and fear of the illness.

[13] Ranjbari M., Esfandabadi Z.S., Gautam S., Ferraris A., Scagnelli S.D., Waste management beyond the COVID-19 pandemic: Bibliometric and text mining analyses, Gondwana Research, Volume 114, 2023. https://doi.org/10.1016/j.gr.2021.12.015

4.3.13 SDG 13 – Climate Action

Table 15. Trends of Centro Region in the indicators of SDG13

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5 years)	Trend since 2015	Long-term trend
13.2 (climate change measures into policy)	PM10 emissions (kton)	2019	Less is an improvement	○	○	●
13.2 (climate change measures into policy)	CO2 Emissions (kton)	2019	Less is an improvement	●	●	●
13.2 (climate change measures into policy)	Greenhouse Gas Emissions (t eqCO2)	2019	Less is an improvement	●	●	●
13.2 (climate change measures into policy)	Heating degree days	2022	More is an improvement	●	●	●
	Cooling degree days	2022	Less is an improvement	●	●	●

Source: Author's own elaboration

Climate change poses one of the most significant threats to humanity, the indicator **Cooling and heating degree days** demonstrates that global warming is occurring rapidly, even within a short span of time. According, to the World Meteorological Organization (WMO)[14], this trend is expected to continue, and it is highly likely that the annual average near-surface global temperature will surpass 1.5°C above pre-industrial levels for at least one year between 2023 and 2027. This threshold was the target countries aimed to avoid exceeding under the 2015 Paris Agreement.

While the situation is concerning, it is not too late to take action, particularly in terms of reducing greenhouse gas emissions. Although there is limited information on emissions at the subnational level, there has been a decrease in **CO2 and GHG Emissions**, between 2015 and 2019, following a significant increase in 2017. The surge in emissions in 2017 can largely be attributed to devastating forest fires that affected the Centro Region. However, the reduction in emissions in the subsequent years shows progress in addressing this issue.

On the other hand, the evolution of **PM10 emissions** is less favourable, with a slight increase observed. This increase is primarily driven by three sectors: industry, livestock-related agricultural activities, and the use of solvents and other products.

As expressed in SDG 2 and SDG 9, innovation plays a crucial role in the Centro Region's pursuit of more sustainable production, both in the industrial and agricultural sectors. The region has made substantial investments in innovation and considers it as one of the top priorities in its Vision for 2030.

[14] World Meteorological Organization (WMO), *WMO Global Annual to Decadal Climate Update*, 2023

4.3.14 SDG 14 – Life Below Water

Table 16. Trends of Centro Region in the indicators of SDG14

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5 years)	Trend since 2015	Long-term trend
14.1 (reduce marine pollution)	Transitional bathing water of good or excellent quality (%)	2022	More is an improvement	●	●	●
14.5 (coastal and marine areas)	Coastal bathing water of good or excellent quality (%)	2022	More is an improvement	○	○	○
14.5 (coastal and marine areas)	Protected coastal area as a percentage of total coastal area (%)	2022	More is an improvement	○	○	●
14.7 (blue economy)	Gross Value Added (GVA) of the marine economy (€)	2021	472713617 €	○	●	●
14.a (research in marine technology)	Research and Development (R&D) expenditure of the marine economy (€)	2019	More is an improvement	●	●	●

Source: Author's own elaboration

The Exclusive Economic Zone (EEZ) of Portugal is one of the largest in Europe, and all NUTSII regions have a coastal area that significantly contributes to their economies. Protecting the ocean is not only essential for preserving marine ecosystems but also for safeguarding the well-being of people and the economy.

In 2019, prior to the COVID-19 pandemic, the **Gross Added Value (GAV) of marine economy** in the Centro Region, as defined by the National Ocean Strategy 2021-2030, accounted for 2.3% of the total GAV. Although the pandemic has impacted this sector, its long-term trajectory remains positive.

To ensure sustainable ocean exploitation and address the historical challenges of ocean pollution and overfishing, research and development (R&D) play a crucial role. It is encouraging to observe a significant increase in R&D investment in the marine economy in the Centro Region since 2014.

In terms of water quality, the Centro Region excels in both transitional and coastal waters. In 2022, all transitional waters demonstrated good or excellent quality, while 97% of coastal waters met the same high standards.

However, a significant portion of the coastal area is affected by erosion[15]. Although the entire coast of the Centro Region falls under a Coastal Management Programs that provide guidelines for the valorization and management of coastal resources, only 5.4% of the **coastal area is currently protected**. Unfortunately, this

[15] APA, 2022, accessed 15 May 2023, https://rea.apambiente.pt/content/linha-de-costa-em-situa%C3%A7%C3%A3o-de-eros%C3%A3o

proportion has remained unchanged since 2007, indicating a need for further progress in coastal area conservation efforts.

4.3.15 SDG 15 - Life On Land

Table 17. Trends of Centro Region in the indicators of SDG15

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5 years)	Trend since 2015	Long-term trend
15.1 (restoration of ecosystems)	Forest area over total surface area (%)	2018	More is an improvement	●	●	●
15.1 (restoration of ecosystems)	Land Abandonment	2020	Less is an improvement	●	●	●
15.2 (forests management)	Mean burnt area (ha)	2021	Less is an improvement	●	●	●
15.5 (degradation of habitats)	Proportion of protected areas (%)	2021	30%	●	●	●
15.5 (degradation of habitats)	Estimated soil erosion	2016	Less is an improvement	●	●	●

Source: Author's own elaboration

The Centro Region has a rich biodiversity and natural habitat, with **forests covering 50% of its area**. There are several **natural parks and wildlife reserves**, which account for 7% of the region's total surface area and nearly 25% of Portugal's protected areas.

However, these natural wonders face annual challenges from intense forest fires that cause significant damage to the region's natural habitats. Mitigating these natural disasters and building resilience are crucial, especially as they may intensify due to climate change. Analyzing the trend of the **mean burn area** per forest fire indicates an improvement in the short, medium, and long term, although this progress has been uneven. It is important to note that the number of forest fires has significantly decreased since 2014 demonstrating significant efforts in prevention.

The forest holds great significance for the Centro Region, not only due to its economic importance but also its role in carbon sequestration. This value is highlighted in the Regional Strategy of 2030, which aims to:

— Positioning the Centro Region as a leader in the valorisation of forests as a specific regional asset with multiple purposes and understanding it as a balanced ecosystem involving producers, farmers, and citizens, transforming it into a vital resource perceived and recognized by all actors and territories within the region, ranging from forest management and planning models (enhancing forest observation conditions from space), as well as its economic and energy valorisation, and acknowledging its crucial role in carbon sequestration in service of a broader regional decarbonization strategy.

4.3.16 SDG 16 - Peace, Justice and Strong Institutions

Table 18. Trends of Centro Region in the indicators of SDG16

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5 years)	Trend since 2015	Long-term trend
16.1 (reduced violence)	Crime rate (‰)	2022	Less is an improvement			
16.5 (reduce corruption)	Corruption dimension of the Quality of Government Index	2021	More is an improvement			
16.5 (reduce corruption)	Number of crimes registered as corruption committed in the exercise of public functions	2022	Less is an improvement			
16.6 (effective institutions)	Abstention rate in the elections to local governments(%)	2021	Less is an improvement			
	Abstention rate in the elections to Parliament (%)	2022	Less is an improvement			
	Abstention rate in the elections to Presidency of Republic (%)	2021	Less is an improvement			
	Abstention rate in the elections to European Parliament (%)	2019	Less is an improvement			
16.6 (effective institutions)	Quality of Government Index	2021	More is an improvement			

Source: Author's own elaboration

Since the Centro Region does not have its own regional government, the monitoring of this SDG progress encompasses the overall quality of public services.

According to a study conducted by the University of Gothenburg, the resident population of the Centro Region has consistently **perceived the quality of public services** slightly better than the EU average since 2017.

This represents an improvement compared to the results of the first edition of the study in 2010. Among the three dimensions evaluated, corruption is the aspect that receives the most negative perception, surpassing the EU average. The evaluation of **corruption perception** has shown some progress in 2013 and 2017, but it returned in 2021 to almost the same level as in 2010. When examining actual **cases of corruption crimes committed in the exercise of public functions**, 2021 had the highest number among the years analyzed in the University of Gothenburg study. However, when smoothing out these raw numbers by calculating a 3-year average, a clear decreasing trend in these types of crimes can be observed.

Some studies suggest that corruption has an impact on voter turnout as it influences trust in institutions and respect for the voting process.[16]. In Portugal, all citizens above 18 years old are registered as voters. Analyzing voting turnout at different levels (local, national, and European) in the Centro Region, a negative trend can be observed, particularly compared to the beginning of the century. In the Centro Region, the **abstention rate in the elections** for the European Parliament was approximately 66%, while the elections for local government have shown a stagnant proportion of about 44% since 2017. The election for the Presidency of the Republic also experiences a high abstention rate, which has been increasing significantly in the short term, with a 57% abstention rate in 2021. However, a portion of this abstention can be attributed to the fact that this election took place in January 2021 when COVID-19 cases were high, and the country was under lockdown conditions.

On the contrary, in the elections for the National Parliament, the abstention rate is as low as in the elections for local government, and voter turnout improved between 2019 and 2022.

In addition to strong institutions, SDG 16 also encompasses justice and security. In this regard, while the **crime rate** in 2021 has significantly decreased since 2011, the proportion in 2022 has returned to a level close to that of 2015. It is important to note that the Centro Region has consistently been among the three NUTSII regions with the lowest crime rates since 2011, along with the Norte Region and the Madeira Autonomous Region.

4.3.17 SDG 17 – Partnerships for the Goals

Table 19. Trends of Centro Region in the indicators of SDG17

SDG Target	Indicator for Centro Region	Last available year	Normative direction/ 2030 target	Short-term trend (5years)	Trend since 2015	Long-term trend
17.6 (regional and international cooperation)	PCT co-patent applications that are done with foreign regions	2015	More is an improvement			
17.8 (enabling technology)	Individuals who used the internet for interaction with public authorities (%)	2021	More is an improvement			
17.12 (imports from least developed countries)	Imports from developing countries	2022	More is an improvement			

[16] Fernando Feitosa, *Theoretically, yes, but also empirically? How the corruption-turnout link is marginally explained by civic duty to vote*, Electoral Studies, Volume 66, 2020, 102162, ISSN 0261-3794, https://doi.org/10.1016/j.electstud.2020.102162

Source: Author's own elaboration

Monitoring SDG 17 - Partnerships for the Goals in the Centro Region presents challenges due to the absence of a regional government. However, international cooperation holds significant importance for the region as evident from its Regional Strategy of 2030, where the eighth strategic priority focuses on "Promoting the best conditions for internationalization and international cooperation".

The **application of co-patents with foreign regions** has exhibited considerable variability over the years. Nonetheless, a clear progression can be observed from the beginning of the century to the values observed in the first half of the last decade. It is important to note that the available data for this indicator extends only until 2015, limiting our ability to observe the more recent trend in the region.

Nevertheless, the commitment of the Centro Region towards this question is clearly demonstrated by the first line of intervention in the strategic priority mentioned above:

— Expand the scope of related variety and technology transfer in the Centro RIS3, extending collaborative practices to international partnerships, both in knowledge production and technology development, as well as in the economic and social capitalization/valorisation of knowledge and technology-generating projects.

Moreover, as demonstrated in SDG 4, Portugal and the Centro Region are actively promoting the digital transition across all sectors of society, including public services. Therefore, it is crucial that all citizens have both accessibility and the ability to use new technologies. In the Centro Region, although there has been a significant increase in the proportion of the resident population **using the internet to interact with public authorities** over the past decade, in 2021, only half of the population engaged in such online interactions.

5. CHALLENGES

While nearly 90% of the proposed indicators of the JRC set have been adapted to the Centro Region, it is important to acknowledge the challenges encountered during the implementation process. These challenges must be effectively addressed to ensure the long-term sustainability of the monitoring tool and to enhance its applicability in various regions across Europe.

Verticality of the data sources

The verticality of data sources in Portugal is influenced by the centralized governance structure, where the majority of competencies are concentrated at the national level, resulting in limited power and autonomy for regional entities. With the exception of the islands, which possess regional government and autonomy, no regional entities have been identified as data providers. Consequently, when the data source is non-European, it typically originates from the national level. This situation presents two significant challenges:

— Lack of data: The availability, production, and quality of regional data are entirely dependent on national entities. This dependency can lead to gaps in data coverage, impeding a comprehensive understanding of the region and its dynamics. Moreover, it appears that until recently, if the data was not deemed relevant at the municipal level, it was less likely to be provided or collected at the regional level. This situation is reflected in the monitoring set for the Centro Region, where approximately 25% of the indicators available exclusively at the NUTS II level from national public databases only present information from the past five years. When examining indicators with data disaggregated below the NUTS II Regions, only one indicator was found to be in a similar situation.

— Lack of specific data adapted to the priorities and characteristics of the region: The absence of dedicated regional data sources contributes to a lack of information that specifically addresses the priorities and unique characteristics of the region. This limitation makes it challenging to effectively monitor the impact of regional strategies and activities and tailor interventions accordingly.

However, this centralized model can be advantageous in implementing the framework designed for the Centro Region in other continental regions of Portugal. The uniformity in data sourcing facilitates the applicability and comparability of the framework, promoting a standardized approach to regional analysis and development throughout the country. This centralized approach ensures consistent evaluation and enables the identification of common patterns and best practices that can be shared and implemented across regions.

Experimental indicators

Among the 15 experimental indicators that were retained in the application of the JRC set in the Centro Region, seven of them originate from the original sources proposed by JRC. However, all seven of these sources were found to have unsatisfactory quality or sustainability. These assessments were based on factors such as insufficient data frequency, outdated information represented by the latest available year, or a limited number of data entries.

Despite these shortcomings, these sources were still adopted due to the complexity of replicating their methodology with regional data or the absence of regional or national data sources that could provide similar information. The Centro Region recognized the importance of including these indicators, even with their limitations, as they monitor relevant areas and offer unique insights that cannot be easily replaced by alternative data sources.

These indicators are:

- Female achievement/disadvantage index
- Daily accessibility

- Estimated soil erosion
- Land Abandonment
- Quality of Government Index
- Extract from QGI an indicator on corruption
- PCT co-patent applications that are done with foreign regions

Additionally, two experimental indicators were created for the Centro Region due to the significance of the areas they monitor. However, caution must be exercised in interpreting these indicators due to limitations in their methodology:

— **Women victims of homicide in the context of a current/past intimate relationship**: The Commission for Citizenship and Gender Equality provides this information at the national level but did not respond to the request for information regarding the Centro Region. Additionally, the Directorate-General for Justice Policy (DGPJ), which provides data about crimes at the local level, does not specifically differentiate homicides in the context of a current/past intimate relationship. Therefore, data was collected from the reports of the Observatory of Homicide Crimes of the Portuguese Association for Victim Support (APAV). However, the methodology used by the Observatory relies on national newspapers (print and/or online), national and local television and radio stations, and other considered sources. Therefore, we classify this information as low quality. It is recommended for the Region to engage with the Commission for Citizenship and Gender Equality (CIG) to obtain higher quality data for this indicator.

— **Patent applications to the EPO by priority year**: The proposed source from Eurostat by JRC does not provide data after 2012. This outdated information was excluded, and a proxy was calculated using the online research tool of the European Patent Office. However, the information regarding inventors and applicants in the research tool is limited. Consequently, eight universities and research institutions located in the Centro Region have been identified as applicants and used as a criterion to calculate this indicator. Therefore, the collected data may be incomplete as it does not consider and differentiate inventors who may reside or work in the region or branches of research centres located in the Centro Region while their head offices are in other regions. To maintain the methodology relatively straightforward and facilitate the indicator's maintenance for the Region, potential co-patents have not been divided

Environmental indicators

There is still a great difficulty in finding environmental information at regional level. Most of official entities responsible in managing and monitoring natural resources do not always divided the information collected by territorial division and rarely summarize the information by statistical division (Municipalities, NUTSIII or NUTSII). Therefore 8 of the 22 indicators with available data of SDG 6, 12, 13, 14 and 15 had to be calculated by aggregating data from the municipal level or even element level. In the case of Protected coastal area as a percentage of total coastal area, the indicator even needed to be estimated using a geographical information system tool. As a result, it may be difficult for the region to easily actualise these indicators in long-term.

The environmental indicators also suffer from poor data frequency and unsatisfactory quality due to the difficulty of collecting this kind of information, which may hinder the quality of the monitoring of the SDGs associated to "Planet".

Indicators used in European Strategies

Integrating indicators used to monitor the European Strategies into the regional monitoring set is a good practice as it promotes alignment across different levels of governance. Moreover, it is highly probable that these indicators are collected in most European countries, often with geographical disaggregation. However, it is important to consider the most recent version of this indicator as they are actualised at European level. Some of the data sources proposed by JRC included indicators used to monitor European Strategies for 2020. However, with the update of these Strategies for 2030 and the establishment of new targets that better reflect the current reality, slight modifications have been made to the methodology of certain indicators. Consequently, the previous version of these indicators is no longer calculated by official entities.

Contact with other entities

The collaboration with Statistics Portugal (INE) went extremely well, allowing to clarify various doubts regarding national indicators and receive recommendations on data sources for other indicators. However, when contacting five entities for data collection for seven indicators, several difficulties were encountered.

Firstly, one entity did not respond at all, while a second entity indicated that they did not have the capacity to provide aggregated information. Among the three other entities that responded and provided data, only one was able to provide processed information. The other entities sent raw and unaggregated data or redirected us to a digital platform with raw data that was difficult to extract. Additionally, there was a significant delay in their responses and data submissions, requiring multiple requests to obtain a response.

These challenges may indicate that these institutions do not always have the data organized and prepared to be shared with other entities, and that there is a lack of directives or consensus on data collection and storage. The difficulties faced in obtaining data and the lack of standardized data may pose additional challenges for the region in sustaining these indicators over time.

Overall quality of data

Globally there is a pressing need to address the overall quality of data available for analysis. Currently, there is a lack of long-term consistent data, which is crucial for accurately analysing trends and assessing the impact of national, regional, or local strategies. This limitation hinders the ability to make informed decisions based on reliable data.

The frequency and the timeliness of reported data also pose mild concerns. Almost 25% of the indicators in the monitoring set for the Centro Region are not annually updated, and approximately 35% of the most recent reported data is from 2020 or earlier. This lack of up-to-date information restricts the ability to capture current conditions and developments accurately.

Additionally, there is a significant lack of reliable data specifically focused on social groups and minorities. This data gap poses a considerable challenge as it impedes inclusive analysis and hinders the identification of vulnerable groups within society. Without comprehensive data on these populations, it becomes difficult to develop targeted subnational strategies that can effectively address their unique needs and challenges.

6. RECOMMENDATIONS

The analyse of the JRC proposed indicator set and the challenges encountered while implementing it in Centro Region led to design some recommendations that may help in the process of the establishing a regional monitoring set for the 2030 Agenda, but also good practices that may improve the quality of the monitoring framework of the SDGs for Centro Region.

Regarding the development of a regional indicator set for European Regions

- To ensure the accurate interpretation of data, it is crucial to utilize rates and ratios as indicators when developing a regional indicator set for European regions. Rates and ratios provide deeper insights than raw numbers alone because they consider additional factors that can directly influence the data, such as population variations. By taking these factors into account, rates and ratios enable a more comprehensive understanding of trends over time. Furthermore, they facilitate the comparison of progress across different groups and locations. This comparative analysis is vital for assessing the relative performance of the regions and identifying areas or population groups that require attention or further analysis.
- Another critical aspect of indicator development is establishing clear and coherent definitions for the concepts used in the indicators, along with a transparent methodology for calculating the indicators. This clarity ensures consistency in data collection and reporting within the region on the long-term and enables comparability across different regions.
- In addition, when selecting indicators, it is essential to prioritize those with a broader scope rather than circumstantial ones. Circumstantial indicators, such as those monitoring COVID-19 deaths, are highly specific to certain events or phenomena, therefore, limited in their ability to capture the overall progress and performance of a region. Instead, sustainable indicators should be chosen, allowing for the incorporation of local and global events concerning the theme they monitor. This approach ensures that the monitoring set can adapt to changing circumstances and remain relevant over time, eliminating the need for frequent replacement of indicators
- Furthermore, incorporating indicators that align with other monitoring frameworks, such as those used to track European Strategies, significantly increases the probability of regions having access to the necessary data. Many countries and regions strive to align their goals and targets with European objectives, making it more likely that they already collect relevant data. By incorporating indicators that serve the monitoring of European Strategies, the indicator set becomes more compatible with existing data collection efforts and enhances the likelihood of comprehensive data availability for a larger number of regions.

Regarding the implementation of an SDG monitoring framework in Centro Region

- Firstly, it is crucial to identify and include indicators that reflect the impact of activities implemented at the regional level. These impact indicators will provide valuable insights into the effectiveness and adequacy of regional initiatives for sustainable development. By incorporating these indicators, the Centro Region can assess the outcomes and progress achieved through its strategies and initiatives, enabling evidence-based decision-making and adjustments to the plans and vision.
- In addition, select indicators aligned with other levels of governance is essential. This alignment allows for a comprehensive understanding of how the implementation of local or national policies may influence the regional reality. By selecting indicators that align with broader policy frameworks, the Centro Region can engage in meaningful exchanges and discussions with other levels of governance. This collaborative approach promotes a better understanding of the region's specificities within the context of larger policy agendas and facilitates collective efforts towards harmonious sustainable development.
- Establishing cooperation with official national entities is another crucial recommendation. By collaborating with statistical agencies and other government bodies, the Centro Region can improve the availability and quality of data. This collaboration can involve refining data collection methods, ensuring data accuracy, and addressing any existing data gaps. The involvement of non-governmental organizations and other

stakeholders can also contribute to data collection efforts, providing additional perspectives and enhancing the comprehensiveness of the monitoring framework.

— Furthermore, fostering collaboration with other regions interested in monitoring the SDGs at the regional level is highly beneficial. By actively seeking cooperation, the Centro Region can create platforms for sharing experiences, ideas, and good practices. This collaboration enables regions to learn from one another, identifying successful strategies and approaches while collectively addressing challenges.

Recommendations for other stakeholders

— To promote transparency, empower civil society, and facilitate informed decision-making at all levels of governance, it is crucial for all stakeholders to publicly publish the disaggregated data they collect in their activities. This approach ensures that decision-makers have access to concrete, comprehensive, and high-quality data, enabling them to design policies based on accurate information. Embracing a monitoring and data-sharing culture will foster collaboration among various actors, including government agencies, civil society organizations, researchers, and the public. This transparency raises a sense of ownership and participation, as citizens and organizations can engage in evidence-based discussions and hold decision-makers accountable.

— Regarding entities responsible for environmental management and monitoring, it is essential to ensure that data related to natural resources and environmental impacts is reported according to statistical or political divisions of territories. While natural resources themselves are not geographically limited by these divisions, reporting data in this manner allows for a more effective analysis and understanding of the specific challenges and opportunities within each territory. By reporting data at the regional or local level, decision-makers gain a clearer understanding of the unique environmental factors and issues within their jurisdiction, enabling them to improve their strategies and plans for better protecting the environment. Additionally, reporting data by divisions promotes cooperation among different entities responsible for managing these territories. This approach fosters coordination between local, regional, national, and even international authorities, facilitating a coherent and integrated approach to natural resource management and the mitigation of natural disasters.

Lastly, but certainly not least, in the process of monitoring the SDGs at all levels and across all sectors, it is crucial to collect, provide and use more disaggregated data. Disaggregated data refers to data that is broken down into smaller categories, such as gender, age, income, and geographic location, among others. This level of granularity is essential for obtaining a comprehensive understanding of progress towards the SDGs, as it allows for a more nuanced analysis of the distribution of progress and the identification of disparities and inequalities. Disaggregated data helps highlight specific challenges faced by different population groups, such as women, children, marginalized communities, or rural areas. By understanding these disparities, decision-makers can design targeted interventions and policies to ensure that no one is left behind in the pursuit of sustainable development.

7. CONCLUSIONS

The impact of the COVID-19 pandemic and the Ukrainian war may create the perception that we are moving further away from achieving the 17 Sustainable Development Goals by 2030. However, even in the face of these challenging circumstances, we have witnessed remarkable resilience and adaptation at all levels of society. International, national, and subnational institutions remain determined in their commitment to the 2030 Agenda, using these distressing events as opportunities to identify structural vulnerabilities and embark on a transformative path of building back better.

In line with this context, the European Commission's Joint Research Centre (JRC) has launched the REGIONS2030 initiative, building upon its previous efforts in creating monitoring tools for subnational contexts in the European Union. in developing monitoring tools for subnational contexts within the European Union. The primary objective of this pilot project is to support NUTSII Regions in enhancing their awareness of the SDGs and improving regional monitoring practices for the 2030 Agenda.

The preliminary set of indicators established by the JRC to monitor the SDGs at the regional level has been deemed highly relevant and implementable for the Centro Region, one of the ten European regions participating in this pilot project. However, the region has encountered various challenges that could affect the long-term sustainability of some of these indicators. It is crucial to prioritize the availability of sustainable and disaggregated data while ensuring that indicators are clearly defined with accessible methodologies, enabling better replication and adaptation within the regional context.

Additionally, more than thirty additional indicators have been incorporated to capture new themes and complement existing indicators. The relevance of these indicators for other regions and their potential inclusion in the final SDG monitoring set for European regions requires further analysis. Ultimately, the Centro Region's set of indicators comprises a total of 109 indicators, with data collected for 100 of them.

This comprehensive set has also enabled a preliminary analysis of statistical trends for 92 indicators. The analysis reveals that, at the midway point of the 2030 Agenda, the Centro Region has made significant progress in approximately 50% of the indicators. However, this progress is not uniformly distributed across the traditional three pillars of sustainability represented by the P's: People, Planet, and Prosperity. Therefore, there is an urgent need to intensify efforts and accelerate the implementation of the SDGs, with particular attention given to areas displaying negative trends. Several social and economic indicators have shown the direct impact of the COVID-19 pandemic and subsequent lockdowns. Nevertheless, these indicators have also demonstrated the resilience of society, with results indicating a return to or even improvement in 2022 compared to the pre-pandemic values.

In the end, establishing cooperation among regions and engaging with regional stakeholders emerges as the principal recommendation for overcoming the various challenges encountered during the implementation of the monitoring set. This collaborative approach is crucial not only for addressing the specific regional challenges highlighted by the Centro Region's monitoring set but also for fostering a more comprehensive understanding of regional development dynamics across Europe. By working together, we can collectively strive towards achieving the 2030 Agenda and creating a more sustainable future for all.

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LIST OF ABBREVIATIONS AND DEFINITIONS

ANEPC	National Civil Protection Authority
APA	Portuguese Environment Agency
APAV	Portuguese Association for Victim Support
CAE	Portuguese Classification of Economic Activities
CCDR	Regional Coordination and Development Commission
CIG	Commission for Citizenship and Gender Equality
CO2	Carbon dioxide
DGEEC	Directorate-General for Statistics of Education and Science
DGEG	Directorate-General for Energy and Geology
DGMP	Directorate-General for Maritime Policy
DGPJ	Directorate-General for Justice Policy
EEA	European Environment Agency
EEZ	Exclusive Economic Zone
ENEC	National Energy and Climate Plan
ENPC	National Strategy to Combat Poverty
EPO	European Patent Office
ERSAR	Water and Waste Services Regulatory Authority
EU	European Union
FTE	Full-time equivalent
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GVA	Gross Value Added
HIV	Human Immunodeficiency Virus
ICNF	Institute for Nature Conservation and Forests
INE	Statistics Portugal
IRN	Institute of Registries and Notary
JRC	Joint Research Centre
MAI	Ministry of Internal Administration
MAR 2030	National Ocean Strategy 2021-2030
MTSSS/GEP	Office for Strategy and Planning of the Ministry of Labour, Solidarity and Social Protection
NACE	Statistical classification of economic activities in the European Community
NEET	Young people who are neither in employment nor in education or training
NUTS	Nomenclature of territorial units for statistics
OECD	Organisation for Economic Co-operation and Development
PCT	Patent Cooperation Treaty

PERSU 2030	Strategic Plan for Solid Urban Waste 2030
PM10	Particulate matter 10 micrometres or less in diameter
PM2.5	Particulate matter 2.5 micrometres or less in diameter
PNR 2022	National Reform Programme 2022
PT	Portugal
QGI	Quality of Government Index
R&D	Research and Development
SDG	Sustainable Development Goal
SNIRH	National Water Resources Information System
SNS	National Health Service
UN	United Nations
WMO	World Meteorological Organization

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ANNEX 1 – FINAL SDG INDICATOR SET FOR THE CENTRO REGION

SDG	SDG Target(s)	Alignment	Indicator Specific Name	Type	Last available year	Data Source
1	1.1 (extreme poverty)	JRC indicator	Material and social deprivation rate (%)	Official	2021	Statistics Portugal
1	1.1 (extreme poverty)	Additional indicator	Severe material and social deprivation rate (%)	Official	2022	Statistics Portugal
1	1.2 (reduce poverty)	JRC indicator	Proportion of resident population with less than 65 years of age living in households with very low work intensity per capita (%)	Official	2021	Statistics Portugal
	1.2 (reduce poverty)	JRC indicator	Proportion of resident population at-risk-of poverty or social exclusion (%)	Official	2022	Statistics Portugal
	1.4 (access to basic services)	Additional indicator	Housing cost overburden rate (%)	Official	2022	Statistics Portugal
1	1.5 (exposure to vulnerability)	JRC indicator	Number of deaths and directly affected persons attributed to disasters per 100,000 population	Official	2021	ANEPC
2	2.2 (end malnutrition)	JRC indicator	Proportion of resident population with 18 and more years old with overweight or obesity (%)	Official	2019	Statistics Portugal
2	2.3 (agricultural productivity)	JRC indicator	Productivity in agriculture, forestry and fisheries (€/per capita)	Official	2021	Statistics Portugal
2	2.4 (sustainable food production)	JRC indicator	Proportion of agricultural area with organic farming (%)	Official	2019	Statistics Portugal
2	2.c (stable food market)	Additional indicator	Indicator of food price anomalies	-	-	-
3	3.2 (preventable death of newborns)	JRC indicator	Infant mortality (‰)	Official	2021	Statistics Portugal

3	3.3 (epidemics and diseases)	Additional indicator	Death rate due to communicable diseases	Experimental	2021	Statistics Portugal
3	3.4 (non-communicable diseases)	Additional indicator	Mortality rate due to intentional self-harm (suicide) per 100 000 inhabitants	Official	2020	Statistics Portugal
3	3.5 (substance abuse)	Additional indicator	Prevalence of daily alcohol consumption among population aged 15 years and older (%)	Official	2019	Statistics Portugal
3	3.5 (substance abuse)	Additional indicator	Prevalence of daily smokers among population aged 15 years and older (%)	Official	2019	Statistics Portugal
3	3.8 (universal health coverage)	JRC indicator	Beds of hospitals	Official	2021	Statistics Portugal
3	3.c (health financing and recruitment)	JRC indicator	Self reported unmet needs for medical examination	-	-	-
3	3.c (health financing and recruitment)	JRC indicator	Medical doctors per 1000 inhabitants	Official	2021	Statistics Portugal
3	3.c (health financing and recruitment)	Additional indicator	Nurses per 1000 inhabitants	Official	2021	Statistics Portugal
3	3.c (health financing and recruitment)	Additional indicator	Pharmacy professionals per 1000 inhabitants	Official	2021	Statistics Portugal
3	3.c (health financing and recruitment)	Additional indicator	Dentist medical doctors per 1000 inhabitants	Official	2021	Statistics Portugal
4	4.1 (primary and secondary education)	JRC indicator	Participation rates for pre-primary to tertiary education (%)	Official	2021	Eurostat
4	4.2 (access to early childhood education)	JRC indicator	Students enrolled in pre-primary education (%)	Official	2020/2021	Directorate-General for Education and Science Statistics
4	4.3 (vocational and tertiary education)	JRC indicator	Students enrolled in tertiary education	Official	2021/2022	Directorate-General for Statistics of Education and Science

4	4.3 (vocational and tertiary education)	JRC indicator	Participation in education	Official	2020	Eurostat
4	4.3 (vocational and tertiary education)	JRC indicator	Distribution of pupils and students enrolled in general and vocational programmes in lower and upper secondary education	Official	2020	Eurostat
4	4.3 (vocational and tertiary education)	Additional indicator	Lifelong learning (%)	Official	2022	Statistics Portugal
4	4.4 (vocational and technical skills)	Additional indicator	Proportion of persons aged between 16 and 74 years old with digital skills at basic or above basic level (%)	Official	2021	Statistics Portugal
4	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	JRC indicator	Proportion of women aged between 25 and 34 years old with at least higher education completed (%)	Official	2021	Statistics Portugal
4	4.6 (youth and adult literacy)	JRC indicator	Early leavers from education and training rate (%)	Official	2021	Statistics Portugal
5	5.1 (gender discrimination)	JRC indicator	Female achievement/disadvantage index	Experimental	2021	European Commission
5	5.1 (gender discrimination)	Additional indicator	Disparity in the average monthly earnings between Male and Female employees (%)	Official	2021	MTSSS/GEP
5	5.2 (gender violence)	JRC indicator	Women victims of homicide in the context of a current/past intimate relationship	Experimental	2021	APAV-Observatory of Homicide Crimes
5	5.2 (gender violence)	JRC indicator	Proportion of women victims in crimes registered as Domestic violence by the partner or similar (%)	Experimental	2022	Directorate-General for Justice Policy
5	5.4 (unpaid work)	JRC indicator	Inactive women population rate due to caregiving responsibilities (%)	Official	2022	Statistics Portugal

5	5.4 (unpaid work)	JRC indicator	Gender gap in part-time employment incidence (%)	Official	2022	Statistics Portugal
5	5.5 (women participation and leadership)	JRC indicator	Proportion of female in research and development personnel (%)	Official	2020	Directorate-General for Education and Science Statistics
5	5.5 (women participation and leadership)	JRC indicator	Elected women in local government	Official	2021	Ministry of Internal Administration
5	5.5 (women participation and leadership)	Additional indicator	Gender gap in managerial positions (%)	Official	2021	Statistics Portugal
6	6.1 (universal access to water)	JRC indicator	Proportion of dwellings served by water supply (%)	Official	2020	Statistics Portugal/ERSAR
6	6.1 (universal access to water)	Additional indicator	Safe water (%)	Official	2021	Services Regulatory Authority for Water and Waste
6	6.3 (water quality)	JRC indicator	Proportion of surface water bodies with lower quality (%)	Official	2021	Portuguese Environment Agency
6	6.3 (water quality)	JRC indicator	Proportion of groundwater bodies with lower quality (%)	Official	2021	Portuguese Environment Agency
6	6.3 (water quality)	JRC indicator	Proportion of dwellings served by wastewater treatment (%)	Official	2020	Statistics Portugal/ERSAR
7	7.1 (access to energy)	JRC indicator	Proportion of resident population living in households without economic capacity to keep the home adequately warm (%)	Experimental	2022	Statistics Portugal
7			Percentage of beneficiaries of the Social Tariff for Energy compared to the resident population (%)		2022	Directorate-General for Energy and Geology
7	7.2 (share of renewable energy)	JRC indicator	Share of clean energy in energy production (%)	Experimental	2021	Directorate-General for Energy and Geology

7	7.2 (share of renewable energy)	JRC indicator	Share of renewable energy in electricity production (%)	Official	2021	Directorate-General for Energy and Geology
7	7.3 (energy efficiency)	JRC indicator	Energy intensity of the economy in final energy (toe/ €)	Official	2018	Directorate-General for Energy and Geology
8	8.1 (economic growth)	JRC indicator	Gross domestic product (B.1*g) at current prices	Official	2021	Statistics Portugal
8	8.3 (job creation)	JRC indicator	Births of Enterprises (%)	Experimental	2021	Statistics Portugal
8	8.3 (job creation)	Additional indicator	Survival rate of Enterprises borned 2 years before (%)	Official	2021	Statistics Portugal
8	8.5 (productive employment)	JRC indicator	Activity rate of the working age population (%)	Official	2022	Statistics Portugal
8	8.5 (productive employment)	JRC indicator	Unemployment rate (%)	Official	2022	Statistics Portugal
8	8.5 (productive employment)	JRC indicator	Long term unemployment rate (%)	Official	2021	Eurostat
8	8.5 (productive employment)	JRC indicator	Compensation of employees €	Official	2020	Eurostat
8	8.5 (productive employment)	Additional indicator	Youth unemployment rate (%)	Official	2022	Statistics Portugal
8	8.5 (productive employment)	Additional indicator	Unemployment rate of older workers (%)	Official	2022	Statistics Portugal
8	8.5 (productive employment)	Additional indicator	Average monthly earnings (€)	Official	2020	MTSSS/GEP
8	8.5 (productive employment)	Additional indicator	At-risk-of-poverty rate (after social transfers) of employed population with 18 and more years old (%)	Official	2021	Statistics Portugal
8	8.6 (youth not in employment, education or training)	JRC indicator	Rate of young people aged between 16 and 34 years old neither in employment nor in education and training (%)	Official	2021	Statistics Portugal
8	8.8 (labour rights)	JRC indicator	Proportion of accidents at work (%)	Official	2020	Office for Strategy and Planning in the

						Ministry of Labour
9	9.2 (sustainable industrialization)	JRC indicator	Proportion of Gross Value Added of the industry sector in relation to the total of the region (%)	Official	2020	Statistics Portugal
9	9.5 (promote innovation)	JRC indicator	Gross expenditure on research and development (R&D - €)	Official	2020	Eurostat
9	9.5 (promote innovation)	JRC indicator	Persons employed at full-time equivalent (FTE) in research and development activities	Official	2020	Eurostat
9	9.5 (promote innovation)	JRC indicator	Persons employed of high and medium-high technology manufacturing industries as a proportion of total personnel employed in manufacturing industry	Official	2021	Statistics Portugal
9	9.5 (promote innovation)	JRC indicator	Patent applications to the EPO by priority year	Experimental	2021	European Patent Office (EPO)
9	9.5 (promote innovation)	Additional indicator	Enterprises in high and medium-high technology sectors	Official	2021	Statistics Portugal
10	10.2 (inclusion irrespective of status)	JRC indicator	Unemployment of people with disabilities	-	-	-
10	10.4 (greater equality)	JRC indicator	Gini coefficient of net monetary income per equivalent adult (%)	Official	2021	Statistics Portugal
10	10.4 (greater equality)	Additional indicator	Inequality of income distribution S80/S20	Official	2021	Statistics Portugal
11	11.1 (access to housing)	JRC indicator	Median of housing cost burden (%)	Official	2021	Statistics Portugal
11	11.1 (access to housing)	Additional indicator	Overcrowding rate (%)	Official	2022	Statistics Portugal
11	11.2 (access to transport systems)	JRC indicator	Transport performance	-	-	-

11	11.2 (access to transport systems)	JRC indicator	Daily accessibility	Experimental	2020	European Commission
11	11.2 (access to transport systems)	JRC indicator	Stock of vehicles (passenger cars)	-	-	-
11	11.2 (access to transport systems)	JRC indicator	Victims of road accidents	Official	2020	Eurostat
11	11.3 (sustainable urbanization)	JRC indicator	Efficiency evaluation of the artificial land by inhabitant (%)	Official	2018	INE
11	11.6 (environmental impact)	JRC indicator	PM2.5 emissions (kton)	Official	2019	Portuguese Environment Agency
11	11.6 (environmental impact)	JRC indicator	Urban waste collected per inhabitant (kg/ inhab.)	Official	2020	Statistics Portugal
11	11.6 (environmental impact)	Additional indicator	Proportion of urban waste selective collected (%)	Official	2020	Statistics Portugal
12	12.2 (management of natural resources)	JRC indicator	Carbon footprint	Experimental	2019	Portuguese Environment Agency
12	12.3 (reduce food waste)	JRC indicator	Food waste	-	-	-
12	12.4 (chemical management)	JRC indicator	Hazardous Waste (t)	Official	2020	EEA
12	12.5 (waste management)	Additional indicator	Proportion of municipal waste prepared for reuse and recycling (%)	Official	2020	Statistics Portugal
12	12.7 (sustainable public procurement)	Additional indicator	Proportion of procurement contracts for goods and services by public administration entities that adopt environmental criteria (%)	-	-	-
13	13.2 (climate change measures into policy)	JRC indicator	PM10 Emissions (t)	Official	2019	Portuguese Environment Agency

13	13.2 (climate change measures into policy)	JRC indicator	CO2 Emissions (t)	Official	2019	Portuguese Environment Agency
13	13.2 (climate change measures into policy)	JRC indicator	Greenhouse Gas Emissions (t eqCO2)	Official	2019	Portuguese Environment Agency
13	13.2 (climate change measures into policy)	JRC indicator	Cooling and heating degree days	Official	2021	Eurostat
14	14.1 (reduce marine pollution)	JRC indicator	Transitional bathing water of good or excellent quality (%)	Official	2022	APA - SNIRH
14	14.4 (sustainable fishing)	Additional indicator	Sustainable fishery	-	-	-
14	14.5 (coastal and marine areas)	JRC indicator	Protected coastal area as a percentage of total coastal area (%)	Experimental	2022	Institute for Nature Conservation and Forests
14	14.5 (coastal and marine areas)	JRC indicator	Coastal bathing water of good or excellent quality (%)	Official	2022	APA - SNIRH
14	14.7 (blue economy)	Additional indicator	Gross Value Added (GVA) of the marine economy (€)	Experimental	2021	Statistics Portugal
14	14.a (research in marine technology)	Additional indicator	Research and Development (R&D) expenditure of the marine economy (€)	Official	2019	Directorate-General for Maritime Policy (DGMP)
15	15.1 (restoration of ecosystems)	JRC indicator	Land Abandonment	Experimental	2020	European Commission
15	15.1 (restoration of ecosystems)	JRC indicator	Forest area over total surface area (%)	Official	2018	Statistics Portugal
15	15.2 (forests management)	Additional indicator	Mean burnt area (ha)	Official	2021	ICNF
15	15.5 (degradation of habitats)	JRC indicator	Proportion of protected areas (%)	Official	2021	Responsible entities for nature conservation and forests of Continent

15	15.5 (degradation of habitats)	JRC indicator	Estimated soil erosion	Experimental	2016	European Commission
16	16.1 (reduced violence)	Additional indicator	Crime rate (‰)	Official	2021	Directorate General for Justice Policy
16	16.5 (reduce corruption)	JRC indicator	Corruption dimension of the Quality of Government Index	Experimental	2021	University of Gothenburg
16	16.5 (reduce corruption)	Additional indicator	Number of crimes registered as corruption committed in the exercise of public functions	Official	2022	Directorate General for Justice Policy
16	16.6 (effective institutions)	JRC indicator	Abstention rate in the elections (%)	Official	2021	Ministry of Internal Administration
16	16.6 (effective institutions)	JRC indicator		Experimental	2021	University of Gothenburg
17	17.6 (regional and international cooperation)	JRC indicator	PCT co-patent applications that are done with foreign regions	Experimental	2015	Organisation for Economic Cooperation and Development (OECD)
17	17.8 (enabling technology)	JRC indicator	Individuals who used the internet for interaction with public authorities	Official	2021	Eurostat
17	17.12 (imports from least developed countries)	JRC indicator	Imports from developing countries	Experimental	2022	CCDR Centro
17	17.17 (effective partnership)	Additional indicator	Scholarships for foreign students (from the government)	-	-	-

ANNEX 2 - METADATA OF THE JRC PRELIMINARY INDICATOR SET

SDG 1 – No Poverty

SDG Target	1.1 (extreme poverty)
JRC proposed indicator	Material and social deprivation
Indicator for Centro Region	Material and social deprivation rate (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2018-2021
Frequency	Annual
Definition	Resident population in material and social deprivation (population living with a lack due to economic difficulties of at least five out of thirteen items of material and social deprivation) as a proportion of the resident population
Normative direction	Less is an improvement
Comments	The data from the proposed source is not available for Portugal's regions. The Statistics Portugal database allows for disaggregation by deprivation items.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total		11.2	12.3	11.5	13.5
Without economic capacity to afford paying for one week annual holiday away from home	36.1	34.8	36.1	41.5	43.1
Without economic capacity to face an unexpected financial expense close to the poverty threshold without asking for financial help	27.9	28.8	28.2	30.9	32.9
Without economic capacity to keep the home adequately warm	14	13.4	14.5	17.3	17.8
Without economic capacity to pay on time rents or mortgage payments, utility bills of the main dwelling or other current expenses or credits	4.6	5.8	4.1	5.4	5.9
Without economic capacity to have a car for personal use	2.3	2.8	2.6	3.3	4.8
Without economic capacity to afford a meal with meat or fish (or vegetarian equivalent) every second day	2	1.6	2.8	2.6	2.3
Without economic capacity to replace worn-out furniture	34.1	37.8	40.6	44.6	39.1
Without economic capacity to replace worn-out clothes with some new ones (excluding second-hand clothing)	6.6	7.3	8.4	7.5	8.6

Without economic capacity to have two pairs of properly fitting shoes (including a pair of all-weather shoes)	º	º	º	º	º
Without economic capacity to spend a small amount of money each week on him/herself	8.8	11.6	11.3	7.9	8.9
Without economic capacity to have regular leisure activities	9.2	13.1	11.8	8.7	10.9
Without economic capacity to get together with friends/family for a drink/meal at least once a month	6.3	6.1	7.8	6	7.1
Without economic capacity to have an Internet connection for personal use at home	2.2	3	3.7	3.7	5.6

º Data is too small to be reported

SDG Target	1.2 (reduce poverty)
JRC proposed indicator	Persons at risk of poverty or social exclusion
Indicator for Centro Region	Proportion of resident population at-risk-of poverty or social exclusion (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2018-2021
Frequency	Annual
Definition	Resident population at-risk-of poverty or social exclusion (population at-risk-of-poverty or living in households with a very low work intensity per capita or in severe material or social deprivation) as a proportion of the resident population
2030 Target	17.2% (Reduce by 15.2% compared to 2020) – Based on The European Pillar of Social Rights Action Plan
Comments	The proposed data source for this indicator is based on the Europe 2020 methodology. We recommend using the new Europe 2030 methodology instead.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	18.1	22.6	20.3	20.5	22.8

SDG Target	1.2 (reduce poverty)
JRC proposed indicator	Persons living in households with very low work intensity
Indicator for Centro Region	Proportion of resident population with less than 65 years of age living in households with very low work intensity per capita (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2017-2021
Frequency	Annual
Definition	Resident population with less than 65 years of age living in households with very low work intensity per capita (Europe 2030) as a proportion of the resident population with less than 65 years of age
Normative direction	Less is an improvement
Comments	The proposed data source for this indicator is based on the Europe 2020 methodology. We recommend using the new Europe 2030 methodology instead.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	4.2	4.5	3.6	4.4	5.4
Predominantly urban area	5.8	5.9	6.1	7.7	5.2
Medium urban area	3.3	5.1	2.7	4.1	6.2
Predominantly rural area	4.4	3.4	3.6	3.8	4.9

SDG Target	1.5 (exposure to vulnerability)
JRC proposed indicator	Affected people due to disasters
Indicator for Centro Region	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data Source	ANEPC
Coverage	Centro Region (PT)
Unit of measurement	Rate
Time coverage	2021

Frequency	Annual
Definition	Number of deaths and injuries or illnesses attributed to disasters compared to the total resident population
Normative direction	Less is an improvement
Comments	The data was calculated and sent directly by the National Civil Protection Authority (ANEPC)

Data	
Centro Region	**2021**
Number of deaths attributed to disasters per 100,000 population	0.18
Number of injured or ill people attributed to disasters per 100,000 population	3.37

SDG 2 – Zero Hunger

SDG Target	2.2 (end malnutrition)
JRC proposed indicator	Overweight rate
Indicator for Centro Region	Proportion of resident population with 18 and more years old with overweight or obesity (%)
Data Source	Statistics Portugal, National health survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2014-2019
Frequency	Quinquennial
Definition	Resident population with over 18 years of age and over within the "Overweight" (>=25Kg/m2) and "Obesity" (>=30Kg/m2) body mass index class as a proportion of the total resident population with over 18 years of age
Normative direction	Less is an improvement
Comments	The Statistics Portugal database allows for disaggregation by sex and type of urban area

Data		
Centro Region	**2019**	**2014**
Total	54	55.4
Men	58.4	61.7

Women	50.1	49.8
Predominantly urban area	49.7	51.9
Medium urban area	56.1	56.7
Predominantly rural area	59.9	59.5

SDG Target	2.3 (agricultural productivity)
JRC proposed indicator	Gross Value Added (GVA) of agriculture, livestock and fishing
Indicator for Centro Region	Gross value added (B.1g) at current prices (Base 2016 - €) of Agriculture, farming of animals, hunting and forestry
Data Source	Statistics Portugal, Regional economic accounts
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Unit of measurement	Euros
Time coverage	1995-2021
Frequency	Annual
Definition	Gross value added of the activity branch "Agriculture, farming of animals, hunting and forestry"
Normative direction	More is an improvement
Comments	Since there is already an existing indicator that measures agricultural sector productivity (Productivity (Gross Value Added per worker) in agriculture, forestry, and fishing), this one may be redundant and will be overlooked for Centro Region.

SDG Target	2.3 (agricultural productivity)
JRC proposed indicator	Productivity (Gross Value Added per worker) in agriculture, forestry and fishing
Indicator for Centro Region	Productivity in agriculture, forestry and fisheries (€/per capita)
Data Source	Statistics Portugal, Regional economic accounts and Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Euros per capita
Time coverage	2011-2021
Frequency	Annual

Definition	Gross value added (B.1g) at current prices (Base 2016 - €) per worker in the Agriculture, forestry and fishing sector
Normative direction	More is an improvement
Comments	

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	36470	38147	33571	27017	32308	26603	26124	22829	19774	18661	17364

SDG Target	2.4 (sustainable food production)
JRC proposed indicator	Organic farming: areas with different crops
Indicator for Centro Region	Proportion of agricultural area with organic farming (%)
Data Source	Statistics Portugal, Agriculture census
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2009-2019
Frequency	Triennal
Definition	Agricultural area under organic farming as a proportion of the total agricultural area
2030 Target	25% – Farm to Fork strategy
Comments	We suggest using this indicator as a proportion of the total agricultural area, and not just the area.

Data

Centro Region	2019	2016	2013
Total	7.3	7.2	6.1

SDG 3 – Good Health and Well-being

SDG Target	3.2 (preventable death of newborns)
JRC proposed indicator	Infant mortality
Indicator for Centro Region	Infant mortality (‰)

Data Source	Statistics Portugal, Deaths
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	1996-2021
Frequency	Annual
Definition	Number of children under the age of 1 who have died for every 1 000 live births
Normative direction	Less is an improvement
Comments	We recommend using a rate instead of the raw number. This indicator can be disaggregated by sex, cause of death, the father job, age group of the mother, the mother's level of education, and type of urban area."

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	2.3	2.5	2.3	2.4	2.8	2.2	2.7	2.6	2.1	3.7	2.6
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**		
Total	1.9	2.5	3.6	2.8	3	2.8	3.2	3.9	3.9		

SDG Target	3.3 (epidemics and diseases)
JRC proposed indicator	Deaths due to Covid-19
Indicator for Centro Region	Deaths due to coronavirus (COVID-19)
Data Source	Statistics Portugal, Mortality by causes of death
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Unit of measurement	Number
Time coverage	2020 - 2021
Frequency	Annual
Definition	Number of people who died after being infected with COVID-19
Normative direction	Less is an improvement
Comments	Although this indicator may be relevant in the short term, it may lack long-term relevance. Therefore, it will be excluded and replaced by an indicator that tracks a broader range of communicable diseases,

	considering the possibility of new threats emerging in the future. The replacement indicator will be "Death rate due to communicable diseases."

SDG Target	3.8 (universal health coverage)
JRC proposed indicator	Hospital beds
Indicator for Centro Region	Beds of hospitals
Data Source	Statistics Portugal, Hospitals survey
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Number
Time coverage	2013-2021
Frequency	Annual
Definition	Number of hospital beds
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**
Hospital beds (Nº)	6817	6984	7058	6992	7040	7026	6916	6788	7247
Inhabitant per hospital beds (Nº)	326.7	319.2	314.2	317.0	317.0	319.4	326.3	333.5	314.8

SDG Target	3.c (health financing and recruitment)
JRC proposed indicator	Self-reported unmet needs for medical examination
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-

Definition	-
Normative direction	Less is an improvement
Comments	This information is not available at regional level. However, it is an important indicator to monitor.

SDG Target	3.c (health financing and recruitment)
JRC proposed indicator	Health personnel
Indicator for Centro Region	Medical doctors per 1000 inhabitants
Data Source	Statistics Portugal, Health personnel statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	2011-2021
Frequency	Annual
Definition	Number of medical doctors per 1000 inhabitants
Normative direction	More is an improvement
Comments	We recommend using a rate instead of the raw number.

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	5.4	5.3	5.1	4.9	4.7	4.4	4.3	4.1	3.9	3.8	3.6

SDG 4 – Quality Education

SDG Target	4.1 (primary and secondary education)
JRC proposed indicator	Participation rates in selected education levels
Indicator for Centro Region	Participation rates for pre-primary to tertiary education (%)
Data Source	Eurostat, Regional Statistics
Coverage	249 NUTSII Region (EU-27 plus other)
Unit of measurement	Rate
Time coverage	2010-2021

Frequency	Annual
Definition	Participation rates by age or by age groups as proportion of corresponding age population.
Normative direction	More is an improvement
Comments	-

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	17.9	18.0	18.0	18.2	18.3	18.3	18.4	18.7	19.0	19.5	20.3	21.2

SDG Target	4.2 (access to early childhood education)
JRC proposed indicator	Pupils enrolled in early childhood education
Indicator for Centro Region	Students enrolled in pre-primary education (%)
Data Source	Directorate-General for Education and Science Statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	2003/2004-2020/2021
Frequency	Annual
Definition	Number of students enrolled in pre-primary education as a proportion of the resident population of the relevant age group
Normative direction	96% - European Education Area Strategic Framework
Comments	We recommend using a rate instead of the raw number

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total	101.5	103.2	101.2	97.1	97.7	95.3	96.5	96.2	96.4
Centro Region	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
Total	97	93.4	91.4	92.7	92	90.6	90.5	89.5	89.7

SDG Target	4.3 (vocational and tertiary education)
JRC proposed indicator	Students enrolled in tertiary education
Indicator for Centro Region	Students enrolled in tertiary education
Data Source	Directorate-General for Statistics of Education and Science
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Number
Time coverage	2001/2002-2021/2022
Frequency	Annual
Definition	Number of students enrolled in tertiary education
Normative direction	More is an improvement
Comments	This indicator can be disaggregated by sex, area of studies, level of studies, and nationality.

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	91582	88169	85821	82439	80874	78606	76912	75693	79982	81631	84304
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	
Total	85749	81319	80191	82200	78839	79297	81714	85568	87501	84186	

SDG Target	4.3 (vocational and tertiary education)
JRC proposed indicator	Participation in education
Indicator for Centro Region	Participation rate in selected education levels among 20–24-year-olds
Data Source	Eurostat, Regional Statistics
Coverage	249 NUTSII Regions (EU-27 plus others)
Unit of measurement	Rate
Time coverage	2013-2020
Frequency	Annual
Definition	Students in education as a proportion of corresponding age population

Normative direction	More is an improvement
Comments	-

Data								
Centro Region	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**
Total	38.7	38.3	37.5	37.3	37.7	39.2	40	39.9

SDG Target	4.3 (vocational and tertiary education)
JRC proposed indicator	Distribution of pupils and students enrolled in general and vocational programmes
Indicator for Centro Region	Distribution of pupils and students enrolled in general and vocational programmes in lower and upper secondary education
Data Source	Eurostat, Regional Statistics
Coverage	252 NUTSII Regions (EU-27 plus others)
Unit of measurement	Percentage
Time coverage	2013-2021
Frequency	Annual
Definition	Distribution of pupils and students enrolled in general and vocational programmes in lower and upper secondary education
Normative direction	More students in vocational programmes is an improvement
Comments	-

Data								
Centro Region	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**
General programmes - Lower secundary	95.3	93.9	93.6	91.9	89.4	88.3	89.8	95.3
Vocational programmes - Lower secundary	4.7	6.1	6.4	8.1	10.6	11.7	10.2	4.7
General programmes - Upper secundary	60	59.5	59.6	58.7	58.3	55.8	54.7	60
Vocational programmes - Upper secundary	40	40.5	40.4	41.3	41.7	44.2	45.3	40

SDG Targets	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)
JRC proposed indicator	Women 30-34 years old with higher education level
Indicator for Centro Region	Proportion of women aged between 25 and 34 years old with at least higher education completed (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	45% - Based on the European Education Area strategic framework
Normative direction	More is an improvement
Comments	To correspond with the indicator used to monitor the European Education Area strategic framework, we have decided to use the age group of 25-34 years old.

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	53.8	58.8	48.6	50.6	52.6	43.9	46.7	41.1	42.3	38	33.4	33.7

SDG Targets	4.6 (youth and adult literacy)
JRC proposed indicator	Early leavers from education and training
Indicator for Centro Region	Early leavers from education and training rate (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2011-2021
Frequency	Annual
Definition	Resident population aged between 18 and 24 years old, with complete level of education until 3rd cycle lower secondary education who not received any education (formal or non-formal) in reference period as a proportion of the resident population aged between 18 and 24 years old

Normative direction	5% - National Reform Programme 2022 (PNR 2022)
Comments	-

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	6.6	6	7.9	10.5	10.5	12.5	12.5	14	14.5	18.2	20.3
Men		6	9.6	14.2	13.8	15.4	16.9	18.3	16.8	24.2	25.9
Women		5.9	6.2	6.7	7.1	9.5	8.1	9.6	12.2	12	14.5

SDG 5 – Gender Equality

SDG Targets	5.1 (gender discrimination)
JRC proposed indicator	Female achievement/disadvantage index
Indicator for Centro Region	Female achievement/disadvantage index
Data Source	European Commission, DG REGIO
Coverage	235 NUTSII Regions (EU-27)
Unit of measurement	Percentage
Time coverage	2021
Frequency	-
Definition	The Female Disadvantage Index (FemDI) measures the difference between the performance of men and women in a region. The best score is 0 (no disadvantage) and the worst is 100 (largest disadvantage). FemAI is built out of 30 indicators of 7 domains: Work and Money, Knowledge, Time, Power, Health, Safety and Trust, and Quality of Life. The Female Achievement Index (FemAI) measures the level of female achievement relative to the region with the highest female achievements. It varies between 0 (lowest achievements) and 100 (highest achievements). If women score as well as those in the region with the best performing women, the index is high. FemAI is built out of 33 indicators of 7 domains: Work and Money, Knowledge, Time, Power, Health, Safety and Trust, and Quality of Life.
Normative direction	Female Disadvantage Index: Less is an improvement Female Achievement Index: More is an improvement
Comments	-

Data

Centro Region	2021
Female Disadvantage Index	32.4
Female Achievement Index	53.6

SDG Targets	5.2 (gender violence)
JRC proposed indicator	Fatal victims of gender-based violence at the hands of their partners or ex partners
Indicator for Centro Region	Women victims of homicide in the context of a current/past intimate relationship
Data Source	APAV-Observatory of Homicide Crimes
Coverage	308 municipalities
Unit of measurement	Number
Time coverage	2014-2021
Frequency	Annual
Definition	Number of women victims of homicide by their current or ex-partner
Normative direction	Less is an improvement
Comments	The regional values were derived by aggregating data from the municipalities within the Centro Region. The methodology used by the Observatory relies on national newspapers (print and/or online), national and local television and radio stations, and other considered sources. Therefore, we classify this information as low quality.

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014
Total	3	4	3	6	2	2	/	5
Triennial rate per 100,000 women aged 15 years or older	0.32	0.42	0.35	0.32	0.29			

SDG Targets	5.2 (gender violence)
JRC proposed indicator	Victims of violence against women
Indicator for Centro Region	Proportion of victims in crimes registered as Domestic violence by the partner or similar (%)

Data Source	Directorate-General for Justice Policy
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	2011-2021
Frequency	Annual
Definition	Number of women injured/offended in crimes of domestic violence by partner or similar as a proportion of all women aged 15 and over
Normative direction	Less is an improvement
Comments	These data only include victims of domestic violence who have been reported to the relevant authorities. It may not reflect all victims of gender-based violence.

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Rate		4.3	4.2	4.3	3.8	3.9	3.9	3.8	3.9	3.8	3.6	3.9
Number	5175	4417	4375	4477	3950	4013	4019	4018	4128	3986	3836	4142

SDG Targets	5.4 (unpaid work)
JRC proposed indicator	Inactive population rate due to caregiving responsibilities
Indicator for Centro Region	Inactive women rate due to caregiving responsibilities (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2011-2021
Frequency	Annual
Definition	Number of inactive individuals due to caregiving responsabilities as a proportion of the total resident population over 18 years of age
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by sex

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	8.8	8.8	8.0	9.2	10.4	10.4	11.2	11.2	11.5	11.7	11.6

SDG Targets	5.4 (unpaid work)
JRC proposed indicator	Gender gap in part-time employment incidence
Indicator for Centro Region	Gender gap in part-time employment incidence (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Difference between share of part-time employment in total employment for women and men aged 20-64
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	4.0	3.1	5.6	5.2	4.6	4.0	4.9	4.2	4.8	6.3	5.9	6.6

SDG Targets	5.5 (women participation and leadership)
JRC proposed indicator	Female research and development personnel
Indicator for Centro Region	Proportion of female in research and development personnel (%)
Data Source	Directorate-General for Education and Science Statistics
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2017-2020
Frequency	Biennial

Definition	Number of women working in research and development as a proportion of all research and development personnel
Normative direction	50% - National Strategy for Equality and Non-Discrimination
Comments	This data is per full-time equivalent (FTE)

Data

Centro Region	**2022**	**2021**	**2020**	**2019**
Total	41.0	41.2	41.1	40.9

SDG Targets	5.5 (women participation and leadership)
JRC proposed indicator	Women in parliament and government
Indicator for Centro Region	Women in local government (%)
Data Source	Ministry of Internal Administration
Coverage	308 municipalities
Unit of measurement	Percentage
Time coverage	2017-2021
Frequency	Quinquennial
Definition	Number of women holding elected positions within the city hall
Normative direction	40% - National Strategy for Equality and Non-Discrimination
Comments	Since the regional authorities in Portugal are not directly elected, the proposed indicator may not be suitable. Similar situations may exist in other countries as well. However, as it is important to monitor women's representation in political leadership, we recommend monitoring the proportion of women in local governments instead. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data

Centro Region	**2021**	**2017**
Total	32.3	29.0

SDG 6 – Clean Water and Sanitation

SDG Targets	6.1 (universal access to water)
JRC proposed indicator	Population served by safely managed drinking water supply services
Indicator for Centro Region	Proportion of dwellings served by water supply (%)
Data Source	Statistics Portugal/ERSAR, Urban public systems of water services / physical and operational components
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2011-2020
Frequency	Annual
Definition	Total number of dwellings served by water supply as a proportion of total number of conventional dwellings
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	97	98	98	98	98	98	97	97	96	95

SDG Targets	6.3 (water quality)
JRC proposed indicator	Water bodies that exceed a standardized quality rating
Indicator for Centro Region	Proportion of surface water bodies with lower quality (%)
Data Source	Portuguese Environment Agency
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2015-2021
Frequency	Triennial
Definition	Proportion of surface water body area (% of total area) below the quality category "good"
Normative direction	Less is an improvement

Comments	-		
Data			
Centro Region	**2021**	**2018**	**2015**
Total	62.1	59.4	56.2

SDG Targets	6.3 (water quality)		
JRC proposed indicator	Groundwater that exceed a standardized quality rating		
Indicator for Centro Region	Proportion of groundwater bodies with lower quality (%)		
Data Source	Portuguese Environment Agency		
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities		
Unit of measurement	Percentage		
Time coverage	2012-2021		
Frequency	Triennial		
Definition	Proportion of surface groundwater body (% of total) below the quality category "good"		
Normative direction	Less is an improvement		
Comments	-		
Data			
Centro Region	**2021**	**2018**	**2015**
Total	35	22.5	15

SDG Targets	6.3 (water quality)
JRC proposed indicator	Population connected to wastewater with at least secondary treatment
Indicator for Centro Region	Proportion of dwellings served by wastewater treatment (%)
Data Source	Statistics Portugal/ERSAR, Urban public systems of water services / physical and operational components
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2020

Frequency	Annual
Definition	Number of dwellings (classic family\household's homes) with available service as a proportion of total number of existing dwellings (classic family\household's homes)
Normative direction	Less is an improvement
Comments	-

Data	
Centro Region	**2020**
Total	78

SDG 7 – Affordable and Clean Energy

SDG Targets	7.1 (access to energy)
JRC proposed indicator	People affected by energy poverty
Sub-indicator for Centro Region	Proportion of resident population living in households without economic capacity to keep the home adequately warm (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Rate
Time coverage	2018-2022
Frequency	Annual
Definition	Number of the resident population living in households without economic capacity to keep the home adequately warm as the proportion of the total population
Normative direction	10% - National Energy and Climate Plan (ENCP)
Comments	This sub-indicator is part of a composite indicator that aims to comprehensively monitor the prevalence of energy poverty. The present sub-indicator is based on subjective data as it relies on people's opinions regarding their quality of life.

Data					
Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	14	13.4	14.5	17.3	17.8

SDG Targets	7.1 (access to energy)
JRC proposed indicator	People affected by energy poverty
Sub-indicator for Centro Region	Percentage of beneficiaries of the Social Tariff for Energy compared to the resident population (%)
Data Source	Directorate-General for Energy and Geology, Statistics on coal, oil, electric power and natural gas
Coverage	308 municipalities
Unit of measurement	Rate
Time coverage	2016-2022
Frequency	Annual
Definition	Number of beneficiaries of the Social Tariff for Energy compared to the total population
Normative direction	Less is an improvement
Comments	This sub-indicator is part of a composite indicator that aims to comprehensively monitor the prevalence of energy poverty. The present sub-indicator is based on objective data, as it relies on the number of beneficiaries of the Social Tariff for Energy, which is only accessible to people who meet certain economic criteria identified by the Tax and Customs Authority and the Social Security. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**
Total	8.0	8.2	8.2	8.4	8.4	8.6	8.2

SDG Targets	7.2 (share of renewable energy)
JRC proposed indicator	Electricity production that comes from nuclear power
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-

Frequency	-
Definition	-
Normative direction	-
Comments	This is not applicable in the Centro Region or Portugal, and it may not be a relevant measure of sustainable development at the regional level in Europe. We recommend the use of the indicator "Share of clean energy in energy production (%)" instead, as not all renewable energy sources are clean, and vice versa.

SDG Targets	7.2 (share of renewable energy)
JRC proposed indicator	Electricity production that comes from renewable sources
Indicator for Centro Region	Share of renewable energy in electricity production (%)
Data Source	Directorate-General for Energy and Geology, Statistics on coal, oil, electric power and natural gas
Coverage	Centro Region
Unit of measurement	Percentage
Time coverage	2009-2021
Frequency	Annual
Definition	Production of electricity from hydro, geothermal, wind or solar sources
Normative direction	80% - National Energy and Climate Plan (ENCP)
Comments	-

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**
Total	57.4	51.9	49.7	49.2	37.6	53.3	50.6	69.1	65.0	49.3	47.4	50.3	36.5

SDG Targets	7.3 (energy efficiency)
JRC proposed indicator	Energy intensity
Indicator for Centro Region	Energy intensity of the economy in final energy (toe/ €)
Data Source	Directorate-General for Energy and Geology, Statistics on coal, oil, electric power and natural gas

Coverage	7 NUTSII Regions (PT)
Unit of measurement	Tonne of oil equivalent / Euro
Time coverage	2011-2018
Frequency	Annual
Definition	Ratio of final energy consumption of oil products and natural gas in relation of the GDP at current prices
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	2018	2017	2016	2015	2014	2013	2012	2011
Total	136.7	152.5	135.7	133	124.3	126.1	143.8	160.1

SDG 8 - Decent Work and Economic Growth

SDG Targets	8.1 (economic growth)
JRC proposed indicator	GDP at current market prices
Indicator for Centro Region	Gross domestic product (B.1*g) at current prices
Data Source	Statistics Portugal, Regional economic accounts
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Unit of measurement	Euros
Time coverage	1995-2021
Frequency	Annual
Definition	Final result of the production activity of resident producer units that can be defined according to production approach, expenditure approach and income approach
Normative direction	More is an improvement
Comments	If we want to assess the economic well-being of a region's population, using the GDP per capita could be a more relevant indicator than just the GDP alone.

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012

Total	40978	38530	40028	38474	36823	35246	33924	32438	31999	31555
Centro Region	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
Total	32670	33393	32726	33059	32981	31441	30010	29109	27993	27061

SDG Targets	8.2 (economic productivity)
JRC proposed indicator	GVA at basic prices
Indicator for Centro Region	Gross value added (B.1g) at current prices
Data Source	Statistics Portugal, Regional economic accounts
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Euros
Time coverage	1995-2021
Frequency	Annual
Definition	The value generated by any unit engaged in a production activity corresponding to the balancing item of the production account, which includes output as resource and intermediate consumption as a use, before allowing for the consumption of fixed capital.
Normative direction	More is an improvement
Comments	Considering that GDP is already contemplate in this indicator set, adding GVA as another metric might not provide substantial value, as it could be seen as redundant. This indicator is excluded for the Centro Region set

SDG Targets	8.3 (job creation)
JRC proposed indicator	Firm creation
Indicator for Centro Region	Births of Enterprises (%)
Data Source	Statistics Portugal, Business demography
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	2008-2021
Frequency	Annual

Definition	Number of enterprise births as a proportion of the total number of enterprises in the region
Normative direction	More is an improvement
Comments	-

Data							
Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Total	12.1	10.7	12.5	13.1	13.5	13.7	14.4
Centro Region	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Total	14.5	17.8	11.1	11.3	10.8	11.1	12.5

SDG Targets	8.5 (productive employment)
JRC proposed indicator	Economic activity
Indicator for Centro Region	Activity rate of the working age population (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Rate
Time coverage	2011-2022
Frequency	Annual
Definition	Labour force as a proportion of the total population aged 16 to 64
Normative direction	More is an improvement
Comments	There is a significant discrepancy between the values of the indicator calculated by Statistics Portugal and the indicator available in the Eurostat database. The Eurostat indicator displays values that do not appear realistic (e.g., 100% activity rate in 2021). As a result, the national source was deemed more reliable and was given preference.

Data												
Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	78.1	76	74.3	75.9	75.3	73.9	73.3	73.1	72.3	71.9	71	71.4

SDG Targets	8.5 (productive employment)

JRC proposed indicator	Unemployment
Indicator for Centro Region	Unemployment rate (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Unemployed population as a proportion of the active population
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by sex and age group.

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	5.1	5.8	5.9	5.2	6	7.4	9	10	11.7	12.8	13.2	11.3
Men	4.8	5.3	5.3	4.5	5.4	7	8.5	9.6	11.5	12.5	12.3	10.4
Women	5.3	6.3	6.4	5.8	6.7	7.8	9.5	10.6	11.9	13.1	14.3	12.3

SDG Targets	8.5 (productive employment)
JRC proposed indicator	Employment
Indicator for Centro Region	Employed population
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Number
Time coverage	2011-2021
Frequency	Annual
Definition	Number of persons in employment
Normative direction	More is an improvement
Comments	This indicator can be disaggregated by sex, age group, economic activity, and employment size class.

	Since unemployment rates are already being monitored, this indicator appears redundant and may not provide any additional insights or value. Therefore, it is excluded from Centro Region monitoring set.

SDG Targets	8.5 (productive employment)
JRC proposed indicator	Long-term unemployment (12 months and more)
Indicator for Centro Region	Long term unemployment rate (%)
Data Source	Eurostat, Regional Statistics
Coverage	210 NUTSII Regions (EU-27 plus others)
Unit of measurement	Rate
Time coverage	1999-2022
Frequency	Annual
Definition	Unemployed population for a year or more as a proportion of the active population
Normative direction	Less is an improvement
Comments	This indicator can also be expressed as a proportion of the unemployed population if the national source is utilized.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	2	2.4	1.8	1.8	2.5	3	4.3	5.2	6	6	5.3	4.5
Men	1.7	1.9	1.6	1.7	2.5	2.8	4.3	5	6.1	5.9	5	4.2
Women	2.2	2.9	2	1.9	2.6	3.3	4.4	5.4	6	6.1	5.7	4.9
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Total	4.4	3	2.4	2.5	2.5	2.4	1.7	1.2	0.8	0.8	0.8	
Men	3.8	2.9	1.8	1.4	2	1.8	1.4	/	/	/	/	
Women	4.9	3.5	3.1	3.7	2.9	3.1	2.1	1.6	/	/	/	

SDG Targets	8.5 (productive employment)
JRC proposed indicator	Compensation of employees

Indicator for Centro Region	Compensation of employees (€)
Data Source	Eurostat, Regional Statistics
Coverage	263 NUTSII Regions (EU-27 plus others)
Unit of measurement	Euros
Time coverage	1995-2020
Frequency	Annual
Definition	Total remuneration, in cash or in kind, payable by employers to employees in return for work done by the latter during the accounting period
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**
Total	17538	17341	16494	15521	14672	14236	13796	13627	13509	14701	15241
Centro Region	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Total	15184	15296	14941	14397	14082	13455	12946	12424	12068	11349	

SDG Targets	8.6 (youth not in employment, education or training)
JRC proposed indicator	Young people neither in employment nor in education and training
Indicator for Centro Region	Rate of young people aged between 16 and 34 years old neither in employment nor in education and training (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Rate
Time coverage	2011-2021
Frequency	Annual
Definition	Young people aged between 16 and 34 years old neither in employment nor in education and training as a proportion of the young people of the same age group

Normative direction	9% - European Pillar of Social Rights Action Plan
Comments	-

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	8.6	9.9	10.7	8.7	9.1	10.7	12.3	12.8	13.2	14.8	16	13.6
Men	7.5	9.6	10.2	7.2	8.2	10.9	12	11.3	12.7	14	14.3	11.4
Women	9.8	10.2	11.2	10.2	10.1	10.5	12.6	14.3	13.8	15.5	17.6	15.9

SDG Targets	8.8 (labour rights)
JRC proposed indicator	Occupational accidents
Indicator for Centro Region	Proportion of accidents at work (%)
Data Source	Office for Strategy and Planning in the Ministry of Labour, Solidarity and Social Security
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Unit of measurement	Rate
Time coverage	2009-2020
Frequency	Annual
Definition	Number of fatal and non-fatal accidents at work in the total employed population
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total	4.9	6.0	6.1	6.4	6.8	7.0	7.2	7.2	6.8	7.1	7.4	
Deadly (nº)	42	24	24	31	45	43	34	47	43	56	60	53

SDG 9 - Industry, Innovation, and Infrastructure

SDG Targets	9.2 (sustainable industrialization)
JRC proposed indicator	GVA of the industry with respect to the GVA of the total sectors (current price)
Indicator for Centro Region	Proportion of Gross Value Added of the industry sector in relation to the total of the region (%)
Data Source	Statistics Portugal, Regional economic accounts
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	1995-2020
Frequency	Annual
Definition	Regional GVA of the industry sector in relation of the total GVA of the region
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	24.8	25.1	25.8	25.1	25.3	24.6	23.9	23.5	23.7	23.4	23.8	22.9
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Total	22.8	24.6	23.8	23.6	24.5	25.2	26.2	25.2	26.2	26.6	27.6	

SDG Targets	9.5 (promote innovation)
JRC proposed indicator	Gross Domestic Expenditure on R&D
Indicator for Centro Region	Gross expenditure on research and development (R&D – thousands €)
Data Source	Eurostat, Regional Statistics
Coverage	201 NUTSII Regions (EU-27 plus others)
Unit of measurement	Euros
Time coverage	1980-2020
Frequency	Annual

Definition	Total expenditure on research and development (R&D) funded from national sources
Normative direction	566482 (Increase by 3% compared to 2020) – Portugal 2030
Comments	-

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	549983	545586	499261	485502	447221	415909	438960	412319	414183	412346	412260

Centro Region	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Total	391853	389690	331690	259055	186420	176722	167024	161209	155393	139582

SDG Targets	9.5 (promote innovation)
JRC proposed indicator	R&D personnel and researchers
Indicator for Centro Region	Persons employed at full-time equivalent (FTE) in research and development activities
Data Source	Eurostat, Regional Statistics
Coverage	201 NUTSII Regions (EU-27 plus others)
Unit of measurement	Number
Time coverage	2020-2020
Frequency	Annual
Definition	Persons employed at full-time equivalent (FTE) in research and development activities (R&D - N.º) of institutions and enterprises with research and development
Normative direction	More is an improvement
Comments	Maybe this indicator should be expressed as a rate.

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	12752	12487	11681	11015	9816	9165	9180	9192	9552	9702	8958

Centro Region	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000

Total	8 720	8 853	6 721	5 690	4 659	4 530	4 401	4096	3790	3596

SDG Targets	9.5 (promote innovation)
JRC proposed indicator	Employment in high-technology manufacturing as a percentage of total manufacturing employment
Indicator for Centro Region	Persons employed of high and medium-high technology manufacturing industries as a proportion of total personnel employed in manufacturing industry
Data Source	Statistics Portugal, Integrated business accounts system
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Unit of measurement	Percentage
Time coverage	2008-2021
Frequency	Annual
Definition	Persons employed of high and medium-high technology manufacturing industries as a proportion of total personnel employed in manufacturing industry
Normative direction	More is an improvement
Comments	-

Data							
Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Total	18.5	/	/	/	/	/	/
Centro Region	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Total	16.1	16.2	15.9	15.1	14.9	14.2	14.5

SDG Targets	9.5 (promote innovation)
JRC proposed indicator	Patent applications to the EPO
Indicator for Centro Region	Patent applications to the EPO by priority year
Data Source	European Patent Office (EPO)
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Number

Time coverage	2009-2021
Frequency	Annual
Definition	Number of patent applications from applicants located in the Centro Region. The following institutions are considered: Universidade de Coimbra, Universidade de Aveiro, Instituto Politécnico de Leiria, Escola Superior de Enfermagem de Coimbra, Instituto Politécnico de Coimbra, Centro de Neurociências e Biologia Celular, Instituto de Telecomunicações, and Biocant - Associação de Transferência de Tecnologia.
Normative direction	More is an improvement
Comments	Due to the limited number of applicants considered, the data collected may be incomplete.

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Total	19	28	18	17	11	19	21
Centro Region	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	
Total	8	17	25	12	12	20	

SDG 10 – Reduced Inequalities

SDG Targets	10.2 (inclusion irrespective of status)
JRC proposed indicator	Unemployment of people with disabilities
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	Less is an improvement
Comments	This information is not available at regional level.

SDG Targets	10.4 (greater equality)
JRC proposed indicator	Gini index of disposable income (after taxes and transfers)
Indicator for Centro Region	Gini coefficient of net monetary income per equivalent adult (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Index
Time coverage	2003-2020
Frequency	Annual
Definition	Gini coefficient of monetary income received by the household as a whole and by each of its members, from work (employee income and income from self-employment), from other private income sources (capital and property income, private transfers received) and from pensions and other social transfers, net of income taxes and social security contributions.
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**
Total	31.5	33.3	30	30.2	31.3

SDG 11 – Sustainable Cities and Communities

SDG Targets	11.1 (access to housing)
JRC proposed indicator	Households expenses dedicated to housing costs
Indicator for Centro Region	Median of housing cost burden (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Unit of measurement	Percentage
Time coverage	2018-2022
Frequency	Annual
Definition	Difference between the housing costs and the disposable household income (net of housing allowances in both parts)

Normative direction	Less is an improvement
Comments	-

Data					
Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	9.5	10.1	9.8	10.6	11.5
Predominantly urban area	9.3	9.9	9.5	10.6	10.9
Medium urban area	9.5	10.2	10.4	11	11.9
Predominantly rural area	9.6	10.1	9.5	10.3	11.4

SDG Targets	11.2 (access to transport systems)
JRC proposed indicator	Transport performance
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	-

SDG Targets	11.2 (access to transport systems)
JRC proposed indicator	Daily accessibility
Indicator for Centro Region	Daily accessibility
Data Source	European Commission, Joint Research Centre
Coverage	240 NUTSII Regions (EU-27)
Unit of measurement	Number
Time coverage	2015-2050

Frequency	Decade
Definition	Amount of people that live within four hours of driving from the location at hand.
Normative direction	More is an improvement
Comments	This indicator may be unfair to regions located on islands or at the edges of the European continent.

Data		
Centro Region	**2020**	**2015**
Total	14.38	13.78

SDG Targets	11.2 (access to transport systems)
JRC proposed indicator	Stock of vehicles (passenger cars)
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	Less is an improvement
Comments	The data have been requested from the Institute of Registries and Notary (IRN) but they could not provide the aggregated information.

SDG Targets	11.2 (access to transport systems)
JRC proposed indicator	Victims in road accidents
Indicator for Centro Region	Victims of road accidents
Data Source	Eurostat, Regional Statistics
Coverage	266 NUTSII Regions (EU-27 plus others)
Unit of measurement	Number

Time coverage	2003-2021
Frequency	Annual
Definition	Number of road accident victims by location of accident
Normative direction	100 (Reduce road traffic deaths by 50% compared to 2019) - EU Road Safety Policy Framework 2021-2030
Comments	This indicator may be more relevant or could be duplicated in the third or ninth SDG.

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Injured victims	8795	7982	10752	10297	10840	10039	10077	9968	9867	9954
Dead victims	149	147	201	205	181	197	204	186	195	214
Centro Region	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	
Injured victims	11214	12834	12998	12905	13629	13998	14590	15435	16142	
Dead victims	284	296	232	236	280	273	325	386	439	

SDG Targets	11.3 (sustainable urbanization)
JRC proposed indicator	Difference between built-up area growth rate and population growth rate
Indicator for Centro Region	Efficiency evaluation of the artificial land by inhabitant (%)
Data Source	INE, land use land cover statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2015-2018
Frequency	Irregular
Definition	Difference between the growth rate of artificialised territories and the growth rate of population, with a normalization to express a variation of artificial land by inhabitant for a period of 10 years.
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2018**	**2015**

Total	-8.4	-11.8

SDG Targets	11.3 (sustainable urbanization)
JRC proposed indicator	Land use
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	-

SDG Targets	11.6 (environmental impact)
JRC proposed indicator	PM2.5 Emissions
Indicator for Centro Region	PM2.5 emissions (kton)
Data Source	Portuguese Environment Agency
Coverage	308 municipalities
Unit of measurement	Kiloton
Time coverage	2015-2019
Frequency	Biennial
Definition	Kilotons of PM2.5 emitted
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by major source categories. The regional values were derived by aggregating data from the municipalities within the Centro Region.
Data	

Centro Region	2019	2017	2015
Total	17.06	17.13	16.73

SDG Targets	11.6 (environmental impact)
JRC proposed indicator	Household and commercial waste generation per inhabitant
Indicator for Centro Region	Urban waste collected per inhabitant (kg/ inhab.)
Data Source	Statistics Portugal, Urban waste statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Rate
Time coverage	2011-2020
Frequency	Annual
Definition	Kilogram of municipal waste collected in relation to the resident population
Normative direction	386.8 (Decrease by 15% compared to 2019) - Strategic Plan for Municipal Waste (PERSU 2030)
Comments	-

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	466	455	448	423	416	411	411	395	399	420

SDG 12 – Responsible Consumption and Production

SDG Targets	12.2 (management of natural resources)
JRC proposed indicator	Carbon footprint
Indicator for Centro Region	Carbon footprint
Data Source	Portuguese Environment Agency
Coverage	308 municipalities
Unit of measurement	Rate
Time coverage	2015-2019
Frequency	Biennial

Definition	Kilotonnes of greenhouse gases (in CO2 equivalent) (natural source excluded) in relation to the resident population
Normative direction	Less is an improvement
Comments	The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data			
Centro Region	**2019**	**2017**	**2015**
Total	7.5	8.3	7.7

SDG Targets	12.3 (reduce food waste)
JRC proposed indicator	Food waste
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	Less is an improvement
Comments	This information is not available at regional level.

SDG Targets	12.4 (chemical management)
JRC proposed indicator	Hazardous Waste
Indicator for Centro Region	Hazardous Waste (t)
Data Source	EEA
Coverage	308 municipalities
Unit of measurement	Ton
Time coverage	2011-2020
Frequency	Annual

Definition	Tonnes of hazardous sectoral waste declared
Normative direction	Less is an improvement
Comments	Monitoring the hazardous waste management may be more relevant. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data										
Centro Region	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	58273	82573	62304	49895	58101	53420	93497	87495	81810	96304

SDG 13 – Climate Action

SDG Targets	13.2 (climate change measures into policy)
JRC proposed indicator	PM10 Emissions
Indicator for Centro Region	PM10 Emissions (t)
Data Source	Portuguese Environment Agency
Coverage	308 municipalities
Unit of measurement	Kiloton
Time coverage	2015-2019
Frequency	Biennial
Definition	Kilotons of PM10 emitted
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by major source categories. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data			
Centro Region	**2019**	**2017**	**2015**
Total	25.5	40.0	24.6

SDG Targets	13.2 (climate change measures into policy)
JRC proposed indicator	CO2 Emissions
Indicator for Centro Region	CO2 Emissions (t)

Data Source	Portuguese Environment Agency
Coverage	308 municipalities
Unit of measurement	Kiloton
Time coverage	2015-2019
Frequency	Biennial
Definition	Kilotons of CO2 emitted
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by major source categories. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data			
Centro Region	**2019**	**2017**	**2015**
Total	12991	23449	14223

SDG Targets	13.2 (climate change measures into policy)
JRC proposed indicator	Greenhouse Gas Emissions
Indicator for Centro Region	Greenhouse Gas Emissions (t eqCO2)
Data Source	Portuguese Environment Agency
Coverage	308 municipalities
Unit of measurement	Kiloton
Time coverage	2015-2019
Frequency	Biennial
Definition	Kilotons of Greenhouse Gas Emissions (eq CO2) emitted (with natural sources)
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by major source categories. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data			
Centro Region	**2019**	**2017**	**2015**

Total	16868857	28152069	17738162

SDG Targets	13.2 (climate change measures into policy)
JRC proposed indicator	Cooling and heating degree days
Indicator for Centro Region	Cooling and heating degree days
Data Source	Eurostat, Regional Statistics
Coverage	240 NUTSII Regions (EU-27 plus others)
Unit of measurement	Number
Time coverage	1979-2021
Frequency	Annual
Definition	Heating Degree Days (HDD) index: the severity of the cold in a specific time period taking into consideration outdoor temperature and average room temperature (in other words the need for heating) Cooling degree days (CDD) index: the severity of the heat in a specific time period taking into consideration outdoor temperature and average room temperature (in other words the need for cooling).
Normative direction	Less is an improvement
Comments	Due to the potential bias of location of the regions, measuring long-term variation may be a more fair and relevant indicator.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Heating degree days	1011	1087	1058	1149	1353	1083	1280	1111	1179	1399	1396	1124
Cooling degree days	307	148	276	176	258	279	289	181	95	266	160	150
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Heating degree days	1386	1210	1327	1293	1229	1397	1421	1303	1235	1338	1367	
Cooling degree days	263	181	92	103	247	217	156	223	95	150	151	

SDG 14 – Life Below Water

SDG Targets	14.1 (reduce marine pollution)
JRC proposed indicator	Estuarine with high/very high water quality
Indicator for Centro Region	Transitional bathing water of good or excellent quality (%)
Data Source	APA - SNIRH
Coverage	308 municipalities
Unit of measurement	Percentage
Time coverage	2006-2022
Frequency	Annual
Definition	Number of transitional waters (estuaries) classified as "Good" or "Excellent
Normative direction	More is an improvement
Comments	We recommend using a rate instead of the raw number. Additionally, we only have information available for bathing sites. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
Total	100.0	100.0	100.0	85.7	71.4	71.4	50.0	60.0	50.0

Centro Region	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**
Total	75.0	100.0	100.0	100.0	100.0	50.0	75.0	100.0

SDG Targets	14.5 (coastal and marine areas)
JRC proposed indicator	Protected coastal area as a percentage of total coastal area
Indicator for Centro Region	Protected coastal area as a percentage of total coastal area (%)
Data Source	Portuguese Environment Agency
Coverage	Centro Region (PT)
Unit of measurement	Percentage
Time coverage	2000-2021

Frequency	-
Definition	Protected coastal areas in relation to the total coastal area. For Centro Region, are taken into account three protected area: The archipelago of the Berlengas; the Cabo Mondego and the São Jacinto Dunes.
Normative direction	More is an improvement
Comments	-

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Total	5.4	5.4	5.4	5.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	

SDG Targets	14.5 (coastal and marine areas)
JRC proposed indicator	Coastal areas with good/very good water quality
Indicator for Centro Region	Coastal bathing water of good or excellent quality (%)
Data Source	APA - SNIRH
Coverage	308 municipalities
Unit of measurement	Percentage
Time coverage	2010-2022
Frequency	Annual
Definition	Number of coastal waters classified as "Good" or "Excellent
Normative direction	More is an improvement
Comments	We recommend using a rate instead of the raw number. Additionally, we only have information available for bathing sites. The regional values were derived by aggregating data from the municipalities within the Centro Region.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**

Total	97.4	100.0	98.7	97.4	98.7	98.7	96.0	98.7	93.3	97.4	98.7	97.3	100.0

SDG 15 - Life On Land

SDG Targets	15.1 (restoration of ecosystems)
JRC proposed indicator	Land Abandonment
Indicator for Centro Region	Land Abandonment
Data Source	European Commission, Joint Research Centre
Coverage	234 NUTSII Regions (EU-27 plus others)
Unit of measurement	Hectare
Time coverage	2020
Frequency	Decade
Definition	Abandoned arable, permanent, pasture and industry
Normative direction	Less is an improvement
Comments	While we consider monitoring land abandonment to be relevant, obtaining reliable and regular data presents a significant challenge.

Data	
Centro Region	**2020**
Total	7610

SDG Targets	15.1 (restoration of ecosystems)
JRC proposed indicator	Forest area over total surface area
Indicator for Centro Region	Forest area over total surface area (%)
Data Source	Statistics Portugal, land use land cover statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2010-2018
Frequency	Irregular
Definition	Forest area over total surface area

Normative direction	More is an improvement
Comments	-
Data	

Centro Region	**2018**	**2015**
Total	50.1	49.5

SDG Targets	15.5 (degradation of habitats)
JRC proposed indicator	Terrestrial protected areas as a percentage of total area
Indicator for Centro Region	Proportion of protected areas (%)
Data Source	Responsible entities for nature conservation and forests of Continent, Açores and Madeira
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2011-2021
Frequency	Annual
Definition	Protected areas in relation to the total land area
Normative direction	30% - EU Biodiversity Strategy for 2030
Comments	-
Data	

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.7	6.7	6.7

SDG Targets	15.5 (degradation of habitats)
JRC proposed indicator	Estimated soil erosion
Indicator for Centro Region	Estimated soil erosion
Data Source	European Commission, Joint Research Centre
Coverage	272 NUTSII Regions (EU-27 plus others)
Unit of measurement	Rate

Time coverage	2000-2016
Frequency	Annual
Definition	Tonnes of soil erosion by water, per hectare
Normative direction	Less is an improvement
Comments	While we consider monitoring the soil erosion to be relevant, obtaining reliable and regular data presents a significant challenge.

Data			
Centro Region	**2016**	**2010**	**2000**
Total	2.9	3	3.4

SDG 16 - Peace, Justice and Strong Institutions

SDG Targets	16.5 (reduce corruption)
JRC proposed indicator	Extract from QGI an indicator on corruption
Indicator for Centro Region	Corruption dimension of the Quality of Government Index
Data Source	University of Gothenburg
Coverage	184 NUTSII Regions (EU-27 plus others)
Unit of measurement	Index
Time coverage	2010-2021
Frequency	Quinquennial
Definition	Citizens' perceptions and experiences with corruption for three essential public services – health, education and policing
Normative direction	More is an improvement
Comments	-

Data				
Centro Region	**2021**	**2017**	**2013**	**2010**
Total	-0.08	0	0.07	-0.09

SDG Targets	16.6 (effective institutions)
JRC proposed indicator	Transparency index

Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	The review of the Transparency International Portugal website suggests that this indicator closely resembles the fourth indicator proposed in this SDG ("Extract from QGI an indicator on corruption"). As the latter provides information at the NUTS2 level, focusing on that indicator instead and potentially eliminating this one may be a suggestion

SDG Targets	16.6 (effective institutions)
JRC proposed indicator	Participation in the last elections
Indicator for Centro Region	Abstention rate in the elections (%)
Data Source	Ministry of Internal Administration
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Unit of measurement	Percentage
Time coverage	2001-2022
Frequency	Per election cycle
Definition	Percentage ratio between the number of abstentions and the number of registered resident voters for local governments, parliament, presidency of republic and European Parliament
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Local level		43.8				43.9				46.3	

Parliament	43.4			46.5				44.4			
Presidency of Republic		57.1					50.8				
European Parliament				66.2					67.2		
Centro Region	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**
Local level			40.1			37					
Parliament	42.5		40.7				35.9			38.1	
Presidency of Republic	52.8					37.5					49.1
European Parliament			64.0					63.3			

SDG Targets	16.6 (effective institutions)
JRC proposed indicator	Quality of Government Index
Indicator for Centro Region	Quality of Government Index
Data Source	University of Gothenburg
Coverage	181 NUTSII Regions (EU-27 plus others)
Unit of measurement	Index
Time coverage	2010-2021
Frequency	Quinquennial
Definition	Citizens' perceptions and experiences with corruption, quality and impartiality of three essential public services – health, education and policing
Normative direction	More is an improvement
Comments	-

Data				
Centro Region	**2021**	**2017**	**2013**	**2010**
Total	0.16	0.16	-0.07	-0.04

SDG 17 – Partnerships for the Goals

SDG Targets	17.2 (development assistance commitments)
JRC proposed indicator	Official Development Assistance
Indicator for Centro Region	-
Data Source	-
Coverage	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	Due to the absence of a regional government or budget, the Centro Region has determined that this indicator is not suitable for measuring the seventeenth SDG at the regional level in Portugal.

SDG Targets	17.6 (regional and international cooperation)
JRC proposed indicator	PCT co-patent applications that are done with foreign regions
Indicator for Centro Region	PCT co-patent applications that are done with foreign regions
Data Source	OECD, Regional database, variable 'Share of PCT co-patent applications that are done with foreign regions'
Coverage	NUTSII and NUTSIII regions from OECD countries and other European countries
Unit of measurement	Number
Time coverage	2001-2015
Frequency	-
Definition	Number of co-patent application that are done with foreign regions as a proportion of the total co-patent applications
Normative direction	More is an improvement
Comments	-
Data	

Centro Region	2015	2014	2013	2012	2011	2010	2009	2008
Total	61.4	65.8	45.2	56.1	65.9	46.2	72.5	69.7
Centro Region	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	
Total	36.1	48	53.3	30	47.1	50	50	

SDG Targets	17.8 (enabling technology)
JRC proposed indicator	Individuals who used the internet for interaction with public authorities
Indicator for Centro Region	Individuals who used the internet for interaction with public authorities
Data Source	Eurostat, Regional Statistics
Coverage	184 NUTSII (EU-27 plus others)
Unit of measurement	Percentage
Time coverage	2011-2021
Frequency	Annual
Definition	Number of individuals who used the internet for interaction with public authorities as a proportion of the total population
Normative direction	More is an improvement
Comments	

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	48.6	42.1	38.7	40.8	41.7	40.2	41.0	38.0	35.4	36.9	34.2

SDG Targets	17.12 (imports from least developed countries)
JRC proposed indicator	Imports from developing countries
Indicator for Centro Region	Imports from developing countries
Data Source	CCDR Centro
Coverage	1 NUTSII (PT)
Unit of measurement	Euro
Time coverage	2022

Frequency	Annual
Definition	Total of imports from developing countries
Normative direction	More is an improvement
Comments	-

Data	
Centro Region	**2022**
Total	14450292674
Percentage of total imports	18.7

ANNEX 3 METADATA OF THE ADDITIONAL INDICATORS

SDG 1 – No Poverty

SDG Target	1.1 (extreme poverty)
Indicator	Severe material and social deprivation rate (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 182 European regions (Eurostat)
Unit of measurement	Percentage
Time coverage	2018-2022
Frequency	Annual
Definition	Resident population in material and social deprivation (population living with a lack due to economic difficulties of at least seven out of thirteen items of material and social deprivation) as a proportion of the resident population
Normative direction	Less is an improvement
Comments	This is a complementary indicator to the "Material and social deprivation rate (%)" indicator.

Data

Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	3.9	4.6	4.8	4.3	5.7

SDG Target	1.4 (access to basic services)
Indicator	Housing cost overburden rate (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2018-2022
Frequency	Annual
Definition	Household condition where the housing costs represent more than 40%. Housing cost includes the rent, water, electricity, gas and heating,

	condominium, sewage, regular maintenance and repairs, as well as mortgage interest payments and structural insurance.
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by urban areas typology

Data					
Centro Region	**2022**	**2021**	**2020**	**2019**	**2018**
Total	4.2	4.5	3.6	4.4	5.4
Predominantly urban area	5.8	5.9	6.1	7.7	5.2
Medium urban area	3.3	5.1	2.7	4.1	6.2
Predominantly rural area	4.4	3.4	3.6	3.8	4.9

SDG 2 – Zero Hunger

SDG Target	2.c (stable food market)
Indicator	Indicator of food price anomalies
Data Source	-
Coverage	-
Availability for other regions	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	This indicator is considered important; however, no regional data source has been identified.

SDG 3 – Good Health and Well-being

SDG Target	3.3 (epidemics and diseases)
Indicator	Death rate due to communicable diseases
Data Source	Statistics Portugal, Mortality by causes of death

Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 333 European regions plus others (Eurostat)
Unit of measurement	Rate
Time coverage	2007-2021
Frequency	Annual
Definition	Number of people who died due to HIV, tuberculosis, malaria, viral hepatitis, meningococcal infection, Influenza or COVID-19 per 100,000 inhabitants
Normative direction	Less is an improvement
Comments	Alternative indicator for "Deaths due to coronavirus (COVID-19)"
Data	

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
Total	158.0	63.0	10.0	8.5	5.8	6.8	6.5	5.1
Centro Region	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	
Total	5.1	5.9	5.4	4.7	5.7	5.1	5.8	

SDG Target	3.4 (non-communicable diseases)
Indicator	Mortality rate due to intentional self-harm (suicide) per 100 000 inhabitants
Data Source	Statistics Portugal, Mortality by causes of death
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 333 European regions plus others (Eurostat)
Unit of measurement	Rate
Time coverage	2002-2021
Frequency	Annual
Definition	Number of deaths resulting from intentional self-harm (suicide) per 100,000 inhabitants
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by sex and age group
Data	

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total	8.9	9.5	10.4	9.5	10.9	10.6	12.4	12.5	12.4	11.4
Men	13.6	16.2	17.0	15.7	18.1	17.6	19.9	20.8	20.0	19.9
Women	4.6	3.4	4.4	4.0	4.5	4.3	5.7	5.0	5.6	3.6
Centro Region	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
Total	10.2	12.1	11.2	10.4	10.1	8.9	10.1	12.2	12.8	12.7
Men	16.8	18.3	18.2	16.9	14.9	14.1	14.8	19.6	19.5	20.4
Women	4.3	6.3	4.7	4.4	5.7	4.1	5.8	5.2	6.6	5.4

SDG Target	3.5 (substance abuse)
Indicator	Prevalence of daily alcohol consumption among population aged 15 years and older (%)
Data Source	Statistics Portugal, National health survey
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2014-2019
Frequency	Quinquennial
Definition	Resident population aged 15 years and older who consume alcoholic beverages on a daily basis as a proportion of the total adult population
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by sex and urban areas typology

Data

Centro Region	2019	2014
Total	21.0	24.8
Men	35.0	40.8
Women	8.7	10.6
Predominantly urban area	19.7	23.4

Medium urban area	21.5	24.9
Predominantly rural area	23.0	26.8

SDG Target	3.5 (substance abuse)
Indicator	Prevalence of daily smokers among population aged 15 years and older (%)
Data Source	Statistics Portugal, National health survey
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2014-2019
Frequency	Quinquennial
Definition	Resident population aged 15 years and older who smokes on a daily basis as a proportion of the total adult population
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by sex and urban areas typology

Data		
Centro Region	**2019**	**2014**
Total	12.1	15.0
Men	17.3	22.2
Women	7.5	8.6
Predominantly urban area	13.9	17.4
Medium urban area	11.3	13.5
Predominantly rural area	9.5	12.6

SDG 4 – Quality Education

SDG Target	4.3 (vocational and tertiary education)
Indicator	Lifelong learning (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 328 European regions plus others (Eurostat)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Resident population aged between 25 and 64 years that participates in education and training as a proportion of the total resident population of the same age group.
Normative direction	60% - National Reform Programme 2022 (PNR 2022)
Comments	This indicator can be disaggregated by sex

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	14.6	13.2	10.4	10.9	10.9	9.7	10.1	9.5	9.6	9.7	10.6	11.9
Men	14.9	12.2	9.6	10	10.1	9.7	10	9.3	9	9.8	10.9	11
Women	14.3	14.1	11.1	11.8	11.7	9.8	10.2	9.8	10.2	9.7	10.3	12.8

SDG Target	4.4 (vocational and technical skills)
Indicator	Proportion of persons aged between 16 and 74 years old with digital skills at basic or above basic level (%)
Data Source	Statistics Portugal, Survey on ICT usage in private households
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2021
Frequency	Annual

Definition	Resident population aged between 25 and 74 with digital skills at basic or above basic level as a proportion of the total resident population of the same age group.
Normative direction	More is an improvement
Comments	This information also exists by type of digital skills
Data	

Centro Region	**2021**
Total	53

SDG 5 – Gender Equality

SDG Target	5.1 (gender discrimination)
Indicator	Disparity in the average monthly earnings between Male and Female employees (%)
Data Source	MTSSS/GEP, Personnel tables
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2011-2021
Frequency	Annual
Definition	Coefficient of variation of average monthly earnings weighed by the importance of employment of each sex in the total of employees
Normative direction	Less is an improvement
Comments	-
Data	

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Total	10.3	10.3	10.8	11.2	11.1	11.5	11.8	11.6	11.7	11.9	11.7

SDG Target	5.5 (women participation and leadership)
Indicator	Gender gap in managerial positions (%)
Data Source	Statistics Portugal, Labour force survey

Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Difference between the percentage of men and women who hold managerial positions
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	3.3	2.1	2.1	1.2	2.5	2.3	3.3	3.1	2.8	3.3	2.7	2.8

SDG 6 – Clean Water and Sanitation

SDG Target	6.1 (universal access to water)
Indicator	Safe water (%)
Data Source	Services Regulatory Authority for Water and Waste
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2014-2021
Frequency	Annual
Definition	Percentage of water controlled and with good quality
Normative direction	More is an improvement
Comments	-

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014

Total	98.86	98.81	98.71	98.58	98.56	98.68	98.61	98.4

SDG 7 – Affordable and Clean Energy

SDG Targets	7.2 (share of renewable energy)
Indicator	Share of clean energy in energy production (%)
Data Source	Directorate-General for Energy and Geology, Statistics on coal, oil, electric power and natural gas
Coverage	Centro Region
Unit of measurement	Percentage
Time coverage	2009-2021
Frequency	Annual
Definition	Production of electricity from hydro, wind, solar or nuclear sources
Normative direction	More is an improvement
Comments	This indicator is proposed as a replacement of the indicator "Electricity production that comes from nuclear power"
Data	

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**
Total	44.2	39.9	39.6	40.1	29.6	44.1	39.5	56.7	52.8	37.8	37.2	41.1	29.8

SDG 8 - Decent Work and Economic Growth

SDG Target	8.3 (job creation)
Indicator	Survival rate of Enterprises borned 2 years before (%)
Data Source	Statistics Portugal, Business demography
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2010-2021
Frequency	Annual

Definition	Number of active enterprises in year n, borned in year n-2 and survived 2 years, as a percentage of all enterprises borned in year n-2
Normative direction	Less is an improvement
Comments	This indicator complements the "Births of Enterprises (%)" indicator by providing insights into job creation sustainability. Disaggregation by Economic activity (Division - CAE Rev. 3) is available. A similar indicator exists for 238 European Regions, but it focuses on the survival rate of businesses for 3 years. The current indicator provides more extensive and up-to-date data, making it the preferred choice for monitoring the Centro Region. However, the Eurostat indicator may be more suitable for a common monitoring tool across European Regions.

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	58.8	60.1	53.2	55.9	55.6	54.1	61.9	54.3	52.7	51.4	53.1	52.0

SDG Target	8.5 (productive employment)
Indicator	Youth unemployment rate (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 344 European regions plus others (Eurostat)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Unemployed population aged between 16 and 24 years old as a proportion of the active population of the same age group
Normative direction	Less is an improvement
Comments	This is a complementary indicator to the “Unemployment rate (%)” indicator

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	21	20.4	25.2	14.7	19	20.7	26.9	28.9	28.4	31.7	36.7	26.5

SDG Target	8.5 (productive employment)
Indicator	Unemployment rate of older workers (%)
Data Source	Statistics Portugal, Labour force survey
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 344 European regions plus others (Eurostat)
Unit of measurement	Percentage
Time coverage	2011-2022
Frequency	Annual
Definition	Unemployed population aged 45 and above as a proportion of the active population of the same age group
Normative direction	Less is an improvement
Comments	This is a complementary indicator to the "Unemployment rate (%)" indicator

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	2.8	4	4.3	4	3.8	5.9	7.1	7.9	8.5	9	8.8	8.4

SDG Target	8.5 (productive employment)
Indicator	Average monthly earnings (€)
Data Source	MTSSS/GEP, Personnel tables
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Euros
Time coverage	2012-2021
Frequency	Annual
Definition	Average income earned by the current employed population
Normative direction	More is an improvement
Comments	-

Data										
Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Total	1104.1	1070.7	1032.8	995.2	966.3	950.5	945.6	940.4	941.5	931.1

SDG Target	8.5 (productive employment)
Indicator	At-risk-of-poverty rate (after social transfers) of employed population with 18 and more years old (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 177 European regions plus others (Eurostat)
Unit of measurement	Percentage
Time coverage	2017-2021
Frequency	Annual
Definition	Average income earned by the current employed population
Normative direction	4.85% (Reduce by half compared to 2019) - National Strategy to Combat Poverty (ENCP) for 2021-2030
Comments	Proportion of the population with an equivalent income, after social transfers, lower than the at-risk-of-poverty threshold

Data					
Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**
Total	9.50	12.00	9.70	11.3	11.4

SDG 9 - Industry, Innovation, and Infrastructure

SDG Target	9.5 (promote innovation)
Indicator	Enterprises in high and medium-high technology sectors
Data Source	Statistics Portugal, Integrated business accounts system
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Number

Time coverage	2008-2021
Frequency	Annual
Definition	Number of enterprises in high-technology manufacturing industries (NACE Rev.2, codes 21, 26 and 303), to medium-high technology manufacturing industries (NACE Rev.2, codes 20, 27, 28, 29, 254, 302, 304, 309 and 325) and to high-technology knowledge-intensive services (NACE Rev.2, codes 59, 60, 61, 62, 63 and 72).
Normative direction	More is an improvement
Comments	This is a complementary indicator to the "Employment in high-technology manufacturing as a percentage of total manufacturing employment" indicator

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Total	5 177	4637	4500	4308	4160	3940	3767
Centro Region	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Total	3610	3618	3514	3613	3542	3676	3944

SDG 10 – Reduced Inequalities

SDG Target	10.4 (greater equality)
Indicator	Inequality of income distribution S80/S20
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Yes, for 134 European regions plus others (Eurostat)
Unit of measurement	Ratio
Time coverage	2017-2021
Frequency	Annual
Definition	Ratio of the proportion of total income received by the 20% of the population with the highest incomes to the portion of income earned by the 20% of the population with the lowest incomes.
Normative direction	Less is an improvement
Comments	This is a complementary indicator to the "Gini coefficient of net monetary income per equivalent adult (%)" indicator

Data

Centro Region	2021	2020	2019	2018	2017
Total	31.5	33.3	30	30.2	31.3

SDG11 – Sustainable Cities and Communities

SDG Target	11.1 (access to housing)
Indicator	Overcrowding rate (%)
Data Source	Statistics Portugal, Statistics on income and living conditions
Coverage	7 NUTSII Regions (PT)
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2004-2022
Frequency	Annual
Definition	Percentage of household where the number of rooms is not sufficient for the household's dimension and demographic composition
Normative direction	Less is an improvement
Comments	This indicator can be disaggregated by urban areas typology

Data

Centro Region	2022	2021	2020	2019	2018
Total	5.9	6.9	4.8	5.4	4.8
Predominantly urban area	6	7	5.3	4.4	5.8
Medium urban area	7	9.6	7.2	9.2	6.3
Predominantly rural area	4.7	4.4	2.5	2.7	3.2

SDG Target	11.6 (environmental impact)
Indicator	Proportion of urban waste selective collected (%)
Data Source	Statistics Portugal, Urban waste statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found

Unit of measurement	Percentage
Time coverage	2011-2020
Frequency	Annual
Definition	Urban solid waste collected with selective collection as a proportion of the total urban solid waste collected
Normative direction	More is an improvement
Comments	-

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	17	16	14	13	12	12	9	9	10	10

SDG 12 – Responsible Consumption and Production

SDG Target	12.5 (waste management)
Indicator	Proportion of municipal waste prepared for reuse and recycling (%)
Data Source	Statistics Portugal, Urban waste statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Percentage
Time coverage	2012-2020
Frequency	Annual
Definition	Urban solid waste prepared for reuse and recycling as a proportion of the total urban solid waste collected
Normative direction	More is an improvement
Comments	60% - EU Circular Economy Package

Data

Centro Region	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total	45.3	57.5	56.4	50.9	52.4	54.2	52.8	49.8	32.7

SDG Target	12.7 (sustainable public procurement)
Indicator	Proportion of procurement contracts for goods and services by public administration entities that adopt environmental criteria (%)
Data Source	-
Coverage	-
Availability for other regions	-
Unit of measurement	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	This indicator is considered important; however, no regional data source has been identified.

SDG 14 – Life Below Water

SDG Targets	14.4 (sustainable fishing)
Indicator for Centro Region	Sustainable fishery
Data Source	-
Coverage	-
Availability for other regions	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	This indicator is considered important; however, no regional data source has been identified.

SDG Targets	14.7 (blue economy)
Indicator for Centro Region	Gross Value Added (GVA) of the marine economy (€)

Data Source	Statistics Portugal, Integrated business accounts system
Coverage	7 NUTSII Regions (PT) and 25 NUTSIII Regions (PT)
Availability for other regions	Not found
Time coverage	2009-2021
Frequency	Annual
Definition	Gross Value Added (GVA) of enterprises directly related to the major sectors of the Blue Economy. This includes the following classes and subclasses: Fishing (031); Aquaculture (032); Processing and preserving of fish, crustaceans and molluscs (1020); Manufacture of prepared feeds for aquaculture (10913); Wholesale of other food, including fish, crustaceans and molluscs (46381); Retail sale of fish, crustaceans and molluscs in specialised stores (4723); Building of ships and floating structures, except pleasure and sporting boats (3011); Building of pleasure and sporting boats (3012); Repair and maintenance of ships and boats (3315); Sea and coastal passenger water transport (5010); Sea and coastal freight water transport (5020); Supporting water transport activities (5222); Renting of water transport equipment (7734); Accommodation (municipalities with coastal borders) (55); Recreational harbours (marinas) activities (93292); Extraction of sea salt (08931).
Normative direction	472713617€ (Increase by 30% compared to 2018) – MAR 2030
Comments	-

Data

Centro Region	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Total	366108172	283695351	391312338	363625859	359165392	325167177	296330204
Centro Region	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	
Total	288219817	231071396	227034773	248846382	241597872	228376613	

SDG Targets	14.a (research in marine technology)
Indicator for Centro Region	Research and Development (R&D) expenditure of the marine economy (€)
Data Source	Directorate-General for Maritime Policy (DGMP)
Coverage	7 NUTSII Regions
Availability for other regions	Not found
Time coverage	2014-2019

Frequency	Annual
Definition	Investment in scientific research, technological innovation, and development projects specifically related to marine and maritime activities.
Normative direction	More is an improvement
Comments	-

Data

Centro Region	2019	2018	2017	2016	2015	2014
Total	16789	14185	13477	19747	15194	11097

SDG 15 - Life On Land

SDG Target	15.2 (forests management)
Indicator	Mean burnt area (ha)
Data Source	ICNF, DRRF RAA, IFCN RAM, Forestry statistics
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Ratio
Time coverage	2001-2021
Frequency	Annual
Definition	Ratio of burnt area to the number of forest fires that occurred during a specific time period
Normative direction	Less is an improvement
Comments	

Data

Centro Region	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Annual	1.7	13.93	6.85	1.1	72.4	10.6	5.4	3.1	8.5	6.3	3.5
3-year average	7.5	7.3	26.8	28.0	29.5	6.4	5.7	6.0	6.1	5.9	5.3
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	

Annual	7.9	4.4	1.45	1.96	3.82	16.99	5.25	32.4	7.95	7.9
3-year average	4.6	2.6	2.4	7.6	8.7	18.2	15.2			4.6

SDG 16 - Peace, Justice and Strong Institutions

SDG Target	16.1 (reduced violence)
Indicator	Crime rate (‰)
Data Source	Directorate General for Justice Policy
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Rate
Time coverage	2011-2021
Frequency	Annual
Definition	Number of reported crimes in relation of the resident population
Normative direction	Less is an improvement
Comments	

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total	27.5	23.7	23.9	26.3	25.5	26.6	25.9	28.3	28.1	30	32.8	32.8

SDG Target	16.5 (reduce corruption)
Indicator	Number of crimes registered as corruption committed in the exercise of public functions
Data Source	Directorate General for Justice Policy
Coverage	7 NUTSII Regions (PT), 25 NUTSIII Regions (PT) and 308 municipalities
Availability for other regions	Not found
Unit of measurement	Number
Time coverage	1993-2022

Frequency	Annual
Definition	Number of crimes registered as corruption committed in the exercise of public functions
Normative direction	Less is an improvement
Comments	-

Data

Centro Region	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Annual	3	17	5	9	4	10	9	16	16	13	11	11
3-year average	8.3	10.3	6.0	7.7	7.7	11.7	13.7	15.0	13.3	11.7	11.3	12.7
Centro Region	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	
Annual	12	15	12	9	12	7	7	17	14	14	6	
3-year average	13.0	12.0	11.0	9.3	8.7	10.3	12.7	15.0	11.3			

SDG 17 – Partnerships for the Goals

SDG Targets	17.17 (effective partnership)
Indicator for Centro Region	Scholarships for foreign students (from the government)
Data Source	-
Coverage	-
Availability for other regions	-
Time coverage	-
Frequency	-
Definition	-
Normative direction	-
Comments	This indicator is considered important; however, no regional data source has been identified.

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