

Public policies and environmental sustainability. The case of Portugal 2020

Eduardo Medeiros

Iscte-Instituto Universitário de Lisboa, DINÂMIA'CET-Iscte
eduardo.medeiros@iscte-iul.pt

Abstract

This paper explores the implementation of European Union (EU) Cohesion Policy in Portugal under the 2014–2020 programming framework (Portugal 2020) and its contribution to promoting environmental sustainability. It starts with an anatomization of the dominant analytic dimensions of the concept of sustainable territorial development. It then examines the approved projects under Portugal 2020 and relates them to the selected five dimensions of territorial sustainable development, which include a circular economy, social environmental awareness, environmental conservation, a global governance sustainability focus, and a global spatial planning sustainability focus. It concludes that the Portugal 2020' execution rate on supporting renewable sources of energy is strangely low, in view of the untapped potential of the country in, for instance, exploring solar energy.

Keywords: Public Policies, Sustainability, SUNstainability, Portugal 2020

Introduction

Sustainable development has its roots in the underlying notion that natural resources are finite and, therefore, need to be explored in a sustainable way. As such, sustainable development policies can affect the survival of not only our species, but also many other species, and ultimately the biosphere of planet earth. In this context, the strategy and the operationalization of public development policies are key to determining the relevance and potential effects of these policies (results and impacts—see reference) for promoting sustainable territorial development processes. Such policy concerns have propelled the inclusion of sustainable territorial development at the heart of the United Nations (UN) (i.e., 2030 Agenda for Sustainable Development) (UN, 2015) and the EU (i.e., Europe 2020) mainstream policy agendas.

Firstly defined in 1987, by the World Commission on Environment and Development, as the “development which meets the needs of the present without compromising the ability of future generations”, sustainable development has been, for the most part, linked with three essential policy dimensions: (i) economic—to avoid extreme imbalances that damage industrial or agricultural production; (ii) environmental—to avoid overexploitation of renewable resource systems and to maintain a stable resource base; and (iii) social—adequate provision of social services and equality in distribution (Harris & Goodwin, 2001: xxix).

More recently, Sachs (2015) reinforced this mainstream conceptual vision of sustainable

development as being a part of an interaction of three complex systems: (i) the world economy: the need for widespread economic progress; (ii) the global society: the need to eliminate extreme poverty and strengthen the community; and (iii) the Earth's physical environment: the need to protect the environment from human-induced degradation. At the same time, however, Sachs added a fourth conceptual dimension to the debate of sustainable development: good governance. This was based on the realization that governments must carry out many core functions to enable societies to prosper.

As expected, the United Nations (UN) Sustainable Development Goals (SDG) embrace a multidimensional perspective and constitute a good opportunity to reinvigorate the research on sustainable development. These SDGs can be associated with six main thematic areas: dignity, people, planet, partnership, justice, and prosperity. These concerns place inequality at centre stage of the SDGs (Freistein & Mahlert, 2016).

In our understanding, however, they prompt us to confront their denomination which, in view of the proposed actions, are more appropriately connoted with the more encompassing goals of territorial development rather than sustainable development. Based on the above remarks, from our perspective, the following policy goals should be associated with the concept of sustainable territorial development:

1. A circular economy: aiming to maintain the value of products, materials and resources for as long as possible by returning them to the product cycle at the end of their use, while minimizing the generation of waste;
2. Social environmental awareness: aiming to foster an environmentally proactive and educated society;
3. Environmental conservation: aiming to protect, restore, and promote sustainable use of terrestrial ecosystems, and sustainable exploration of natural resources;
4. A global governance sustainability focus: aiming to develop and facilitate the availability of appropriate knowledge and technologies globally, as well as capacity building towards global sustainable development actions;
5. A global spatial planning sustainability focus: aims to promote transnational and global spatial plans to manage transnational/global natural elements (river basins, seas, mountain ranges, ice caps, forests, etc.) with a sustainable development policy approach.

Following this methodological framework, the analysis focuses on the relevance of EU Cohesion Policy for promoting sustainable territorial development in Portugal. The relation between environmental sustainability and EU Cohesion Policy is due to its crucial importance for the territorial development process in the EU and, in particular, the selected case study: continental Portugal. Crucially, EU Cohesion Policy aims to reduce regional development disparities across the EU (Medeiros, 2014). This is mainly done in terms of strengthening the economic and social dimensions of cohesion (Medeiros, 2016). Likewise, EU Cohesion Policy has been critical to supporting environmental sustainability, including the policy encouragement to a transformation of energy systems in response to decarbonization pressures, which includes a clean-energy transition towards producing renewable sources of energy. This policy instrument is formulated for all EU Member States, aiming to achieve similar results in structurally similar

regions, that is, regions with similar socioeconomic development predicaments and challenges (Medeiros, 2017).

1. Portugal 2020: contributions to sustainable development

Since joining the EU, in 1986, Portugal has received financial support from EU funds to promote its territorial development process, in particular through the EU Cohesion Policy (Medeiros, 2014; Medeiros & Rauhut, 2020). In synthesis, from the intervention's strategic priority, during the first four EU Cohesion programming periods (1989-2013), the bulk of the EU funding was allocated to (i) modernize accessibility and socioeconomic infrastructures; (ii) reinforce economic competitiveness; and (iii) support human capital and employment (Medeiros, 2013). It is true that environmental issues have cut across these investments, especially since 1994, where the environment and urban rehabilitation were supported under Axis 3 (promoting quality of life and social cohesion). Also, in 2000, a concrete operational programme (OP) was dedicated to the environment. By 2007, these environmental concerns had been included in the Territorial Valorization OP (Medeiros, 2013). Demonstrably, in a country without elected regional government structures, like Portugal, (in the continental area), regional development policies are mainly fuelled by EU Cohesion Policy funding, in particular via the regional operational programmes. As of 30 September 2019, 69 B€ had been executed under Portugal 2020, 33% of which were assigned to the less developed continental region (North-Norte), whereas 24% were allocated to the Centre (Centro) region (ADC, 2019).

In 2014, Portugal presented the Partnership Agreement for the 2014-2020 programming phase (the aforementioned Portugal 2020). This Agreement maintains previous strategic development guidelines to supporting entrepreneurship and business innovation, strengthening research and innovation systems, increasing economic competitiveness, and qualifying human capital. Alongside Portugal 2020 two specific goals were added to foster the modernization of the public administration and to support the shift into a low carbon and resource-efficient economy: energy efficiency and improved management of natural resources. All of these main policy goals were costed and included in four thematic objectives (ADC, 2014):

- Competitiveness & Internationalization: 10.253 M€ (41%);
- Sustainable Development & Efficient Use of Natural Resources: 6.259 M€ (25%);
- Social Inclusion & Employment: 4.090 M€ (17%); and
- Human Capital: 4.327 M€ (17%).

As can be seen, the decision to allocate the largest investment share to the first goal comes from the realization that the Portuguese economy continues to struggle in the international arena, even after more than 30 years of receiving EU development and cohesion funds, as the 2008 financial crises demonstrated (EESC, 2013). Indeed, only three Portuguese Nomenclature of Territorial Units for Statistics (NUTS) 2 (Lisbon Metropolitan Area - 2000, Algarve and Madeira - 2007) are no longer in the group of the less developed EU regions, which means the majority of the Portuguese territory is still under this undesirable EU territorial development category. A positive note, however, should be given to the 25% allocation of EU funds to the second main goal of sustainable development in Portugal 2020, and its associated components:

- Move towards a low carbon economy;
- Invest in renewable energy use, energy efficiency and smart grids;
- Increase adaptability to climate change;
- Protect the coast from erosion, reduce fires and prevent flooding;
- Reduce and recycle waste and promote efficient water management.

Going back to our proposed conceptual base for understanding and evaluating the policies' contribution to sustainable development (Fig. 1) one can draw the following main conclusions from the project analysis:

1. Circular economy: There were only a few projects which specifically targeted this policy goal. In particular, they focused on increasing the selective collection of paper/cardboard, plastic/metal and glass in municipal waste processes. The other three were closely linked with the next policy topic which is more related to the creation of social awareness of the advantages of implementing a circular economy process. On the whole, this dimension has not been particularly favoured by Portugal 2020.

2. Social environmental awareness: There were several projects aligned to tackle educational and social awareness of the Portuguese population. Most were centred on alerting the population to climate change and the advantages of selective waste collection. Others raised awareness on themes like food waste, domestic and community composting, and reduced hazardousness of specific packaging, forest fires, household and public administration energy savings, environmental conservation, selective collection and domestic composting, risks associated with climate change, sustainable mobility plans, and the advantages of a circular economy in urban waste. In sum, there were more than 100 projects aimed at promoting social environmental awareness of issues related to sustainable development within Portugal 2020;

3. Environmental conservation: As depicted in Table 3, natural and cultural protection received around 8% of the allocated funding for sustainable development. More fundamentally still, most of the remaining interventions have a transversal focus on environmental conservation. Hence, one can conclude that environmental conservation was a key topic for the sustainable development policy goal of Portugal 2020;

4. Global governance sustainability: As expected, this component was not particularly supported by the analysed projects. There was, however, one project which proposed a governance and monitoring model based on outcome indicators for implementing a low-carbon development strategy. This domain is, nevertheless, slightly covered by the transnational cooperation programmes supported by Portugal 2020: Atlantic Area, South West Europe, and Mediterranean Area (Medeiros et al, 2019).

5. Global spatial planning sustainability: Spatial planning is an often-mentioned domain in the analysed projects under this sustainable development policy goal. This is especially visible in projects which aim to develop spatial planning processes related to coastal protection and the rearrangement of road and cycling traffic, parking, and pedestrian and other public spaces. Likewise, some spatial planning related interventions were focused on issues like: forest fires mitigation, urban mobility, rearrangement of road traffic, parking,

water management, biodiversity, forest areas, natural heritage and protected areas. The global spatial planning perspective is, however, clearly absent from the analysed projects, as they focus on concrete urban/local/regional territories.

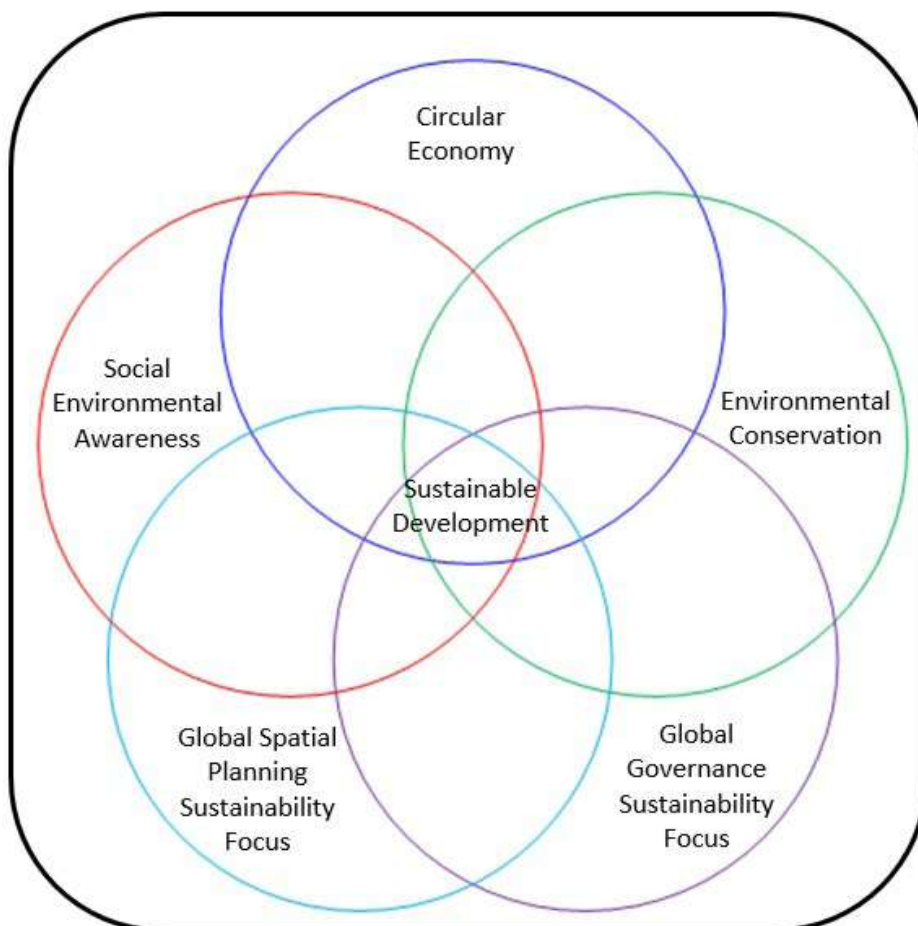


Figure 1: Main policy dimensions of Sustainable Territorial Development
Source: authors

2. Portugal 2020 and the production and use of renewable energy sources

Despite all the efforts from many nations in investing in the production of renewable sources of energy, recent (2019) data show that, when it comes to the use of energy, the world still follows an unsustainable path, by moving stubbornly in the wrong direction, since “global energy demand and carbon emissions from energy use grew at their fastest rate since 2010/11, moving even further away from the accelerated transition envisaged by the Paris climate goals” (BP, 2019: 1). Indeed, by 2018, the renewables share of world energy production was only 4%, since almost all countries still cover their basic energy needs from fossil fuels such as oil, coal and natural gas (Güney, 2019).

Arguably, sustainable development strategies require favouring the use of renewable energy

sources as effective solutions to reduce pollution levels caused by the use of fossil fuels (Güney, 2019). Here, just as with the implementation of the UN SDGs, the main responsibility to take action “remains state-centric with great room for state sovereignty, self-regulation and respect for national circumstances” (Bexell & Jönsson, 2017: 25). In roughly equal parts, high levels of economic growth, which is closely linked with energy consumption, tend to cause environmental degradation, thus threatening sustainable development (Yazdi & Shakouri, 2018). Hence, renewable sources of energy present a concrete solution to mitigate global warming/climate change trends (Bagliani et al., 2010).

Portugal has an ambitious goal to use 31% of energy from renewable sources by 2020, 10% in the transport sector. By 2017, it had reached 27.3%, whereas the share of electric energy based on renewable sources reached 53.7% in 2018, against 38.5% in 2010 (APA, 2019). These numbers show a clear tendency in Portugal for an increasing use and production of renewable sources of energy, in overall terms, as the data from Table 1 show. However, the steady increase of eolic-based energy contrasts with the irregular production of hydroelectric-based energy since Portugal has a quite variable weather system, prone to dramatic yearly changes in precipitation values. Moreover, as previously mentioned, it is also clear that Portugal has not been capable of harnessing its tremendous photovoltaic energy production potential (Castillon et al., 2016), unlike other southern European countries (Quirós et al., 2018).

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Hydroelectric	16,547	12,114	6,660	14,868	16,412	9,800	16,916	7,632	13,628	8,814
Eolic	9,182	9,162	10,260	12,015	12,111	11,608	12,474	12,248	12,617	12,894
Biomass	2,226	2,467	2,496	2,516	2,578	2,518	2,481	2,573	2,558	2,624
Biogas	100	161	210	250	278	294	285	287	271	245
Urban solid waste	577	592	490	571	481	584	610	632	573	587
Geothermic	197	210	146	197	205	204	172	217	230	206
Photovoltaic	215	282	393	479	627	799	871	993	1006	1,248
% renewables	51,1	45,1	38,2	57,4	61,4	47,6	62,0	44,2	55,0	51,7
Total	28,754	24,692	20,411	30,610	32,453	25,514	33,503	24,309	30,637	26,366

Table 1: Annual production of renewable sources of energy (GWh) in Portugal (2010-19). Source: DGEG (2019)

Own elaboration. Note: 2019 until September

Based on the current panorama of renewable energy production, in a country like Portugal, which imports all its oil, gas and coal (around 11.5% of the total imports in 2019 – GEE, 2019) for energy production, and which has an untapped potential to further explore renewable sources of energy (solar – mostly in the south and interior part of the country and in particular in urban areas, offshore eolic and tidal, and biomass – near forest areas), one would expect that a large share of the Portugal 2020 funds would have been allocated to developing the production and use of renewable sources of energy. Strangely, this is not the case. Indeed, the analysis of the Portugal 2020 project database (Table 2) allows for the following main conclusions:

1. Funding: the share of the allocation of funds for the production of renewable sources of energy is particularly low in view of the country’s potential in this domain. Here, hydroelectric is, by far, the most financed source of renewable energy, in a project located on the island of Madeira (Calheta).
2. No support for solar energy: surprisingly, not a single project was dedicated to exploring the country’s potential to be one of the world’s leaders (as it is with the production of wind energy) in exploring solar sources of energy (photovoltaic, thermal), namely in the southern part of the country and in urban areas, such as: brightfields (Spiess & De Sousa, 2016); on buildings via rooftop PV cells and water-heating systems (Kar et al., 2017); transport (IRA, 2016); roads, sidewalks, vacant land at industrial sites; large rooftop areas of car parks and shopping centres; and on degraded or contaminated land (Steffen et al., 2019).
3. Off-shore energy production: there is an interesting project, which is part of Portugal 2020, to assess the potential impacts of the implementation of off-shore sources of energy (wind and wave) in a country with a vast oceanic coast. This is, nevertheless, and in our opinion, largely insufficient in view of the country’s potential to explore these energy sources. In this regard, Portugal could follow the examples of other countries like the United Kingdom (Zeyringer et al., 2018) where “wave & tidal stream energy combined has the potential to deliver around 20 per cent of the UK’s current electricity needs which equates to an installed capacity of around 30 – 50GW”, even though the Portuguese continental shelf is not as vast and shallow as is the case of the North Sea (Araújo, 2017);
4. Biomass and others: There are three projects aiming at exploring the potential of Portuguese biomass, which is still significant in view of the Portuguese forest area (DGT, 2018b), and despite the associated annual forest fires (Marques et al., 2011). Another positive note, in our understanding, is given to the exploration of hydrogen as a potential source of clean energy, namely in vehicles.

Project main goal	Source of energy	€
Identify optimal sources of biomass	Biomass	227.884
Optimization of biomass use	Biomass	47.482
Assess the potential and impact of hydrogen use	Hydrogen	58.881
Assess the potential and impact of hydrogen use	Hydrogen	142.648
Storage of compress air	---	130.420
Assess the impacts of the use of offshore energy	Wind and tides	355.288
Expansion of hydroelectric plant	Hydroelectric	57.887.662
Construction of a biomass plant	Biomass	8.385.091
Construction of a battery storage centre	---	11.500.000
Construction of a battery storage centre	---	973.850
Total		79.709.206

Table 2: Portugal 2020 executed funding on the promotion of production and distribution of renewable sources of energy sub-goal. Source: Agency for Development and Cohesion Database until September 2019 - Own elaboration

In sum, the Portugal 2020 contribution to improving the use and production of renewable sources of energy is limited and insufficient, taking into account the untapped potential of the Portuguese territory in this domain. Additionally, and this is extensive to the use of EU funding in Portugal, the policy intervention logic is one of fuelling pinpoint project proposals instead of supporting a clear development strategy which boosts the territorial development potential of the country. In this regard, and in our view, Portugal 2020 seems to be another lost opportunity to place Portugal in the group of the most developed European countries, in particular, by smartly exploring its main territorial sustainable development potential, especially in the renewable energy policy cluster. For this to happen, EU funding should be ring-fenced to key territorial sustainability development areas, such as the promotion of urban sustainability development strategies (Medeiros, 2020) and off-shore wind and tidal related energy production.

3. Conclusion

This paper has shed some light on the expected contribution of Portugal 2020 to promoting sustainable territorial development processes. The analysis advanced a newly proposed theoretical approach to sustainable territorial development as a five-dimensional concept, which should contribute to supporting a circular economy, social environmental awareness and environmental conservation, applied to the Portuguese case.

Put simply, and based on a detailed project analysis of the executed Portugal 2020 projects until September 2019, it was possible to conclude that the initial goal to allocate around 25% of the total funds from Portugal 2020 to promoting sustainable development is a far cry from the current execution (14%). Worse still is the lack of strategic vision for the sustainable territorial development of Portugal, in view of its territorial needs and potentials in the medium and long term. This is clear while analysing the weak support to the exploration of renewable energy sources, and in particular solar energy, namely in urban areas, as well as the limited support to promoting the implementation of a circular economy. Indeed, by analysing the Portugal 2020 project database it is possible to confirm that there is a clear continuation path from past EU Cohesion Policy programming periods, in which project selection does not follow a clear overall strategic development vision for Portugal. Rather, the approved projects follow a rationale for pin-pointing and solving local/regional public/private development interests and visions, whose relevance and significance can be questioned for the overall and sustainable development of Portugal.

On a positive note, however, Portugal 2020 has supported several projects aiming at building up a social environmental awareness, in particular by alerting the Portuguese population to the consequences associated with global warming (the predicted rise of the ocean is expected to affect many populated areas in the Portuguese territory in the next decades) and the need to increase waste recycling practices. Likewise, the measures taken to promote environmental conservation were applied with sufficient strength, relevance, and in a balanced way across the Portuguese territory.

As usual, we must wait for the conclusion of Portugal 2020 to produce a final and conclusive study on its contribution to sustainable territorial development in Portugal. Alongside the use

of a project and literature analysis, interviews with major (national, regional and local) players on the studied domain could help to add more precision to this paper's conclusions. Even so, there is clearly more than enough data to support its main conclusions that a more targeted and strategic project selection rationale in the future EU Cohesion Policy period in Portugal is necessary, in order to increase the efficiency of the allocated funds in the mentioned crucial domains of sustainable territorial development. Certainly, the levels of national civic and economic stakeholders' awareness and preparation to access policy financial incentives towards supporting the use and production of renewable energy solutions are partially responsible for its relatively low execution within the Portugal 2020.

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