

Green Words, Misplaced Funds?

*EU Investment Fund Policy, Wildfire Risk, and the
Spatial Logic of ERDF and EAFRD Investment,
with Reference to Portugal*



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Abstract

Across the EU, wildfires are becoming an increasingly devastating threat, placing growing pressure on investment in prevention. This thesis examines whether the greening of EU investment fund regulations governing the European Regional Development Fund and the European Agricultural Fund for Rural Development between the 2014-2020 and 2021-2027 programming periods has produced a regulatory architecture that would enable or require spatially targeted investment toward wildfire-vulnerable regions, with particular reference to Portugal. A document analysis consisting of three parts is applied to four EU regulations (governing EU investment funds) as well as audit evidence from the European Court of Auditors, applying Hajer's concept of ecological modernisation as well as Barca's concept of place-based development and spatial blindness. The analysis finds that both funds have undergone strengthening of climate language between the two periods, with stronger earmarking obligations and more binding language. However, neither fund's regulations contains a requirement that climate-adaptation investment be directed toward the territories where wildfire risk is greatest. The earmarking systems track how much was spent on climate activities, but not where within a member state that spending went. Audit evidence from Portugal confirms that this regulatory design has produced spatial misalignment between investment and risk exposure in practice.

Keywords: EU investment fund regulation, wildfire governance, ecological modernisation, place-based development, EU climate mainstreaming

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List of Abbreviations

EAFRD: European Agricultural Fund for Rural Development

RRF: Recovery and Resilience Facility

ERDF: European Regional Development Fund

EU: European Union

NUTS2: Nomenclature of Territorial Units for Statistics

ECA: European Court of Auditors

CAP: Common Agricultural Policy

AGIF: Agência para a Gestão Integrada de Fogos Rurais (Agency for Intergrated Management of Rural Fires)

PO: Policy Objective

TO: Thematic Objective

CSF: Common Strategic Framework

EFFIS: European Forest Fire Information System

1. Introduction

1.1 Background

Wildfires have become one of the most visible and destructive effects of climate change in Europe. The European Court of Auditors (2025) states that data from the European Forest Fire Information System reveals that the European Union faces more than a thousand wildfires annually, which destroy an average of 353,000 hectares of land each year (p.4). This releases large quantities of carbon dioxide into the atmosphere, causing biodiversity loss, human casualties, as well as economic damage (European Court of Auditors, 2025, p.4). The European continent is not evenly exposed to this risk. Southern European countries such as Portugal bear a disproportionate share of wildfire hazard due to the combination of dry Mediterranean climates and a land cover characterized by forests (OECD, 2023, p.5). The country experienced serious fire seasons in 2017, resulting in 66 deaths during the Pedrógão Grande disaster, the single deadliest wildfire event in Portugal's history (Ribeiro et al., 2020, p.1). In 2025, fires burned approximately 279,000 hectares, its worst season since 2017, alluding to the fact that the underlying drivers of wildfire risk remain unresolved despite successive policy interventions (European Forest Fire Information System, 2026). Figure 1 shows the national wildfire hazard map for 2020-2030, illustrating the concentration of high and very high hazard in the northern, central, and southern regions.

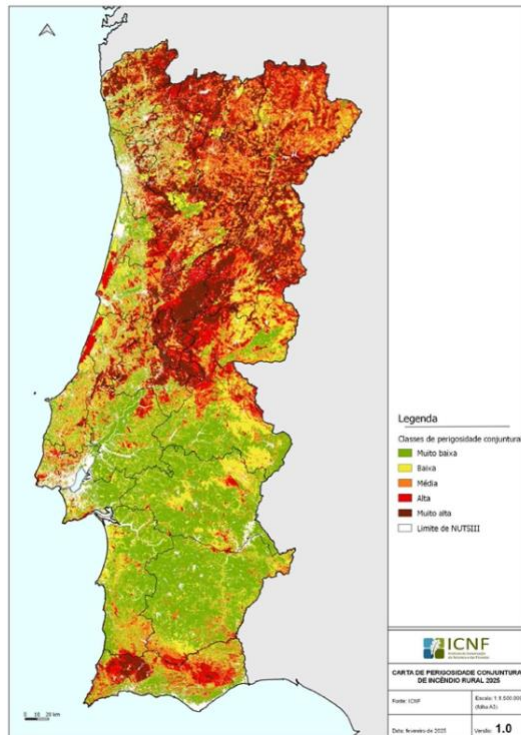


Figure 1. Portugal national wildfire hazard map for 2020-2030, classifying territory across five hazard levels: very low, low, average, high, and very high. The highest hazard levels are concentrated in the Northern and Central regions. Source: ICNF (2022).

Over the past two decades, the EU has changed how it frames environmental and climate risks within its core investment measures. EU cohesion policy, the Union's primary territorial development instrument, delivers funding through the European Regional Development Fund (ERDF), the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund (European Parliament and Council of the European Union, 2021a, p.180). It has gradually incorporated climate language, climate earmarking requirements, and recently climate-proofing obligations into its regulatory framework (European Commission, n.d., a; European Parliament and Council of the European Union, 2013a; European Parliament and Council of the European Union, 2021a). The policy has its origins in the Treaty of Rome (1957) and focuses on the poorest and less developed regions (European Commission, n.d., a; Bachtler, 2022). The change between the 2014-2020 and 2021-2027 cohesion policy programming periods are distinct. The 2021-2027 Common Provisions Regulation 2021/1060 introduced Policy Objective 2, 'A Greener, Low-Carbon Transitioning towards a Net Zero Carbon Economy' (p.184), a binding¹ 30 percent climate expenditure target for the ERDF,

¹Binding refers to something 'that cannot be legally avoided or stopped' (Cambridge Dictionary, n.d., a).

and a climate-proofing obligation under Article 6 requiring that all investments be consistent with national climate adaptation strategies (European Parliament and Council of the European Union, 2021a, p.185). On the surface, this represents a clear hardening of climate ambition within the EU's investment framework.

EU agricultural policy delivers an additional degree of investment for wildfire-related measures through the European Agricultural Fund for Rural Development (EAFRD) (European Commission, n.d., b). The EAFRD is one of the two main funds of the Common Agricultural Policy (CAP), the EU framework governing agricultural and rural development spending (European Commission, n.d., b). Unlike the ERDF, which is directed at regional economic convergence² (European Commission, n.d., d), the EAFRD is directed at rural development (European Parliament and Council of the European Union, 2013b, p.499). Because wildfire prevention is inherently a land management problem, rural development policy via the EAFRD has been one of the primary EU funding initiatives for prevention activities (Aggestam, 2024, p.4). In fire-prone member states like Portugal, EU funding has played a central role in financing wildfire prevention and forest resilience measures in Portugal, particularly since 2017 (OECD, 2023, p.25). The 2014-2020 period was governed by Regulation 1305/2013 and the 2021-2027 period is governed by Regulation 2021/2115. As with the ERDF, the EAFRD has arguably undergone greening of its regulatory framework between the two programming periods, with increasingly binding climate obligations and stronger alignment with international climate agreements such as the European Green Deal³.

When put in the context of wildfire hazard, a key question remains unanswered. Has this regulatory hardening translated into investment that includes effective targeting of wildfire as a specific climate hazard, in the territories most exposed to it? Spending under both the ERDF and the EAFRD is ultimately determined not at EU level but through Operational Programmes and Strategic Plans negotiated between Member States and the European Commission (European Court of Auditors, 2025, p.45). Under cohesion policy, these take the form of Operational Programmes (European Court of Auditors, 2025, p.45; Bachtler, 2022). Meanwhile, under the EAFRD, they took the form of Rural Development Programmes in the 2014-2020 period and CAP Strategic Plans in the 2021-2027 period

²‘Economic convergence is usually defined as a process where a set of countries or regions becomes more similar in terms of income...’ (European Parliament, 2018, p.6).

³The European Green Deal is an EU strategy designed to transition the bloc into a resource-efficient economy, established to reach net-zero greenhouse gas emissions by 2050 (European Commission, n.d., f).

(European Parliament and Council of the European Union, 2013b; 2021b; European Court of Auditors, 2025, p.45). In both cases, the EU sets the regulatory framework and the thematic⁴ conditions, but the territorial logic of how investment is distributed across a member state remains a national decision. Member States are required to design and carry out programmes at the regional level ‘...in accordance with their institutional, legal and financial framework’ (European Parliament and Council of the European Union, 2021a, p.185). Whether the climate language of EU-level regulations is reflected at this stage, and whether resulting investments are concentrated in areas of highest climate risk, are questions that previous research has begun to address but has not yet looked into sufficiently, particularly in the case of wildfire risk. Those questions cannot be answered without first understanding whether the regulations are designed to produce such outcomes. This study mainly bridges EU climate governance and the long-standing debate about whether cohesion policy investment follows territorial need.

1.2 Aim and Research Question

This thesis investigates whether the greening of EU investment fund regulations governing the ERDF and the EAFRD between the 2014-2020 and 2021-2027 programming periods has produced a regulatory architecture that would enable or require spatially targeted investment, or whether it represents mainly a shift in language without a change in its logic of investment. The study works primarily on the EU regulatory level and Portugal serves as the illustrative case that sets the study in a specific national context. It is one of the most wildfire-exposed EU Member State by recent burned area (European Forest Fire Information System, 2026), one of the most examined countries in the audit evidence (European Court of Auditors, 2025), and the gap between regulatory ambition and spatial investment logic is to a certain degree documented. The main research question is stated below.

Has the greening of EU investment fund regulations governing the ERDF and the EAFRD between the 2014-2020 and 2021-2027 programming periods produced a regulatory architecture that would enable or require spatially targeted investment toward wildfire-vulnerable regions, with particular reference to Portugal?

⁴ Thematic refers to the organisation of investment priorities around predefined policy themes rather than around territorial need (European Parliament and Council of the European Union, 2013a, p.343)

The central research question is addressed through two further questions:

1. How has climate and wildfire-related language, framing, and fund-earmarking shifted between the ERDF and EAFRD regulations across the two programming periods?
2. How does the Commission justify its approach to climate investment in EU investment fund regulations governing the ERDF and the EAFRD, and how does that justificatory language hold up against independent audit evidence?

Document analysis is used as the primary method, a qualitative procedure for reviewing and interpreting both primary regulatory documents and secondary data (Bowen, 2009, p.27). The study aims to develop an understanding of the relationship between policy language and territorial investment logic, using Portugal as an illustrative national case.

1.3 Delimitations and Scope

There are several delimitations in this study. First, the regulatory discourse analysis in chapter 5, parts 1 and 2, cover the ERDF and the EAFRD. Both funds have financed wildfire-related investment in Portugal (European Court of Auditors, 2025) and have arguably undergone climate mainstreaming⁵ across the two programming periods. As previously mentioned, rural development policy via the EAFRD has been one of the ways EU funds contribute to wildfire prevention (Aggestam, 2024, p.4), and comparing its regulatory architecture to that of the ERDF allows the analysis to assess whether the patterns found are specific to cohesion policy or reflect a general reasoning across EU investment fund regulations. The Recovery and Resilience Facility (RRF)⁶ is not included. The RRF does not use the programming and managing authority structure that defines cohesion policy and the EAFRD (European Court of Auditors, 2026, p.45). In the case of cohesion policy and the ERDF, the EU regulation sets the framework, each member state produces an Operational Programme negotiated with and approved by the Commission, and a managing authority is responsible for implementing that programme over the programming period (European Court of Auditors, 2025, p.45). The RRF works differently as each member state submits a national

⁵Climate mainstreaming is a concept used by financial institutions to refer to the systematic integration of climate considerations into all of a financial institution's strategies and operations' (Gancheva et al., 2024, p.13)

⁶The Recovery and Resilience Facility (RRF) is a temporary EU funding mechanism partially aimed at supporting green transition reforms, including member state investments in climate adaptation and wildfire prevention (European Union, n.d.).

Recovery and Resilience Plan directly to the Commission (European Parliament and Council of the European Union, 2021c, p.38), and funding is given as the member state demonstrates it has met specific targets (European Parliament and Council of the European Union, 2021c, p.46). There is no managing authority, no Operational Programme or Strategic Plan, and no programming period equivalent to 2014-2020 or 2021-2027.

Second, spatial references in this study are made at the NUTS 2 regional level. 'NUTS', which stands for Nomenclature of Territorial Units for Statistics, is the EU's standard system for dividing up member state territories for the purpose of collecting statistics and allocating regional funding (Eurostat, 2024). NUTS 2 is the middle level of this classification, roughly corresponding to major administrative regions within a country (Eurostat, 2024). NUTS 2 is the appropriate level of analysis here because EU investment policy eligibility and EU regional policy are structured at this level, making it the relevant unit for comparing investment priorities against geographical risk (European Parliament and Council of the European Union, 2013a, p.245). In Portugal, the relevant NUTS 2 regions for this study are the mainland regions of Norte, Centro, and Algarve, the three regions that account for the majority of Portugal's historically burnt area (Beighley and Hyde, 2018, p.15; San-Miguel-Ayanz et al., 2025, p.28; ICNF, 2022). The remaining regions, Alentejo, Lisboa, and Oeste e Vale do Tejo, have significantly lower total area burnt and lower risk, including them would not meaningfully strengthen the case for or against spatially targeted investment (ICNF, 2022; Eurostat, 2024). Figure 2 shows the NUTS 2 regional boundaries in Portugal and describes which ones are relevant to this study.

Portugal - NUTS level 2

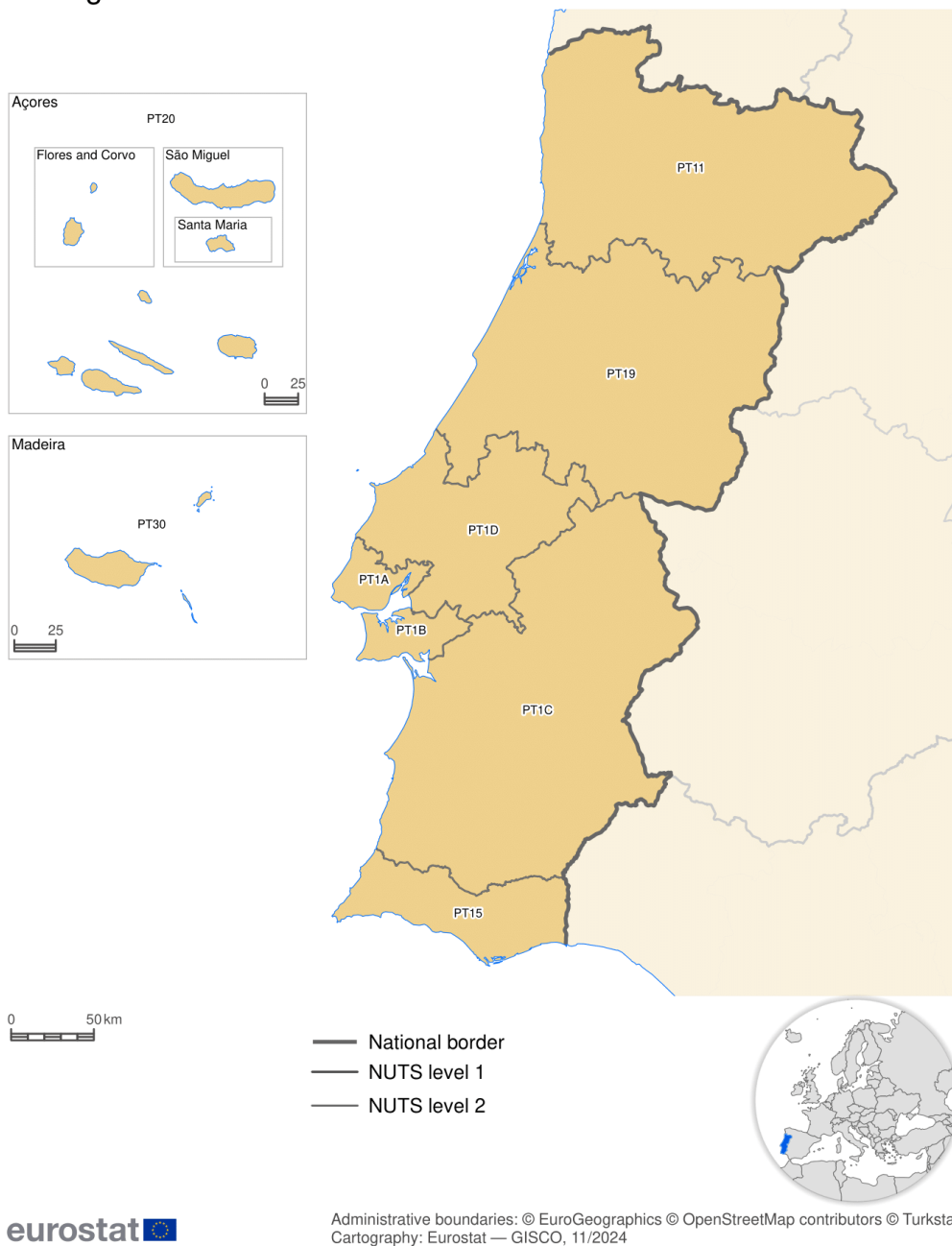


Figure 2. Portugal divided into NUTS 2 regions. PT11 represents Norte. PT19 represents Centro. PT15 represents Algarve. Source: Eurostat (2024).

Third, the study compares two programming periods, 2014-2020 and 2021-2027, and focuses on programme design and stated investment priorities rather than on expenditure outcomes or project-level results. The 2021-2027 period is ongoing and final expenditure data is not yet available. Findings are about the design of EU policy investment rather than its territorial impacts. This thesis looks at how investment priorities are described. The analysis

does not examine earlier programming periods such as 2007-2013, meaning longer-term trends in climate language before 2013 are outside the scope of the study.

Fourth, Portugal was selected for several reasons. It is among the most wildfire-affected EU Member States by total burnt area, it underwent significant policy reform following the 2017 fire disasters, shifting its stance from mainly reactive suppression to prevention, and it is one of the main Mediterranean case countries evaluated by the ECA Special Report 16/2025 to track EU prevention spending, making it the most relevant context available for this study (European Court of Auditors, 2025; OECD, 2023, p.9; p.26). Comparisons with other Southern European Member States are made where secondary sources permit, but no cross-national comparison is made.

1.4 Structure of the Thesis

Following this introduction, chapter 2 outlines the theoretical framework. Chapter 3 reviews policy literature of the history and climate evolution of EU cohesion policy and the Common Agricultural Policy, as well as wildfire governance in Southern Europe and Portugal. Chapter 4 describes the methodology, justifying the choice of document analysis, explaining the design of the three parts of the analysis, and outlining the limitations of the study. Chapter 5 outlines the analysis and the findings of the discourse analysis. Chapter 6 provides concluding remarks.

2. Theoretical Framework

The analysis is based on two theoretical frameworks. Hajer's (1995) policy discourse analysis and the concept of ecological modernisation as well as Barca's (2009) place-based development approach and concept of spatial blindness. Together, these frameworks provide useful perspectives for the discourse analysis, each looking into a different aspect of the gap between regulatory language and territorial investment logic.

2.1 Policy Discourse Analysis and Ecological Modernisation

In *The Politics of Environmental Discourse*, Hajer (1995) presents ecological modernisation as the dominant way of thinking about environmental policy in Western societies from the 1980s and onwards (pp.25-26). It is described as a discursive trend of '...ideas, concepts, divisions, and classifications emerging in different countries and international organizations, such as the UN, the OECD, or the European Union' (p.26). His general definition of ecological modernisation is that it is discourse that '...recognises the structural character of the environmental problematique but none the less assumes that existing political, economic, and social institutions can internalize the care for the environment' (Hajer, 1995, p.26). The idea is that we do not need to completely replace e.g. governments or institutions to deal with environmental problems. They can be reformed and made greener from within. Environmental protection is seen as compatible with economic growth as opposed to being something that slows it down (Hajer, 1995, pp.25-26). Fixing environmental problems becomes a question of adding the right rules and targets rather than rethinking how investment decisions are made. Hajer's argument is essentially that when modern governments face environmental crises (such as wildfires), they rarely try to reinvent e.g. (in somewhat extreme terms) their entire political or economic systems. Instead, they try to fix the problem using e.g. regulations and funding management by presenting environmental protection as compatible with economic growth.

The EU investment fund regulations studied in this thesis seemingly follow this approach. Climate objectives have been added to the ERDF and EAFRD across successive programming periods, but the design was mainly built around economic convergence and rural development rather than around climate adaptation. The research question this thesis asks is whether adding climate language to these regulations has changed how investment is actually distributed across territories, or whether it leaves the underlying approach unchanged. The main idea is to examine whether wildfire risk is treated as a place-specific problem requiring investment to follow where that risk is concentrated, or whether it is treated as a general theme to be mainstreamed across all territories equally. Discourse analysis is well suited to this question because it asks what the rules require, how problems are framed and what assumptions are built into that framing (Hajer, 1995). Hajer (1995) defines discourse as 'a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which

meaning is given to physical and social realities' (p.44). In other terms, a discourse is the shared set of ideas and language through which actors make sense of a problem and decide what should be done about it (Hajer, 1995, pp.60-61). Furthermore, Gasper and Apthorpe (1996) add a useful perspective, arguing that effective discourse analysis requires attention to both text and context, to how language is structured and to the institutional settings that give it force (pp.4-6). This outlines the approach of this thesis, which reads the text of EU regulations alongside the justificatory language in their recitals as well as the Commission's response to an audit by the European Court of Auditors. This framework is useful because the thesis is testing whether the greening of EU funds has changed not just policy language, but the underlying logic of how the funds are allocated.

Building on Hajer's work, Christoff (1996) distinguishes between a weak and a strong form of ecological modernisation (p.490). What Christoff (1996) contributes is the idea that different forms of ecological modernisation '...lie along a continuum from weak to strong' (p.490). In its weak form, ecological modernisation remains 'economistic' and 'technological (narrow)' (p.490), addressing environmental problems through financial targets and technical adjustments rather than through any restructuring of how institutions operate. In its stronger form, 'ecological' and 'institutional/systemic' (p.490), environmental objectives come to reshape institutional priorities and decision-making. This thesis draws on this distinction to ask whether the greening of the ERDF and EAFRD regulations represents the weak or the strong end of that continuum. Strong ecological modernisation in this context would mean that the regulatory architecture actively requires investment to follow where climate risk is greatest rather than simply tracking how much is spent on climate activities.

2.2 Place-Based Development

The second framework is Barca's (2009) agenda for a reformed EU cohesion policy. In the report he states that cohesion policy has high potential to provide development to the places that need it most (p.106). However, while outlining the successes and failures of cohesion policy, Barca (2009) argues that cohesion policy has often failed to realise its full potential because 'The territorial or place-based perspective (that cohesion policy has helped bring about) is often blurred' (p.106). What Barca (2009) claims is that the design is sometimes blind to space, instead allocating investment through broad priorities and economic convergence rather than on the basis of place-specific development needs (p.106).

Barca (2009) argues that place-based development policy aims to reduce 'persistent inefficiency... and persistent social exclusion in specific places' (p.XI), and that cohesion policy should be reformed to address this. He defines place-based development as 'a long-term development strategy whose objective is to reduce persistent inefficiency...in specific places' (Barca, 2009, p.5). Barca (2009) adds that place-based development policy is 'promoted from outside the place by a system of multilevel governance where grants subject to conditionalities on both objectives and institutions are transferred from higher to lower levels of government' (p.5).

Does the EU and the ERDF regulatory framework actually impose those conditionalities in a meaningful way with respect to wildfire risk? Barca's perspective of spatial blindness, policies that 'camouflage strong and intended spatial effects... behind a screen of self-proclaimed spatial blindness' (Barca, 2009, p.XI), provides a way to ask whether ERDF and EAFRD investment in Portugal for wildfire risk has been allocated on the basis of spatial needs as opposed to mainly fiscal requirements. His observation that although climate change is global, its effects are place-specific and 'According to the projections, the most extreme direct effects are likely to occur in the peripheral parts, so exacerbating existing disparities' (Barca, 2009, p.136), puts wildfire-vulnerable regions such as Norte, Centro, and Algarve as the territories where place-based climate investment reasoning should apply. Furthermore, his argument that '...in a situation where some places might fail to develop adequate responses' to e.g. climate change, creates '...a rationale for place-based intervention' (Barca, 2009, p.137). In other words, the more vulnerable a place is and the less capable it is of responding by itself, the stronger the argument for directing investment towards it rather than distributing it evenly across territories. Barca's argument provides a basis for expecting that an investment framework in wildfire-risk territories should be designed to direct investment toward them.

The concept of spatial blindness and the observation that climate effects are place-specific are the parts that are relevant to the argument of this thesis. Barca's general point, that cohesion policy should be restructured, is not necessarily part of the argument. The question this thesis asks is not whether EU investment policy as a whole should be restructured along the lines Barca proposes, but whether its current regulatory design produces a spatial logic capable of directing investment toward the territories where risk is concentrated.

3. Literature Review

3.1 EU Investment Fund Policy and Climate Mainstreaming

EU cohesion policy originates from the Treaty of Rome in 1957 and was reformed in 1988 into a framework for directing EU resources toward less developed regions through long-term programming, ‘strategic orientation of investments’, and the ‘involvement of regional and local partners’ (European Commission, n.d., a). The Maastricht Treaty in 1993 introduced the cohesion fund and established the principle of subsidiarity as a governing principle of EU action (European Commission, n.d., a; European Commission, n.d., c). Under subsidiarity, the EU acts only where objectives cannot be sufficiently achieved by member states alone (European Commission, n.d., c). In cohesion policy, this means that spatial planning decisions, including where within a member state’s territory to direct investment, mainly remain a national and regional competence (Bachtler, 2022). The EU sets the regulatory framework, the thematic priorities, and the financial conditions, but member states retain the freedom to decide over the spatial logic of their investment programmes (Bachtler, 2022). This is the reason why the regulations under analysis do not contain direct spatial targeting requirements, and defines what regulatory change would be legally feasible. Successive programming periods have reshaped the policy in line with changing EU priorities (European Commission, n.d., a). One of the major changes has been the gradual integration of environmental and climate objectives into what was originally created as an economic convergence measure within the EU (European Commission, n.d., a; Bachtler, 2022).

While the ERDF operates under EU cohesion policy, the EAFRD is the EU fund that delivers the rural development side of the Common Agricultural Policy (CAP) (European Commission, n.d., b). The EAFRD operates alongside, and in some cases overlap with the ERDF in Portugal (European Court of Auditors, 2025, p.11). Figure 3 shows the areas of wildfire-investment each fund focuses on. Where the ERDF is directed at regional economic development, the EAFRD is directed at rural areas and agriculture (European Commission, n.d., b). The fund’s relevance to wildfire prevention increased under Regulation 2021/2115, which introduced stronger climate earmarking obligations and restructured the regulatory architecture around climate and environmental objectives, as examined in chapter 5.



	Prevention	Preparedness	Recovery/restoration
Examples of projects	• Thinning and removal of vegetation • Controlled burning • Forest roads as firebreaks • Monitoring, fire detection systems • Construction of buildings • Drafting projects/ studies	• Firefighting vehicles and equipment • Patrolling vehicles • Water tanks and ponds • Forest roads to ensure access for firefighting vehicles • Monitoring, fire detection systems • Construction/ renovation of buildings	• Reforestation • Removal of burnt trees • Hydrological works
Main funding instruments	• EAFRD	• ERDF (incl. Interreg) • Cohesion Fund	• EAFRD
Temporary or one-off instruments	• RRF	• RRF	• RRF • European Union Solidarity Fund

Figure 3. EU funds used for wildfire-related investment and their primary areas of focus. Source: European Court of Auditors (2025).

In the Gancheva et al. (2024) report on ‘Climate adaptation using cohesion policy’, it was revealed that the targeting of specific local adaptation needs in different territories was limited, and noted that there was no clear mechanism within the framework to track whether investment corresponded to territorial need (p.13). Gancheva et al. (2024) also found that while total cohesion policy funding related to climate adaptation increased substantially, from 8 billion euros in 2014-2020 to a planned 17 billion euros in 2021-2027, it still only amounted to 3 percent of the total cohesion policy budget, described as relatively small share compared with the 30 percent climate target legally required for the ERDF (p.12). The spatial distribution of climate adaptation funding varied drastically between Member States, with some allocating large sums while others invested little or nothing (Gancheva et al., 2024, p.13). Portugal is one of the EU member states allocating a relatively larger share of cohesion policy funding to climate adaptation-related measures, arguably highlighting its exposure to climate hazards (Gancheva et al., 2024, p.64). However, knowing how much was spent in total, and on which types of activities, tell us little about whether investment is spatially

targeted within a country toward the territories of highest risk. These findings point to a potential gap between the stated ambition of EU climate mainstreaming and the actual territorial distribution of investment.

Whether this regulatory hardening has changed its investment logic in practice is a different question. Bachtler (2022) notes that successive reforms have placed growing demands on managing authorities and that there is a recurring gap between EU-level regulatory ambition and the capacity of national and regional authorities to match them. Gancheva et al. (2024) similarly found that ‘29 percent of managing authorities considered their programmes to be only partially or not at all aligned with climate adaptation needs’, and that complex application procedures remained significant barriers (p.13). These findings are consistent with Barca’s (2009) identification of a recurring problem in cohesion policy, ‘the territorial or place-based perspective is often blurred’ in programme management, and ‘the prevalence of a top-down approach to programme management... too often betrays the very nature of place-based policies’ (p.106).

3.2 Wildfire Governance in Southern Europe and Portugal

Understanding why EU investment fund regulatory design matters for wildfire investment requires some background on the conditions that shape wildfire governance in Southern Europe and Portugal. Wildfire risk in Portugal is not evenly distributed. According to the OECD (2023), it is concentrated in the northern and central regions, where ‘...abundant flammable vegetation with a large wildland-urban interface’(p.5), rural depopulation (p.6), and fragmented land ownership (pp.18-19) produces conditions for high-intensity fires. The concentration of wildfire risk in certain regions is why the spatial logic of EU investment is relevant. If the regulatory framework does not require investment to follow where risk is greatest, the territories most exposed to wildfire may receive no more than areas with far lower risk. Wildfire governance in Portugal has been fragmented across agencies, with responsibilities for suppression, prevention, and detection divided between separate national bodies (Aguilar and Montiel, 2011, p.635). The 2017 fire disasters, which claimed over 100 lives in total (Ribeiro et al., 2020, p.1) and caused major institutional reform, including the creation of the Agência para a Gestão Integrada de Fogos Rurais (AGIF) as a intergovernmental institution in charge of wildfire management (OECD, 2023, p.12), reoriented the policy focus from suppression to prevention (OECD, 2023, p.26). The problem of fragmentation across agencies has shown to have potentially negative implications for EU

investment fund policy. To effectively prevent wildfires, policies must look beyond the forestry sector alone and integrate strategies from agricultural management, territorial planning, and emergency response systems (Galiana, Aguilar and Lazaro, 2013, p. 40).

Interestingly, a recurring theme across the academic and policy literature is the inadequacy of risk cartography as a basis for investment decisions. The OECD report (2023) identifies a cartography gap linked to Portugal. The report states ‘However, to date, national and municipal hazard maps in Portugal do not integrate information on climate variability nor on the projected effects of climate change on future wildfire hazard.’ (pp.14-15). This means that even a fully up-to-date version of the map would be insufficient for climate adaptation oriented for the future, since it is built on historical fire occurrence data rather than on projected future risk (OECD, 2023, p.14).

4. Methodology

4.1 Research Design

This thesis uses document analysis as the primary research method. Document analysis is defined by Bowen (2009) as:

... a systematic procedure for reviewing or evaluating documents — both printed and electronic, (computer-based and Internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge.

(Bowen, 2009, p.27)

This method was chosen because the research question is about the relationship between what policy documents say and what they are able to produce in practice. The primary evidence in this thesis is written, consisting of EU regulations, audit reports, and the Commission’s justificatory language. Document analysis is well suited to qualitative case studies focused on a single institutional context (Bowen, 2009, p.29).

The analysis is structured across three parts, each addressing a different layer of EU policy discourse on climate and wildfire. In the first part, the regulatory articles of both the ERDF regulations (1303/2013 and 2021/1060) and the EAFRD regulations (1305/2013 and 2021/2115) are examined to assess how climate and wildfire-related language has changed between the two programming periods across both funds. These four regulations are the primary legal measures governing how cohesion and agricultural policy investment is framed, earmarked, and allocated for climate purposes. Comparing them acts as a way of tracking the discursive shift between the periods, and comparing the two funds allows the analysis to assess whether the patterns found are specific to the ERDF or if they appear across funds.

In the second part, the recitals of all four regulations are examined. Recitals are the numbered paragraphs at the opening of each EU regulation, appearing before the articles begin. Recitals are legally non-binding but serve a specific function (Practical Law, n.d.). They set out the reasoning and justification behind the regulatory choices made, and they are used by courts to interpret the meaning and intent of the articles (European Parliament, Council of the European Union and European Commission, 2015, p.31). Recitals are important because they reveal how problems are framed, what solutions are presented as necessary, and what assumptions are built into the design of policy. Reading the recitals alongside the articles reveals not just what the regulations require, but how and why those requirements are justified in the Commission's own terms.

In the third part, the European Court of Auditors' Special Report 16/2025, EU Funding to Tackle Forest Fires, is examined together with the Commission's formal response included within that report. The ECA is an independent EU institution whose purpose is to audit EU finances (European Union, n.d.). Its reports therefore provide a source of evidence that is outside the Commission's own discourse, making the Commission's response to audit findings a site of analysis.

4.2 Data Analysis

The study relies mainly on primary sources throughout. Official EU documents serve as the empirical evidence for all three parts of the analysis, as this is where policy is designed, justified, and evaluated. The main primary documents are Regulation 1303/2013 and Regulation 2021/1060 for the ERDF, and Regulation 1305/2013 and Regulation 2021/2115 for the EAFRD, published in the Official Journal of the European Union. The articles and

recitals are within these documents. The European Court of Auditors' Special Report 16/2025 is also treated as a primary source as it is an audit that examines projects across both the ERDF and the EAFRD in Portugal. Furthermore, it includes the Commission's formal written response. It provides independently verified evidence about how EU funds for wildfire management have been selected and implemented.

Secondary sources are used to contextualise and interpret the primary evidence. These include Aguilar and Montiel (2011) and Galiana, Aguilar and Lazaro (2013) for Southern European wildfire governance, Gancheva et al. (2024) for data on adaptation funding within cohesion policy, Bachtler (2022) for cohesion policy history, and OECD (2023) for the specific context of wildfire in Portugal. Secondary sources are used only where no primary source provides equivalent information.

4.3 Analytical Procedure

The study is conducted through a qualitative discourse analysis. For the first and second part, the four regulations were read, following the procedure described by Bowen (2009), beginning with skimming through the documents to understand the overall structure, then reading in detail, and lastly coding the relevant content (pp.32-33). The same coding scheme is applied across the articles and recitals of all four regulations. The coding focuses on four categories, each chosen because it focuses on an aspect of the regulatory text that is relevant to the research question. Climate, wildfire, and disaster risk language is coded because it tracks how climate change and specific climate hazards such as wildfire appear in the regulatory text, whether they are named at all, how prominently, and whether the regulation treats them as a specific risk management concern or addresses climate only in general terms. Earmarking obligations are coded because they establish the financial requirements of climate mainstreaming, revealing whether climate investment is required and at what level. Binding versus aspirational formulations are coded because they allow the analysis to apply Hajer's and Christoff's distinction between weak and strong ecological modernisation. The change from aspirational to binding formulations, and whether shall is attached to specific quantified obligations rather than general mainstreaming obligations, is one of the primary indicators of whether the regulatory hardening is meaningful or mainly rhetorical. Spatial targeting criteria are coded because they are the category most clearly answering the research question, whether any measure directs investment toward the territories where climate risk is

greatest. The coding scheme was coded directly by the researcher as a consequence of analysing the documents and identifying ‘...overarching themes’ (Bowen, 2009, p.32).

Firstly, the two ERDF regulations are compared to each other to identify what changed over the two periods. Secondly, the two EAFRD regulations are compared in the same manner. Finally, the two funds are then compared across both periods to assess whether the patterns emerging are specific to cohesion policy or reflect a logic used across the designs of EU investment fund regulations. For the recitals, attention is paid to the reasoning, asking how problems are named and how urgently they are framed. For the third level, the ECA Special Report 16/2025 is read, focusing mainly on the findings related to Portugal and the sections dealing with project selection, risk map quality, and the Commission’s monitoring of EU-funded wildfire measures. The Commission’s response within the same document is then examined, paying attention to how the Commission characterises the problems, what it commits to changing, and whether its response engages with the points raised by the audit or addresses them only on the surface. This comparison creates the contrast to the first two parts of the analysis and attempts to reveal whether the discursive hardening evident in the regulations between 2013 and 2021 is matched by a change in how the Commission understands and responds to evidence of implementation failure.

4.4 Limitations

This study contains a vast amount of limitations that need to be acknowledged. Bowen (2009) outlines that a potential limitation when conducting document analysis is that the study may be subject to, ‘Insufficient detail’ (p.32). Bowen (2009) states that ‘documents are produced for some purpose other than research’ and that documents may therefore not be detailed enough (p.32). The analysis of the ECA (2025) report and the response of the Commission is an example of this. One briefly framed response and one audit of a sample size of 62 projects does not arguably contribute much evidence to the research question. It cannot necessarily be expected that the Commission will, as stated in section 5.3, commit to changing the regulatory mechanisms that produced the problems within a short formal response to audit evidence.

Furthermore, the analysis of this study focuses on the two most recent programming periods and does not examine earlier periods such as 2007-2013, meaning longer-term trends in climate discourse before 2013 are outside the scope of the study. Additionally, this study

limits itself to the analysis of two EU regulations that govern the ERDF via cohesion policy. Two more regulations that are specific to the ERDF (Regulation 1301/2013 and Regulation 2021/1058) (European Parliament and Council of the European Union, 2013a, p.337; European Parliament and Council of the European Union, 2021d), were not examined. These regulations may contain data that is of high relevance to this study. The RRF, which is also a significant source of EU funding for wildfire prevention in Portugal, is not included in the regulatory analysis for the reasons set out in the delimitations section. Furthermore, the thesis focuses on EU-level regulatory discourse rather than on the national-level discourse of translated Portuguese Operational Programmes, which would require Portuguese language primary sources.

Two further methodological limitations are worth acknowledging. Semi-structured interviews with officials involved in programme design would have potentially allowed access to informal decision-making not visible in published documents, and could have provided a richer account of why the regulatory architecture takes the form it does. Since the analysis relies on officially published documents, it captures what was stated and justified in writing, not what was informally negotiated or decided. A GIS-based spatial analysis of project locations against EFFIS risk data and Kohesio data (European Commission, n.d., e) would have enabled a test of whether investment outcomes correspond to where fire risk is highest. Both approaches fall outside the scope of this study, but either would possibly strengthen the argument if pursued in future research.

Another limitation concerns the risk of confirmation bias. The theoretical frameworks, especially Hajer's ecological modernisation and Barca's spatial blindness, turn attention toward evidence of regulatory failure rather than regulatory success. This creates a risk that the analysis finds what the frameworks were designed to look for. This thesis attempts to mitigate this by acknowledging where the regulatory framework has demonstrably strengthened between the two periods, by noting that Portugal may have directed investment toward high-risk regions by choice rather than because the regulations required it.

Lastly, Bachtler (2022) has been cited on several occasions throughout the study. Although Bachtler is a prominent scholar on EU policy, and this secondary source has mostly acted as a reference to the history of cohesion policy, it is a blog post that is not peer-reviewed. This presents potential credibility issues across the study.

5. Findings and Analysis

This chapter presents the findings of the discourse analysis and interprets them through the theoretical frameworks. The analysis moves from the regulatory articles to the recitals and lastly to the Commissions response to audit evidence from the ECA. Where the analysis requires a national case to test the regulations against a context where the fire risk is high, Portugal partially provides it. However, the findings are claims about the design of the EU regulations rather than about Portuguese investment patterns. Each part of the analysis aims to add to the main argument that the greening of EU investment fund regulations governing the ERDF and the EAFRD between the two programming periods constitutes weak rather than strong ecological modernisation in Hajer's (1995) and Christoff's (1996) terms, as the regulatory language has hardened without a change in the spatial logic of investment.

5.1 Part 1: Regulatory Articles: What Changed Between the Two Periods

5.1.1 ERDF Regulation 1303/2013 and Regulation 2021/1060

Comparing the articles of ERDF Regulation 1303/2013 and Regulation 2021/1060 across the four coding categories reveals a pattern. The 2021 regulation is, although in some cases quite subtly, more ambitious, more specific, and more obligatory on climate matters than the 2013 regulation in almost every way. The question is whether this represents a change in the logic of investment or if it is simply a hardening of language.

On climate, wildfire, and disaster risk language, the most immediate observation is how climate is positioned within each regulation. In Regulation 1303/2013, climate action appears in Article 9 as Thematic Objective 5, 'promoting climate change adaptation, risk prevention and management', and Thematic Objective 6, 'preserving and protecting the environment and promoting resource efficiency', alongside nine other objectives of equal standing with no hierarchy between them (European Parliament and Council of the European Union, 2013a, p.343). In Regulation 2021/1060, climate appears as Policy Objective 1(b), described as 'a greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe by promoting...green and blue investment...climate change mitigation and adaptation, risk prevention and management...' (European Parliament and Council of the European Union, 2021a, p.184), one of only five policy objectives.

In Regulation 1303/2013, Annex XI requires that before member states can invest ERDF funds in Thematic Objective 5, they must have a national or regional risk assessment with ‘...risk-based criteria for the prioritisation of investment’, taking into account climate change adaptation (European Parliament and Council of the European Union, 2013a, p.441). This sounds like a spatial targeting measure as investment must be prioritised on the basis of risk. However, the conditionality is formal. It requires that a risk assessment document exists, not that the investment allocations correspond to the spatial distribution of risk. Additionally, Annex I of Regulation 1303/2013, outlining the Common Strategic Framework (CSF), states in section 5.2 that ‘Member states shall take into consideration the climate change mitigation and adaptation potential of investments...and ensure that they are resilient to the impact of climate change and natural disasters’, specifically naming ‘increased risks of flooding, droughts, heat waves, forest fires and extreme weather events’ (European Parliament and Council of the European Union, 2013a, p.418). Forest fires are therefore named in the 2013 regulation. The 2021 regulation addresses wildfire and disaster risk differently. In Regulation 2021/1060, fire prevention appears in the Annex I coefficient table as intervention field 059, described as ‘Adaptation to climate change measures and prevention and management of climate-related risks...’ including fires, and assigned a coefficient of 100 percent toward the climate target (European Parliament and Council of the European Union, 2021a, p.262). This means fire prevention investment fully counts towards the 30 percent earmarking obligation. The coefficient system checks whether enough of the programme's money was spent on activities that count toward the climate target. However, it does not record whether fire prevention investment is directed toward the territories where fire risk is greatest. A member state can meet its earmarking obligation entirely through investment in fire prevention in low-risk areas, and the regulation contains no measure to detect or prevent this. The difference is therefore that in Regulation 2021/1060, fire prevention is assigned a 100 percent climate coefficient⁷, a level of detail absent from the 2013 framework.

On earmarking obligations, the change is also apparent. Regulation 1303/2013 set a target of at least 20 percent of EU budget allocation for climate-related purposes, but this was a target for the overall EU budget, not a binding obligation on the ERDF specifically. Recital 14 states that ‘...the member states should provide information on the support for climate

⁷A climate coefficient is a weighted scoring metric (0%, 40%, or 100%) used by the EU to calculate the proportion of a project's funding that directly contributes to environmental and climate adaptation objectives (European Commission, 2021).

change objectives, in line with the ambition to devote at least 20 % of the Union budget to those objectives...' (European Parliament and Council of the European Union, 2013a, p.322). That this aspiration appears in a recital rather than an article is arguably in itself meaningful. The 2013 regulation stated its climate ambition at the section of justificatory framing instead of as a binding obligation through the articles. Article 8 on sustainable development established a system for recording and reporting climate contributions, requiring programmes to indicate how much of their spending would go to climate objectives, and Article 27(6) required that each programme '...set out the amount of support to be used for climate change objectives...' (European Parliament and Council of the European Union, 2013a, p.342; p.354). Neither article set a binding minimum percentage for the ERDF. The 2021-2027 period introduced a different obligation. Article 6 of Regulation 2021/1060 establishes that 'Member states shall provide information on support for environment and climate objectives...' using a weighting system based on types of intervention set out in Annex I, and the ERDF contribution shall reach 30 percent for climate objectives (European Parliament and Council of the European Union, 2021a, p.185). The weighting system is at 0, 40, or 100 percent per intervention type. Member states must ensure that their overall programme allocations reach 30 percent when weighted in this way. This is a measurable and enforceable obligation as opposed to the regulation in 2013 where it is framed as a general aspiration. Unlike the 2013 aspiration, which appeared only in Recital 14, this obligation is binding, quantified, and subject to monitoring by the Commission. With that said, the earmarking system only checks whether enough money across the whole programme was spent on relevant climate activities. It does not check where within a member state that money went. A member state can meet the 30 percent obligation by concentrating climate investment in low-risk areas just as easily as in high-risk ones, and nothing in the obligation requires any connection between the location of investment and the spatial distribution of wildfire or any other climate risk. The Commission can therefore not assess, from the data member states are required to submit, whether climate investment is reaching the territories most exposed to wildfire or other climate risk.

On binding versus aspirational formulations, the shift is also noticeable, although it is more nuanced than a simple shall versus should distinction. Regulation 1303/2013 does use shall in some environmental articles. Article 8 states that 'The Member States and the Commission shall ensure that environmental protection requirements, resource efficiency, climate change mitigation and adaptation, biodiversity, disaster resilience, and risk

prevention and management are promoted in the preparation and implementation of Partnership Agreements and programmes.’(European Parliament and Council of the European Union, 2021a, p.343). Meanwhile, Article 73(2) of Regulation 2021/1060 requires that managing authorities shall ‘ensure the climate proofing of investments in infrastructure which have an expected lifespan of at least five years.’ (European Parliament and Council of the European Union, 2021a, p.227). This climate proofing⁸ requirement on managing authorities has no clear equivalent in Regulation 1303/2013. The difference is therefore not that shall was completely absent in 2013. Article 8 of Regulation 1303/2013 uses shall for a general environmental mainstreaming obligation whereas in 2021 shall is attached to specific earmarking obligations and climate proofing requirements that did not exist in 2013. In EU legal texts, this distinction is more than a matter of wording as ‘shall’ signifies a legally binding obligation, whereas ‘should’ signifies a recommendation that member states are expected to follow but are not required to (European Parliament, Council of the European Union and European Commission, 2015, p.12).

On spatial targeting criteria, both regulations are notable for what they do not say. Neither regulation explicitly requires member states to direct climate-related ERDF investment towards the territories within their borders that face the highest risk of climate hazards. The 2021 regulation introduces ‘enabling conditions’ via article 15 which are prerequisites that member states must meet before accessing ERDF funds for certain activities (European Parliament and Council of the European Union, 2021a, p.189). This is expanded on in Annex IV where it states that for climate adaptation and risk prevention, member states must have a national disaster risk strategy in place that includes ‘Description of key risks...’ as well as ‘Description of the disaster prevention, preparedness and response measures to address the key risks identified.’ (European Parliament and Council of the European Union, 2021a, p.327). This again sounds closer to spatial targeting than it is. Showing that funded projects do not contradict the national strategy is sufficient to meet the enabling condition. It does not require that investment be concentrated in the territories the national strategy identifies as facing the greatest risk.

⁸Climate proofing is defined in regulation 2021/1060 as ‘a process to prevent infrastructure from being vulnerable to long-term climate impacts whilst ensuring that the ‘energy efficiency first’ principle is respected and that the level of greenhouse gas emissions arising from the project is consistent with the climate neutrality objective in 2050 (European Parliament and Council of the European Union, 2021a, p.183)

Notably, both regulations also contain territorial tools that could in principle be used for spatially targeted investment. Article 36 of Regulation 1303/2013 allows member states to combine investment from more than one fund under a single territorial strategy for a specific area. The article states 'Where an urban development strategy or other territorial strategy... requires an integrated approach involving investments from the ESF, ERDF or Cohesion Fund under more than one priority axis of one or more operational programmes, actions may be carried out as an integrated territorial investment' (European Parliament and Council of the European Union, 2013a, p.357). This provides a tool for place-based investment. However, Article 36 does not state that member states are required to use it, and it contains no obligation to direct such investment toward areas where climate or wildfire risk is high. This was possibly the closest the 2013 regulation came to a spatial targeting measure. Regulation 2021/1060 maintains this tool of 'Integrated territorial investment' via article 30 (European Parliament and Council of the European Union, 2021a, p.202). However, this regulation does not either require that these tools be used for climate risk targeting. Their use is voluntary for member states. The absence of a spatial targeting requirement is therefore not an absence of place-based tools in the regulations. What is absent is any obligation to use them in response to where climate risk is highest. Neither regulation asks where within a member state climate investment is going, and neither requires that the answer aligns to the spatial distribution of wildfire or other climate hazards.

Even at the level of Operational Programme design, Article 96 of Regulation 1303/2013 requires member states to set out investment priorities under each thematic objective, but contains no requirement to show that investment will be concentrated where the relevant risk is greatest (European Parliament and Council of the European Union, 2013a, p.385). The only article that requires any territorial analysis is Article 29 (Territorial strategies) of Regulation 2021/1060, which applies when member states voluntarily choose to use a territorial strategy (European Parliament and Council of the European Union, 2021a, p.201). It requires that they cover a defined geographic area and include 'an analysis of the development needs and the potential of the area, including economic, social and environmental interlinkages' (European Parliament and Council of the European Union, 2021a, p.201). If those tools are used, some spatial planning is required, but using them is optional.

5.1.2 EAFRD Regulation 1305/2013 and Regulation 2021/2115

Applying the same four coding categories to the EAFRD regulations produces findings that are similar to the ERDF analysis but with a notable difference. On climate, wildfire, and disaster risk language, Regulation 1305/2013 did not simply list climate as one priority among several. Article 5 highlighting the ‘Union priorities for rural development’ states that ‘All those priorities shall contribute to the cross-cutting objectives of innovation, environment and climate change mitigation and adaptation’ (European Parliament and Council of the European Union, 2013b, p.501). The regulation also names forest fires directly in the articles. Article 21(1) lists ‘prevention and restoration of damage to forests from forest fires, natural disasters and catastrophic events, including... climate-related threats’, as a supported measure under investment in forest area development (European Parliament and Council of the European Union, 2013b, p.509). Climate and wildfire were therefore already a cross-cutting obligation and a named category in 2013, making the EAFRD more ambitious than the ERDF over the same period.

The climate and disaster risk language extends further into Regulation 1305/2013 than Article 21(1) on forestry measures alone. Article 18 provides a similar measure on agricultural land, covering ‘investments in preventive actions aimed at reducing the consequences of probable natural disasters, adverse climatic events and catastrophic events’, as well as ‘investments for the restoration of agricultural land and production potential damaged by natural disasters, adverse climatic events and catastrophic events’ (European Parliament and Council of the European Union, 2013b, p.507). Wildfire qualifies as a natural disaster under the regulation. Article 18 is therefore the agricultural equivalent of what Article 21 does for forests, and together they show that the 1305/2013 framework addressed disaster risk across both land categories. Annex V of Regulation 1305/2013 adds a further aspect. It lists the ex ante⁹ conditionalities for rural development, and conditionality 3.1 is linked to Thematic Objective 5, ‘promoting climate change adaptation, risk prevention and management’ (European Parliament and Council of the European Union, 2013b, p.545). It requires that ‘A national or regional risk assessment for disaster management shall be in place’, including a description of risk-based criteria for the prioritisation of investment and taking into account climate change adaptation strategies (European Parliament and Council of the European Union, 2013b, p.545). Like the conditionality in the ERDF framework, this

⁹ Ex ante is defined as ‘calculated or existing before a particular event’ (Cambridge Dictionary, n.d., b).

sounds like a spatial targeting mechanism. It requires that a risk assessment exists and that it contain risk-based criteria for prioritising investment. However, the conditionality is once again formal. It requires the existence of a risk assessment document, not that the resulting investment allocations correspond to the spatial distribution of risk identified in that document. A member state can meet conditionality 3.1 by producing a document that meets the formal requirements while directing its actual investment wherever it chooses.

Regulation 2021/2115 is similar to the previous regulation but it extended this slightly further, restructuring the regulation around nine specific objectives. Objectives (d), (e), and (f) of Article 6 concern climate, environment and biodiversity. Objective (d) aims ‘to contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emissions and enhancing carbon sequestration, as well as to promote sustainable energy’, objective (e) aims ‘to foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency’, and objective (f) aims ‘to contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes’ (European Parliament and Council of the European Union, 2021b, p.28). Furthermore, the regulation references the Paris Agreement¹⁰ through Article 5 on general objectives, which states that support shall aim to contribute to ‘...the environmental and climate-related objectives of the Union, including its commitments under the Paris Agreement’ (European Parliament and Council of the European Union, 2021b, p.27).

On earmarking obligations, the EAFRD was more demanding than the ERDF over both periods. Regulation 1305/2013 already required that at least 30 percent of each rural development programme be spent on climate and environment measures, set out as a binding obligation in Article 59(6) (European Parliament and Council of the European Union, 2013b, p.527). The ERDF had no equivalent binding earmarking at that time. Regulation 2021/2115 raised the minimum to 35 percent under Article 93(1) (European Parliament and Council of the European Union, 2021b, p.80). As with the ERDF, the earmarking system tracks whether enough spending falls into climate-weighted categories across the programme as a whole. It does not track where within a member state that spending goes. The tracking of climate expenditure is shown in Article 100, which establishes a weighting methodology similar to

¹⁰ The Paris Agreement refers to an international legally binding climate treaty (United Nations, n.d.).

the coefficient system in the ERDF (European Parliament and Council of the European Union, 2021b, p.85).

On binding versus aspirational formulations, the change is the same as the ERDF. In Regulation 1305/2013, climate obligations were mostly phrased as recommendations rather than requirements. Binding language (meaning the use of 'shall') was limited mainly to the 30 percent earmarking in Article 59(6) (European Parliament and Council of the European Union, 2013b, p.527). Regulation 2021/2115 changed this, with 'shall' appearing across multiple new obligations, e.g. Article 70(1) on 'agri-environment-climate commitments', Article 93(1) on the 35 percent earmarking, and Article 105 on increased climate ambition (European Parliament and Council of the European Union, 2021b, p.64;p.80; p.88). However, as for the ERDF, these binding formulations concern how much is spent and on what. They do not require member states to direct that spending toward the territories where climate or wildfire risk is greatest.

On spatial targeting criteria, the finding is once again the same as for the ERDF, with one exception. Article 24 of Regulation 1305/2013 is the measure for 'Prevention and restoration of damage to forests from fires and natural disasters and catastrophic events' (European Parliament and Council of the European Union, 2013b, p.510). Article 24(2) restricts fire prevention support under this measure to areas that a member state has classified as facing medium or high fire risk in its forest protection plan (p.510). This is seemingly the closest article in either EAFRD regulation to a spatial targeting requirement. This means that fire prevention investment can only go to areas that meet a certain classification of risk and stands out as the one article in the 1305/2013 regulation that links investment eligibility to a geographical classification of risk. However, a minimum level of risk for eligibility is not the same as a spatial targeting obligation. Article 24(2) establishes where investment may go, not where it must be concentrated in proportion to risk. A member state could technically direct the entirety of its fire prevention budget to areas classified as medium risk while regions of very high risk receive little or nothing. The regulation would have no way of detecting or preventing this. Regulation 2021/2115 does require more from member states in terms of planning. Articles 105, 108, and 109 require them to assess their climate needs, set targets, and explain how their chosen interventions will address the situation in their territory (European Parliament and Council of the European Union, 2021b, pp.88-90). However, this requirement is about producing a plan, not about ensuring that investment actually reaches the places where risk is highest. Writing a plan that meets the formal requirements is enough

to meet the obligation. The analysis points, once again, to the fact that neither the 2013 or the 2021 EAFRD regulation explicitly requires that climate-related spending go to the territories where wildfire or climate risk is highest.

5.1.3 Comparative Analysis of the ERDF and the EAFRD Regulations

Comparing the two funds across the first part of the analysis reveals a consistent pattern. Both the ERDF and the EAFRD underwent language hardening on climate matters between the two programming periods, moving from aspirational to more binding formulations, increasing earmarking obligations, and aligning more explicitly with international climate commitments, in this case the European Green Deal and the Paris Agreement. The 2013 regulations make no reference to international climate commitments. This is a concrete example of discursive hardening across the 2021 regulations. Compared to the ERDF, the EAFRD obligations were stronger percentage-wise in 2013 and remained higher in 2021. Both funds introduced climate tracking coefficient systems in the 2021 period, the ERDF under Article 6 of Regulation 2021/1060 with Annex I, and the EAFRD under Article 100 of Regulation 2021/2115. Both funds contain ex ante conditionalities or enabling conditions requiring the existence of risk assessment tools, and both funds require member states to have risk assessments in place before being eligible for investment for climate adaptation and disaster risk prevention.

Across the four coding categories, the finding that is the most insightful is that neither regulation contains a requirement requiring that climate investment should be directed toward the territories where specifically fire risk is greatest. The earmarking mechanisms track compliance fiscally. The coefficient systems check what the money was spent on, not where it was spent. The ex ante conditionalities (regarding EAFRD) and enabling conditions (regarding ERDF) require the existence of risk assessment documents without requiring that investment follow the spatial distribution of risk identified in them. The conclusion they point to is that formal demands have increased but the spatial approach of investment remains unaddressed.

5.2 Part 2: Recitals: How the Commission Justifies its Approach

The recitals of Regulation 1303/2013 seemingly frame climate objectives as part of the Union's overall economic development goals. Recital 3 implies that the ERDF, and other funds under cohesion policy, should aim at delivering ‘...smart, sustainable and inclusive growth’, arguably treating environmental investment as compatible with economic development (European Parliament and Council of the European Union, 2013a, p.320). The word ‘sustainable’ is in that phrase, and could be read as meaning climate objectives, however, climate is not mentioned explicitly. Recital 14 expresses the climate aspiration in fiscal terms. It states that ‘...Member States should provide information on the support for climate change objectives, in line with the ambition to devote at least 20 % of the budget of the Union to those objectives’ (European Parliament and Council of the European Union, 2013a, p.322). The recital frames climate contribution as a spending target, tracking how much money goes to climate-relevant activities. No recital frames climate risk as a place-specific problem requiring different investment responses in different regions.

Regulation 2021/1060 is more extensive in its climate-related recitals and the regulation bases its climate requirements in the Paris Agreement. Recital 10 is one of particular relevance. It states that the funds should contribute to delivering on Union commitments under the Paris Agreement, and frames the 30 percent climate earmarking target as originating from this ambition (European Parliament and Council of the European Union, 2021a, p.161). The fact that this legislation explicitly links to international climate commitments while that is absent from Regulation 1303/2013, whose recitals make no reference to international climate agreements, is a significant difference. The urgency of the language is also stronger in another manner via Recital 10. Recital 10 of 2021/1060 frames climate action as a general priority applying to all funds stating ‘...the Funds should contribute to mainstreaming climate actions...’ (p.161). What the 2021 recitals do is portray climate urgency as justification for the stronger obligations introduced in the articles. However, the recitals still frame climate risk as a general principle to be mainstreamed across all investments rather than as a territorial challenge requiring targeted spatial responses. No recital requires that investment be concentrated in the territories facing the greatest climate risk and there is no specific mention of fire.

The EAFRD recitals reveal the same discursive pattern. Investment in climate is framed as a general commitment applying across all territories, with no mention of place-

specific risk or the need to direct investment toward where hazard is greatest. For example, Recital 22 states that ‘Member States...should be required to spend a minimum of 30 % of the total contribution from the EAFRD...on climate change mitigation and adaptation...’ and Recital 28 frames support for forest holders in terms of improving their climate adaptation potential (European Parliament and Council of the European Union, 2013b, p.492; p.493). Climate adaptation is present but to concentrate investment in the territories of greatest risk is not. Regulation 2021/2115 uses a stronger tone. Recital 30 states that ‘Supporting... environmental protection and climate action...is a very high priority in the future of Union agriculture and forestry’ and that the architecture of the CAP should reflect greater ambition (European Parliament and Council of the European Union, 2021b, p.5). Recital 94 references the Paris Agreement (p.16) and Recital 125 references the Green Deal explicitly (p.20). Yet the finding is the same as for the Common Provisions Regulations. No recital in the EAFRD regulations requires that climate-relevant spending follow the spatial distribution of wildfire or hazard risk.

Across both funds and both programming periods, the recitals frame climate investment as a general mainstreaming commitment. All spending should carry some relevance to the climate, and progress should be tracked through fiscal targets. Neither set of recitals frame climate investment as a territorial challenge requiring spatially different responses directed toward the places most exposed to specific climate hazards. What can be claimed is that the change in the discourse between the two periods is clear in both cases. The language of urgency, the mention of international climate agreements, and the shift toward binding obligations are all present. But the spatial logic of how climate investment should be distributed across territories is absent from the justificatory reasoning of both funds over both periods.

5.3 Part 3: Audit Evidence and the Commission's Response

In 2025, the ECA published an audit report that examined wildfire-related projects funded by the EU. Four countries were audited, among them Portugal, on a sample size of 62 projects in total (p.11). The audit's finding on Portugal is strongly connected to the concepts of place-based development and spatial blindness that Barca (2009) raises. The ECA (2025) found that the national fire hazard map used to prioritise investment was based on data from 1975 to 2018, making it more than six years out of date at the time of the audit, and incapable of reflecting either recent land use shifts or the changing fire risk patterns associated with

climate change (European Court of Auditors, 2025, p.19). The consequence, illustrated by a specific project in the audit, was that investment was directed toward a site where the fire risk indicator was based on an event that occurred in 2013 and where part of the designated territory had since been submerged beneath a reservoir (European Court of Auditors, 2025, p.20). Although this is only one concrete example of a small sample size, it illustrates a concrete example of where investment resources did not reach the areas where the risk was concentrated. This misalignment did not arise from a deliberate decision to misdirect investment. It arose from the problem that the OECD (2023) also identified in their report, the absence of adequate fire hazard cartography (pp.14-15).

The Commission was also found to lack a complete picture of total EU expenditure on wildfire measures, because member states are not required to distinguish forest fire spending from other natural disaster spending in their reporting (European Court of Auditors, 2025, p.15). This lines up with the regulatory discourse analysis in the first part of the analysis. Regulation 2021/1060 introduced a binding 30 percent climate earmarking obligation and require member states to report on their climate expenditure contributions, yet the reporting architecture does not enable the Commission to track whether any of that expenditure is directed specifically toward forest fire risk.

In the Commission's response to the ECA report from 2025, the Commission states that it accepts all six sub-recommendations proposed by the ECA, such as ‘use clear and up-to-date risk maps’ and ‘balance the use of the geographical coverage criterion, when applied, with risk-based criteria’ (European Commission, 2025, pp.3-5). What the reply reveals is that the commitments do not go beyond what is already in place. Regarding the outdated risk maps, the Commission commits to sharing examples of better practice among member states through existing networks (European Commission, 2025, p.3). On the incomplete overview of forest fire spending, the Commission acknowledges the limitation but treats it as an unavoidable consequence of how the co-legislators designed the indicator system, noting that tracking may be possible for cohesion policy, but not others (European Commission, 2025, p.2). On long-term sustainability, the Commission's only commitment is to look into whether there are other data sources that could be used to assess whether funded projects have actually worked (European Commission, 2025, pp.3-4). None of the five accepted recommendations commit to changing the regulatory system that produced the problems.

6. Concluding Discussion

The three parts of the analysis point to the conclusion that regulatory language hardening and spatial investment logic are two separate things, and that the greening of EU investment fund regulations has achieved the former without the latter. Between the 2014-2020 and 2021-2027 programming periods, the EU investment fund regulations governing the ERDF and the EAFRD have both hardened their climate discourse. The regulatory language has moved from aspirational to obligatory, earmarking has increased from a general target to a binding fund-specific obligation, and the framing of climate risk in the recitals has become more urgent and more explicitly connected to international climate commitments. This pattern appears in both the ERDF and the EAFRD, despite those funds operating under different governance models and earmarking percentages. This strengthens the argument that the absence of spatial targeting in the ERDF is not an anomaly that other funds compensate for. It is a recurring feature of how EU climate mainstreaming has been designed across multiple funding regulations. By Christoff's (1996) criteria, laid out in section 2.1 of this thesis, this arguably represents movement along the spectrum from weak to strong ecological modernisation (p.490), but it does not reach the threshold of strong modernisation because the underlying spatial logic of investment has not changed in either fund.

Applying this to wildfire risk within a cohesion policy architecture governed by subsidiarity, strong modernisation would not require the EU to specify where within Portugal ERDF money must go. That remains a national decision. However, it would require that the regulatory architecture contain mechanisms ensuring investment can be tracked against where fire risk is concentrated, that the quality of wildfire risk maps is a condition for access to funds, and that the earmarking mechanism distinguishes between types of climate hazard rather than treating all relevant climate activities as equivalent regardless of specific territorial vulnerabilities. None of these elements are present in either regulation. This confirms what Gancheva et al. (2024) found in their report on cohesion policy, that the '...targeting of specific local adaptation needs in different territories' was limited and that there was no clear mechanism to track whether investment aligned to territorial need (p.13). The problem is not the absence of spatial directives, which subsidiarity would not permit, but the absence of any obligation connecting climate investment to the spatial distribution of risk. Barca's (2009) concept of spatial blindness outlines this gap. A regulatory architecture that presents itself as spatially aware, through earmarking targets, climate-proofing obligations,

and alignment with international climate agreements, while working on an approach of mainstreaming that technically treats all territories as equally relevant investment locations, is by Barca's definition spatially blind.

The ECA's findings confirm that this spatial blindness has had consequences in Portugal. The territories of Norte, Centro, and Algarve account for the majority of Portugal's historically burnt area. The regulatory framework under analysis contains no mechanism requiring that ERDF climate investment be concentrated in these territories in proportion to their risk exposure. The audit evidence shows that where investment decisions are made at national level, the spatial data used to guide them has been outdated, blind to risk in specific instances, and not subject to any requirement on EU-level. This does not mean that Norte, Centro, and Algarve have been consistently underfunded relative to their risk. The thesis does not have access to detailed data on investment outcomes to investigate this spatially itself, and the Kohesio platform (European Commission, n.d., e) suggests fire-related projects may in practice be concentrated in high-risk regions due to national decision-making. What the evidence does establish is that such targeting, where it occurs, happens despite the regulatory framework rather than because of it. The architecture does not prevent spatial misallocation and the audit provides evidence of at least specific instances where misallocation has occurred. It is not a product of bad intentions, but the outcome of an investment framework that was not designed to ensure investment reaches the areas where fire risk is highest.

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8. Appendix 1.

8.1. AI Contribution Statement

1. AI tools used: Google AI Overview and Google Gemini
2. Degree of use: Google AI Overview was used a number of times throughout the writing process of this thesis as a tool to aid in finding synonyms and structuring sentences. Google Gemini was used throughout, although mainly at the end of the writing process to aid in creating the reference list (Section 7) as well as the table of contents. When AI was applied in this context, it was used carefully, as submitting unreleased research to a third party is considered inappropriate by the researcher.