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SUSTAINABLE DEVELOPMENT IN THE EU COHESION POLICY: A COMPARATIVE ANALYSIS OF THE ERDF OPERATIONAL PROGRAMS FOR THE 2014-2020 CYCLE BETWEEN SCOTLAND AND NORTHERN IRELAND

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ACADEMIC YEAR 2019/2020

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To the British Embassy Rome's Bilateral Relations Team

1. Introduction

2 December 2019. On her very first day in office, President of the European Commission Ursula von der Leyen attended the twenty-fifth UN Climate Conference (COP25) in Madrid[1] and delivered an important opening speech in front of all world leaders. The content of her speech outlined the key goals that would bring about a major commitment by EU Member States to the issue of climate change and environmental protection through the implementation of the European Green Deal. "Our goal is to be the first climate neutral continent by 2050", President von der Leyen illustrated to all global governments, businesses, local authorities attending the conference; "the European Green Deal is Europe's new growth strategy. It will cut emissions…for that we need investment in research, innovation, green technologies" (European Commission website, December 2019). In her words, the Green Deal embodies not only a work program, but also an ideal: it offers up the vision of a global, particularly European, society committed to a more climate neutral, modern, resource-efficient, and competitive economy (One Planet Work website, February 2020). But more importantly, it is the manifestation of a major holistic approach that reinforces the interplay between environmental protection (e.g. preservation of natural biodiversity, reduction in GHG emissions, climate change mitigation, and risk prevention) and sustainable development, which is instrumental to reduce primary resource use and promote the consumption of alternative energy sources leading to future economic growth without a negative impact on the planet.

Nowadays, the concept of sustainable development has become one of the most fundamental objectives of the European Union (EU). Following its introduction in the Treaty of Amsterdam signed in 1997[2], the EU has embarked on a series of initiatives to reflect its vision of a highly competitive market economy reconciling environmental responsibility. One of the most recent, and relevant, instances is the UN 2030 Agenda for Sustainable Development, paired with the inclusion of 17 Sustainable Development Goals

[1] The COP25 represented an occasion for leaders from around the world to work on the rule book for implementing the Paris Agreement global framework, that is limiting global warming to below 2°C and towards 1.5°C in order to avoid dangerous climate change.

[2] Proposal of a substantive amendment to Article B of the Treaty of the European Union, Part One: "*The Union shall…promote economic and social progress and a high level of employment and achieve balanced and sustainable development*", Treaty of Amsterdam amending the Treaty on European Union, the Treaties Establishing the European Communities and Certain Related Acts, 2 October 1997, p.7, https://www.europarl.europa.eu/topics/treaty/pdf/amst-en.pdf

(SDGs) adopted on September 2015 by Heads of State and Government during a UN Summit. In a report[3] published by the European Commission, the Agenda and the SDGs are placed at the core of EU international cooperation and conceived as a form of engagement with the promotion of a more sustainable, low-carbon and resource efficient economy on the part of all Member States. An ambitious vision of a transformative change that has received its largest endorsement not only by state leaders or business representatives, but also civil society activists. Most notably, the 16-year-old Swedish climate activist Greta Thunberg's speeches have in more than one occasion brought up the issue of climate change, whose threat may represent a constraint for potential economic development within both more and less developed countries, and negatively impact the pool of exhaustible resources that future generations will have access to. In a short film[4] made in collaboration with British political journalist George Monbiot, which became viral in 2019, the young Greta warns the public not to ignore what the climate crisis is bringing and will continue to bring to societies across the world. In doing so, she calls on the public to think at natural climate solutions that could replace fossil fuel consumption, as well as on more significant funding of sustainable, resilient, and green technologies that may contrast CO2 emissions and environmental degradation.

In the context of environmental protection, therefore, the EU has always been determined to deliver action for a greener, more inclusive economy committed to striving for a sustainable transition to alternative sources of production. Initiatives aimed at promoting environmental sustainability to decouple Member States' economic development from coal generated fuels have been at the heart of a variety of EU programs. In the very last years, EU financing of initiatives supportive of a transition towards a more low-carbon economy based on an efficient use of natural resources have found their fullest backing in the Cohesion Policy (CP) programs, particularly during the current 2014-2020 cycle.

The term "Cohesion policy" refers to the regional development policy envisioned in the Single European Act of 1986 and launched by the Delors European Commission in 1989. It is delivered through programs co-funded by the European Commission through the so called European Structural Investment Funds (ESIFs), previously (1989-2013) as Structural Funds. Following its implementation in 1989, the EU has used the ESIFs to stir Member States and

[3] EU Delivering on the UN 2030 Agenda-Sustainable Development in Europe and the World, European Commission, p.1, https://ec.europa.eu/info/sites/info/files/factsheet-eu-delivering-2030-agenda-sustainable-development_en.pdf

[4] *Nature Now*, an independent film directed by Tom Mustill and sponsored by Conservation International, The Food and Land Use Coalition (September 2019), available at the following link: https://www.youtube.com/watch?v=-S14SjemfAg

their regions towards adopting a programming approach to development to overcome conditions of underdevelopment and decline. Thus, the Funds have co-funded the cyclical five to seven-year programming of investment in the less developed or declining European regions, thereby contributing to reinforce solidarity and socio-economic cohesion among Member States[5]. The prime idea of a regional policy functioning as a catalyst of EU development funds was the core element of the then European Economic Commission instituted with the 1957 Treaty of Rome, and its roots are found in the early 1970s (Manzella, 2009, pp.6-7). As asserted by the Commission in 1968:

-"*the basic objective of regional policy applied to the general problems of the common market is to help improve the harmony of regional structures in the Community…in order to permit the implementation of common policies and to create maximum external economies for each of the regions*"-[6] .

Hence, the Cohesion Policy portrays the EU's main investment policy that targets regions and cities in the European Union, identified ahead of each programming cycle by the European Commission as displaying economic, social, and territorial disparities in accordance with European parameters of 'needs' in various sectors (e.g. general condition of underdevelopment, job creation, business competitiveness, education, energy, research and innovation, or the environment). More importantly, the use of ESIFs is regulated by the principle of additionality, for which financing from EU funding has to complement, and not replace, national spending by Member States (European Commission website, Policy section).

Among the set of Structural Funds, the European Regional Development Fund (ERDF) has played a fundamental role in the EU framework of common strategies to allocate funding to sustainability and environment oriented initiatives at the national and regional level. The rationale of the ERDF at its launch in 1975 coincided with Member States' intention to "give top priority to correcting the structural and regional imbalances in the Community, which would hinder the achievement of the Economic and Monetary Union" (Manzella, 2009, p. 8). However, until 1986 it was an instrument of national regional policy, since the Member States controlled its use in terms of sub-national geographical allocation and funding on the basis of agreed quotas among them. As a consequence, neither monitoring of intervention nor achievement of results had been required.

The launching of the Cohesion Policy in 1989 changed this early Member State based

[5] From the European Commission website, section on regional policy available at the following link: https://ec.europa.eu/regional_policy/en/policy/what/history/

[6] Gian Paolo Manzella, The Turning points of EU Cohesion Policy, January 2009, p.7

approach, shifting to an EU regional development policy. Since then, the ERDF has contributed with the other Funds to the formulation an implementation of an European development logic and integrated programming approach. Thus, particularly in the last three cycles (2000-2020) the ERDF has been designed to strengthen regional economic and social cohesion via direct investment in growth-enhancing sectors to improve competitiveness and create jobs (European Commission report, 2014, p. 3), and also in pursuit of new objectives of 'smart, sustainable and inclusive growth' adopted by the Lisbon Strategy of 2000 and the Europe 2020 Strategy.

The financial deployment of the ERDF for the current 2014-2020 funding cycle has, more than in the past, placed paramount attention on the targets of promoting climate change adaptation, preserving and promoting the environment and resource efficiency, and accelerating the shift towards a more sustainable, low-carbon economy in the EU. Such a clearer focus has been due to the consequence of geopolitical and economic challenges, notably the global financial crisis and the failure of the Lisbon Strategy, that shed light on the structural weaknesses and inadequate binding targets of national and regional EU economies. As this thesis aims to demonstrate, for the very first time since its creation, the EU has opted for a more multilateral, cross-cutting approach that prioritizes EU funding in sustainable development and environmental protection with a clear strategy in mind. That is, making the EU the most knowledge based and competitive economy in the market of green energies at the global level by prioritizing the ESIF, particularly the ERDF, investments in sustainability oriented projects allowing the transition towards a low-carbon economy. Indeed, using renewable energy has not only environmental, but also economic benefits and advantages. First of all, it can dramatically reduce the carbon footprint generates energy that produces no greenhouse gas (GHG) emissions from fossil fuels; second, the exploitation of local renewable energy resources facilitates the diversification of energy supplies and a reduced dependency on imported fossil fuels, including oil and gas[7].

It is not a coincidence that almost all EU regions have largely benefited from the deployment of the ERDF, notably the Sustainable ERDF, for green projects promoting a more climate-neutral economy and an efficient use of resources, with a particular emphasis on the market of renewables. Among these, the devolved administrations of Scotland and Northern Ireland are a meaningful example upon which this thesis focuses its attention.

[7] Information available at the following link to the Eurostat Statistics Explained webpage, January 2020 data: https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#:~:text=The%20use%20of%20renewable%20energy,particular%2C%20oil%20and%20gas).

Their comparative analysis for the purpose of defining the role of the Cohesion Policy in the implementation of EU strategic objectives for a smarter, more sustainable and inclusive growth has a twofold relevance. On the one hand, the devolution settlement granted by the United Kingdom Government has been functional for the Scottish and Northern Ireland Executives in the management and auditing of the ERDF in sustainability oriented projects. More specifically, such autonomous status has permitted the two UK entities to utilize the ERDF in the 2014-2020 funding cycle to deliver a set of ambitious climate and energy strategies outlined by the regional governments, as well as to reinforce alignment to EU climate targets as set by the Europe 2020 Strategy, like in the case of Scotland. On the other hand, the allocation of the ERDF during the present programming phase to financing green projects has been tailored to the particular geopolitical situation of the two devolved authorities. A perfect example is Northern Ireland, whose involvement in green projects financed by the ERDF in the Border Region with the Republic of Ireland can be interpreted as an implicit means to forge a more resilient cross-border cooperation with its Irish neighbor. More clearly, it is the proof that Northern Ireland has seen in the Cohesion Policy, particularly the Sustainable ERDF, a reliable tool to reinforce an all-island commitment to the provisions of the Good Friday Agreement calling for long-lasting political, economic, and social relations between the two parties.

In addition to these points, the withdrawal of the UK from the EU (the so called Brexit) deserves attention. In fact, the Brexit decision announced by the UK Government in 2016 represents not only an unprecedented case in the history of the EU; it also constitutes a test case to observe how a more or less hard divorce from Brussels may compromise the possibility for Scotland and Northern Ireland to receive the ESIFs, in particular the ERDF, for future Cohesion Policy programs. In the worst scenario, should the UK fail to back a deal with the EU by the end of the current transition period (31 December 2020), the two devolved administrations may decide to trigger independence referenda to separate from the UK Government and re-apply for EU membership. However, the prolonged negotiating talks between the two parts and the uncertainty exacerbated by present events, including the spread of the COVID-19 pandemic, have not yet provided enough evidence to give a comprehensive answer.

This thesis is structured as follows. The first chapter introduces the topic of my work, while the second chapter focuses on the role that the European Cohesion Regional Policy for the 2014-2020 had on defining EU priority of sustainable development. More specifically, chapter two researches an answer to the following questions:

- What is the definition of sustainable development for the EU and how does it relate to the concept of environmental integration?
- How did the concept of sustainable development become crucial in the current programming period?
- What are the main peculiarities of the 2014-2020 cycle and how has the allocation of the ERDF attempted to realize the three pillars of a smarter, more sustainable and inclusive economy contained in the Europe 2020 Strategy?

The third chapter centers on the specific case of Scotland and how the devolved government has resorted to the ERDF, notably the Sustainable ERDF , to realize its national climate energy strategies. In doing so, it illustrates the main features of the ERDF Operational Program (OP) and the management of the sustainability oriented projects implemented in the course of the 2014-2020 period. Furthermore, it explains in brief the content of the ambitious energy targets advanced by the Scottish Government to make the country the most competitive European economy in the market of local renewables and the first to achieve net-zero greenhouse gas emissions within almost twenty years. Finally, the chapter assesses whether the use of the ERDF has contributed or not to the achievement of the above-mentioned goals.

The fourth chapter highlights the case of Northern Ireland and how the Cohesion Policy program for the 2014-2020 cycle has been designed to tackle the complicated political and economic situation of the devolved authority. In particular, it addresses:

- What are the principal projects covered by the ERDF Operational Program?
- How has the Sustainable ERDF contributed to the achievement of local climate and energy targets?
- Are there specific green projects in Northern Ireland financed by the ERDF that strengthened cross-border cooperation with the Republic of Ireland?

The fifth chapter is comprehensive of the two case studies addressing various questions: what is the fate of the EU regional policy in the UK after the transition period and how would a hard Brexit impair the future relations with the EU in terms of EU funding programs? Has the UK already come up with a replacement for the ESIFs? Additionally, the chapter looks at the possible scenarios for Scotland (a new independence referendum to exit

the UK?) and Northern Ireland (a potential unification with the Republic of Ireland?) given the uncertainty of a post-Brexit phase following the end of the transition period. A final remark concerns the hardship of current UK-EU negotiating talks in the climate of the coronavirus crisis in Europe.

2. The Role of Sustainable Development in the European Cohesion Regional Policy, 2014-2020

2.1. Introduction

Since its launching in 1989, the European Cohesion policy has pursued the main goal of strengthening economic, social and territorial cohesion in the EU by correcting imbalances between its regions. To this end, the policy supports regional and local development of Member States, so that joint investments by the EU and the Member States target several key priority areas, i.e. thematic objectives (TOs), of national and regional Operational Programs. In particular, the European Regional Development Funds (ERDF) and the Cohesion Fund (CF) address the sixth thematic objective (TO-6) regarding investment priorities in the field of environmental protection and resource efficiency (ENEAMA report, 2016, p. 14).

The list of priorities endorsed by the EU in pursuit of environment and resource-efficiency growth is comprehensive: a) investing in the waste sector; b) conserving, protecting, promoting, and developing natural and cultural heritage; c) protecting and restoring biodiversity and soil quality, and promoting ecosystem services; d) promoting innovative technologies to improve environmental protection and resource efficiency in the waste and water sectors and with regard to soil, and to reduce air pollution; and e) supporting industrial transition towards a resource-efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sector (ENEAMA report, 2016, p. 14).

Most enlisted investment priorities are in line with the requirements of the EU's environmental 'acquis' – that is the body of common rights and obligations binding on all EU Members, so that they are required to incorporate into their national legal order. While some environmental priorities resort to largest coordinated network of protected areas in the world in order to address needs and targets that transcend acquis requirements. One instance is Natura 2000, a network of natural protection areas and habitats for rare and threatened species across Europe founded in 1992 in response to calls from Member States of the European Parliament for collective protection of Europe's wilderness.[8]

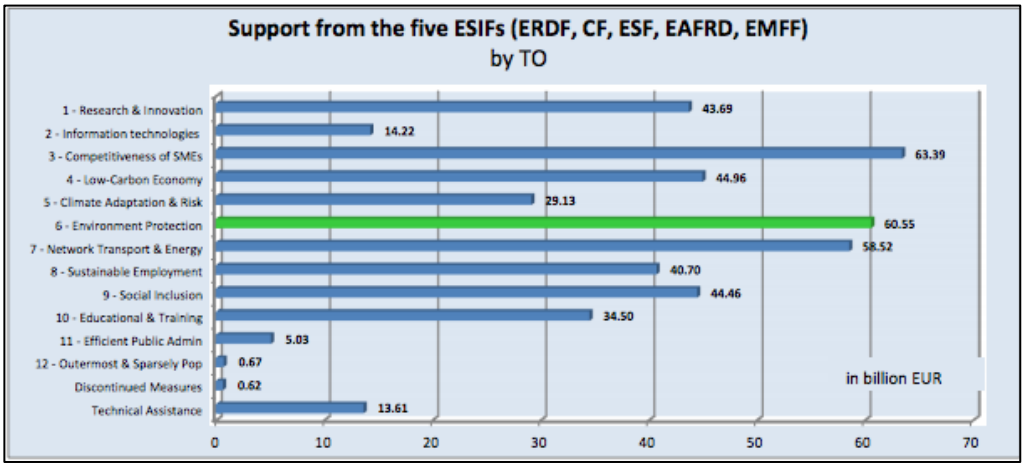
The thematic concentration of the five EU Structural Funds (ESIF)[9] and their allocation to

[8] European Commission, Natura 2000, https://ec.europa.eu/environment/nature/natura2000/index_en.htm

[9] The five ESIFs are in order: 1) the European Regional Development Fund (ERDF); 2) the European Social Fund (ESF); 3) the Cohesion Fund (CF); 4) the European Agricultural Fund for Rural Development (EAFRD); and 5) the European Maritime and Fisheries Fund (EMFF)

direct environmental investment is meaningful of the direction the Cohesion policy has taken over time. The 2014-2020 budget foresaw about EUR 60.6 billion (13.3 percent) to be devolved to TO-6 in accordance to categories set by regional policy funding (ENEAMA report, 2016, p. 15). To be clearer, in more developed regions with a GDP per capita above 90 percent of the EU average, at least 20 percent of ERDF resources covered funding in the field of environmental protection and resource efficiency; in transition regions with a GDP per capita between 75 and 90 percent of the EU average, the coverage was 40 percent; and in less developed regions with a GDP per capita less than 75 percent of the EU average, ERDF resources constituted 50 percent of the whole thematic concentration. Overall, support of regional funds to environmental policies represented the second highest share of the 2014-2020 funding program (see Figure 2.1), after SMEs (TO-3) with EUR 63.4 billion (13.9 percent) and before transport and energy infrastructure (TO-7) with EUR 58.5 billion (13.4 percent).

Figure 2.1: Support from the five ESIFs, by TO, (2014-2020)



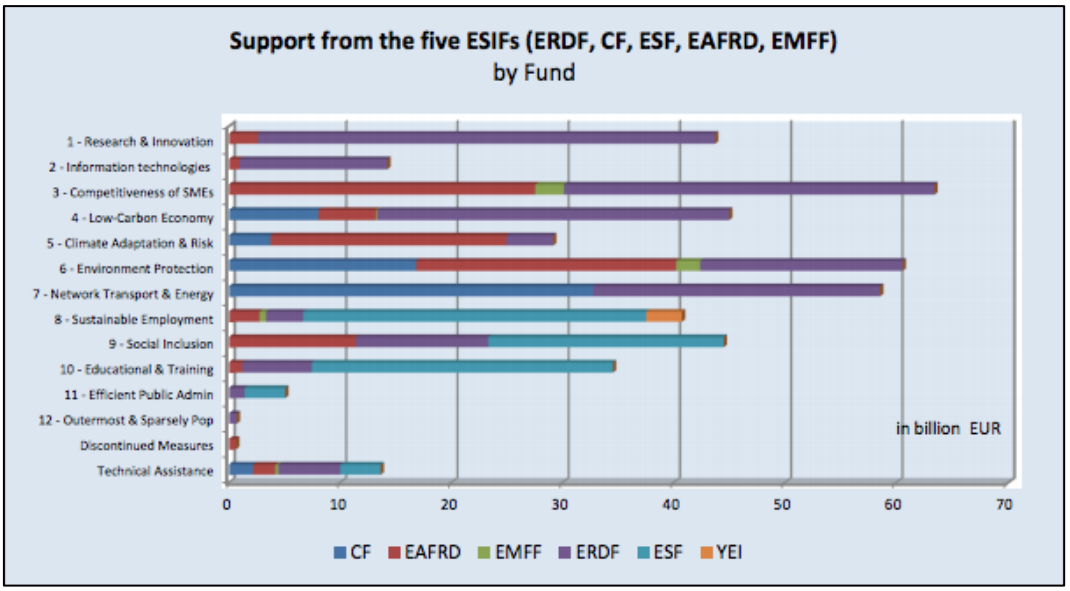
Source: ENEAMA Report, European Commission

Investments under TO-6 are not the sole to have an environmental dimension. Indeed, TO-4 and TO-5 contribute respectively to low-carbon economy built upon resource efficiency and ecosystem –based approaches and services directed to climate adaptation and risk prevention. Interestingly, if viewed separately, support by the five European Structural Investment Funds (as mentioned: ERDF, CF, ESF, EAFRD, and EMFF) to TO-4 (EUR 45 billion) and TO-5 (EUR 29.1 billion) is lower compared to environmental protection (TO-6).

The picture is slightly different but even stronger with regard to Cohesion policy funding

priorities (see Figure 2.2): in this case, the biggest allocations are for environmental protection (EUR 35.03 billion, or a 10 percent of the total) and low-carbon economy (EUR 39.7 billion), although climate adaptation lags behind, with EUR 8 billion. However, the total rate of environment-related funding records a significant share of European Structural funds when TOs 4, 5 and 6 are combined: together, the three investments contributing to environmental integration under the Operational Programs account for EUR 82.5 billion.

Figure 2.2: Support from the five ESIFs, by Fund (2014-2020)



Source: ENEMA Report, European Commission

In this preamble, my attention has been on showing how environmental categories constitute a large proportion of direct and non-direct investments in the EU's total Cohesion policy allocations for the 2014-2020 funding cycle. Specifically, light has been shed on the thematic concentration of the ERDF and additional EU Structural Funds onto targeted priorities that were singled out for a single action: to define a Cohesion policy compatible with both more and least developed EU regions, so that it could converge the pursuit of sustainable development and environmental integration into a common economic strategy. The whole EU community has interpreted such action as an incentive to use allocated sustainable development funds to pursue a low carbon and resource efficient economic model. Coherently, this ambitious strategy would also aim at utilizing EU Structural Funds to support the Europe 2020 Strategy's vision of "a smart, sustainable, and inclusive growth in order to improve Europe's competitiveness and productivity and underpin a sustainable social market

economy" (Derlukiewicz, 2014, p. 152).

It follows that the main focus of my attention in this chapter is the importance of the sustainable development model in the identification of fundamental priorities adopted by EU Member States for the ongoing 2014-2020 cycle to realize the abovementioned objectives. The chapter evolves in three sections, each of which is centered upon a research question. The first section defines the concept of sustainable development and discusses its correlation to environmental integration as expressed by the EU Operational Programs; the second section investigates the evolution of sustainable development in the EU agenda, with a particular attention paid to how its relevance has mutated from a mere smart growth-driven model in the latest regional programs to dealing with issues and challenges arising from a globalized economy; the last section looks at the Operational Programs pursued by the European Commission for the deployment of ERDF in accordance with the framework in the current 2014-2020 period. In doing so, it analyses the new Europe 2020 strategy, implemented by Brussels in response to flaws latent in previous regional strategies and funding policies, to assess how its priorities of a smart and sustainable growth in the old continent are line with the pursued priorities and targets of the EU Cohesion policy for 2014-2020.

2.2. Sustainable development: definition and relation to environmental integration

One of the most popular and oft-quoted definitions of sustainable development can be traced back to 1987, when the United Nations produced a document entitled *Our Common Future*, otherwise known as the Brundtland Report in the occasion of the World Commission on Environment and Development. The Report defines the concept of sustainability-based growth as the attainment of a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[10]. It means that the possibility to continue to benefit from living standards that outstrip minimum satisfaction of human needs is directly correlated to the world's supply of exhaustible natural resources, whose consumption should remain within the boundaries of ecological potential in order that generations to come can aspire to the same benefits of previous ones.

The Report presented a list of theoretical targets and perceived needs to promote an ecological society sensitive to climate change and environmental sustainability, but no

[10] UNWCED, Our Common Future report, 1987, p. 16, https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf

institutional action. However, importantly, it also offered a multilateral vision that emphasized a perfect balancing between economy and ecology, the need to fight off development inequalities in the form of poverty and wealth redistribution on the one hand, while increasing awareness about environmental limits to economic growth on the other. To a broader extent, it sustained the argument that a more efficient policy that integrates long-term sustainability in contemporary economies is associated not only to protection of the environment (e.g. by reducing CO2 emissions in the atmosphere), but also to reliance on a sustainable use of smart resources that would not alter the consumption standards of people.

It is undeniable that the EU, whose market represents one of the largest in the world, has placed paramount emphasis on Cohesion policy to promote sustainable opportunities for all Member States. Cohesion policy at the EU level has endorsed sustainable development drawing more attention on environmental protection, while directing European policymakers to operate on a joint strategy that integrates sustainability into the broader context of ecological performance (ENEAMA report, 2016, p. 7). Broadly speaking, it is possible to argue that Europe has witnessed a first practical commitment of the majority of EU Member States to the multilateral vision highlighted in the Brundtland Report of dealing with environment and development as one single issue. Most of current strategies adopted by Brussels to concretize the administrative process of allocating ESIF resources to good economic governance and promote such interplay between environmental integration and sustainable development are highlighted in the ongoing 2014-2020-policy cycle.

It is important, before investigating more in depth the latest evolution of sustainable growth in the context of EU Cohesion policy, to explain the concept of environmental integration and its relation to sustainable development. The European Commission defines environmental integration as "the incorporation of environmental requirements into all stages of the preparation and implementation of Cohesion policy… with a view to promoting sustainable development"[11]. In other words, at the moment of outlining shared objectives in the EU funding programming cycles and guidelines established by the Partnership Agreements –i.e. the regulations on EU funds deployment therein contained–there must be an invite for all EU Member States to integrate environmental goals into economic policies that reflect a joint commitment to achieving sustainable development.

The modus operandi through which EU Cohesion policy approaches environmental

[11] Ref. Treaty on the Functioning of the European Union (TFEU), Article 11 (ex. Article 6 TEC), 26 October 2012, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

integrations is twofold. On the one hand, a vertical environmental integration envisages the implementation of programs with projects that directly benefit the environment (e.g. water, waste or natural conservation); on the other, the complement approach of horizontal environmental integration requires Member States "to integrate environmental aspects in a cross-cutting manner in non-environmental measures in a program"[12]. The focus, therefore, on environmental aspects is meaningful for a number of reasons. First, it recognizes the relevance of resource-efficiency policies as a requirement for the future success of a long-term sustainable development strategy; this aspect will be further discussed in the next section of the chapter. Second, funding resources bound to ecological issues– including environmental protection, climate change mitigation, biodiversity, risk prevention and management– should be taken into consideration in all aspects of Cohesion policy, also within programs that do not directly cope with the environment.

Given the content of the intertwining relation between environmental integration and sustainable development, it can be inferred that the current strategy adopted by the European Commission for the 2014-2020 EU funding cycle is built upon three pillars: smart, sustainable and inclusive growth. A question that arises is what is the proper meaning of such technical terms, and specifically how they help to set priorities for supporting cross-cutting environmental integration in EU Cohesion policy. The following section traces back the origin of the European strategy for smart, sustainable and inclusive growth's objectives endorsed by the current EU financial program of socio-economic development back to the need of Member States to tackle structural weaknesses in the European market. More specifically, to the need to change Europe's vision of a dominant market economy by making a major effort towards a resource-efficient future. This is the result of a multilateral action that the EU is undertaking to address diverse challenges that could undermine the sustainable and inclusive growth of its Member States.

2.3. Evolution of sustainable development and environmental inclusion in the EU Cohesion Policy

There is no denying that, since its foundation, the EU has witnessed an evolution in terms of its views and policies on growth and development as a consequence of the growing interdependence of the world's economies. Not surprisingly, globalization has brought about a number of structural changes, inter alia the accelerating process of mutual dependence and

[12] European Commission, Mainstreaming the environment in cohesion policy 2014-2020, Environment, September 2016, p. 7, https://ec.europa.eu/environment/integration/pdf/enea/ENEAMA_eport_April_2017_24.pdf

international integration of individual European economies on a global scale. Such factors as growing international competitiveness, dynamic development of information, and the role of technology and communication have compelled all Member States to transform the Union into one of the most dominant economies in the global market (Derlukiewicz, 2014, p. 152). At the same time, in the last three decades the EU economy has lost ground when compared with other Western economies and emerging new economies (in particular the People's Republic of China), which makes the EU's goal of sustainability even more compelling.

In order to achieve its goal, the EU has strived to display a trend towards alternative key sources of production and innovative solutions in the field of technology, management, and organization to reduce asymmetries among its allies. While the main objective remained the pursuit of social and economic cohesion within its borders, a complementary priority of increasing the EU's international competitiveness obtained a prominent place on the European agenda (Stec et al., 2016, p. 3).

The correlation between knowledge and sustainable development played a fundamental role in the formulation and implementation of common strategies to realize the previously mentioned objectives. It is the concept of knowledge-based economy, which recognizes the importance of knowledge, innovation and information as the main contributing factors to growth and development in a global economy, which the EU has embraced to boost its competitiveness and dynamic socio-economic advance (Pirvu et al., 2019, p.3). However, globalization is not merely associated to innovation and dynamism in terms of economic development and interdependence; it also relates to a wide range of issues that are jeopardizing years of economic and social prosperity by exposing structural weaknesses in regional and national economies in Europe.

The 2008 global financial crisis and the subsequent 2011 Eurozone crisis have shifted EU authorities' attention towards other long-range priorities (Stec et al., 2016, p.2). Up to then, the general objective comprising strategic factors related to a knowledge-based economy had been the pursuit of competitive power on the global market and the attainment of a robust unity and solidarity amongst EU states. Nevertheless, the shortcomings that derived from the collapse of the global financial system and the burden of European sovereign debt marked the beginning of a new approach towards economic growth and sustainable development. In the words of the European Commission, the crisis represented a wake-up call that exposed the whole European community to the challenges and risks of an increased economic

interdependence[13]. The "business as usual" leitmotiv was leading to an immediate decline. If the short-term priority for Europe was, and still remains, exiting from the crisis, the role of a Cohesion policy aimed at making the EU one of the largest global market economies demanded a more coherent response not only at the economic, but also at the political level (European Commission report, 2010, preface.). For the very first time, European leaders shared a common sense of the urgency to transform the EU capability to deliver structural reforms in order to achieve a smarter, more sustainable and inclusive growth with a view to promote environmental integration. Moreover, the urgency has envisaged a multilateral commitment to ensuring equal conditions of sustainable development, social and economic cohesion to all Member States.

Surely, recommendations by the European Commission to advance environmental policies had already been drafted prior to the outbreak of the crisis. Even prior to the approval of the general provisions on sustainable development objectives contained in the 2007-2013 Community Strategic Guidelines (CSGs), the Lisbon Strategy devised in 2000 and updated in 2005, had a pioneering role for integrating environmental policies and economic growth (Berger et al., 2010, p.4). Indeed, its ten-year strategy offered up an embryonic response to create a common policy that could "make the Union the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth, with more and better jobs and greater social cohesion by 2010"[14]. The main weakness of the Lisbon Strategy lied in its fragile open method of coordination (OMC)–based on the intergovernmental approach– and inadequate binding targets; the majority of coordinating measures envisioned to address all the forms of environmental crisis (e.g. depletion of finite resources, lack of biodiversity, effects of global warming, etc.) resulted in a systematic loophole. The onset of the global financial crisis contributed to further curb the implementation of the Lisbon Strategy and wiped out years of progress that Member States had achieved since 2000 (European Commission report, 2010, p.5). It was the evidence that growth and development strategies were de facto inconsistent from the very first beginning; the result of a lack of dedicated budget and enforcement mechanism, so that Member States were left to their own devices in addressing development targets with a prospect on green policies.

In the aftermath of the global crisis, nonetheless, EU institutions made significant effort

[13] Europe 2020- A European strategy for smart, sustainable and inclusive growth, European Commission, 3 March 2010

[14] R. Rodriguez et al., The Lisbon Strategy 2000-2010- An analysis and evaluation of the methods used and results achieved, Directorate-General for Internal Policies, 2010, p.11

towards the need of strengthening policy coordination that could lead to the exit from the financial emergency and achieve a sustainable future for all its members. A smart growth solely based on research and innovation to generate economic wealth that could make the EU a powerful competitor in the global market was no longer a valid and sufficient priority. In addition to this, strategies adopted by the European Commission had a different effect: they drew EU leaders' attention to the undertaking of a joint rather than voluntary, and thus more effective, action on a more sustainable and inclusive policy-making that would lead to a more competitive economy, an efficient and sustainable use of natural resources, and protection of the environment.

Environment-oriented regulations are now fully integrated in the preparation and implementation of the Cohesion policy. In particular, they hinge on the assumption that living standards that exceed the minimum satisfaction of human needs, given a progressive shift in the economic and social development, are possible at one condition: consumption standards must have regard for long-term sustainability (Derlukiewicz, 2014, p. 153). This explains why the issue of exhaustible natural resources and the potential risk that a large percentage of individuals will have limited or nil access to them in the future has become far more relevant in the EU political agenda. In his main work *An Essay on the Principle of Population* on theory of wages and economic growth, Thomas Malthus suggests that demand for goods and services increases more rapidly than supply because of the propensity of the population to grow at an exponential rate [15]. In the long-run period, the unsettling effect of such phenomenon will inevitably lead economic growth to an adverse outcome where an increase in the number of people is not accompanied by an equal increase in the number of the means of subsistence than any country can provide to its inhabitants. This will negatively influence the distribution of income, the rate of economic growth, and the level of employment.

In spite of the fairly controversial nature of his assertions on human population control and poverty trap, the Malthusian catastrophe may represent a valid metaphor in the context of sustainable development and its relevance to meet the challenges of an ever-growing globalized production and consumption. Today, more than in the past, the scarcity principle in economic theory for which mismatched levels of desired demand and supply create a market disequilibrium and may result in scarce resources and restricted exclusion of commodity goods, seems to gain new momentum. It comes as no surprise that concern for the environment, or better to say search for appropriate means to protect the environment and its pool of limited resources, has evolved to include in the political agenda of EU national

[15] Thomas Malthus, An Essay on the Principle of Population, 1798, p. 28

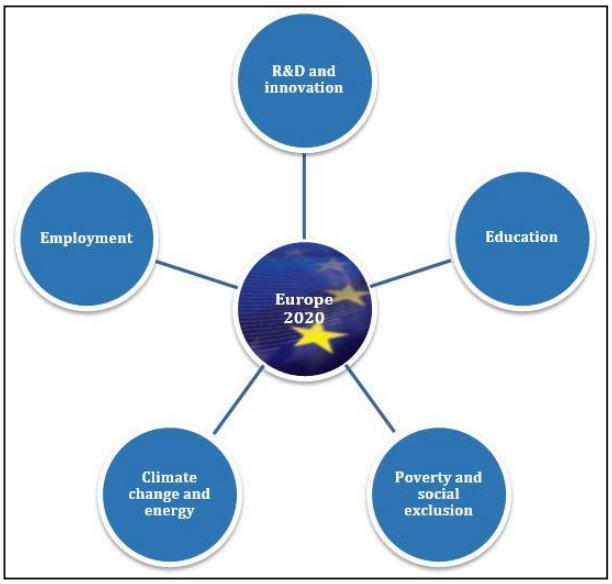
governments greater international co-operation for future economic and social development (Renda, 2017, p.3).

To summarize, weak growth rates before and the recent economic and financial recession have undermined the prestige of European markets and showcased a number of weaknesses of the EU's economy. Moreover, the Eurozone crisis has demonstrated the high interdependence of all EU economies; a lack of coordination and structural reforms within national and regional boundaries has proved to exacerbate spillovers between EU economies that may negatively affect the performance of all European states (European Commission report, 2010, p.10). The consequences of such unprecedented shock that wiped out decades of economic growth and progress helped a multilateral response by Member States to enable a rapid economic recovery and secure a future economic growth. In order to reach this goal, EU Member States should act to give priority to a knowledge-based development that could bridge regional disparities and economic gaps responsible to compromise unity and economic competitiveness at the international level, while at the same time ensuring a path of sustainability.

2.4. The 2014-2020 Operational Programs of Cohesion Policy and their relation to the Europe 2020 Strategy

The following paragraphs will draw up the major theoretical and practical aspects of sustainability and ecological performance in terms of a EU Cohesion policy capable not only of reducing regional disparities between its Member States, but also to ensure that meeting the needs of the current generation will not diminish the ability to meet the needs of future generations. In doing so, it also assesses the relationship between the Cohesion policy and the efforts to try to move Europe's economy and society towards a smarter, more sustainable and innovative future through strategic programs contained in the Europe Strategy 2020, whose principles and guidelines have contributed to shape the objectives of the latest regional funding of the current 2014-2020 programming period (see Figure 2.3).

Figure 2.3: Europe 2020 strategy headline targets and their interlinkages



Source: Eurostat Statistics, 2019

The 2020 Strategy was launched in 2010 to amend flaws that derived from the insufficient implementation of the Lisbon Strategy. As mentioned, the key priorities of the Lisbon Strategy were ambitious and in line with the goal of responding to such global pressures as economic globalization, neo-liberal ideas creating winners and losers, and declining demographic changes over the span of the last decade of the twentieth century and moving into new millennium. Indeed, the Lisbon Strategy was designed to create a EU's economy based on knowledge, research and innovation, as well as integrating, especially after a mid-term review in 2005, environmental issues and green technologies into employment and competition policies (Rodriguez, 2017, p. 23).

Nonetheless, by the end of the decade, the Strategy had not only failed to achieve the objective of setting binding targets for annual growth and employment rates, but it had hardly embraced a holistic approach to steer Europe's economy towards a multilateral program of sustainable development. To complicate matters, the global financial crisis triggered in concert with a severe debt crisis contributed to hinder the efficacy of the envisioned strategic program and required Member States to redefine their priorities. The EU needed a joint action that could help recover it from the crisis and transform the old continent into a progressive economy capable of addressing present and future long-term challenges. The response was a successor to the Lisbon Strategy that could fix its flaws, review the definition of development challenges, and the evaluation of technical measures, including financing, monitoring and communication, to accomplish the objectives embedded in the strategic priorities.

In order to ensure growth on an ecologically, economically and socially sustainable basis, the Europe 2020 Strategy pursues three distinctive objectives that are representative of the three priorities of smart, sustainable and innovative growth: a) developing an economy based on knowledge and innovation; b) promoting a more resource efficient, greener and more competitive economy; c) fostering a high-employment economy delivering social and territorial cohesion. These three priorities are mutually reinforcing and interrelated with headline targets for 2020 that must reflect the economic and social diversity of EU Member States (Derlukiewicz, 2014, p. 152).

It is reasonable to affirm that the concepts of smart and innovative growth are not brand new to the Europe 2020 Strategy. The first pillar of smart growth offers up the idea of an economy based on knowledge and innovation as drivers of future growth. Naturally, the concept of smartness related to economic and social growth was not an exclusive prerogative of the new Strategy (European Commission report, 2010, pp. 8-9). Previously in the chapter it has been illustrated the nature of a knowledge-based economy and its correlated perks on EU market, whose devising and pursuit had already been developed by the Lisbon Strategy and eventually embedded in the Europe 2020 Strategy. But the element of novelty of the Europe 2020 Strategy is the promotion of a more digitally versed society capable of making full use of information and communication technologies to redress economic and social asymmetries at the regional, national, and EU levels.

Another adopted and similar, but also reinforced target is the strengthening of territorial and social cohesion expressed by the third pillar of inclusive growth on promoting a high-employment economy. The current Strategy, in the same fashion as its predecessor's, focuses on increasing labor force participation to empower all people through high levels of employment, social protection systems and modernized labor markets (European Commission report, 2010, pp. 16-17). But again, the element of innovation is based on the increase of Europe's employment rate within a perspective attentive to the challenges of an ever more globalized and interdependent society (e.g. demographic change, structural unemployment, promotion of gender equality, and ageing population).

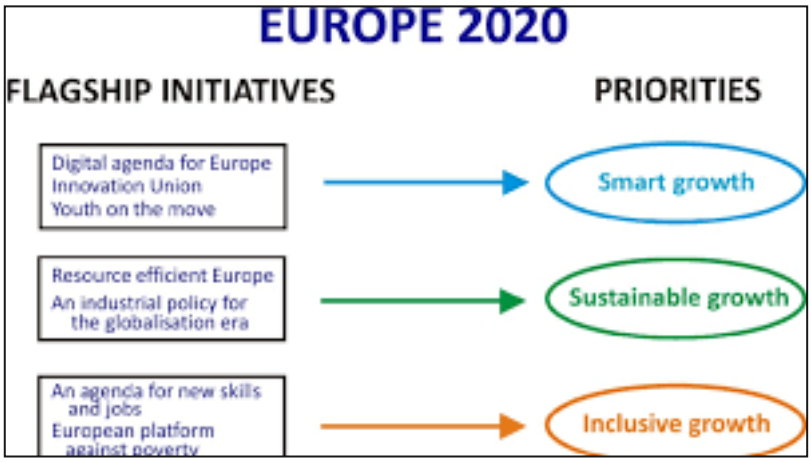
Regarding the second pillar, which is of most interest given the topic of this thesis, the priority theme of sustainable growth offers several insights that differ from the Lisbon Strategy, although it is coherent with the other two pillars and interrelated with their targets. The Europe 2020 Strategy makes reference to the target of reducing greenhouse gas emissions by at least 20 percent compared to 1990 levels and increasing the share of renewable energy sources in the final energy consumption and energy efficiency to 20 percent

(European Commission report, 2010, p.9). Not surprisingly, the concept advanced by Brussels envisioned the attainment of 20 percent of renewable sources of energy to create more than 600,000 jobs, with an addition of 20 percent on energy efficiency per 1 million of new working positions. This is a clear reference to the second pillar of sustainable growth aimed at building a resource-efficient and competitive economy decoupled from energy use in Europe.

Properly speaking, the priority of developing and spreading innovative green technological solutions to reinforce the competitive advantage of EU business (i.e. manufacturing and SMEs) and exploiting Europe's leadership should act as follows: all sectors of the economy, including non-emission-intensive ones, are committed to combating climate change and achieving climate goals by means of carbon capture and sequestration technologies that could reduce emissions in the present decade (European Commission report, 2010, pp.12-13). The goal of achieving EU climate targets should be directly correlated to the joint action of improving resource efficiency of EU Member States, which means maximizing cost-benefit ratio, diminishing dependency from energy use to give to Europe a competitive advantage for its businesses vis-à-vi foreign competitors. Therefore, sustainable growth and competitive economy represent a dichotomy but on that is converging: they are the expression of a strategic approach that underpins a low carbon economic growth to prevent environmental degradation, biodiversity loss and unsustainable use of resources; in addition, gaining a lead in the market for green technologies should help Europe improve its industrial competitiveness with its main key trading partners within and outside the EU economic area.

A question that remains is how the three mutually reinforcing priorities convey the vision of a Cohesion policy intended to ensure an effective and efficient use of the European Structural Funds that attempts to comply with EU legislation. To be clearer, how does such convergence of environmental-oriented and sustainability-based targets embodied in the 2020 Strategy becomes latent in the 2014-2020 EU funding program? On the one hand, the formulation of priorities has the dual purpose of realizing fundamental environmental goals referred to by EU Treaties and supporting the above-mentioned pillars of economic growth and development. On the other, the objectives to accomplish sustainable development and environmental integration identified in the ongoing Operational Programs are influenced by a number of flagship initiatives of Europe 2020 Strategy for the development of a smart and sustainable economy (see Figure 2.4).

Figure 2.4: Flagship initiatives and priorities of the Europe 2020 strategy



Source: European Commission, 2010

Cohesion policy regulations need to be in line with principles of sustainable development expressed by EU Treaties in implementing and evaluating the 2014-2020 programming period. For instance, Article 3(3) of the Treaty on the European Union (TEU) sets out key points for environmental policies and can be interpreted as the legal source that legitimizes the use of environmental funds to ensure compliance with EU law:

-"*The Union shall work for sustainable development of Europe based on balanced economic growth and price stability (…) and a high level of protection and improvement of the quality of the environment*"- Art. 3(3) TEU.

A provision that refers to sustainable development in line with EU law is Article 17 of the General Regulation for Cohesion policy in 2007-2013, which states that "the objectives of the Funds shall be pursued in the framework of sustainable development and the Community [the Union today] promotion of the goal of protecting and improving the environment as set out in Article 6 of the Treaty"[16]. However, the common strategic framework for 2014-2020 introduces a list of further elements specifically designed to integrate sustainable development in the provisions of the EU operational program. Such principles are clearly expressed by Article 8 CPR (Cohesion Policy Regulations) on the principles of Union support for the European Structural and Investment Funds (ESIFs):

-"*The objectives of the ESI Funds shall be pursued in line with the principle of sustainable development and with the Union's promotion of the aim of preserving, protecting and improving the quality of the environment (…). The Member States and the Commission shall ensure that environmental protection requirements, resource*

[16] European Commission, Mainstreaming the environment in cohesion policy 2014-2020, Environment, September 2016, p. 10, https://ec.europa.eu/environment/integration/pdf/enea/ENEAMA_eport_April_2017_24.pdf

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 programs. Member States shall provide information on the support for climate change objectives". Art. 8 CPR[17].

The CPR for 2014-2020 figures further cutting-edge elements compared to the General Regulation for Cohesion policy stressed in the 2007-2013 Community strategic guidelines (CSGs). According to key requirements of the General Regulation, which were still grounded in the Lisbon Treaty's priorities, the role of environmental protection is crucial for growth, competitiveness and employment. In the same fashion of present OPs, the use of the Funds should abide to economic, social and environmental policies in favor of sustainable development that each Member State should incorporate at the national and regional level as referred to by Article 3 CSGs. Nonetheless, the prime difference between the two cycles, 2007-2013 and 2014-2020, lies in the monitoring and evaluation of effectiveness of EU projects. In fact, the Cohesion policy funding in 2007-2013 limited evaluation of partnership agreements to reports drafted at EU level that concerned the "consistency of assistance from the Funds and the strategy and implementation of OPs".

In a few words, these reports yielded to Brussels a rough understating and scattered information on vertical integration of environmental protection into the dimension of sustainable development that hardly could result in a sufficient basis for a potential horizontal integration of green projects across non-environmental measures as well. By contrast, the CPR requires not only an appropriate strategic environmental assessment (SEA), which was not mandatory for the CSGs if not applicable, but also "an ex ante evaluation to assess the adequacy of planned measures to promote sustainable development" (ENEAMA report, 2016, p. 12). It means that EU Member States authorities have the duty to provide to Brussels clear and binding monitoring information for OP implementation reports and partnership agreement progress reports. The ex-ante conditionality demands all EU funds applicants to incorporate the requirements for SEA in the Operational Programs, which must contain a description of the actions to take into account and an analysis of their effects on the promotion of sustainable development (ENEAMA report, 2016, p.13).

In terms of the relevant strategies to accomplish the objective of developing a smart, sustainable and inclusive growth across the EU, the Europe 2020 Strategy proposes a wide range of flagship initiatives to catalyze progress under each priority theme. In the view of the European Commission, the combined action of these initiatives is fundamental to influence

[17] European Commission, Mainstreaming the environment in cohesion policy 2014-2020, Environment, September 2016, p. 12, https://ec.europa.eu/environment/integration/pdf/enea/ENEAMA_eport_April_2017_24.pdf

the accomplishment of sustainable development and environmental integration by the 2014-2020 Operational Programs.

There are five flagship initiatives that concern the development of a smart and sustainable economy[18]: a) Innovation Union; b) Digital agenda for Europe; c) Youth on the move; d) Resource efficient Europe; and e) An industrial policy for the globalization era. Among these, the d) initiative gives guidelines that support a shift towards an economy based on resource efficiency and low-carbon policies while prioritizing joint measures enhancing technological smartness, ecological innovation and economic competitiveness. More in depth, it mobilizes Member States to present proposals to modernize and decarbonize the transport sector to make it smarter, upgraded and fully interconnected through the full use of ICT (i.e. early deployment of grid infrastructures, reduction of CO2 emissions for road vehicles, promotion of hybrid technologies, management of better logistics, etc.).

The action portrays also an invite to EU national and regional authorities to make use of Structural Funds to adopt and implement substantial programs to move to a low carbon, resource efficient and climate resilient economy. The contribution of Cohesion policy funds to Member States is to complement the efficient use of resources to achieve emissions reduction and biodiversity targets by 2050, including disaster prevention and response, contribution to territorial and social cohesion, and maritime policies to address climate change. The 2014-2020 OPs, in turn, relate to proposals and guidelines of the Resource and Efficient Europe flagship initiative to facilitate allocations of environmental investments to specific categories and integrate them into regional sustainable development actions across the entire programming.

For example, the water management sector receives the most investment in the 2014-2020 period, approximately EUR 14.7 billion. In addition, the energy investments in transport, albeit its decreasing significance with respect to the 2007-2013 period, appear to be in third place, with nearly EUR 69 billion (ENEAMA report, 2016, p.19). These two objectives, water management and environmental integration in transport, recall the initiative endorsed by the Europe 2020 Strategy on modernizing infrastructure projects and the transport sector in order to promote renewable sources of energy in the single market.

Another two investment categories on nature and biodiversity, for which allocations have increased the most comparing to the previous cycle (from EUR 2.5 billion in 2007-2013 to EUR 3.7 billion in 2014-2020) seem to correspond to the new Strategy's guidelines to deploy

[18] Europe 2020- A European strategy for smart, sustainable and inclusive growth, European Commission, 3 March 2010, pp. 3-4

green resources to concretize the project of a climate resilient economy (ENEAMA report, 2016, pp. 20-21). Climate change and risk prevention have also relevance in the OPs: financial allocations for climate change adaptation and management of climate-related risks cover nearly EUR 6.4 billion in investments, which added up to EUR 1.06 billion in the category of risk prevention account for EUR 7.4 billion (ENEAMA report, 2016, p 21). In this case, the reference to the Europe Strategy 2020 is subtle but certain: Cohesion policy must address any type of climate-related risks and can implement multiple investments to address environmental issues. However, these investments should be directed to non-climate-related risks as well, which are more oriented to smart and inclusive measures in the research or employment sector.

3. First Case Study on Sustainable Development: Scotland's 2014-2020 OP

3.1. Introduction

In the formulation of the Partnership Agreement with Brussels on how to use funding from the European Structural and Investment Funds (ESIF) for the 2014-2020 programming cycle, Scotland has shown evidence of a distinctive approach in pursuing environmental sustainability. This UK autonomous region has adopted a dual comprehensive approach underpinned by guidance, advice, and other forms of support to green policies. In particular, the Scottish approach must ensure that all funded projects across all the themes address the interplay between sustainable development and environmental integration, thus complying with thematic objectives and initiatives supported by both the Cohesion Policy and the Europe 2020 Strategy; secondly, it upholds projects that strive to achieve positive environmental impacts once more in line with existing EU programs and funding strategies (e.g. lowering carbon consumption, maximizing a more efficient use of natural resources, and including innovative methods and smart, knowledge-based technologies to produce tangible benefits in terms of social and economic outcomes). The Scottish Government, therefore, has strived to support the financial allocations from one of the main ESIF, the European Regional Development Fund (ERDF), to deliver regional domestic programs through three Scottish Themed Funds (STFs): competitiveness, innovation and jobs; low carbon, resource efficiency and the environment; local development and social inclusion (Mclever, 2014, p.2). Thus, the three STFs are sub-sections of the ERDF Operational Program[19].

The content of the Scottish ERDF OP can be viewed as a clear engagement to realize the three strategic pillars of a sustainable, environmental protection-driven, and efficient economy expressed by the 2020 Strategy. In the words of Senior Researcher Iain Mclever of the Scottish Parliament Information Center "the Executive wishes to use the Scottish Themed Funds to ensure that we concentrate on interventions that together will have the greatest impact for Scotland, the greatest push towards Europe 2020 targets, and best address the development needs of Scotland"[20]. Above all, the Scottish Government has acknowledged

[19] Operational Programs (OPs) are detailed plans that set out how money from the ESIF will be spent by Member States during the programming period. The ERDF OP 2014-2020 describes strategies for contributing to the delivery of the EU's Europe 2020 strategy for a smart, sustainable and inclusive growth, as well as achieving economic, social and territorial cohesion. Other OPs pursue additional objectives. For example, the European Social Fund (ESF) OP 2014-2020 defines strategies for promoting employment and social inclusion by investing in Europe's people and their skills.

[20] Iain Mclever, European Structural Fund Program in Scotland 2014-2020, SPICe report, 2014, p.3

that a converging action of development and deployment of renewable sources is a key aspect for a more sustainable economy capable of contributing to emission reductions. The reason is obvious and officially stated by the Scottish Government: low carbon and renewable energy are not mutually exclusive; rather, they represent an enormous economic and industrial opportunity to combine both a decarbonized society contributing to the response to climate change and investments in local business sectors where green technologies and resources may promote a more competitive and inclusive production across Scotland[21].

This chapter analyzes the management of the Sustainable ERDF- a part of the regional development fund that prioritizes investments devolved to sustainable development- by the Scottish Government for the 2014-2020 cycle to meet the strategic priorities of the Europe 2020 Strategy. More specifically, it seeks to explain how the EU funds have been allocated in the area of environmental sustainability and which type of Operational Programs committed to take actions to increase the use of low carbon and efficient resources have financed. The focal point of the analysis concerns the role of renewable energies in the context of the regional funding program and, more so, its impact on assessing initiatives and projects to transform Scotland's economy into a smarter, more sustainable, and inclusive society. The first section of the chapter illustrates how the sustainability-oriented ERDF has been managed across Scottish sub-regions in the 2014-2020 cycle and which green projects have been covered to foster a low-carbon and efficient economy. The second section focuses on the impact of renewable sources of energy in shaping Scotland's climate strategies to comply with EU policy and exploit their potential to become a suitable competitor in the sustainable energy market. The last section assesses the extent to which the distribution of ERDF funding across renewable generated energy sectors has helped Scotland realize national targets to accelerate the shift toward a more sustainable economy and an efficient use of renewable energy resources.

3.2. EU Structural Funds in Scotland: Mainstreaming Environmental Sustainability

In this section, my primary attention is focused on the Sustainable ERDF and its management throughout the 2014-2020 period to deliver strategic actions in line with European Commission regulations on the fostering of a low-carbon and resource-efficiency-based economy.

Scotland has experienced a change in the management and governance of Structural Funds

[21] Scottish Government and Forum for Renewable Energy Development in Scotland, framework, September 2017, p.3, https://www2.gov.scot/resource/doc/917/0066300.pdf

over time. A significant step occurred in the wake of the devolution process, aka the administrative decentralization that transferred some powers previously held at Westminster to the Scottish Parliament and Administration at the end of the twentieth century. In fact, a wide range of devolved competences included regulations for the implementation of the ERDF and other ESIFs and their financial management. Professor J. Bachtler of the European Policies Research Centre, University of Strathclyde, states that in the first cycles of the EU Cohesion Policy (respectively for the 1989-93, 1994-99, and 2000-06 programs), the main authority accountable for the delivering of EU funds was the Office of the Secretary of State for Scotland, also referred to as the Scotland Office, in conjunction with executive partnerships with local stakeholders[22]. However, starting from the 2007-2013 cycle of programming onwards, the Scottish Government has acquired a central role, and program management executives have been reduced from five to two. For the 2014-2020 funding program, the Scottish Government has become the sole Managing Authority responsible for the efficient management and implementation of the Operational Program; noteworthy, it holds the role of Certifying and Audit Authority, meaning that it is accountable for submitting statements of expenditure and applications for payment to the European Commission, as well as for the auditing of the management and control systems (Thom, 2019, p.10).

Such roles empower the Scottish Government with decision-making about the best practices in the use the ERDF as well as with the implementation of detail activities to realize strategic priorities envisioned by the program. This prerogative allows the Executive in Scotland, among their other duties, to define guidelines and prepare proposals in the context of sustainable development and environmental integration objectives.

In accordance to the Partnership Agreement[23] signed by the UK and the European Commission in 2013, the Structural Funds devolved to Scotland were worth up to EUR 872 million of the EU budget period 2014-2020. Of those, the portion of the ESIFs that in Scotland covers sustainability and environmental integration in 2014-2020 amounted to EUR 187 million, mostly allocated to priority sectors promoting low-carbon and resource efficiency strategies for all types of territories, in particular for urban areas. The ERDF Operational Program foresaw the redistribution of EUR 476 million from the ERDF to Scottish sub-regions and their use in a number of strategies aimed at boosting a smart,

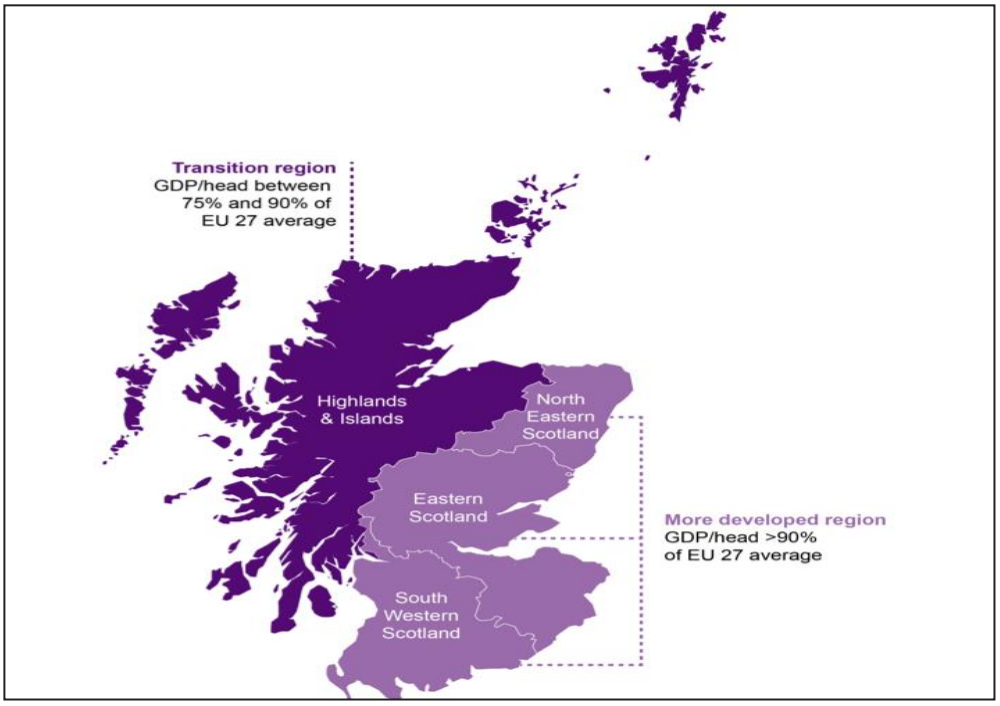
[22] Iain Thom, EU Structural Funds in Scotland, The Scottish Parliament, 10 April 2019, https://sp-bpr-en-prod-cdnep.azureedge.net/published/2019/4/10/EU-Structural-Funds-in-Scotland/SB%2019-19.pdf

[23] Scottish EU Funding Portal website, visible at the following link: https://portal.funding-portal.eu/funding-programmes/scottish-european-regional-development-fund-programme

sustainable, and inclusive growth (European Commission website, 2014-2020). In the course of the current programming period, the Managing Authority has destined these funds to such initiatives as increasing digital connectivity, improving employment opportunities, making Scotland more competitive in business, and shift consumption and production towards a more resource efficient and circular economy.

It is important to notice that the distribution formula of sustainability oriented funds to Scottish sub-regions is not homogenous, but linked to economic performance. The Nomenclature of Territorial Units for Statistics (NUTS) for the 2014-2020 programming cycle functions again as a hierarchical system that divides the EU economic territory into different levels (Thom, 2019, p.13). NUTS 1 identifies geographic groups of regions within Member States; NUTS 2 basic regions for the application of regional policies; and NUTS 3 sub-regions (i.e. Counties or provinces). In addition, for the purpose of the territorial actions of the Cohesion Policy, the European Commission recognizes three types of regions: a) less-developed regions with GDP per capita less than 75 percent of the EU average; b) transition regions with GDP per capita between 75 and 90 percent of the EU average; and c) more developed regions with GDP per capita of more than 90 percent of the EU average.

Figure 3.1: Structural Fund Eligibility in Scotland (2014-2020)



Source: The Scottish Government, SPICe Briefing 2019

As shown in Figure 3.1., in the current cycle, Scotland's Structural fund eligibility follows a NUTS 2 scheme of allocation. Scotland is split up into two macro-regions with differentiated economic performance The three Southern NUTS 2 regions, i.e. the Lowlands and Uplands of Scotland (i.e. North Eastern Scotland, Eastern Scotland, and South Western Scotland) are identified as more developed. These territories were eligible for 45 percent of Sustainable ERDF, with approximately EUR 98.9 million and EUR 41.6 million being allocated to respectively low-carbon and resource efficiency sectors. By contrast, the Northern and Central territory of the Highlands & Islands falls within the category of transition region and it was entrusted with 55 percent of Sustainable ERDF (EUR 25.9 million devolved to low carbon and EUR 11.6 million to environment and resource efficiency)[24].

Having defined the criteria for Sustainable ERDF allocation to Scottish regions, this section of the thesis moves to investigate which strategic policies aimed at building a sustainable and low-carbon economy were associated to the implementation of EU Cohesion Policy. The analysis of documents shows that the Executive approved three Strategic Interventions (SIs) to reduce the environmental impact of Scotland's consumption and production supported by the total of ERDF: a) Low Carbon Infrastructure Transition Program; b) Low Carbon Travel and Transport Program; and c) Resource Efficient Circular Economy[25].

The Low Carbon Infrastructure Transition Program (LCITP) was launched in March 2015 in partnership with Scottish Enterprise, Highlands and Islands Enterprise, Scottish Futures Trust and sector specialists with the purpose of fostering Scotland's transition to a low-carbon economy. Such Strategic Intervention (SI) was forged on a range of framework mechanisms to support the development of substantive private, public, and community low-carbon projects across Scotland[26]. Targeted organizations, which wished to apply for project development support and be assessed for eligibility by the LCITP project team, involved SMEs and non SMEs, community groups, registered charities, third sector, community interest and benefit companies, public sector organizations, and academic institutions. The program considers support also for projects to reduce greenhouse gas emissions (MtCO2e) and/or energy consumption in the area of renewables, including heat recovery, energy storage

[24] Scottish EU Funding Portal website, visible at the following link: https://portal.funding-portal.eu/funding-programmes/scottish-european-regional-development-fund-programme

[25] Scottish Government, European Structural and Investment Funds, official website visible at the following link: https://www.gov.scot/policies/european-structural-funds/low-carbon-scotland/

[26] Scottish Government, Renewable and low carbon energy, official website visible at the following link: https://www.gov.scot/policies/renewable-and-low-carbon-energy/

and distributed energy systems, hydrogen, and energy efficiency for non-domestic building retrofit. The Stirling Renewable Heat Demonstration[27] is a clear instance of supported project to demonstrate the potential of innovative technologies in accelerating the development and delivery of low-carbon infrastructures to the Stirling Community. Through the mutual action of an innovative energy generation technology and a wastewater heat recovery system, the project conceptualized the development and delivery of an affordable, low carbon heat and a negligible air quality to a small city located 60 km from Edinburgh.

The Low Carbon Travel and Transport Program (LCTTP) was part of the ERDF Low Carbon Travel and Transport Challenge Fund, administered by the Scottish Government and delivered through Energy Saving Trust non-profit organization on behalf of Transport Scotland. Open to public, community, and third sector organizations, the SI incentivized spreading of EU funds under the 2014-2020 Program to facilitate the delivery of active travel and low carbon transport hubs (Energy Saving Trust website, 2019). The initiative was carried out in three different rounds during 2017-2019: for Round 3, the Energy Saving Trust and Transport Scotland planned approximately £2.48 million of ERDF funds available for projects in the Highlands and Islands area and £5.95 million for projects from the Lowlands and Uplands[28]. An example is the Falkirk Active Travel hub, whose first development dated from Round 1 of the LCTTP in 2018 and was part of a wider project awarded over £ 500,000 in ERDF through the Low Carbon Travel and Transport Challenge Fund. The project, officially announced by the Minister for Transport and the Islands, Humza Yousaf, was intended to provide access to e-bikes and electric vehicles and encourage local community to engage with greener and more active modes of travel (Transport Scotland framework, 2018).

The Resource Efficient Circular Economy Accelerator Program (RECEAP), the most recent among the three enlisted SIs, is currently under the administration of Zero Waste Scotland, one of the twelve Lead Partners for the 2014-2020 Operational Program. The initial allocation for the accelerator program was £30.7 million in 2018, with an additional funding of £2.3 million backed by the Scottish Government that brought the total size of the fund to £73 million (Zero Waste Scotland website, 2014-2020). The main goal of the accelerator program is to increase the resource efficiency of Scottish SMEs operating in the Highlands & Islands and Lowlands & Uplands. Such action must be accompanied by a joint effort from

[27] Stirling Council official website, available at the following link: https://www.stirling.gov.uk/news/2019/august-2019/stirling-s-pioneering-green-heat-network-gets-seal-of-approval-from-first-minister/

[28] ERDF 2014-2020: Low Carbon Travel and Transport (LCTT) Program, Round 3, August 2019, https://energysavingtrust.org.uk/sites/default/files/ERDF%202014-2020%20LCTT%20CF%20-%20FAQs%20-%20Round%203%20-%202019_08_09%20update.pdf

community-based organizations to develop new business models, products, services and infrastructure that public and third sector enterprises might build on existing local resources. Moreover, the SI explicitly makes reference to the need of creating a more circular economy in Scotland to eliminate waste and the continual use of resources. It is not a case that one of the fundamental points of the program represents an open call for applicants to deliver strategic operations that should build links to the Scottish Government's Climate Challenge Fund (Zero Waste Scotland website, 2014-2020). Among the list of prerogatives envisioned by the fund, the theme of reducing, reusing, and recycling waste can be interpreted as an incentive for SMEs applying for the RECEAP to use available funding in support of a circular business model. That is to say, exploring market alternatives to the "make, take, and dispose" approach, such as using by-products to reduce costs, generate new income streams and reduce CO2 emissions (Ellen Macarthur report, 2013, p.20).

3.3. The Importance of Renewable Energies to Attain Scotland's National Targets

As the analysis of projects indicates may, all the programs commissioned by the Scottish Government during the 2014-2020 funding cycle share a special focus on combining renewable energies, which constitute an important part of the Scottish consumption and a drive towards a low carbon and efficient economy. In the previous section, my intent has been to see how Scotland deemed ERDF investments in green resources functional to lower the negative impact on the environment of industry and to maximize investments in green infrastructures to improve quality of life, and ease accessibility in urban environments. This section explores in detail how European funding in renewable energy generation in Scotland has contributed to the draw up national development targets that incorporate EU priorities on sustainability and environmental protection.

It is unquestionable that Scotland is struggling to become an international front-runner in renewable energy. A factor that appears to increase investment in this market is purely geographical. Not coincidentally, Scotland's position on the northwestern fringes of Europe is advantageous for policy mechanisms that incentivize renewable use of green resources. Being surrounded by a vast maritime zone, Scotland hosts a quarter of most renewable resources that act as a fundamental catalyst of EU Structural Funds: 25 percent of Europe's entire offshore wind power resources, 25 percent of Europe's tidal energy resources, and 10 percent of wave potential (Schuh et al., 2012, p.75).

However, a more plausible reason that may explain such struggle concerns the ambitious objective of the Scottish Government to aspire to a higher figure than the UK as a whole and enable Scotland to play a leading role with other European partners in developing and supplying renewable energy to a wider market (Scottish Government Framework, 2017, p.17). Indeed, Scotland's renewable energy resources may offer profitable opportunities for international investors, including carbon capture, energy storage, and decarbonization of heat and transport. As mentioned in previous paragraphs, the goal of promoting renewable energies constitutes an important incentive to increase resource efficiency and an economic benefit for all the regions across Scotland. Investing in green energies offers lucrative job opportunities for various organizations, which are involved in the financing of innovative sectors that could further contribute to environmental sustainability and create new sources of revenue. To reach the goal, the Executive has been fully committed to a series of national green energy targets and projects to generate full Scotland's electricity demand for renewables and deliver half of the country's total energy consumption from green energy resources. In the last few years, the Executive has exploited this opportunity to promote and explore Scotland's potential by drawing an energy strategy for economic development to "focus the Government and public services on creating a more successful country, with opportunities for all Scotland to flourish, through increasing sustainable economic growth"[29].

This Scottish Energy Strategy appears to be a significant incentive to accomplish a series of ambitious targets through the ERDF action. First and foremost, Scotland is using the EU funds to reach one of the toughest statutory targets in the world, i.e. net zero greenhouse gas emissions by 2045, with interim targets for reductions of at least 56 percent by the end of 2020, 75 percent by 2030, and 90 percent by 2040 (Committee on Climate Change report, 2019, p.9). Another ambitious target advanced by the Executive consists in meeting 100 percent of national electricity consumption from renewables in 2020. According to a report from the Scottish Environment Protection Agency showcasing the country's renewable progress, renewables provided 76 percent of the electricity consumption in 2018, and the percentage is expected to continue to rise in the future[30].

These two objectives can be interpreted as a significant contribution to EU's overall energy targets. In fact, they are in line with the 2030 Climate and Energy Framework presented by the European Commission on 22 January 2014, at the beginning of the current funding cycle.

[29] Scottish Government and Forum for Renewable Energy Development in Scotland, framework, September 2017, p.5, https://www2.gov.scot/resource/doc/917/0066300.pdf

[30] Scottish Renewables Statistics website (2019), https://www.scottishrenewables.com/our-industry/statistics

The action includes a binding target to cut greenhouse gas emissions in the EU by at least 40 percent (below 1990 levels) and a binding renewable energy target of at least 32 percent of final energy consumption by 2030[31]. The framework is also part of the Europe Green Deal, which provides action for making the EU's economy sustainable decoupled from fossil resources by boosting the efficient use of resources and moving to a clean, circular economy, restoring biodiversity, and cutting pollution by 2050. The Deal represents, consequently, a further link to the Scottish Energy Strategy, for it promotes an inclusive use of EU funding investments in the perspective of a climate-neutral and resource-efficient economic growth capable of transforming environmental challenges into opportunities across all policy areas.

The Europe 2020 Strategy represents an additional source of motivation for the Scottish national strategy to specialize in the renewable energy market with the parallel contribution of the Sustainable ERDF. In the previous chapter, the target of reducing greenhouse gas emissions and increasing the share of renewable energy sources for future production and consumption was underlined. Such target refers to the second pillar of sustainable growth contained in the 2020 Strategy and sets out a package of objectives aimed at building up a low carbon and resource-efficient economy by the year 2020. The three objectives include a 20 percent cut in greenhouse gas emissions (from 1990 levels), a 20 percent increase of EU energy from renewables, and a 20 percent improvement in energy efficiency. The package also envisioned investments for the development and the diffusion of low carbon and efficient technologies across both environmental and non-environmental sectors. This point seems to reinforce the evidence that the Europe 2020 Strategy suited Scotland's ambitions to exploit the potential of abundant local renewable resources and green technologies to reinforce the competitive advantage of Scottish businesses in the sustainable market sectors.

3.4. Evaluation: observations on the efficacy of European Structural Funds

So far, this thesis has pointed out that the Scottish Executive has established a series of objectives that foresaw the use of European funds in support of sustainable and environmental-oriented actions that, in turn, had a certain impact on the national transition to a more low carbon economy. Above all, a well-guided transition to a carbon-neutral economy represents an occasion to bring innovative economic and social opportunities to individuals, business and communities. Furthermore, this is a unique opportunity for Scotland "to become the first major economy to legislate to end the country's contribution to global warming

[31] 2030 Climate and Energy Framework, European Commission website available at the following link: https://ec.europa.eu/clima/policies/strategies/2030_en

entirely"[32].

A specific question that emerges at this point is whether the use of ERDF has de facto helped Scotland realize national targets contained in the Scottish National Strategy. Is it possible to infer that European funding has been successful in accelerating the shift toward a more sustainable economy and an efficient use of renewable energy resources?

During the 2014-2020 cycle, the Scottish Government has published a series of Climate Change Plans to sustain its energy strategy of spurring productivity and securing a competitive advantage in the market of renewables. Table 3.1 below offers actual data on the targets pursued by Scotland during the span of four years since the beginning of the programming period.

Table 3.1: Scottish Performance in the Transition to Low Carbon Economy: Indicators 2015-2017

Indicator	Target	Current Level	Change Over Year	Reference Period
Greenhouse Gas Emissions [28]	Reduce emissions by at least 42% by 2020 and at least 80% by 2050, compared to a 1990 base year	45.21.0% reduction from 1990 to 2016, after taking account of trading in the EU Emissions Trading System (EU ETS)	2.5% increase in emissions, after taking account of trading in the EU Emissions Trading System (EU ETS)	2016
Indigenous Renewable Energy Sources	Generate the equivalent of 100% of gross electricity consumption from renewable sources by 2020	68.1%	14.1% pts increase	2017
Heat Demand	11% of Scotland's heat demand from renewables by 2020	4.8%	0.6% pts decrease	2016
Energy Efficiency	Reduce final energy end-use consumption by 12% by 2020 (against a 2005-2007 baseline)	15.4% lower than baseline	0.3% pts decrease in consumption	2015

Source: Scottish Government, 2019

The majority of national interventions in the 2015-2017 period included emission reductions

[32] Andrew Black: Scottish Power urges tougher climate change laws ; BBC News Article, 7 June 2019, https://www.bbc.com/news/uk-scotland-scotland-business-48540113

to meet the EU energy targets. The first thing that draws attention is the high variability of reduction targets during the cycle defined by the Climate Change (Scotland) Act 2009: 42 percent by 2020 and at least 80 percent by 2050, compared to a 1990 base year. Scotland has always pursued an ambitious approach towards crosscutting measures of GHGs emission cutting. Even more recently, the country has gone even further: with the new Climate Change Bill approved by MSPs (Members of the Scottish Parliament) on September 2019 replacing former Act, the Scottish Government has raised the target of producing net zero greenhouse gas emissions by 2045[33]. The new legislation features also one of the strictest statutory targets set by any other country: an interim target of reducing the country's greenhouse gas emissions by 70 percent by 2030, almost twenty years before the 2050 interim target. This datum seems to confirm the country's intention to accelerate the transition towards a full carbon-neutral economy that reflects EU objectives at the heart of the European Green Deal and in line with commitment to global climate action under the Paris Agreement.

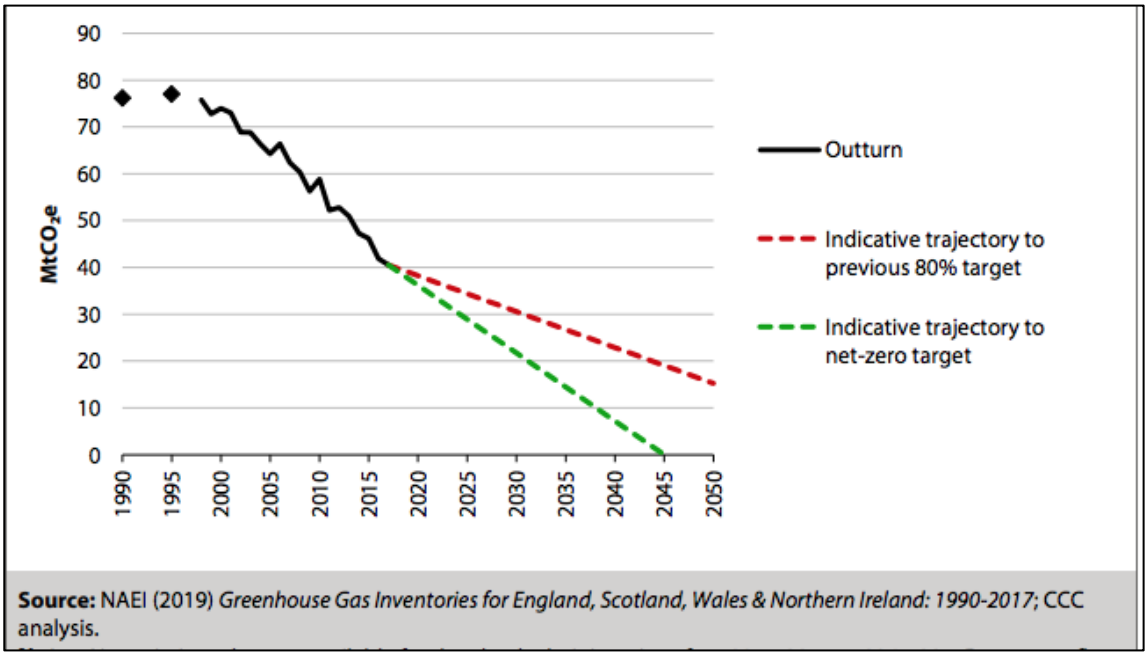
A manner to gauge the efficacy of ERDF in realizing the content of the target is looking at variations of carbon emissions[34] in the 2014-2020 programming period, as in Figure 3.2. It appears that Scotland has made a progress: the GHG emission inventory published in 2019 states that Scottish emissions fell by 3 percent in 2017, which amounted to 40.5 MtCO2e (million tons of carbon dioxide equivalent). Compared to 1990 (considered as a baseline year), greenhouse emissions have declined by 47 percent and the economy has grown by 55 percent in the same period[35] (see Figure 3.3).

[33] Climate Change: MSPs Approve Beefed Up Emissions Target, BBC News article, 25 September 2019, https://www.bbc.com/news/uk-scotland-49819905

[34] Reducing emissions in Scotland, 2019 Progress Report to Parliament, Committee on Climate Change, December 2019, p. 15, https://www.theccc.org.uk/wp-content/uploads/2019/12/Reducing-emissions-in-Scotland-2019-Progress-Report-to-Parliament-CCC.pdf

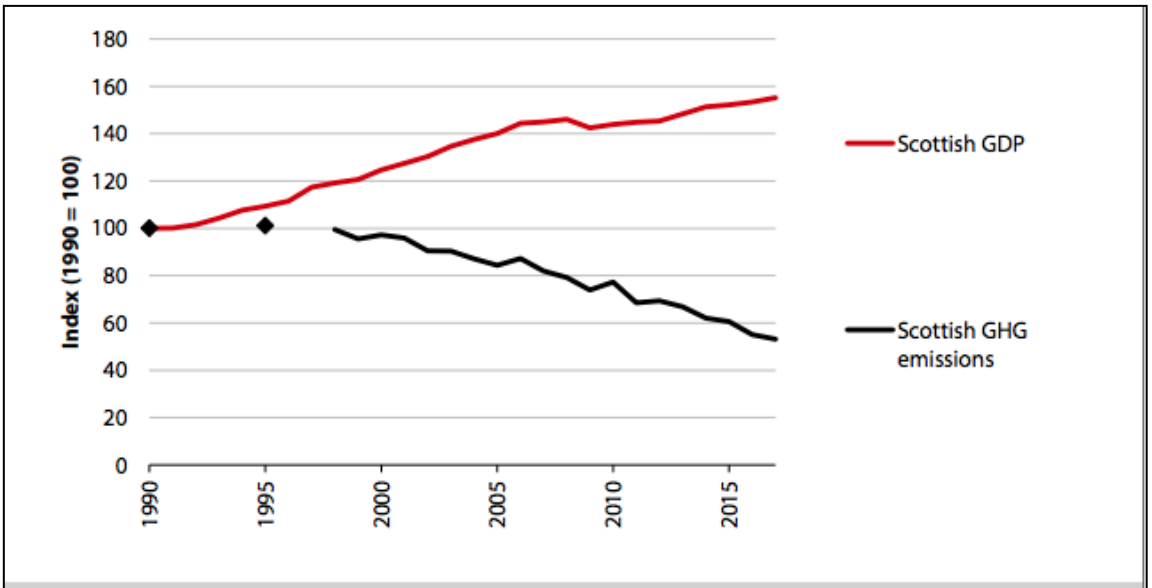
[35] Reducing emissions in Scotland, 2019 Progress Report to Parliament, Committee on Climate Change, December 2019, p. 16, https://www.theccc.org.uk/wp-content/uploads/2019/12/Reducing-emissions-in-Scotland-2019-Progress-Report-to-Parliament-CCC.pdf

Figure 3.2: Indicative rates of decarbonization required to achieve an 80% reduction and net-zero emissions by 2045 in Scotland,



Source: NAEI (2019) *Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2017*; CCC analysis.

Figure 3.3: Greenhouse gas emissions have fallen in Scotland as the economy has grown, (1990-2017)



Source: Scottish Government (2019) *GDP Quarterly National Accounts, 2019 Quarter 2; NAEI (2019)*; CCC analysis.
Notes: No emissions data are available for devolved administrations for 1991-1994 or 1996-1997. GDP in real

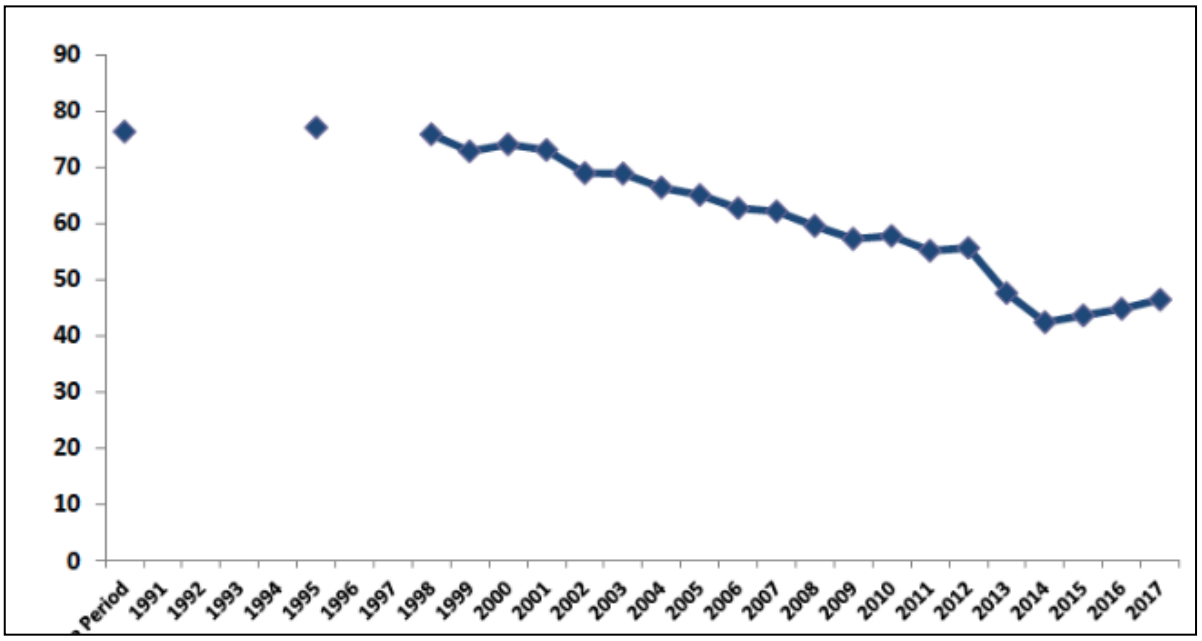
The picture looks different if one considers adjusted emissions used to measure progress against the targets set by Scotland' Climate Change Act 2009 that account for the country's participation in the EU Emissions Trading System (EU-ETS) set up in 2005 (European

Commission website, EU action). This system, which covers around 45 percent of the EU's greenhouse gas emissions, operates in all EU countries, including Iceland, Liechtenstein and Norway, through a "cap and trade" principle: EU and EFTA companies may buy and trade a limited number of emission allowances on condition that emissions are cut where it costs least to do so. If a company is able to cover and reduce its emissions by surrendering a part of allowances, it can maintain the spare allowances to cover its future needs, otherwise another company that is short of allowances may buy them. Therefore, the EU Emission Trading System can be viewed as an additional, and more flexible, tool of the EU's policy to tackle climate change for reducing greenhouse gas emissions cost-effectively and promote European investments in clean, low-carbon technologies.

According to the ETS, the Scottish Government has officially missed its target for reducing greenhouse gas emissions (Scottish Government, 2019). This may be a leading cause that urged a tougher climate change legislation, which lowered the target of net-zero greenhouse gas emissions from 2050 to 2045 and interim target from 2050 to 2030. To be clearer, although total emissions fell by approximately 3.3 percent in 2017 (39.1 percent since 1990-base year), the 'net' emissions reductions, adjusted for EU Emissions Trading System, were 46.4 MtCO2e, while the Climate Change (Scotland) Act 2009 provided for a fixed annual target for 2017 of 43.9 MtCO2e[36] (see Figure 3.4). This means that the 'net' measure of emissions increased by 4 percent because Scotland's allowances under the EU ETS increased. The level is even higher compared to previous year: MtCO2e reduction was 45.2 percent (from the 1990 baseline period) in 2016, taking into account trading in the ETS, while 'net' measure of GHG emission amounted to 2.5 percent.

[36] Scottish greenhouse gas emissions 2017, Scottish Government, 21 June 2019, https://www.gov.scot/publications/scottish-greenhouse-gas-emissions-2017/

Figure 3.4: Scottish Greenhouse Gas Emissions, Adjusted for the EU ETS (1990-2017)

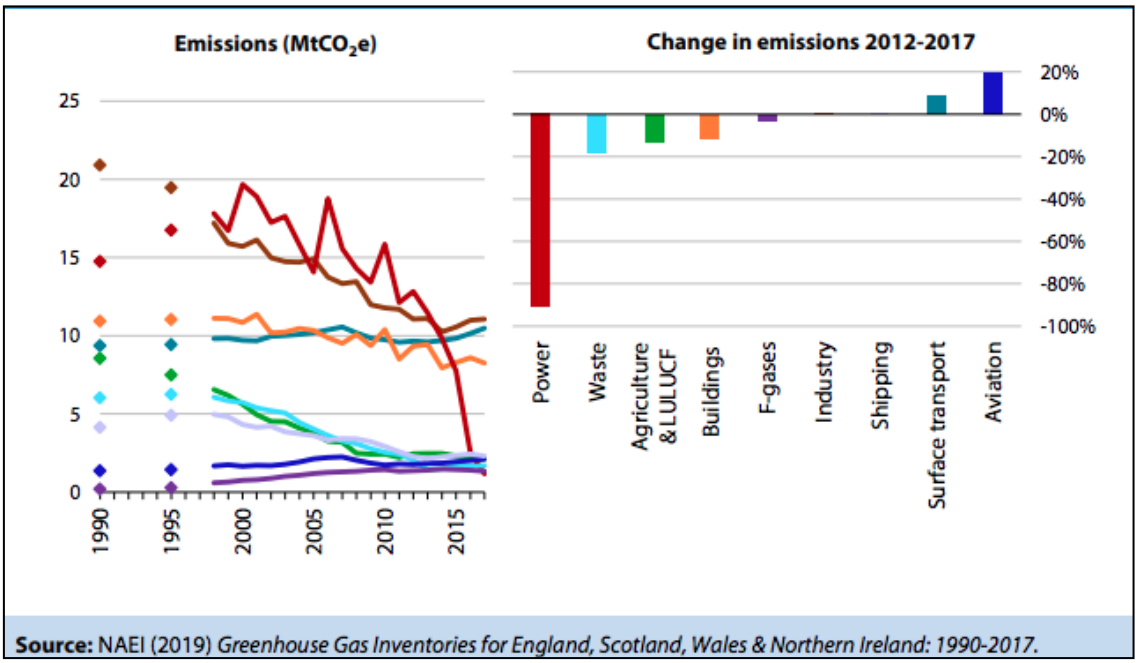


Source: Scottish Government, 2019

In light of these observations, it appears that Scotland is lagging behind the target of ensuring a climate-neutral economy as a consequence of a feeble commitment to prioritizing investments in the market of renewable energy resources. However, this is not completely true. In reality, it would be more correct to assume that the fall in total emissions in the past five years has not been homogenous[37], as EU funds have not been evenly distributed across all sectors (see Figure 3.5).

[37] Reducing emissions in Scotland, 2019 Progress Report to Parliament, Committee on Climate Change, December 2019, p. 12, https://www.theccc.org.uk/wp-content/uploads/2019/12/Reducing-emissions-in-Scotland-2019-Progress-Report-to-Parliament-CCC.pdf

Figure 3.5: Greenhouse gas emissions by sector in Scotland (1990-2017)



Source: NAEI (2019) *Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2017.*

Power is the sector that recorded the largest carbon emissions reductions in 2017. In the 1990 baseline period, the rate of MtCO2e was 14.8 percent (see Table 3.2). Emissions fell by 1.3 MtCO2, which corresponds to a 54 percent reduction in the power sector, in 2017, thus accounting for less than 3 percent of Scottish emissions (Committee on Climate Change report, 2019, p.15). It may well be that this positive trend examined in the power sector is the litmus test of the Scottish Government's effort to meet the second ambitious target of 100 percent of national electricity consumption from renewables in 2020.

Table 3.2: Greenhouse Gas Emissions by Sectors in Scotland (1990-2017)

Sector	Emissions in 1990 ($MtCO_2e$)	Emissions in 2017 ($MtCO_2e$)	Change in emissions from 2016 to 2017 ($MtCO_2e$)
Transport, of which:	14.8	14.9	+0.3
Surface transport	*9.4*	*10.5*	+0.3
Aviation	*1.4*	*2.1*	+0.1
Shipping	*4.1*	*2.3*	-0.1
Industry	20.9	11.1	+0.1
Buildings, of which	10.9	8.3	-0.3
Residential buildings	*8.0*	*5.9*	-0.3
Non-residential buildings	*2.9*	*2.3*	-0.1
Agriculture and land use, land-use change and forestry (LULUCF), of which:	8.5	2.1	-0.1
Agriculture	*8.9*	*7.6*	0.0
LULUCF	*-0.3*	*-5.4*	0.0
Waste	6.0	1.7	0.0
F-gases	0.3	1.3	-0.1
Power	14.8	1.2	-1.3
Total	**76.3**	**40.5**	**-1.4**

Source: NAEI (2019)

In fact, the annual report monitoring progress towards Scotland's Climate Change Plan suggests that greenhouse gas emissions from electricity sector have been reduced by 92 percent in 2017[38]. The number of renewables towards the total volume of electricity generated has tripled from 18.5 percent to 76 percent in 2018. Furthermore, renewable electricity generation capacity has been enhanced in the last two years. According to the Department for Business, Energy and Industrial Strategy (BEIS), in the first quarter of 2019 renewable generation in Scotland was 8,877 gigawatts (GW) of electricity, which accounted for a 17 percent increase compared to the same quarter in 2018[39]. Data also show that total

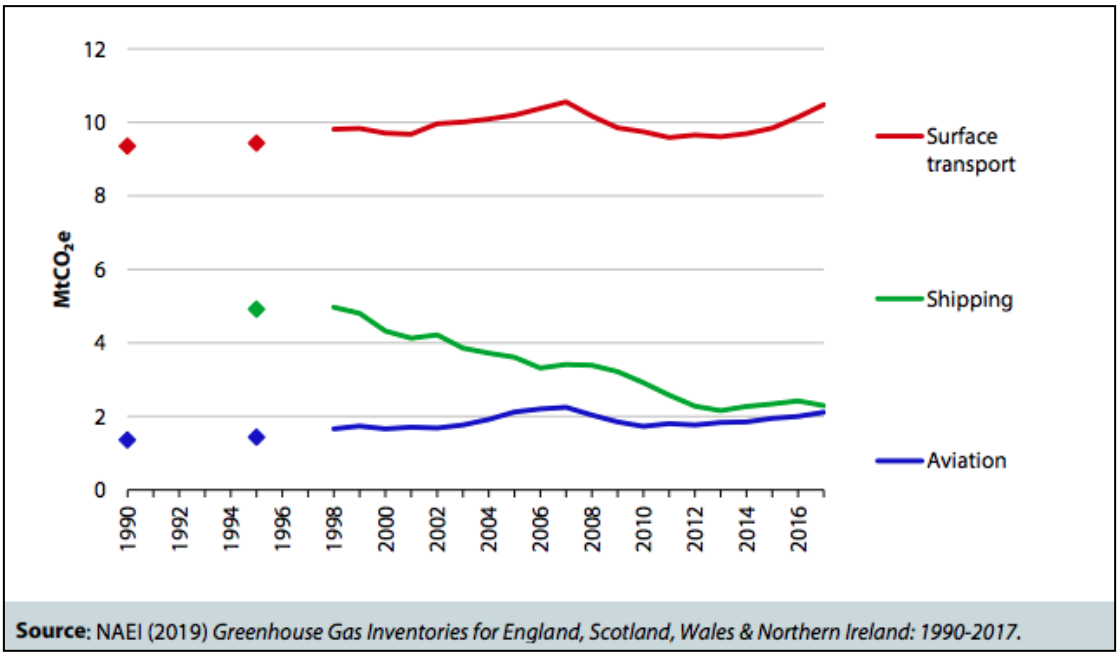
[38] Climate Change Plan: Monitoring Report, Scottish Government, 17 December 2019, https://www.gov.scot/publications/climate-change-plan-monitoring-report-2019/pages/3/

[39] Scotland's Economy, Renewable Electricity at Record Levels, Scottish Government Blogs, https://blogs.gov.scot/scotlands-economy/2019/06/27/renewable-electricity-at-record-levels/

renewable electricity capacity in the country continued to grow in 2019, rising from 10.4 GW in March 2018 to 11.3 GW in the same quarter of 2019. Hence, the fact that Scotland has made a remarkable progress in the power sector may be indicative of the efficacy of EU structural funds in the Scottish Government's effort to meet EU goals related to energy challenges. Other economic sectors have been involved in the allocation of investments to ease transition to a fossil-free economy, although their diminishing effect on greenhouse gas emissions has been smaller.

Transport is the highest emitting sector (see Figure 3.6), as it represents 37 percent of total emissions in Scotland. In particular, surface transport emissions have remained largely unchanged, and for the fourth consecutive year, GHG soared up to 10.5 MtCO2e (+3 percent) reaching the peak of 14.9 percent in 2017 (in the 1990-baseline period the rate was 14.8 percent). Combined with aviation and shipping, the overall sector has experienced a 9 percent increase of greenhouse gas emissions since 2012. Apart from transport, other sectors that have recorded steady GHG increments are industry (+1 percent) and domestic and international aviation (+6 percent), which both increased by 0.1 MtCO2e.

Figure 3.6: Emissions from transport in Scotland (1990-2017)



Source: NAEI (2019) *Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2017.*

3.5. Conclusions

As a result of these findings, it is possible to draw the following conclusions. The impact of ERDF to tackle climate challenges and comply with strategic principles of sustainability and

efficiency envisioned by EU legislation in Scotland has been ambivalent. In the course of the 2014-2020 cycle, the Scottish government has called for a more sincere undertaking to innovative forms of renewable energy to push Scotland to become coal-free. Initiatives covered by regional funding and approved by the Executive in the field of renewable electricity generation provided the most significant outcomes and were mostly in line with the Europe 2020 Strategy pillars. The power sector funneled most of the investments and became the bedrock upon which the Scottish Government has built its Energy Strategy. This has allowed the Scotland to generate the most electricity of any single renewable source, a maneuver that, in the words of Energy Minister, represented a hugely and successful action in producing clean energy and contributing to Scottish Economy[40].

The downside of such planned decision is that Scotland is at risk of missing its national targets of reduction in greenhouse gas emissions. The Committee on Climate Change (CCC) has been straightforward: unless emissions are reduced in other sectors than electricity generation, it is more likely that Scotland will not fulfill its climate targets, as set out in the 2019 Act (Committee on Climate Change report, 2019, p.27). As seen previously, Scotland had a 'net' annual target for 2017 of 43.9 MtCO2, which it missed when emissions were adjusted to the ETS. More recently, the 2019 Act has established an interim target of 56 percent reduction in emissions by 2020; although this may be within the reach of Scotland (emissions were 51 percent below percent below 1990 levels in 2017), the 2020 target will further require reductions in sectors beyond power generation. Moreover, it is estimated that to meet the bold net-zero emissions target, Scotland should reduce its emissions by an average of 1.8 MtCO2 per year between here and 2045 (yet, GHG emissions fell by only 1.4 MtCO2 in 2017).

Current signs are not, consequently, positive: the CCC has stated that the Scottish Government's policy actions "fell well short of those required for the net-zero target" (Institute for Government website, 2020). If interventions to reduce GHG emissions in other sectors than power generation remain feeble, Scotland will have serious difficulty to ensure its commitment to the Paris Agreement and the Europe Green Deal. This may undermine Scotland's strategic action of leading the world in tackling climate change, as well as aspirations of expanding its influence in the wide market of green technologies and renewables. It is for these reasons that it would be advisable for the Scottish Executive to reconsider the allocation of Sustainable ERDF in other sectors than renewable electricity

[40] Andrew Black: Scottish Power urges tougher climate change laws ; BBC News Article, 7 June 2019, https://www.bbc.com/news/uk-scotland-scotland-business-48540113

generation.

EU funds may be devolved to energy sectors that may have the potential to reduce GHG emissions. For example, Scotland's installed geothermal capacity is still minimal compared to electricity generation. However, one of the possibilities contemplated by the Scottish Government includes investments in the installation of a deep geothermal single well (DGSW) system[41]. This project, developed by Geothermal Engineering in 2016, would exploit thermal energy to generate heat and contribute to halve GHG emissions. Not surprisingly, heating represents over 50 percent of Scotland's total energy consumption and half of greenhouse gas emissions, while only a small fraction of generated heat comes from renewables.

Offshore wind energy could also be a further investment to meet net zero emissions target and Scotland may even become a global leader in the sector. Considering that over 25 percent of Europe's offshore wind resource is located in Scottish seas, local enterprises may resort to a larger allocated pool of EU funds to exploit such competitive advantage and finance wind energy projects. In 2019, Scotland inaugurated the Beatrice Offshore Wind Farm, located 13 km off the coast of Wick[42]. This project may have the potential to become Scotland's single largest source of renewable energy: it operates with 84 turbines with and installed capacity of 588 MW capable of providing enough wind powered electricity for up to 450,000 homes. More funding in the wind energy sector may give an incentive to establish a larger supply chain that would make Scotland a strong competitor in the EU market of renewables and accelerate transition toward a more climate-neutral economy at the same time.

In essence, a more conscious distribution of EU regional funds, which should, in any case, complement local funds, in other renewables-oriented sectors may turn the tables for Scotland by enabling the Executive to realize its climate targets and expansion in the green energy market. Nonetheless, two factors may slow down or even hamper Scottish efforts. First, the array of areas where Scottish Government can demonstrate leadership on appropriate support or funding is limited to devolved sectors, while in other areas progress is most dependent on UK Government and/or international policy. This separation of responsibilities reflects the nature of the devolution agreement between the UK and Scottish

[41] Feasibility Report of a Deep Geothermal Single Well, Aberdeen Exhibition and Conference Center, Scottish Government website, 23 March 2016, https://www.gov.scot/publications/feasibility-report-deep-geothermal-single-well-aberdeen-exhibition-conference-centre/pages/10/

[42] Project visible on the official website: https://www.beatricewind.com/

governments, but at the same time it may penalize Scotland in taking individual decisions on decarbonization if they are not contingent on UK Government policy. Second, the fate of EU funding policy to the UK in the post-Brexit period remains unknown. Under the Withdrawal Agreement, Scotland will continue to receive EU funds across the program's lifetime between now to the end of the transition period on December 2020. A no deal Brexit may pose an immediate risk to the future of Scotland's economic development and would reinforce support for a Scottish independence in order to return under the umbrella of the EU. This issue will be re-examined in the last chapter of this thesis.

4. Second Case Study on Sustainable Development: Northern Ireland's 2014-2020 OP & INTERREG VA

4.1. Introduction

Northern Ireland is the smallest and less populated constituent entity in the UK,1.87 million people according to Eurostat's 2019 data[43]. Moreover, it presents the smallest economy of all regions within the country, with a GDP of EUR 50.8 billion corresponding to 2.1 percent of the 2017 UK total, which was even lower than the GDP of EUR 55. 8 billion in 2015 (European Commission, 2019). In terms of economic performance, Northern Ireland records one of the lowest rates in the UK: in 2017 its GDP per capita was set at EUR 24 thousand, compared to the UK average of EUR 31 thousand, and its labor productivity was 17 percent below the UK average (European Commission, 2019).

All these aforementioned data portray Northern Ireland as one of the poorest regions in North Western Europe. A plausible reason for such economic backwardness is linked to the turbulent history of social conflict with its Irish neighbor, marked by continuous episodes of inter-community violence that historians call the 'Troubles'[44]. In the events following the Anglo-Irish Treaty of 1921, which ended the Irish War of Independence, and the signature of the Belfast Agreement (or Good Friday Agreement) of 1998, the British and Irish governments agreed on new possibilities for developing cross-border linkages across Ireland and power-sharing arrangements after years of violence and segregation. A particular emphasis has been placed on innovation promotion to address economic weaknesses faced on both sides of the border, as well as on taking advantage of any political and social opportunity to reinforce commitment to cross-border relationships.

Two factors have largely played a fundamental role in encouraging development and social progress between Northern Ireland and Ireland in the aftermath of the signing of the 'Good Friday Agreement'. The Devolution settlement that transferred a wide range of decisional and administrative powers from the UK Government to the Northern Ireland Assembly–the devolved authority responsible for making laws on transferred matters in the country– under the supervision of the Northern Ireland Executive was in part meaningful for this purpose. Not only it gave to Northern Ireland legislative expertise and control over certain matters in

[43] Welsh population was 3.1 million in 2018 (Eurostat's 2019 data), whereas Scotland had a population of 5.4 million in 2017 (Eurostat's 2018 data).

[44] John Dorney, The Northern Ireland Conflict 1968.1998-An Overview, The Irish History, 9 February 2015

the economic and social field, above all economic development, health and social services, employment and skills, and environmental issues; it also coincided with an embryonic, yet fragile, political attempt to reconcile long-lasting relations with the Irish government by ensuring that unionist and nationalist ministers would be equally represented by the devolved government in proportion to their vote[45]. In more than one occasion, the Northern Ireland Executive has suffered a number of governmental crises due to power sharing with the Democratic Unionist Party (DUP). A proper example is given by the recent course of events: the regional government was restored only in 2020, thereby ending a three-year deadlock initiated in 2017 when Irish republican Sinn Féin politician Martin McGuiness resigned as deputy first minister. The triggering factor that originated the collapse of the Stormont government was the so-called 'Cash for Ash' political scandal that involved the Renewable Heat Incentive, an energy initiative supported by former DUP leader Arlene Foster (Mohdin, The Guardian article, 2019).

Having said that, the factor that has mostly supported path towards peace in Northern Ireland can be attributed to the European Union's Cohesion Policy. Since its inauguration in 1989, the EU regional funding program has had the merit of forging a tangible political framework with the Republic of Ireland. In the course of previous funding cycles, the EU Structural Funds have given special attention to Northern Ireland in order to support its economic and social development by means of various cohesion programs.

For the 2014-2020, the ERDF program has put a particular focus on projects singled out in order to increase competitiveness, research, and development in the small constituent country of the UK[46]. On the same line of Scotland, Northern Ireland has resorted to the ERDF in a series of sustainable initiatives dedicated to increasing renewable energy efficiency and measures to promote a low carbon model of economic growth. Likewise, projects investing in environmental resources and renewables-oriented initiatives have pursued the goal of aligning national targets for a more sustainable economy with EU pillars by the Europe 2020 Strategy. Such commitment appears more than licit in a country that accounts for the largest greenhouse gas emissions in the whole UK territory and whose energy consumption in certain economic sectors still depends on fossil resources.

But unlike Scotland, whose tough climate-neutral objectives should function as an incentive to make the country a global competitor in the market of renewable energy sources, Northern

[45] John Dorney, The Northern Ireland Conflict 1968.1998-An Overview, The Irish History, 9 February 2015

[46] United Kingdom-ERDF Northern Ireland, European Commission website (2014-2020), https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/united-kingdom/2014uk16rfop003

Ireland's ambitious strategy endorsed during the 2014-2020 cycle is more tailored to its specific political and social situation. That is to say, using the ERDF in a cross-border perspective to promote a greater alignment with its Irish neighbor. More specifically, the deployment of EU funds in economic sectors that pursue sustainable development in line with EU legislation serves Northern Ireland to support not only a more innovation-driven economic growth that could bridge the environmental gap with the rest of the UK; it may also represent an opportunity for the regional government to facilitate cross-border economic and innovation ties, as well as a vehicle for strengthening the governance of cross-border cooperation with the government of the "Celtic Tiger" (i.e. Ireland).

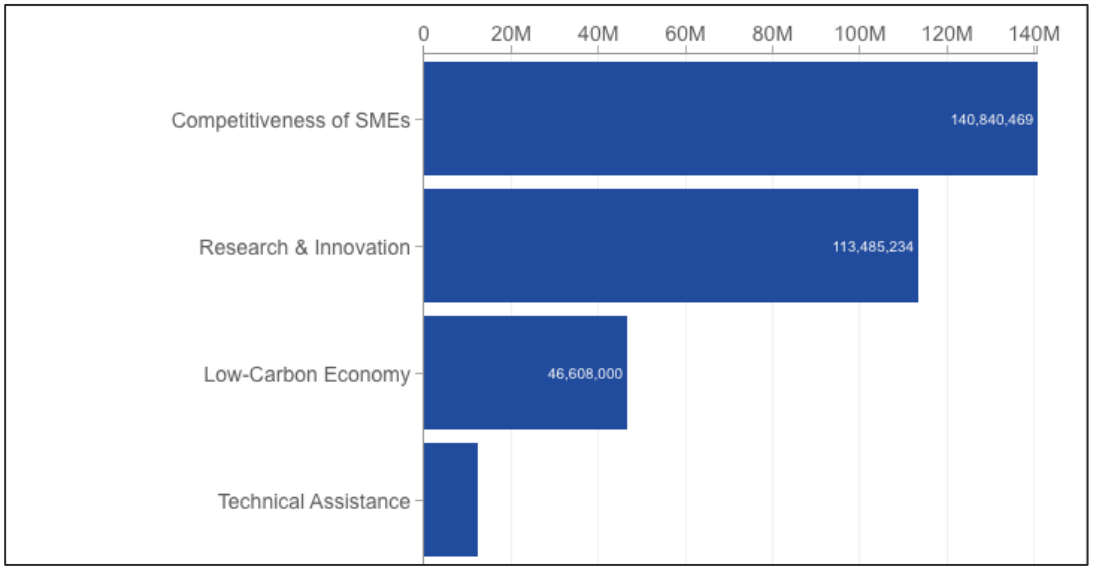
This chapter is structured as follows. The first section introduces the Operational Program for the allocation of the ERDF in Northern Ireland during the current 2014-2020 programming period; the second section assesses the efficacy of local projects financed by the Sustainable ERDF to achieve the Northern Ireland Executive's objective of contrasting climate change by investing in green technologies to reduce fossil fuel emissions; the last section focuses on the INTERREG-VA Program for the ongoing EU funding period and the relevance of sustainability oriented projects in the Border Region of Northern Ireland and Ireland in promoting a more sincere cross-border cooperation.

4.2. Management and Governance of the total ERDF in the 2014-2020 Program[47]

The Operational Program for Northern Ireland for the 2014-2020 cycle envisages the use of total ERDF essentially for three priorities (see Figure 4.1.). The main allocation of the regional development funds occurs in the form of direct investments to spur overall competitiveness and economic growth in the R&D sector, and technology transfer to business and financial instruments to support Northern Ireland SMEs. The program also incorporates substantial increase in generation and distribution of renewable energy in the context of sustainable development. This can be interpreted as a clear reference to the Europe 2020 Strategy and its priority of advancing a smart and sustainable economy based on an efficient use of its resources.

[47] All the priorities and projects covered by ERDF funding in the Northern Ireland's OP are in support of the "Investment for Growth and Jobs" goal of improving NI's economic development and contributing to the EU's 2020 strategy for smart, sustainable and inclusive growth

Figure 4.1: Northern Ireland European Regional Development Fund- Thematic Priorities (2014-2020)



Source: European Commission, 2014-2020

The smart and inclusive pillar of the OP relates to the required need of including in the Program actions related to a smart and inclusive economic growth. Indeed, around EUR 113 million were invested in the R&D sector with the purpose of augmenting the number of high growth SMEs to 1,300 units in 2023 and giving direct assistance to Northern Ireland companies approaching R&D activity for the first time[48]. An additional EUR 135 million investment was expected to increase the competitiveness of SMEs and grant them the financial instruments indispensable to access capital. This strategy required an inclusive action to finance the creation of 2,800 job positions and financial aid to over 6,000 companies in the public and private sector.

In terms of sustainable development, the Program envisions the deployment of EUR 47 million to promote a more low-carbon economy and resource efficiency. The fact that financial funds devolved to sustainable development in Northern Ireland appear to be not as large as R&D and SME competitiveness should not be misleading. In reality, the OP recognizes the importance of energy efficiency as one of the most cost-effective means to combat climate change. As pointed out by the Department for the Economy (DfE), the strength of the Program lies in the pivotal role that energy efficiency plays in offering opportunities not only to significantly cut levels of harmful GHG emissions in the country,

[48] United Kingdom-ERDF Northern Ireland Program Description (2014-2020), European Commission official website: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/united-kingdom/2014uk16rfop003

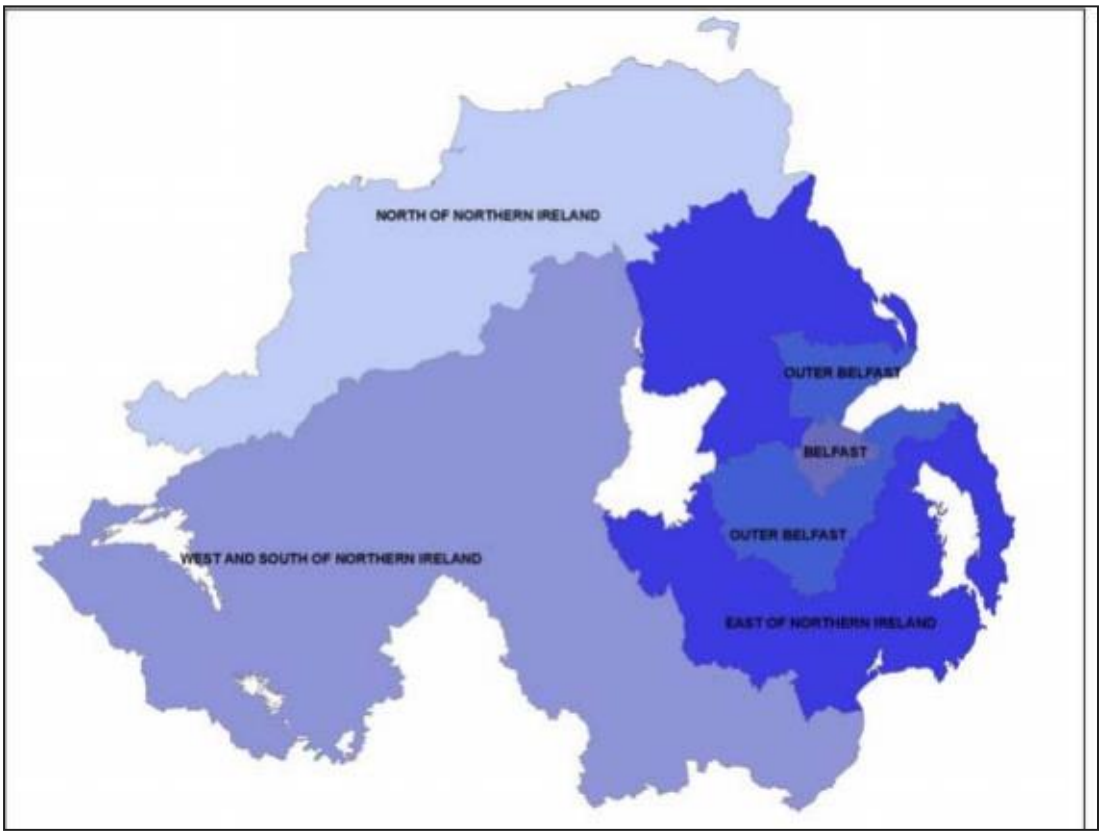
but also to reduce the region's overall energy demand[49]. It is not a case that, in outlining the expected impacts of the Sustainable ERDF over the short and medium-term, the OP advances the idea of providing support for the upgrading of Northern Ireland's electricity grid[50]. One of the related objectives that the Program suggests is the accommodation of more renewable energy generation. To be clearer, investments financed by the Sustainable ERDF should support the increase of renewable source generated electricity consumption in the country from 19.5 percent to 40 percent by 2020 and through to 2023 (European Commission- Regional Policy, 2014). Such interest is interpretable as an attempt to comply with the EU priority of promoting a low-carbon economy and realize the content of the new Europe Strategy 2020.

Regarding the distribution eligibility of the EU funds in Northern Ireland for the 2014-2020 cycle, the entire administrative territory falls into the category of "transition region" (with GDP per capita between 75 and 90 percent of the EU average), while its institutional divisions follow a NUTS 3 Classification of five distinctive sub-regions– North of Northern Ireland, West and South of Northern Ireland, Outer Belfast, Belfast, and East of Northern Ireland (see Figure 4.2). Since the devolved administration comprises solely small transition areas, the ERDF OP does not foresee a diversified EU budget for the above sub-regions in the same fashion of Scotland. As illustrated in the previous chapter, the Scottish devolved administration follows a NUTS 2 Classification scheme for which the economic performance of more-developed regions (Lowlands & Uplands) and transition regions (Highlands & Islands) determines the allocation of regional development investments, including the Sustainable ERDF. In the case of Northern Ireland, the process appears to be simpler and more homogenous.

[49] Investment for Growth& Jobs Northern Ireland, Priority 3: Low-Carbon Economy (2014-2020), http://www.jobsandgrowthni.gov.uk/the-programme/programme-priorities/low-carbon-economy

[50] United Kingdom-ERDF Northern Ireland Program Description (2014-2020), European Commission official website: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/united-kingdom/2014uk16rfop003

Figure 4.2: Northern Ireland NUTS III regions



Source: Northern Ireland Assembly, 2014-2020

4.3. The use of Sustainable ERDF in Northern Ireland to combat climate change

As already seen, the OP for Northern Ireland gives relevance to utilizing the ERDF to promote a smart, sustainable, and inclusive growth whereby the achievement of economic, social and territorial cohesion, and high levels of employment and productivity [51]. Despite the Sustainable ERDF for the implementation of a low-carbon economy represents a small percentage of the total ERDF for the 2014-2020 Program, the priority of fostering transit to a sustainable economy in the country is not less meaningful than R&D and SME competitiveness. The reason is quite simple and intuitive: Northern Ireland's contribution to the UK carbon budget must not be underestimated. According to latest data by the Committee on Climate Change[52], the country contributed 4 percent of UK emissions in 2016, accounting for 3 percent of the UK's population and 2 percent of economic output.

[51] Investment for Growth& Jobs Northern Ireland Program Priorities (2014-2020), http://www.jobsandgrowthni.gov.uk/the-programme/programme-priorities/

[52] Reducing emissions in Northern Ireland, Committee on Climate Change, February 2019., p.16, https://www.theccc.org.uk/wp-content/uploads/2019/02/Reducing-emissions-in-Northern-Ireland-CCC.pdf

The trend seems to have accrued during the span of two decades: emissions in Northern Ireland increased to 20.6 MtCO2 in 2016, compared to 1990-base year. Furthermore, they fell by 9 percent from 2008 (year of the promulgation of the Climate Change Act) to 2016, at a slower pace, unlike the whole of the UK (27 percent) and in Scotland (35 percent). Emissions per capita are also higher in Northern Ireland, at 11 tCO2 per capita, while for the whole of the UK and for Scotland the rate amounted to 7 tCO2 per capita in 2016.

By looking at the data above, need for Northern Ireland to resort to ERDF for a more sustainable development appears evident. It has registered the largest GHG emissions compared to other UK constituent entities, while reductions have remained minimal. In one of its latest reports[53], the Department of Agriculture, Environment and Rural Affairs has illustrated that this bleak trend is lingering and far from improving in the long run. In 2017, greenhouse gas emissions were estimated to be 20.0 MtCO2, a mere 3 percent decrease compared to 2016. In total, the UK reduced emissions by 42 percent between the 1990-base year and 2017. However, while England and Scotland reduced emissions by respectively 45 percent and 48 percent between the base year and 2017, Northern Ireland still lags behind 20 percent even in comparison to Wales, which reduced emissions by 25 percent. The most obvious reason that may sort out these estimates lies in the high concentration of GHG emissions in specific sectors of the economy.

Table 4.1 offers a glimpse of those sectors of Northern Ireland's economy that account for more than 90 percent of end user emissions– that is, an inventory that reallocates the emissions by source depending on where the user activity occurred– in 2017 (McCorry, 2019).

[53] Northern Ireland Greenhouse Gas Emissions 2018, NISRA, 16 June 2020, https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2018%20-%20Report%20%28web%20version%29.pdf

Table 4.1: Greenhouse gas emissions by sector, Northern Ireland (base year, 2016, 2017)

Units: $MtCO_2e$

Sector	base year	2016	2017	% of total emissions 2017	% change base year to 2017	% change 2016 to 2017
Agriculture	5.3	5.3	5.4	27	2.0	1.2
Business	3.1	2.5	2.4	12	-22.8	-6.0
Energy supply	5.3	4.0	3.4	17	-35.7	-15.1
Industrial process	0.8	0.2	0.2	1	-78.4	-3.1
Land use change	0.4	0.4	0.5	2	23.0	9.8
Public	0.5	0.2	0.2	1	-61.3	-1.0
Residential	3.7	2.7	2.6	13	-28.3	-2.0
Transport	3.5	4.5	4.5	23	30.2	0.4
Waste management	1.9	0.8	0.8	4	-56.8	1.4
Total	24.3	20.7	20.0	100	-17.9	-3.3

Source: Department of Agriculture, Environment and Rural Affairs, 2020

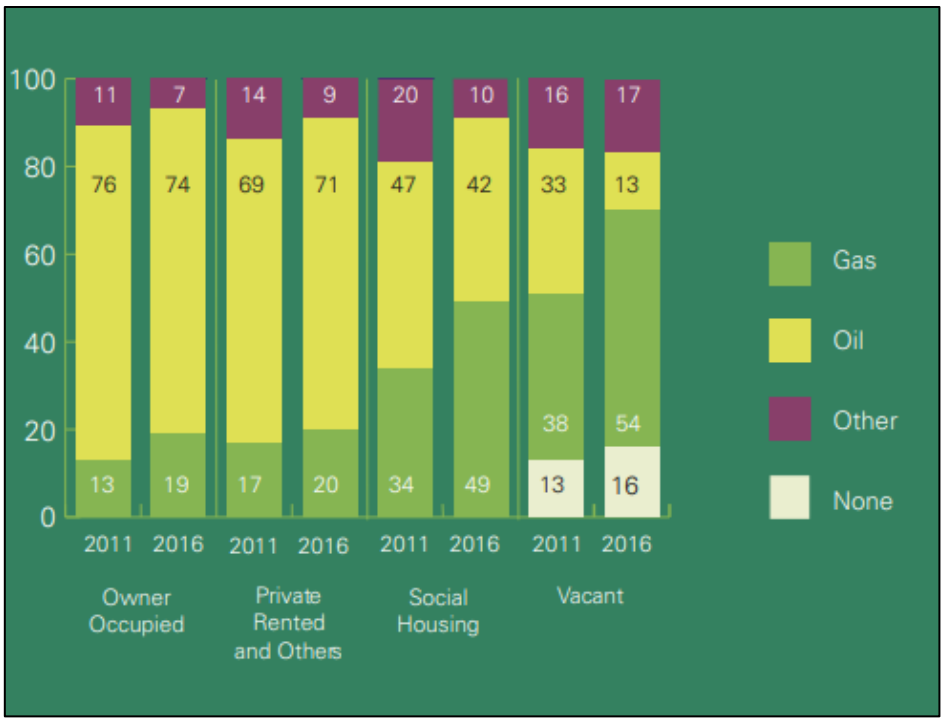
As shown, there are three sectors that registered the largest GHG emissions in 2017: agriculture (27 percent), transport (23 percent) and energy supply (17 percent). More in depth, overall transport emissions increased by 30.2 percent from the 1990-base year, while emissions from agriculture have increased by 2 percent, with a relatively small net contribution of 2.4 percent of emissions made by the land use change sector, which soared up to 23 percent over the time period. Surely, a number of causes may explain such estimates: increases of GHG emissions may be the result of growth in demand for transport (albeit improvements in efficiency of vehicles), growing livestock numbers or the massive conversions of grasslands in settlements by the end of the twentieth century. Nevertheless, one thing is certain: 80 percent of Northern Ireland's energy consumption derives from non-renewable resources whose high proportion in the energy mix largely contributes to the issue of climate change[54]. Unsurprisingly, the use of ERDF, which recognizes energy efficiency as one of the most cost-effective means to tackle climate change represents a tangible opportunity for North Ireland to significantly reduce high levels of harmful GHG emissions.

One of the prime initiatives promoted by the Sustainable ERDF in Northern Ireland is the Energy Efficiency in Social Housing Project (EESHP). Funded EUR 22 million by the regional development fund through the Investment for Growth and Jobs Program for 2014-2020 period, the project revolves around the themed objective of improving the energy performance of almost 2,700 social housing that are highly-dependent on carbon fossil

[54] Operational Program under the 'Investment for Growth and Jobs' goal, Northern Ireland (2014-2020), p.19, http://www.jobsandgrowthni.gov.uk/downloads/Operational_Programme_%282017%29.pdf

fuel[55]. Findings of the Northern Ireland House Condition Survey (HCS), which were published by the Housing Executive's Research Department in May 2018, evidence, indeed, that Northern Ireland records the highest dependency on fossil resources for domestic heating (HECA, 2018, p. 8). As Figure 4.3 depicts, home heating oil was the predominant fuel source in both urban and rural locations, with a rate of 68 percent of total energy consumption in 2016, (only 4 percent across Great Britain), while gas and other energy sources contributed less to domestic heating across the residential sector [56].

Figure 4.3: Northern Ireland Domestic Heating (fuel sources) between 2011 and 2016



Source: HECA Report, 2018

By improving energy efficiency in housing, the EESHP appears to complement the Northern Ireland Executive's Draft Program for Government (PfG) strategic goal that aims at creating a society that ensures the supply of suitable housing and increase in environmental sustainability by 2021 (NI Executive, 2016, p. 58). In order to boost the comfort and well-being of a significant number of Northern Ireland tenants, the project

[55] Investment for Growth and Jobs Northern Ireland (2014-2020), News section, http://www.jobsandgrowthni.gov.uk/news/45-million-investment-to-almost-2700-housing-executive-homes-will-improve-energy-efficiency

[56] Home Energy Conservation Authority, Annual Progress Report 2018, https://www.nihe.gov.uk/Documents/Community/Home-Energy-Conservation-Authority-Annual-Progress.aspx?ext=.

promotes a use of alternative renewable energy sources, like natural gas, that could, among the other benefits for the environment, limit domestic dependency on fossil fuels and CO2 emissions, thereby reducing the pressure of energy use on climate change.

The second initiative covered by the Sustainable ERDF is the Belfast Rapid Transport System (BRT), a low-carbon public service that addresses the current and future transport needs in Belfast and support sustainable economic growth and regeneration (Belfast Council, 2015, p. 17). The implementation of the BRT project, which started in 2014 and required an investment of almost EUR 100 million, was part-awarded EUR 17 million of European funding from the ERDF to provide a high quality service and encourage travel by public transport instead of by car in Northern Ireland. The building of the BRT infrastructure has been through a number of procedures: in particular, the Glider system, which became operational with a technical update in 2018, replaces most of the current bus services and is expected to cut public transport journey times by 25 percent in the future[57]. In terms of the impact on climate change, the BRT Glider intends to improve air quality in the Upper Newtownards Roads AQMA by reducing carbon emissions by almost 92,000 MtCO2e (Belfast Council, 2015, p. 17). This will be possible by reducing the volumes of traffic on the road and create a far-reaching transport network that spreads Glider service to a growing number of public transport vehicles and infrastructures.

A question that arises at this point is whether the mix of these ERDF funded projects has contributed to the achievement of NI energy targets in line with the Europe 2020 Strategy and if their commitment in initiatives to spurring a more sustainable, low-carbon economy has corresponded to an effective decrease in GHG emissions.

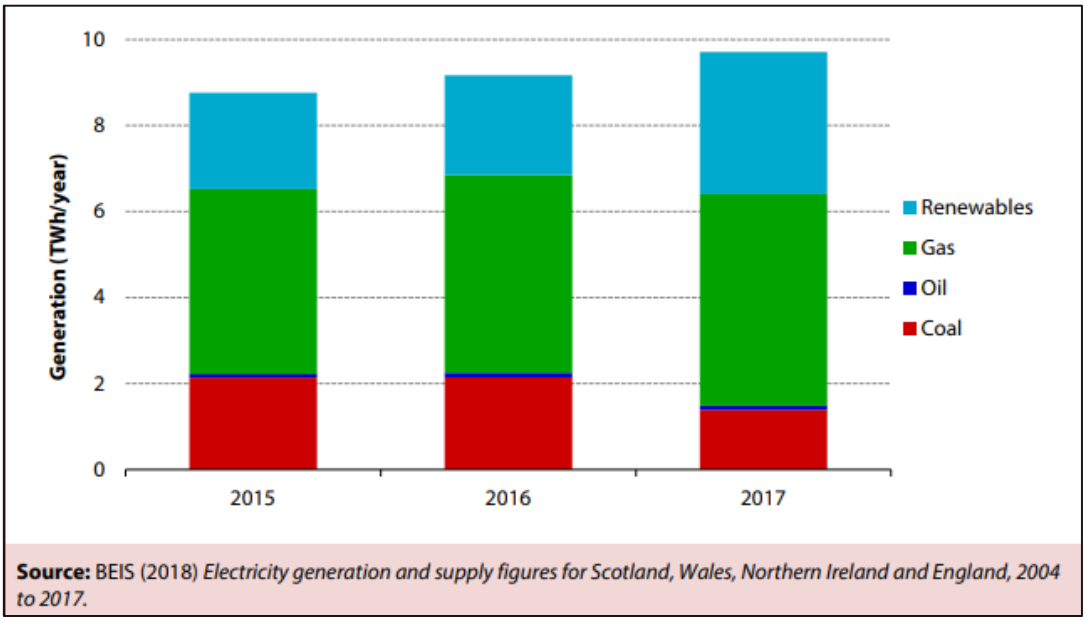
Latest data offer the image of a Northern Ireland striving to offset CO2 emissions during last decade, and the power sector represents a perfect starting point to better understand how the ERDF OP may have fostered the shift towards a more sustainable economy oriented towards renewable energy resources. In fact, the generation mix of gas and renewable generation in Northern Ireland changed dramatically from 2015 and 2017, reaching an overall 1.0 TWh increase (11 percent) in annual generation that led to a significant fall in coal generation over the course of two years[58]. In particular, gas generation increased by 0.3 TWh (7 percent) from 2015 to 2016 and by a further 7 percent in 2017, thus making up 51 percent of total electricity generation in Northern Ireland (see Figure 4.4). Regarding

[57] Department for Infrastructure, Transport Initiative, 2018, https://www.infrastructure-ni.gov.uk/articles/belfast-rapid-transit-glider-introduction

[58] Committee on Climate Change, Reducing emissions in Northern Ireland, February 2019, https://www.theccc.org.uk/wp-content/uploads/2019/02/Reducing-emissions-in-Northern-Ireland-CCC.pdf

electricity generation from coal in consecutive years, the rate fell by 0.8 TWh (-35 percent) from 2016 to 2017, while renewable electricity generation knew a moderate surge of 4 percent between 2015 and 2016 and a substantial increase of 42 percent in 2017 (Committee on Climate Change, 2019).

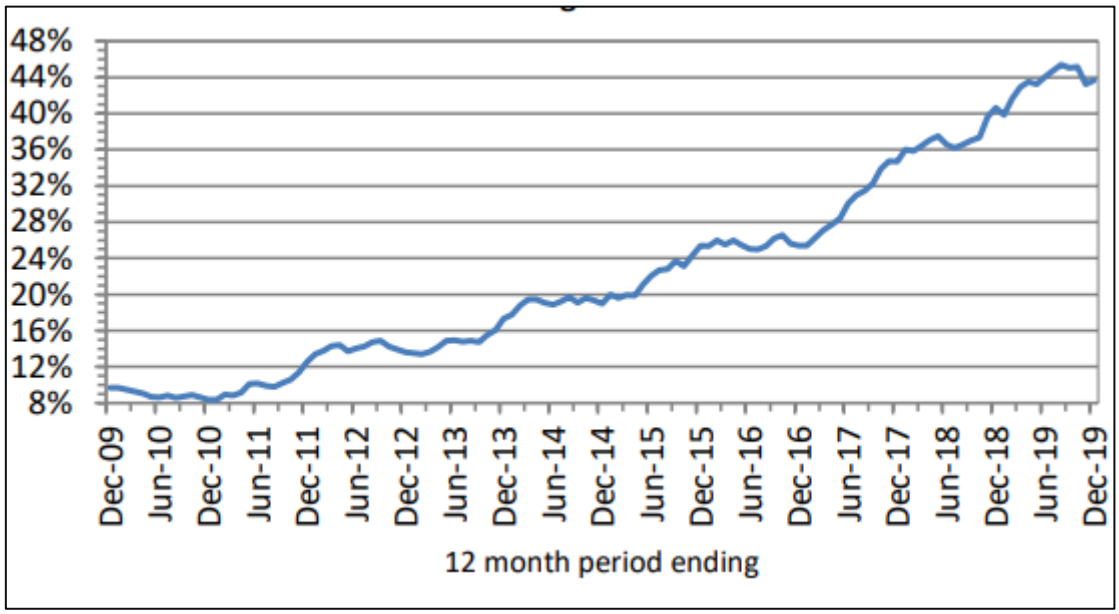
Figure 4.4: Electricity generation mix in Northern Ireland (2015-2017)



Source: BEIS (2018) *Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2004 to 2017.*

Recent results are encouraging in terms of reductions in coal generated energy: as illustrated by NIE (Northern Ireland Electricity) Networks and SONI (System Operator for Northern Ireland), 43.7 percent of total electricity consumption was generated from renewable sources located in Northern Ireland in 2019, which accounted for an increase of 3.0 percentage points on the 12 month-period January 2018 to December 2018 (NISRA, 2019, p.1).Figure 4.5 shows that, in December 2019, renewable sources represented 44.0 percent of total electricity consumption, a rate higher than the corresponding figure for the previous month (34.9 percent in November 2019) and for December 2018 (46.4 percent). Of all renewable electricity generated in Northern Ireland from January 2019 to December 2019, 84.5 percent was generated from wind, whereas for the previous period between January 2018 and December 2018 the percentage was nearly 84.2 percent.

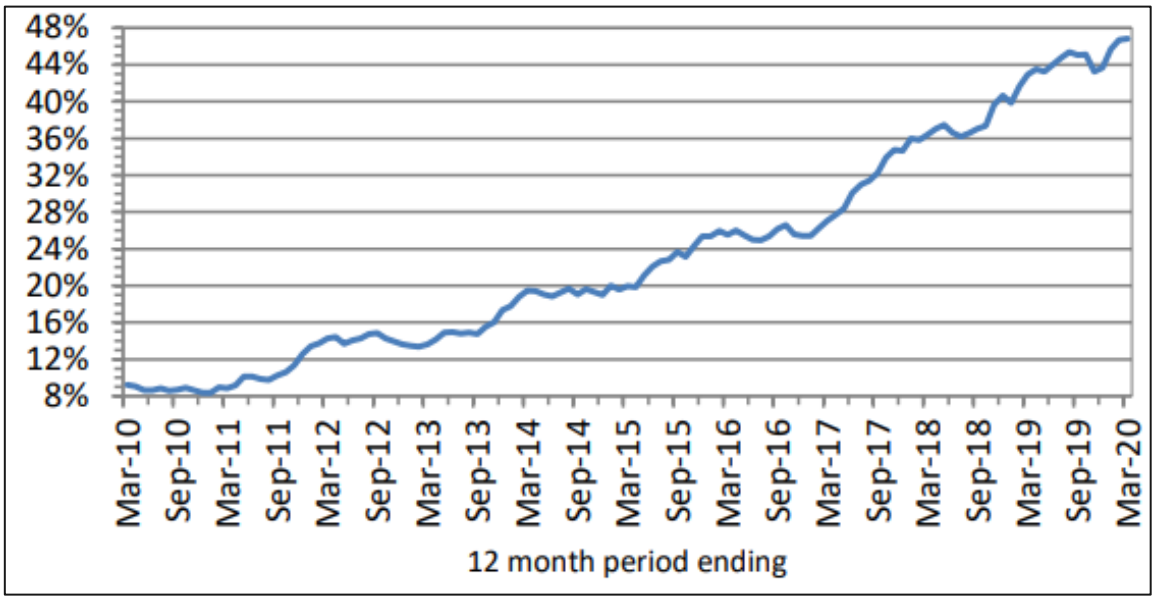
Figure 4.5: Total Electricity Consumption Generated from Indigenous Renewable Sources (December 2018-December 2019)



Source: NISRA, 2019

In June 2020, the Department for the Economy published the latest data regarding the year 2019 on the percentage of electricity consumption in Northern Ireland generated from renewable generation sources. As depicted by Figure 4.6, 46.8 percent of total electricity consumption was generated from such sources, which represents an increase of 3.9 percentage points on the 12-month period April 2019 to March 2020 (NISRA, 2020, p.1). In March 2020, renewable resources located in Northern Ireland represented 54.0 percent of total electricity consumption. This result is lower than the corresponding rate of the previous month- 63.3 percent in February 2020- but remains higher compared to the corresponding figure of one year ago- 52.2 percent in March 2019 (NISRA, 2020, p.1) Of all renewable electricity generated from April 2019 to March 2020, 85.4 was generated from wind, slightly higher than the corresponding figure of the previous year.

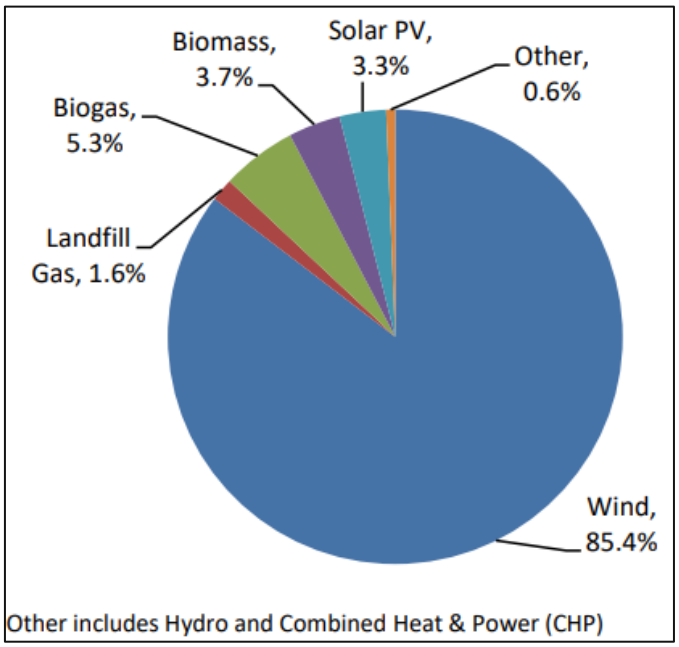
Figure 4.6: Total Electricity Consumption Generated from Indigenous Renewable Sources (April 2019- March 2020)



Source: NISRA, 2020

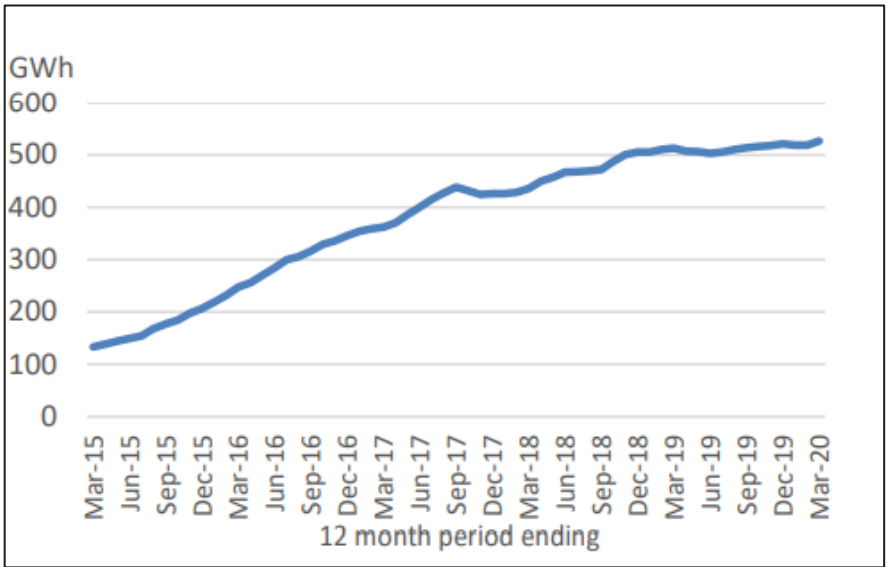
Furthermore, latest data are indicative of a notable increase in the proportion of renewable electricity generated by non-wind sources contribution to the total energy consumption in Northern Ireland (see Figure 4.7). The actual volumes for non-wind generation have changed in the span of five years. In fact, as Figure 4.8 illustrates, non-wind renewable electricity generated in Northern Ireland has grown from 133.1 GWh for the 12-month period ending in March 2015 to 526.6 GWh for the 12-month period ending in March 2020 (NISRA, 2020, p. 5).

Figure 4.7: Renewable Electricity Generation by Type of Generation (April 2019-March 2020)



Source: NISRA, 2020

Figure 4.8: Volume of Non-Wind Renewable Electricity Generation (March 2015-March 2020)



Source: NISRA, 2020

In light of these findings, the conclusions on the efficacy of the ERDF OP in the prospect of climate change and sustainable development are the following. In spite of its reputation of being one of the largest contributors to GHG emissions in the UK, Northern Ireland has shown evidence of a strong commitment to turning adversity into economic advantage. The 20214-2020 cycle has coincided with a significant shift towards the supply of energy from renewable sources that have the potential to reduce harmful emissions, increase levels of renewable power generation, and replace the high proportion of fossil based fuels. Northern Ireland has managed to realize important targets singled out by the Executive's 2010-20 Strategic Energy Framework (SEF), as data previously analyzed illustrate. Specifically, the mix of renewable generation has given a major contribution to the target of achieving 40 percent of electricity consumption from the reservoir of renewable sources physically located within the devolved administration by 2020[59]. Moreover, latest data offered by the Northern Ireland Statistics and Research Agency display the highest rolling 12-month non-wind renewable generation volume, which has increased almost four times between this year and 2015. Consequently, if Northern Ireland continues to support sustainable economic growth, as indicated by Priority 3 of the ERDF OP for the current programming period, it may have a fair chance of exceeding the EU 2020 target to increase the share of renewables in final energy consumption to 20 percent. This action may contribute further to ameliorating the problems of climate change.

4.4. The INTERREG VA Program between Belfast and Dublin

In this section, the attention of the thesis is on the management of the Sustainable ERDF during the 2014-2020 cycle in a co-ordinated European funding Program that involve Northern Ireland and the Republic of Ireland. The special feature of the INTERREG VA Program lies in its overarching objective of promoting an harmonious economic, social, and territorial cooperation between the two parts of the island of Ireland through the allocation of the European regional development funds. Such functionality of the EU Program is of the utmost importance considering the geopolitical situation of Northern Ireland and its Irish neighbor. Investments in cross-border projects oriented towards sustainable development and environmental integration have the potential of favoring a sincere all-island peaceful

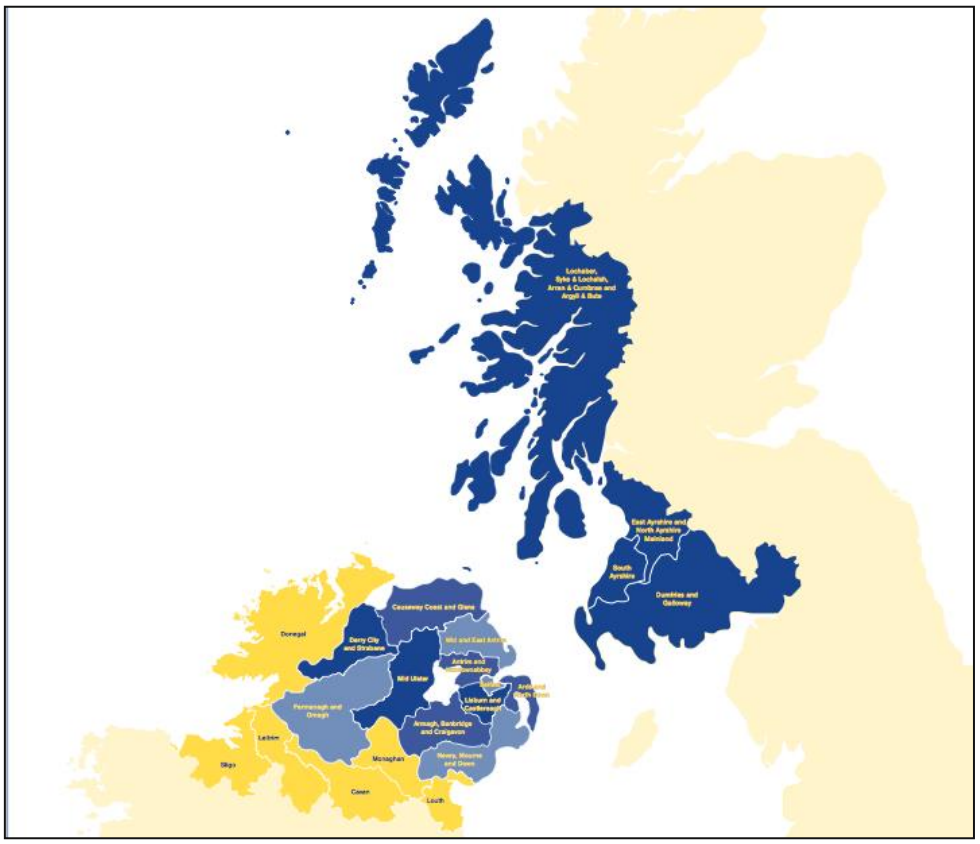
[59] The Operational Program under the 'Investment for Growth and Jobs' Goal for the 2014-2020 period makes a clear reference to the SEF target of achieving 40 percent of renewable electricity and the 20 percent renewables in final energy consumption target supported by the Europe 2020 Strategy. Together, the two objectives define the NI ambitious strategy of utilizing its pool of renewable natural resources to combat climate change and curtail energy consumption generated by fossil fuels.

cooperation that may encourage and promote interaction, partnership, and practical collaboration between Belfast and Dublin. In doing so, the Program represents not only a means of using EU regional funding to realize the content of the Europe 2020 Strategy; it also embodies the spirit of the Good Friday Agreement of reinforcing a sincere alignment across the border more concretely than simply granting power-sharing between Unionists and Nationalists.

Among the various initiatives implemented by the Northern Ireland Executive, the INTERREG VA[60] represents a good example of strategy cooperation Program for the contribution to the EU strategy for a smarter, more sustainable, and inclusive growth. It consists of a European Territorial Cooperation Program (CP) that aims at promoting greater economic, social, and territorial cohesion between the United Kingdom and Ireland through the European Regional Development Fund. Specifically, the INTERREG VA outlines a growth strategy centered on Europe 2020's objective that involves cross-border cooperation between Scotland, Northern Ireland and Ireland in those areas of investment prioritized by the Member States for the 2014-2020 funding cycle (see Figure 4).

[60] The INTERREG Program was developed in 1991 to help EU Member States overcome the issues that derive from the existence of a border. Its range of action is vary and includes access to transport, health and social services, environmental issues, and enterprise development. In occasion of its fifth programming period for the 2014-2020 cycle, the INTERREG V has stressed further the commitment to creating a more sustainable cross-border region.

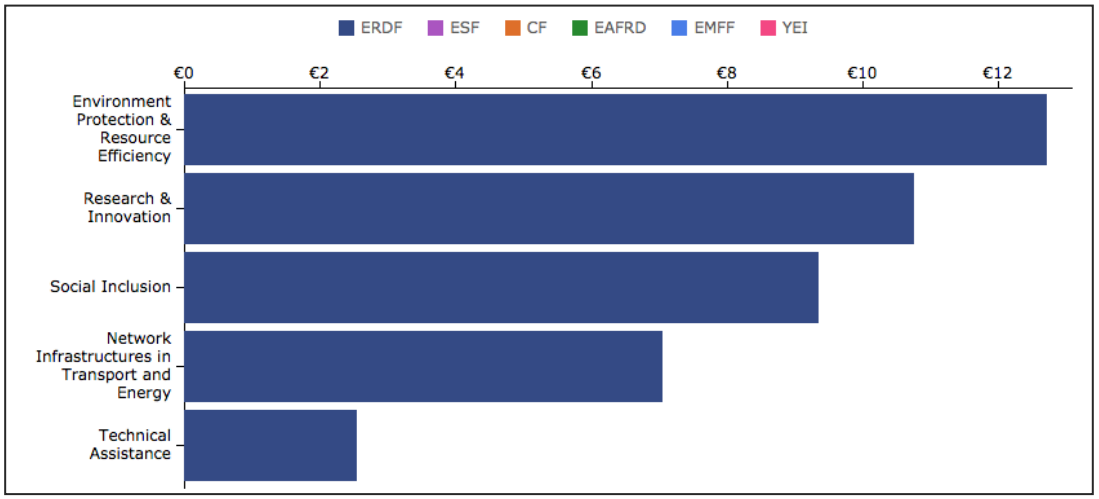
Figure 4.9: Eligible area for the INTERREG VA Program (2014-2020)



Source: SEPB (2014-2020)

The overall program Budget for 2014-2020 was EUR 282 million (EUR 240 million planned at the EU level and EUR 42 million to be allocated amid the three jurisdictions). One of the targeted scopes of intervention is sustainable growth, as envisioned by the Thematic Objective 6 (preserving and protecting the environment and promoting resource efficiency) and 7 (promoting sustainable transport and removing bottlenecks in key network infrastructures), with a particular emphasis on the best practices to exploit renewable energy potential between the two countries. As it appears evident, the total budget of ERDF by TO-6 in the CP represents a large share of the EU investments in the Border Regions. In fact, Environment Protection and Resource Efficiency covers EUR 12 million of the total budget, while Network Infrastructures in Transport and Energy (TO-7), albeit in a lower position, received EUR 7 million (see Figure 4.10).

Figure 4.10: Total budget by Theme: Interreg V-A – United Kingdom- Ireland (2014-2020)



Source: European Commission (2014-2020)

Additionally, there is evidence that Northern Ireland has been using such cross-border regional program as an opportunity to promote a collaborative management plan with its Irish neighbor in order to spur productivity in the market of renewable energy sources. It is a case that in the last five years the two jurisdictions have engaged in a narrow range of ambitious national targets in the eligible area to manage shared environmental resources and address common environmental challenges that meet the requirements of relevant EU directives. Broadly speaking, some environmental-oriented projects feature initiatives to facilitate the recovery of protected habitats and priority species. It is the case of such projects as CANN (Collaborative Action for Network) and CABB (Cooperation Across Borders for Biodiversity) singled out in 2017 under the INTERREG VA Program to improve the conservation status of over 3,000 hectares of protected habitats, and sharing of best practice to enhance the condition of priority species, in the Border Region of Northern Ireland and Ireland.

However, it is possible to identify a series of initiatives envisioned by the EU program that seem to hold a dual function: on the one hand, they contribute to establish a more sustainable, low-carbon community sensitive to the issue of climate change and committed to exploiting the potential of local renewable resources; on the other hand, the cross-border cooperation sponsored by the INTERREG VA Program is concretized in a concrete attempt to favor a political and economic rapprochement between Northern Ireland and the Republic of Ireland.

Most of the projects financed by the INTERREG VA Program, and managed by the Special EU Program Body (SEUPB), are in line with the EU objective of sustainable development and for economic improvements in the area of the management of climate change. The Source to Tap Project is a comprehensive example of a pioneering restoration solution that has been shared across Northern Ireland and Ireland, specifically in the Erne and Derg catchment areas that provide water to counties Fermanagh, Tyrone, Donegal, Cavan, Leitrim and Longford. Awarded EUR 4 million in 2017 to improve water quality in rivers and lakes on both sides of the border, the project primarily aims at helping farmers and land managers "make small changes in farming practices such as using a contractor to spray rushes and installing stock fencing on watercourses" (Stewart, Source to Tap article 2018). More importantly, the project also intends to spread awareness of risks associated to water pollution, most of which are caused by forestry felling and replanting operations, by empowering local communities to identify issues threatening water quality (Stewart, Source to Tap article, 2018).

The North West Greenways Network (NWGN) Project, awarded EUR 14 million, embodies a strategic action to enhance sustainable transport across the North West Region of the Irish island. The project, whose operation started at the beginning of 2017, envisages the building of 46.5 km of sustainable travel routes (commonly known as greenways) for both cyclists and pedestrians. These greenways are stretched over three distinct routes- –connecting Derry to Buncrana via Bringerd; Muff to Derry via Culmore; and Lifford to Strabane– and pursue two expected goals. First, they should encourage a minimum of 500 people in the Border Regions to walk and cycle as part of their daily routine, including going to school, work or college, by 2022; second, they work on reducing carbon dioxide emissions by 2023 also through the development and improvement of environmentally-friendly and low-carbon transport systems in order to promote sustainable regional and local mobility (e.g. inland waterways and maritime transport, ports, multimodal links, and airport infrastructure). The project shares similarities with the Ulster Canal Greenway Project, a further initiative financed by the INTERREG VA Program in 2015 to open up a sustainable travel rout between the cities of Armagh (Northern Ireland) and Monaghan (Republic of Ireland). Following the launch of Phase 2 in 2017, the Irish Minister for Transport, Tourism and Sport, Shane Ross and the Minister for Culture, Heritage and the Gaeltacht, Heather Humphreys announced their intention to extend the greenway to link the cities of Smithborough, Co Monaghan to Middleton, and Co Armagh by 2020 (East Border Region, 2017).

Finally, the Renewable Engine Project is a milestone of the INTERREG Program built up to facilitate direct knowledge transfer and technological development in the renewable energy and advanced manufacturing sectors. Such initiative was awarded EUR 5 million in 2017 and involves a cross-border Research & Innovation super-cluster with the partnership of three research institutes operating in Northern Ireland and Ireland (South West College, Queen's University Belfast, and the Institute of Technology Sligo). Together, the three institutes deliver a joint action "to address the low levels of industry relevant Research and Innovation within the renewable energy sector and help participating firms become more innovation active", to cite a quote of Gina McIntyre, CEO of the SEUPB[61]. As specified by Program Manager Alistair Quinn, cross-border EU project aims to develop an engineering advanced manufacturing technology within the renewable energy sector. Specifically, the partnership of the three research institutes share the main objective of bridging the gap between academic research and industrial innovation. This action would "automatically contribute to the development of a more competitive and high-valued energy economy…as well as the commitment to more innovative technologies that would allow (Northern Ireland and Ireland) to harness more sustainable sources of energy to combat climate change"[62] .

It is undeniable that the joint action of the three green projects financed by the INTERREG VA Program has the opportunity to become a precious asset for the future relationship between Northern Ireland and Ireland. In the aftermath of the Belfast Agreement that brought an end to thirty years of violent ethno-nationalist conflicts, the agenda of Unionists and Nationalists has faced more than one challenge to maintain political order and economic stability with the government of the Celtic Tiger, often with disastrous results. However, the real turning point in their cross-border relationship is represented by their partnership in the EU Program, with a particular regard to the current programming period. Owing to the implementation of the 2014-2020 Cohesion Policy for projects in line with the new 2020 Strategy for a smarter, more sustainable and inclusive economic growth, Northern Ireland have resorted to the ERDF allocation to carry out cross-border entrepreneurial initiatives capable of creating not only a more sustainable, but also a more unified region.

Hence, it is possible to assess that the INTERREG VA Program, and the use of the Sustainable ERDF thereto, has impacted positively on the cross-border cooperation between

[61] Your EU! EU Funding to Develop a Renewable Energy Supercluster, Northern Ireland Executive report, Winter/Spring 2018, https://seupb.eu/sites/default/files/styles/Joint_Programme_Docs/Your_EU_Winter_Spring_2018.pdf

[62] Extract of an interview of Project partners published on the Renewable Engine official website, https://www.renewableengine.eu/

Northern Ireland and Ireland for the 2014-2020 cycle. The strength of the EU initiative lies in its array of sustainability oriented projects that involve direct management of local renewable energy resources to foster transition towards a more climate-neutral economy. Such strategy, as already observed, has been complementary to the SEF ambitious strategy of curtailing GHG emissions and energy consumption generated from fossil fuels by prioritizing the mix of renewable power generation, above all electricity and wind.

The other related perk is directly correlated to the implementation of shared green projects in the Border Region with Ireland. On the one hand, these projects constitute a fundamental economic driver and incentive for the environment: they channel investments in the renewable energy market, promote an intra-state green tourism, and support a sustainable economic growth and regeneration. On the other, they offer a multilateral framework that encourages partnership amidst cross-border actors from the industrial and academic environment in the development of more innovative green technologies, thus reinforcing even further all-island cohesion and strategic collaboration. Nevertheless, the current stalemate originated by the Brexit decision may compromise all the effort ensured by INTERREG projects, and in a much broader sense the whole EU regional funding program. This issue is discussed in the chapter about conclusions of this thesis.

5. The Future of EU Regional Funding in the Post-Brexit Period

5.1. Introduction

This last chapter of the thesis concentrates on the fate of the EU Cohesion Policy, especially the deployment of the ERDF for sustainability and environment oriented projects, in the UK following the end of the transition period scheduled for 31 December 2020. The focus is on the potential scenario that Scotland and Northern Ireland would face should the UK Government fail to back a trade deal with Brussels in the post-Brexit phase. The first section explains how the ERDF would cease to exist at the end of the transition period and which surrogate of the EU Structural Funds the UK Government has proposed; the second section focuses on Scotland and highlights whether uncertainty deriving from the current negotiations may trigger a call for an independence referendum in order to seek EU Membership after the Brexit divorce; the third section centers upon the case of Northern Ireland, in particular on the possibility that Belfast may resort to the provisions contained in the Good Friday Agreement to favor an all-island unification with the Republic of Ireland; the last section offers an insight into the ongoing coronavirus crisis in Europe and how it has contributed to slow down further negotiations between the UK and the EU with potentially divisive consequences.

5.2. Regional funding after Brexit

When in June 2016 the United Kingdom voted to leave the European Union, EU projects funded by the ESIFs, including those related to sustainable development and climate change, were left with a sense of uncertainty. It is not a case that a central question for the UK Government and the Devolved Administrations of Scotland, Wales and Northern Ireland was, and still remains, whether the EU Cohesion Policy, integrating national and regional funding programs aimed at delivering environmental targets, should continue after Brexit.

On 29 March 2017, the United Kingdom officially started the withdrawal negotiation process upon notifying the European Council of the results of the 2016 referendum, when 52 percent of the UK electorate decided to leave and 48 percent voted to remain. The procedure to leave the EU, which was triggered by calling upon Article 50 of the Treaty on the European Union, required almost two years of relentless negotiations between London

and Brussels to reach an agreement at the European Council level so that the United Kingdom would withdraw from the EU and consider a future new EU-UK relationship. During this period, both the UK and the EU have been through an ordeal that few could even imagine. The House of Commons rejected the agreed compromise package to prevent a hard border between Northern Ireland and Ireland- the so called 'backstop solution'- three times (on 15 January, 12 March and 29 March 2019). This forced the European Council, at the UK's request, to extend the period of negotiations under Article 50 TEU twice (until 22 May 2019 had the House of Commons approved the Withdrawal Agreement by 29 March, and then until 31 October 2019).

EU-UK dissention continued even after the deadlock in the UK Parliament, when Prime Minister May resigned and Conservative Party leader Boris Johnson was appointed in her place. On 17 October 2019, the two sides managed to reach an agreement and the European Council agreed to a third extension, until 31 January 2020, to ratify the new Withdrawal Agreement. What took place afterwards is also known: London and Brussels concluded the approved agreement, and the UK has now entered a transition period that is due to last until 31 December 2020, when the country will no longer follow the EU rules.

As the transition period began on 1 February 2020, the UK automatically lost its membership in the EU's political institutions, meaning that it will no longer have any voting rights, nor will it be represented in the EU institutions (including the European Parliament and the EU Council of Ministers), EU agencies, offices or other EU bodies. However, the country remains, until the transition ends, within the single market, whereby the EU law is applicable to the UK across all policy areas, including the EU Cohesion Policy for the 2014-2020 programming cycle.

This means that the UK continues to receive the EU Structural Funds for the remaining period of the current programming cycle and insofar as their use is compatible with the Political Declaration agreed with the EU in October 2019. Thus, while the UK remains a beneficiary of all ESIFs financed projects under the current EU Budget until their closure, it will not benefit from financial instruments approved after the withdrawal. This state of affairs poses the concerning the fate of regional policy should the UK fail to achieve a balanced agreement for future cooperation with the EU by the end of the eleven-month transition period.

A no-deal scenario represents a possibility in view of recent facts. The course of the negotiations, including those related to the EU Cohesion Policy taking place between the

UK and the EU five months after the beginning of the transition period, appears sluggish. In the opinion of EU's chief negotiator Michel Barnier[63], the progress made between the two parts to secure an agreement has been disappointing. Post-Brexit rounds of talks, instated of "moving forward in a constructive fashion", have been held with limited progress. According to Barnier, the key question is purely administrative: the legal process advanced by the Withdrawal Agreement passed in 2019 to implement the future UK-EU arrangement is complex and the formulation of a new negotiating mandate requires time and effort.

Obviously, time constraint represents a true challenge for the UK even in the process of redefining the boundaries of EU financing programs like the allocation of ESIFs. With a compressed timetable and a set deadline of the end of December 2020 to back a deal, the UK may feel more tempted to throw itself into the talks with the risk of glossing over crucial matters. These include the outlining of alternative national sources of financial help that would fill the vacuum generated by the loss of the ESIFs and so that the features of EU spending related to environmental integration or sustainable development is maintained once the successor of the regional policy of the ERDF is be fully administered at the national level (Taylor, 2019). And that is where the problem lies: in the absence of a tangible strategy on the administration of post-Brexit regional policy, when the UK will no longer be eligible to receive EU Structural Funds related to regional development, the future of the ERDF, and with it the total of the ESIFs, is still unclear.

Apart from time, effort to negotiate a post-Brexit agreement through compromises with EU institutions may delay the process and concretize the risk of a no-deal scenario. In one of his statements, Barnier has more than once highlighted that the EU would not agree to a deal without a "balanced, sustainable and long-term agreement" (BBC News article, 2020). The criticism was referred to an attempt by the UK to engage in trade talks with the EU over four areas where progress has been deemed "disappointing" (e.g. business, justice, fisheries, and trade). Although not openly mentioned, the list may also include sustainability and environment among the areas of disagreement between EU and UK negotiators. Indeed, environmental protection and sustainable development are a tangible part of the so-called 'level playing field', aka a set of common objectives and principles aimed at preventing that businesses in the UK gain a competitive advantage over those operating in the EU, which constitute a dominant part in the negotiations on a post-Brexit trade deal (Morris, 2020).

Even the UK-EU Political Declaration agreed in 2019 acknowledges the importance of

[63] Brexit: Disappointing progress in trade talks, say Michel Barnier, BBC News, 24 April 2020, https://www.bbc.com/news/uk-politics-52414155

forging a wide-ranging and balanced economic partnership between the two parties by ensuring a level playing field for open and fair competition and a robust commitment to sustainable development and climate change[64]. In addition, European Commission President Ursula von der Leyen has remarked in a speech at the London School of Economics (LSE) that "without a level playing field on environment, labor, taxation and state aid, you cannot have the highest quality access to the world's largest single market"[65]. This implies that neglecting common rules and standards under the level playing field may automatically nullify cooperation between the two parties to conclude a successful deal, as well as compromise a future access that the UK could have to the European Single Market after Brexit.

To summarize, time constraints and technical settlements are the two drivers of the current negotiating talks between the UK and the EU that may impair the future relationships of the two parties, thus compromising a potential revision of the EU programs related to the use of ESIFs in the UK's regional development policy. Slow progress and disappointing results observed in the bilateral talks after the commencing of the transition period, are indicators that appear to compel the development of a no-deal scenario, whose consequences on the UK's and EU's economic markets are still a matter of debate. EU officials point to a long-term agreement compatible with the level-playing field, as referred to in the Political Declaration. Given that both parties would agree on a free-trade agreement with no tariffs or quotas, the UK would be expected to sign up to strict rules on fair and open competition, so that national companies could enjoy a tariff-free access to the EU market and vice versa. Considering the geographic proximity and economic interdependence to the EU markets, the UK would also have to align with the EU's rules on environmental protection and sustainable development. This would mean that, the more the UK will remain aligned with the EU's principles and strategies, the higher is the possibility for the by now third country to build up a resilient economic relationship with EU partners. Furthermore, a win-win approach may ease the access for the UK to the EU market and renegotiate with Brussels the development of alternative financial tools that could act as a replacement of the EU Structural Funds after the transition period, when the new Cohesion Policy 2021-2027 will operate.

[64] Revised text of the Political Declaration for the future relationship between the European Union and the United Kingdom, TF50-Commission to EU 27, 17 October 2019, p.5, https://ec.europa.eu/commission/sites/beta-political/files/revised_political_declaration.pdf

[65] Chris Morris, Brexit: What is a level playing field?, BBC News, 21 January 2020, https://www.bbc.com/news/51180282

But the most recent UK talks have been set out on a rather different position. Prime Minister Boris Johnson has rejected this approach to negotiations entirely and does not appear prone to any compromise that would involve accepting the EU rules. In a document published on 27 February 2020, the point of the UK government is explicit: "we will not agree to any obligations for our laws to be aligned with the EU's"[66]. A sentence that also the EU's chief negotiator has reaffirmed during the negotiating talks: "we are not asking for alignment, I know it is a red rag to the UK, so I will not really mention it"(Morris, BBC News 2020). What the UK Executive has in mind is the implementation of an independent system that supports the country's international obligations, but that to no extent accepts the EU regulations on "competition policy, subsidies, social protection, the environment or anything similar"(Morris, BBC News 2020). Such statement can be interpreted as a clear sign of the course that negotiations may take between now and the end of the year, namely that the possibility of a proposal mitigating the harsh position of the UK towards the EU's negotiating standards is still remote. At the moment, what is certain is that the country has not yet officially confirmed an alternative agreement that could satisfy Brussels's expectations for future trade relations across the Channel or fill the void left by the EU financing programs, including the Cohesion Policy, loosing eligibility in the UK as a consequence of a hard Brexit. The issue of the ESIFs, particularly the allocation of the ERDF to sectors related to sustainable development and environmental integration, is far from being solved in the short-time period.

The UK Government has elaborated on the idea of a national fund designated to replace the EU Structural Funds, particularly the ERDF and the ESF. The concept of a UK Shared Prosperity Fund (UKSPF) to tackle regional disparities in the same fashion of the EU program can be traced back to 2017, one year after the Brexit referendum. In its manifesto for the General Election, the Conservative Party had advanced the idea of creating a Shared Prosperity Fund, in lieu of the current EU funding program labeled as "expensive to administer and poorly targeted"[67]. However, the proposal did not mention any financial instrument to channel regional funds or the criteria for redistributing them by the national level on the basis of targeted categories. The Conservative Party merely affirmed that the

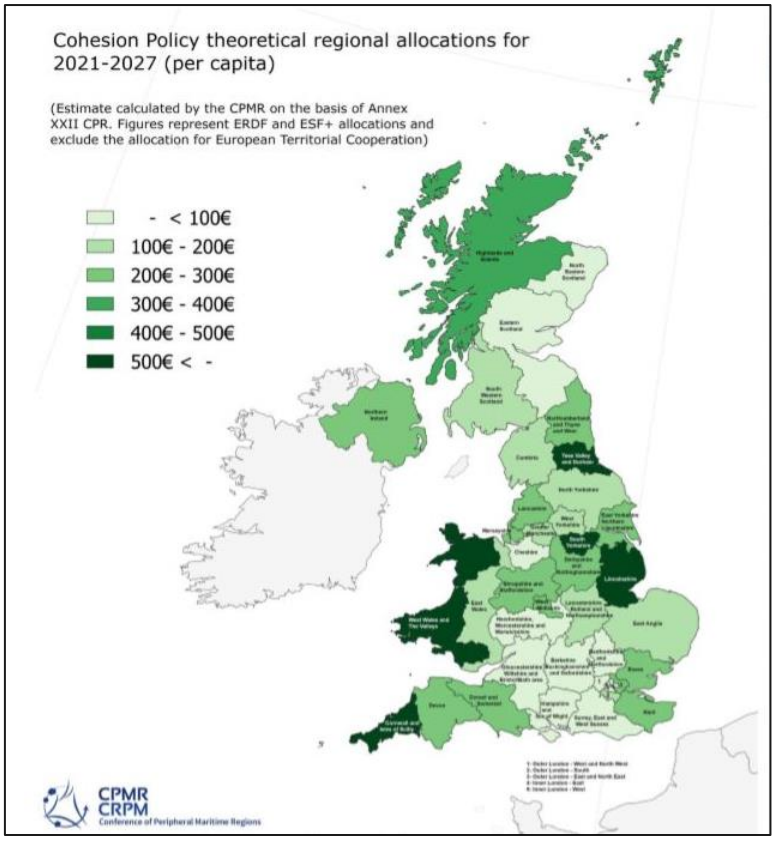
[66] The Future Relationship with the EU-The UK's Approach to Negotiations, HM Government, February 2020, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868874/The_Future_Relationship_with_the_EU.pdf

[67] Theresa May's Team, Forward Together: Our Plan for a Stronger Britain and a Prosperous Future, 2017, https://s3.eu-west-2.amazonaws.com/conservative-party-manifestos/Forward+Together+-+Our+Plan+for+a+Stronger+Britain+and+a+More+Prosperous....pdf

Shared Prosperity Fund would have been established through the Structural Funds money coming back to the UK after Brexit, whose spending would have helped deliver sustainable, inclusive growth with the direct support of the devolved administrations, local authorities, businesses, and public bodies (*The Conservative and Unionist Party Manifesto*, 2017, p.35).

The potential management of the UKSPF has never been properly discussed in the course of the negotiating talks with the EU since the beginning of the transition period. Its value as the major UK Government regeneration fund of the 2020s has yet to be explained published by the Government, and its impact as a replacement of the ERDF, and the total of the ESIFs, is still to be debated. Besides the ideological meaning with which the UKSPF has been conceived by the Conservatives of former Prime Minister Theresa May, the literature surrounding the future implementation of the new regeneration fund once the Cohesion Policy will cease to exist in the UK is scarce. Great clarity shall be required on how the UKSPF will replace the post-Brexit regional funding that the UK would be entitled to had the country remained in the EU. Indeed, recent analyses, like the one below, have inferred that a hard Brexit not supported by a well-planned regional development policy replacing the EU Structural Funds would be disastrous for the UK regions where regional disparities are persistent have been aggravated.

Figure 5.1 : UK Cohesion Policy theoretical regional allocations (2021-2027)



Source: Conference of Peripheral Maritime Regions, 2019

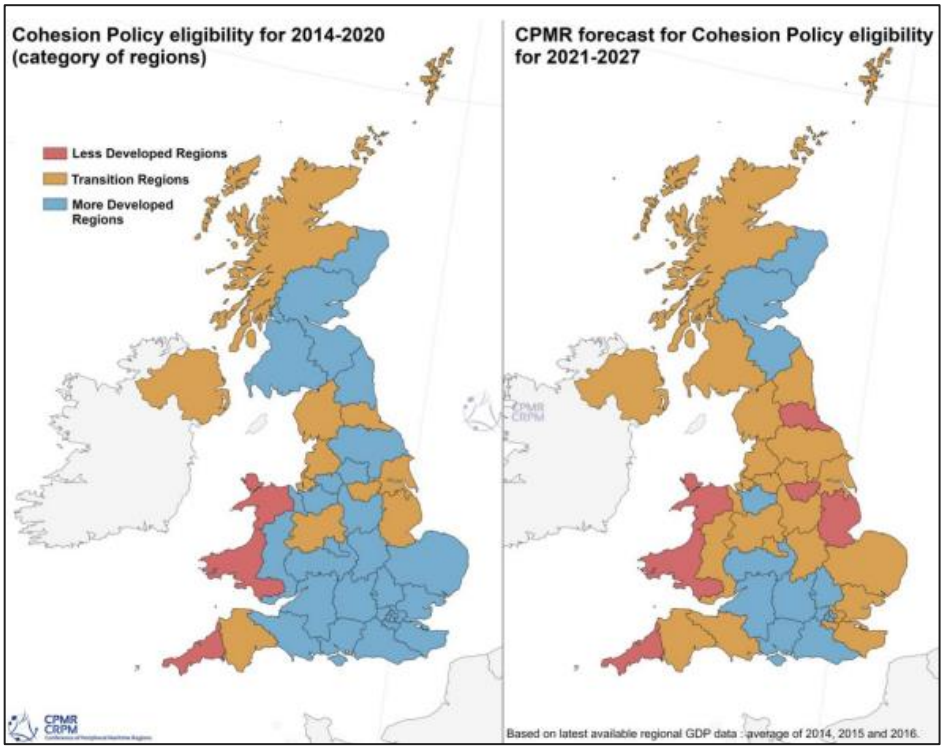
As shown by Figure 5.1, a projection published by the Conference of Peripheral Maritime Regions (CPMR)- an EU organization created in 1973 with the purpose of ensuring a strong territorial cohesion throughout European maritime areas- estimates what would be the share of EU funding, especially the ERDF and ESF, in the UK for the 2021-2027 cycle. This estimate is based on the European Commission's allocation methodology for the ESIFs (i.e. the territorial differentiation of more developed, transition, and less developed regions) and under the assumption that the UK is still an EU Member State at the conclusion of the current programming period. According to the CPMR, had the UK remained in the European Union, the country would have received approximately EUR 13 billion (£11.4 billion) of regional development funding, in respect of the ERDF and ESF, for the 2021-2027 period[68]. In comparison to the current 2014-2020 programming period, for which the UK allocation of Structural Funds is EUR 10.6 billion, the country would be entitled to a 22 percent increase.

However, such increase, always in the forecast by the CPMR, can be explained by the

[68] CPMR, UK entitled to EUR 13bn regional funding if it remains in EU, January 2019, https://cpmr.org/wpdm-package/uk-allocation-for-cohesion-policy-for-post2020/?wpdmdl=20524&ind=1550570009760

worsening level of regional disparities in the UK (*CPMR*, 2019). As stated in previous chapters, the share of the allocations for the Cohesion Policy is determined by the levels of regional prosperity compared to the EU average. In the case of the UK, a large number of regions is expected to fall behind the EU average in terms of GDP growth and regional prosperity, as shown in Figure 5.2.

Figure 5.2 Comparison of Cohesion Policy regional eligibility in the UK(2014-2020 vs. 2021-2027)



Source: CPMR, 2019

In the 2014-2020 period (map on the left), there are only two less-developed regions, represented by Cornwall & Isles of Scilly, West Wales and the Valleys; eleven transition regions; and the remainder is made up of more developed regions. But the CPMR projection on the right reveals a discouraging outlook: for the 2021-2027 cycle, the number of regions in the UK currently classed as less developed regions under the European Commission's eligibility criteria would include South Yorkshire, Tees Valley & Durham and Lincolnshire. Moreover, the number of transition regions would soar from eleven to twenty-four, as displayed by the map on the right. Such comparison would, therefore,

demonstrate that not only the number of areas in the UK that fall behind the EU average is growing, but also that regional inequalities in the country will remain dramatically high in the aftermath of the transition period. The post-Brexit scenario exhibits a pessimistic view of the regional disparities in the UK that in the absence of a Cohesion Policy may further accrue. Especially in the case that the UKSPF will not suffice for the purpose due to their strategic ambiguity and poorly organized management.

Naturally, these conclusions are merely estimates based on a theoretical analysis conducted by the CPMR. The European Commission has never pointed out the amount of EU funding that the UK would be awarded for the 2021-2027 cycle should it have maintained EU membership (*CPMR*, 2019, p.3). Nor does current literature appear to be ample enough to prove that the UKSPF will inevitably undermine regional development policy in the UK in the post-Brexit period. The element that mostly raises concern lies precisely in the uncertainty of the UK surrogate of the Cohesion Policy, including the political and economic impact that it may have on the autonomous territorial administrations of the country. While speculation at present revolves around whether the USKPF will be used to complement or replace other Government Regeneration Funds, little regard has been given by the UK Executive to the devolved governments of Scotland and Northern Ireland that voted to maintain EU membership.

As obvious as it appears that London's overall stance on the future trade agreement with Brussels and the management of EU regional funding diverges from EU counterpart's strategy, the same are not true for the autonomous regions of Scotland and Northern Ireland. In previous chapters it has been highlighted that both the two devolved administrations represent a peculiar case in terms of political, economic and social tenets that differentiate from the UK Government's. This is particularly latent by examining the local votes of the 2016 referendum to leave the EU, where Scotland and Northern Ireland saw Remain majorities in almost every council, respectively 62percent and 58 percent[69].

Unlike Britain and Wales, where the Leave vote prevailed, pro-EU sentiments are still vivid in the two devolved administrations, mostly for two reasons. First, the very existence of a political and economic Union that ensures the free movement of people, goods, services and capital within an internal single market has largely contributed to more peaceful and stable political, social, economic relations with the rest of the UK and the Republic of Ireland, as well as reinforcing the devolution settlement of the autonomous regions. Second, Scotland

[69] BBC News, EU Referendum results in full, 2016, https://www.bbc.com/news/politics/eu_referendum/results

and Northern Ireland, particularly in the course of the 2014-2020 cycle, have managed the allocated Structural Funds with the purpose of realizing a series of local development strategies. Specifically, the use of the Sustainable ERDF has proved to be fundamental for the Scottish Government's ambitious strategy of expanding influence in the wide market of green technologies and renewables, and ensuring commitment to the Europe 2020 Strategy's objectives of reducing GHG emissions and moving toward a fossil-free economy. By contrast, the Northern Ireland Executive's goal of catching up with the rest of the UK and promoting environmental sustainability through the total of ERDF has included the objective of strengthening cross-border cooperation with its Irish neighbor. However, a permanent and chaotic withdrawal from the EU, and hence an inevitable exclusion from the Cohesion Policy, may open new scenarios that will be analyzed in the following sections.

5.3. Scotland's case: independence from the UK?

Scotland was the devolution administration that voted mostly to remain within the European Union at the 2016 national referendum. The percentage of votes in favor of the UK maintaining EU membership was 62 percent against 38 percent of Leave minorities: approximately 1,660 million voters backed Remain, while 1,018 million voted for Leave[70]. The results above seemed to confirm a First Minister Nicola Sturgeon's statement that she had addressed to Brussels just one year earlier: "it is unequivocally that membership of Europe is in Scotland's best interests" (Eardley, BBC News, 2016). The reality is that Edinburgh government has always shown a pro-EU stance and a sincere commitment to EU solidarity. Such feature is a characteristic of EU membership and has played a fundamental role in supporting a coherent action to address such wider issues as air quality, climate change, renewable generation oriented economic growth and sustainable development.

It is possible to affirm that Scotland has found its highest realization in the EU funding Programs supporting environmental targets. In previous chapters, the main focus was on the positive impact of the ERDF OP for the current 2014-2020 programming cycle. The substantial allocation of regional development funding to the Scottish sub-regions has benefitted communities whereby direct investment in projects aimed at enhancing EU partnership on issues as diverse as improving smart specialization in the R&D sector, developing a low-carbon economy and a more inclusive use of local renewable energy sources. While the main priority of the ERDF OP concerned the compliance of Scotland to

[70] BBC News, EU Referendum: Scotland backs Remain as UK votes Leave,24 June 2016, https://www.bbc.com/news/uk-scotland-scotland-politics-36599102

the fundamental objectives of the 2020 Strategy for a smarter, more sustainable and inclusive EU, it is also true that the country has resorted to the Program to become an international front-runner in renewable energy. After all, Scotland has a potential competitive advantage on a reservoir of local renewable energy resources, and by means of the EU Structural Funds it could seize the opportunity to become a valuable competitor in the ever-growing European market of green technologies.

It is undeniable that devolution has also had a specific part in shaping energy market integration policies. Owing to its autonomous status, the Scottish Government have put renewables at the heart of the environmental agendas and has gradually increased its ambitious targets (McEwen et al., 2019, p. 1). The 2019 Scottish Energy Strategy of achieving the equivalent of 70 percent for Scotland's heat, transport and electricity consumption to be supplied from renewable resources (and the net-zero GHG emissions target by 2045) is an obvious example. More evident is the financial incentive that the EU funding program has given towards climate and low carbon energy projects. The ERDF, particularly the Sustainable ERDF, has been used by the Scottish Government to nudge initiatives like the Low Carbon Travel and Transport Challenge or the Low Carbon Infrastructure Transition Program. Their match funding to support green projects have been significant also for low carbon research and innovation advanced by the Horizon 2020 program[71], in particular in the energy research for innovative green technologies utilized by Scottish SMEs to exploit local renewable resources in a circular business model.

The whole EU funding mechanism is bound to run out at the end of the transition period, though UK-EU talks have not yet produced an official document about the fate of the EU regional development program in the third country, neither a governmental report shedding light on the future implementation of the UKSPF in Scotland. At the present, there is still a lack of clarity about the new Fund expected to replace the EU regional development policy. The only certain point is that the UK Shared Prosperity Fund will be managed exactly like the EU funding, namely outside the Barnett formula[72]. This is due to the fact that the

[71] The biggest EU Framework Research and Innovation program and one of the Europe 2020 flagship initiatives to secure Europe's global competitiveness. Launched in 2014, with nearly EUR 80 billion of funding available over seven years (2014-2020), the program focuses, among the other core themes, on helping Member States tackle a wide spectrum of issues involving climate change, sustainable transport and mobility, and making renewable energy more affordable.

[72] The Barnett formula, named after the former Labor Chief Secretary to the Treasury Joel Barnett in 1978, is used by the UK Government to set the amount of money that the devolved administrations are eligible to receive. The exact amount is determined by the size of the population, but generally the autonomous governments have more leeway on spending. The EU regional funding program operates outside the boundaries of the Barnett formula, for the allocation of the Structural Funds to Scotland, Northern Ireland and Wales is based on need rather than population. It also must guarantee that the EU funds are additional to other public spending.

devolved administrations have claimed that funding should not be reduced because of Brexit. A formula that the Conservatives have promised to maintain at the moment of drafting their manifesto, advocating that it was in their interest to ensure a UKSPF matching with the EU funds (Industrial Communities Alliance, 2020, p. 6). Having said that, the criteria that should define the priorities for the new Fund and the guidelines about managing regional investments in local projects, which the devolved administrations have yet to agree on, are unclear. In July 2018, the former UK Government Secretary of State for Housing Communities and Local Government, James Brokenshire, had only advanced three proposals on how the UKSPF would operate after Brexit[73]. First, it will tackle inequalities within communities and raise productivity in parts of the UK that are economically lagging behind; second, the new Fund will simplify administrative arrangements and target funding effectively; and third, it will respect the devolution settlements in Scotland, Wales, and Northern Ireland to ensure that the Fund works across the UK.

Some statements were also made by the Convention of Scottish Local Authorities (COSLA), the national association of Scottish councils working with the Local Government. In one of their earlier reports published in 2017, the COSLA leaders contemplate the idea of a strong and sustainable Industrial and Regional Development Strategy supported by a national policy replacing the EU Structural Funds (Pazos, 2017, p. 4). In their view, the new Fund would not need to replicate the match-funding rates set by EU rules, allocations for the potential replacement should be left outside the Barnett formula, and be not dependent on the EU principle of additionality[74]. Again, this report does not offer suggestions, estimates, or a robust core of guidelines on possible avenues to replace EU funds with domestic funding for local sustainable development. Two years later, the scenario has remained unaltered and confusing. In the period where the UK was expected to leave the EU on April 2019, the Common Housing, Communities and Local Government remarked the fact that the UK Government should prioritize action to fast-track the UK Shared Prosperity Fund in order to fill the gap left by the EU funding closure (BBC News Article, 2019). Although a full consultation on the details for the UKSPF was supposed to

[73] Gareth Thomas, The UK Shared Prosperity Fund, National Assembly for Wales, January 2020, https://senedd.wales/research%20documents/20-040-prosperity%20fund/20-04-web-eng.pdf

[74] The Principle of additionality is one of the driving principles of the ESIFs. It states that contributions from the Structural Funds must not replace public or equivalent structural expenditure by a Member State in the region where they are allocated. More specifically, the ESIFs should be complementary to national public spending and not reduce structural expenditures of those regions using them.

be published by the UK Government before the end of 2018[75], no real improvement of information sharing with the devolved administration of Scotland has been notified.

In a report published on November 2019, the Scottish Government illustrated a list of non-negotiable points for the UK Government to influence any replacement of the EU funding program. In particular, these recommendations raised the following principles for a potential successor funding[76]: a) the devolution settlement must be respected and there must be no attempt by the UK Government to take back powers from the Scottish Government; b) the Scottish Government's role in the development of the Shared Prosperity Fund should be as partners, not merely consulters; c) the allocation of funds should maintain a level of flexibility under post EU-exit funding arrangements; and d) the replacement of the EU Structural Funds should be operational from 1 January 2021 and be implemented in early 2021. However, even these consultations, which should have included provisions for a final report about Scottish intentions to be produced by spring 2020, have not led to any improvement, especially in the current negotiations with Brussels on the thematic objective of sustainable development. On no regard have the UK negotiating talks explored the potential impact of Brexit on Scottish renewables. The EU regulatory framework of the ESIFs, in particular the Sustainable ERDF, has been crucial in stimulating growth in Scottish renewables and provided a long-term policy stability in view of a major multinational cooperation between Scottish and EU stakeholders. An hard Brexit may impair such environmental oriented policy by impeding Scotland to count on EU funding streams to lead on renewables projects or finance innovative renewable technologies (UKERC, 2019, p.5-6). With uncertainty growing and lack of clarity on alternative forms of regional funding that would become operational by 2021, the impossibility for Scotland to secure EU membership may call Edinburgh for a further divorce from London.

The question of whether a Scottish independence referendum could be held in 2020, with the UK government still procrastinating on securing a post-Brexit deal with the EU fore, has not an univocal answer. The idea of a second independence referendum was deemed "highly likely" by First Minister Nicola Sturgeon in the wake of the 2016 Brexit vote (BBC

[75] EU fund replacement 'lack of clarity maddening', BBC News Article, 8 January 2019, https://www.bbc.com/news/uk-wales-politics-46782174

[76] Consultation-The Replacement of European Structural Funds in Scotland Post EU-Exit, Scottish Government, November 2019, https://www.gov.scot/binaries/content/documents/govscot/publications/consultation-paper/2019/11/replacement-european-structural-funds-scotland-post-eu-exit/documents/consultation-replacement-european-structural-funds-scotland-post-eu-exit/consultation-replacement-european-structural-funds-scotland-post-eu-exit/govscot%3Adocument/consultation-replacement-european-structural-funds-scotland-post-eu-exit.pdf

News Article, 2016). Scotland had already voted for a similar referendum in 2014 and the results had confirmed the country's decision to remain in the United Kingdom, after 55 percent of voters decisively rejected independence by 55 percent to 45 percent[77]. In that occasion, the main uncertainty raised by the Scottish Better Together front (favorable for the 'No' vote) concerned the possibility for Scotland to be in the EU should have voters said 'Yes' in the independence referendum. Opinions from the EU institutions were mixed: in 2012, the then European Commission President José Manuel Barroso replied that "it would be difficult, if not impossible, for an independent Scotland to join the EU" (The Guardian article, 2014). According to Barroso, the main obstacle to approval may come from other Member States facing the same geopolitical issue with their semi-autonomous regions, which would have certainly blocked Scotland's membership. A clear example was Spain, which had opposed even the recognition of Kosovo when it declared independent from Serbia in 2008[78] (The Guardian article, 2014). Another response was advanced by Scotland's Finance Minister John Swinney, who rejected Barroso's statement by pointing out that Scotland cannot be compared to Kosovo, as it has been a member of the EU for 40 years, that is when the UK was granted membership of the then European Economic Community (The Guardian article, 2014).

Such question remains open to debate at the present. Surely, the chance that the 'Yes' vote may prevail in a second independence referendum can be real in 2020 unlike in 2014. In the British general election on 12 December 2019, the Scottish National Party (SNP), which had mostly endorsed the 'Yes' front, gained 48 of Scotland's 59 seats in the UK House of Commons (The Institute for Government, 2019, p.1). This has interpreted by pollsters as an evident sign that the Brexit decision has led to a gradual increase in support for leaving the UK (The Guardian article, 2020). Furthermore, in the SNP's 2019 General Election manifesto, Nicola Sturgeon renewed the mandate for another independence vote and requested the power to hold a second referendum before the end of 2020 (The Institute for Government, 2019, p.1). Naturally, such declaration dates back to April 2019, eight months before the formalization of the transition period, but its content remains valid and support for the SNP's invite to the polls appears to have increased today, as shown by latest

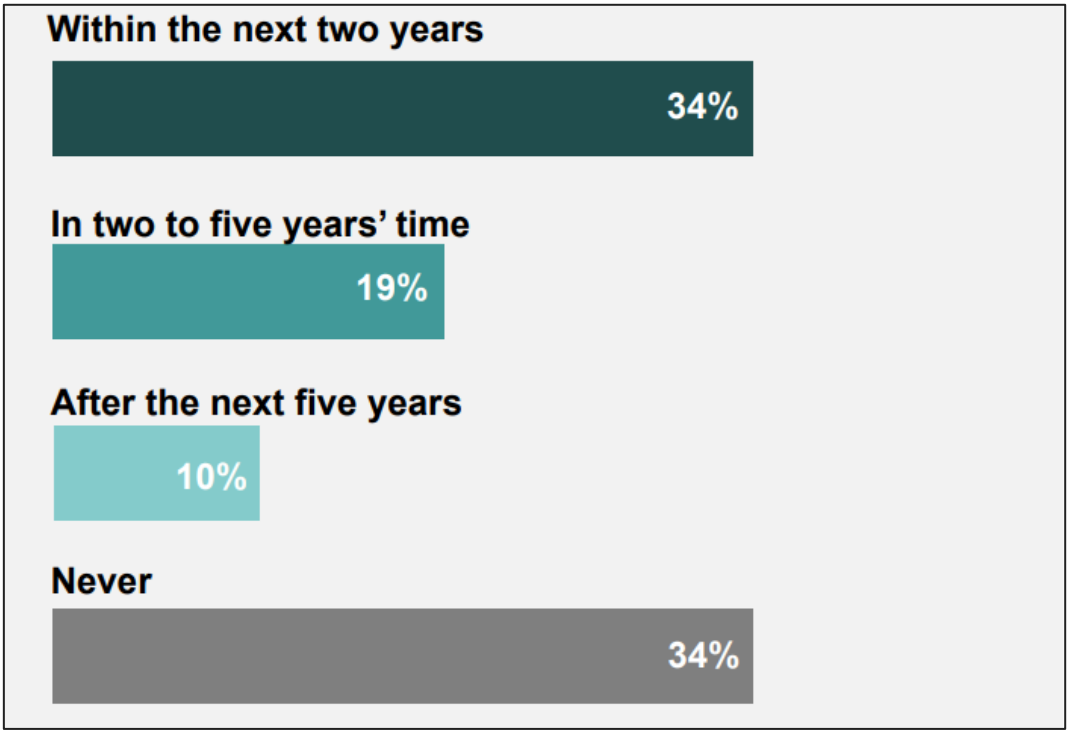
[77] Scottish Referendum. Scotland votes 'No' to independence, BBC News, 19 September 2014, https://www.bbc.com/news/uk-scotland-29270441

[78] As of May 2020, only 22 of the 27 EU Member States recognize the Republic of Kosovo as an independent state. The five Member States that do not recognize Kosovo as independent from the Republic of Serbia are Spain, Slovakia, Cyprus, Romania, and Greece.

surveys.

According to Simon Torney, Professor of Politics at the University of Bristol, recent polls demonstrate that support for Scottish independence from the UK has reached 50 percent of the electorate (Torney, The Conversation article, 2020). Another survey by Ipsos MORI for BBC Scotland has suggested that half of the Scottish wish a second independence referendum in the next five years[79]. The public is almost unanimous that a second independence should take place: indeed, time horizon is a factor that may influence the electorate's consensus. Figure 5.3 illustrates the results of the poll adjusted to the time preference of a sample of 1,006 adults aged 16 and over across Scotland in the period between 14-20 May 2020.

Figure 5.3: Timing of a second independence referendum in Scotland after Brexit



Source: BBC Scotland/Ipsos MORI, 2020

At the question "When, if at all, do you think there should be a second referendum on Scottish Independence", a third (34 percent) answered within the next two years. The same proportion was recorded in the range of those who do not think that a second referendum should ever happen. Finally, 19 percent approved the idea of a second referendum not until

[79] Ipsos MORI, Covid-19 Polling BBC Scotland. 27 May 2020, https://www.ipsos.com/sites/default/files/ct/news/documents/2020-05/bbc-scotland-charts-may-27-2020-pt2.pdf

between two and five years' time, while 10 percent endorsed it after the next five years. A particular support was highlighted by young people: 46 percent of interviewees aged 16-34 thought that a second independence referendum should take place in Scotland within the next two years, compared to 36 percent of those aged 35-54 and 22 percent of those aged 55 and over (Ipsos MORI Report, 2020).

Surely, the aforementioned data may not be sufficient to claim that support for Scottish independence is, or will remain, high between now and the end of the transition period or whether growth was determined by the UK losing EU membership at the beginning of the transition period. A more comprehensive survey that includes a larger sample of the Scottish population divided per sub-region and in a more extended period of time may yield a quite different outcome. But certainly, this survey turns out to be illuminating in drawing some generic observations. The most relevant one is the fact that, even though overall support for Scottish independence has grown during the transition period, the same cannot be said for its consensus. While independence remains an urgent matter for some categories, particularly for nationalists, a part of the electorate is still reticent about First Minister's demand for holding a referendum this year. Sir John Curtice, of the University of Strathclyde, is of the opinion that "there is no guarantee that the trend will continue, but what we do need to understand is that it is being driven by Brexit" (The Guardian Article, 2020).

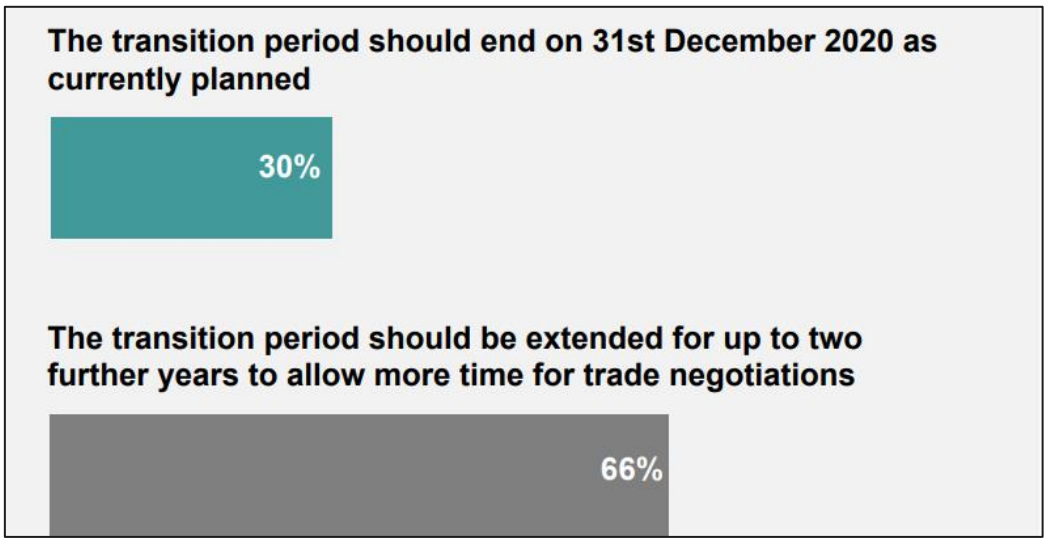
What is certain, also by confronting the 2020 YouGov[80] survey, the "Yes" vote leads "No" by 51 percent to 49 percent, which can be explained by the number of UK Remainers increasingly moving towards the first pole. The public, however, is not homogenous in the decision of holding an independence referendum in 2020 or next year: more than 56 percent of the interviewees, would not agree on a referendum on Scottish independence this year, while only 39 percent would reject it in the next five years (YouGov Website, Politics and Current Affairs, 2020). The conclusion is that a relatively small part of the Scottish would be in favor of an early poll, while the majority is more prone to wait at least a couple of years in order to have more time to agree on a decision that could satisfy all the parts involved.

Time is an important factor that gives the opportunity to make thoughtful and unscrupulous decisions. Possibly, the Scottish public would not find it convenient to rush run-up to the polls without a clear picture of the future UK-EU trade relations in the post-Brexit period.

[80] A British global public opinion and data company

This is a plausible reason that could justify the trend for which "a majority of people in Scotland think that a second independence referendum should take at some point in the next five years" (Ipsos MORI Report, 2020). Such statement is reinforced by Ipsos MORI data on views on an extension to the Brexit transition period (see Figure 5.4).

Figure 5.4: Views on an extension to the Brexit transition period in Scotland



Source: Source: BBC Scotland/Ipsos MORI, 2020

Approximately two thirds of the Scottish public (66 percent) deems an extension of the Brexit period for up to two further years essential in order to allow more time for trade negotiations, while only a third (30 percent) believes that the transition period should end on 31 December 2020. Again, young people are more supportive of an extension: three quarters (76 percent) of those aged 16-34 whish the transition period to be stretched further (Ipsos MORI Report, 2020). Nevertheless, latest news may overturn the results. The joint decision made by Prime Minister Boris Johnson and European Commission President Ursula von der Leyen, on 12 June 2020, not to extend the transition period beyond 31 December 2020[81], may open new scenarios and, in the worst case, concretize the risk of a no-deal outcome. While it is too early to draw any conclusion, this episode may trigger an harsh response from the Scottish Government, which may clamor for an independence referendum to be held without waiting too long. It is possible that Scotland's position on Brexit may diverge further from the UK Government. Upon the decision of Boris Johnson not to extend the

[81] Brexit: UK and EU agree not to extend transition period beyond December 2020, Euronews article, 16 June 2020, https://www.euronews.com/2020/06/15/brexit-boris-johnson-and-ursula-von-der-leyen-to-hold-high-level-talks-next-week

transition period, Scottish Ministers have decided to boycott a conference call with the UK Government, and in a statement the Scottish representatives have shown all their criticism. "We cannot accept a way of working in which the views of the devolved governments are simply dismissed before we have had a chance to discuss them. In reality, the meetings we have had have simply been an opportunity for the UK Government to inform us of their views, not to listen or respond to ours"- this was the joint comment that Scottish and Welsh representatives addressed to the UK Government, defining the failure of a Brexit extension "reckless" (ITV Report, 2020).

To summarize, the path towards a Scottish independence from the UK appears to be tortuous and fraught with obstacles in the wake of a post-Brexit period. Although the call for a new referendum has gained new momentum on the Scottish political agenda since the excellent performance of the Scottish National Party at the 2019 General Elections, the Scottish electorate appears divided and biased towards First Minister's mandate of holding the polls in the midst of the transition period. Even though the Scottish electorate as a whole has supported EU Membership and voted to remain part of the EU, a large part of them would not agree on holding a referendum in 2020. Causes and reasons explaining such consensus cleavages are numerous, but essentially the majority of Scottish would accept a new independence referendum after attentive decisions and reliable economic estimates on the consequences that a divorce from the UK would entail. Nevertheless, such strategy may lose ground due to the recent verdict reached by Boris Johnson with Brussels. This abrupt change in schedule may nullify the attempt from non-SKP supporters to negotiate an extension to the transition period, so that they would have time to find an agreement that meets the favor of those opposing a referendum in the short-time period.

But the real issue lies exactly in the concrete possibility for Scotland to have a referendum with the tacit consent of the UK Government. As the Foreign Policy Magazine points out, "Westminster continues to dismiss nationalist demands for another vote on separation from the UK, and said Sturgeon should have to wait a lifetime before a rerun of the 2014 plebiscite" (Maxwell, FP Article, 2020). Even Prime Minister Boris Johnson has stated that he would not approve another vote after that of 2014, thus ruling out the authorization of a second independence referendum (Institute for Government, 2019). Also UK national law results to the detriment of the Scottish call for independence. In fact, the Scottish Parliament is de lure not allowed to pass a legislation whose competence is reserved to the UK Government (Institute for Government, 2019). In this case, the interpretation of such

affirmation is that any referendum related to Scotland's independence would require Westminster approval. Such stance from London administration may slow down progress towards the objective of Nicola Sturgeon of securing a scheduled call to the polls and exacerbate even further the debate with other independence supporters, primarily the Scottish Greens.

Another issue concerns the administrative procedure through which Scotland would apply for EU Membership. Considering that the process of separation for the UK might take a long period of time (around 2 or 3 years), the Scottish may conclude an Association Agreement with the EU following its independence from Westminster and then apply for membership in accordance to the ordinary procedure referred to by Article 48 TEU (Salamone, LSE Article, 2020). If Scotland will follow the whole process like any EU candidate country, it is more likely that it will be eligible to apply again for the EU programs financed by the ESIFs, including the ERDF. This will also depend on how the new Cohesion Policy will be designed and which priorities will be implemented in the 2012-2027 programming period.

5.4 Northern Ireland's case: re-alignment with the Republic of Ireland?

In this work, much attention has been devolved to the historical situation of Northern Ireland and its strained relations with the Republic of Ireland. The partition of the island of Ireland in 1921 and the political divisions that fuelled decades of civil conflict between the two parts are still vivid in the memories of its inhabitants. When the Troubles came to an end after a long peace process and the signature of the Good Friday Agreement marked the settlement of the devolved government in Belfast, Northern Ireland and Ireland have painstakingly struggled to maintain long-lasting peaceful relations and, at the same time, resilient economic cooperation. As amply discussed, the factor that has mostly enhanced the sense of political and economic unity in the Irish Border Region can be attributed to the EU financing programs related to regional development. In particular, the use of the Sustainable ERDF allocated to Northern Ireland sub-regions under the Cohesion Policy and the INTERREG VA Program had the merit to favor a concrete alignment with Dublin. The current 2014-2020 cycle, thanks to its objectives in line with the 2020 Strategy, has compelled the two parts on the joint effort of exploiting local renewable resources in collaborative projects aimed at increasing sustainable development and environmental integration. In addition to this, projects covered by the Sustainable ERDF for the 2014-2020

programming period seem to have reinforced cross-border relations and matured the possibility for a greater reconciliation between Northern Ireland and Ireland. However, the ongoing stalemate caused by the Brexit decision and uncertainty for the Cohesion Policy in the land bordering with the Celtic Tiger may be harmful for future Belfast-Dublin relations.

A key part of the pre-transition Brexit negotiations, and also the most controversial matter of the Withdrawal Agreement, was the notorious Irish backstop. According to former Prime Minister Theresa May's Brexit deal draft, such arrangement for the Irish border was intended to ensure temporarily that checks on goods crossing the border between Northern Ireland and Ireland would not have to be imposed again as a consequence of the UK leaving the single market and customs union (Boffey, The Guardian Article, 2019). In the course of three-year negotiations, a number of proposals advanced by the EU and the UK were discarded. The EU idea of extending the backstop to Northern Ireland , so that only Belfast would have remained under the aegis of the EU single market was objected by the DUP. Another proposal agreed by Theresa May envisioned a UK-wide backstop that would have allowed the UK stay in the customs union for an indefinite period, while Northern Ireland would have been tied to some rules of the EU single market (Campbell, BBC News article, 2019). This backstop plan was backed by UK-EU negotiators, but openly rejected by the majority of Conservatives Members of the Parliament (MPs), including the DUP. Failure to pass the deal at the House of Commons led to Theresa May's resignation in 2019 and the appointment of the Conservative leader Boris Johnson as Prime Minister.

It is commonly accepted by scholars that the attempted plan of Johnson to remove the backstop and ensure the possibility of a no-deal Brexit on 31 October 2019 would have been disruptive for Northern Ireland and the Republic of Ireland. Brookings Expert Jacques Mistral is of the idea that a threat to the backstop represents also a threat to the Good Friday Agreement (Mistral, Brookings article, 2019). The idea of the Agreement was that to solve the geopolitical dispute at the heart of the civil conflict by allowing a form of co-sovereignty: people living in Northern Ireland could identify themselves as Irish, hold a British-Irish double-citizenship passport, and cross-border travel without controls (Sloat, Brookings article, 2019). The backstop is, in the words of the former President of the European Council, "an insurance to avoid a hard border on the island of Ireland unless and until an alternative is found" (Barry, Euronews article, 2019). It is not a case that, in the first phase of the backstop negotiations, Irish militants belonging to the new IRA (Irish Republican Army) have tried to capitalize on Brexit's border issues. The truth is that

removing such insurance without a strategic plan would threaten the provisions of the Belfast Agreement and undermine the peace process that has accompanied the two sides in the last twenty years.

Another point that the question of the backstop has raised concern for is whether the Brexit decision may compel Northern Ireland to call for an independence referendum to leave the EU and re-align itself with the Republic of Ireland. The new Protocol on Ireland and Northern Ireland included in the Withdrawal Agreement of 2019 basically agreed on a series of solutions needed to reconcile the different interests that had been put at stake by previous UK legislation. In short, the Protocol recognizes the unique situation of the parts by avoiding a hard border between Ireland and Northern Ireland, safeguarding the all-island economy and the Good Friday Agreement, and maintaining Northern Ireland in the UK customs territory[82]. Therefore, it is implied that the Protocol still acknowledges the so-called border poll provision contained in the Good Friday Agreement that gives the right to the people of the island of Ireland to constitute a united Ireland with tacit consent of the two parts (Institute for Government, 2019).

The border poll is an explicit term of the Belfast Agreement and was also made in the UK law . As reinforced by the Northern Ireland Act 1998, it functions "if at any time it appears likely that a majority of those voting would express a wish that Northern Ireland would cease to be part of the United Kingdom and form a part of a united Ireland" (Institute for Government, 2019). Broadly speaking, it is not clear the criterion to satisfy such requirement: among the various interpretations suggested, there is a vote by a majority in the Northern Ireland Assembly that could be considered evidence of a majority support for a united Ireland. In the present context of the UK divorce from the EU, 58 percent of voters in Northern Ireland voted to remain in the European Union. In light of this result, and in consideration of the uncertainty that the impact of a hard Brexit may have on the Irish border, it is possible to draw the following conclusion. That is, a large percentage of people in Northern Ireland would support a United Ireland. Furthermore, a survey published by "The UK in a Changing Europe" in 2019, illustrates that "55 percent of respondents in Northern Ireland would probably support a United Ireland in a no-deal scenario, 48 percent if the UK exits on the terms of the Withdrawal Agreement, and 29 percent if the UK remains in the EU" (Mistral, Brookings article, 2019). Hence, the possibility that Northern

[82] Revised Protocol on Ireland/Northern Ireland , Commission to EU 27, 17 October 2019, https://ec.europa.eu/commission/sites/beta-political/files/revised_withdrawal_agreement_including_protocol_on_ireland_and_nothern_ireland.pdf

Ireland would ask for a complete all-island unification in the transition period may depend on how the current EU-UK negotiating talks will evolve between now and the end of 2020.

Unlike Scotland, literature on a potential divorce of Belfast from London to constitute a United Ireland is not vast. The main explanations are essentially two: dialog between the UK and the EU has, so far, yielded disappointing results in the course of the negotiating talks. As mentioned in this chapter, the UK Government has made a minimal improvement to secure an efficient deal with Brussels also due to the fact that Prime Minister Boris Johnson's stance on the future relationship with the EU diverges on numerous point from that of the European Commission President. A second explanation, which will be briefly analyzed in the last section, regards the impact of COVID-19 in delaying talks on future management of the EU programs, including the regional development fund. What can be inferred is that Northern Ireland may have an incentive to establish an all-island unified Ireland if this action would ensure the preservation of the Belfast Agreement and the likelihood of receiving the Sustainable ERDF even beyond the conclusion of the transition period.

A possible Irish unification may become a reality by observing the latest political situation as well. For the first time in the history of the Republic of Ireland, the Sinn Féin Party received the most-first preference votes (with 37 seats) at the 2020 Irish General Election on 8 February, while neither Fianna Fàil (38 seats) nor Fine Gael (5 seats) won the most votes (Sproule, BBC News article, 2020). Sinn Féin's leader Mary Lou McDonald has stated that, should her party form a government coalition, she intends to see a vote on unification in the next five years. If in Northern Ireland a majority also would vote for this to happen, this strategy will fulfill one of the requirements of the border poll term. In this case, it will become possible to call for a referendum and "it will be a binding obligation on both governments to introduce and support in their respective parliaments legislation to give effect to that wish" (Institute for Government, 2019).

Moreover, the Stormont Assembly in Belfast had recently voted in favor of calling for an extension to the British transition period (O'Carrel, The Guardian article, June 2020).The reason is pretty obvious: the Northern Ireland assembly, in conjunction with nationalist, green, and social democratic parties, has argued that the UK Government's protocol that imposes border checks down the Irish Sea while Britain is combating the coronavirus crisis is detrimental to the economic growth of the devolved administration. Following the decision of Boris Johnson not to fulfill such crucial request, the prospect of an economic

recession that may put business and jobs in Northern Ireland at risk and the geopolitical uncertainty generated by NI exclusion from the EU program with the Republic of Ireland, may foster a rerunning of the independence referendum under the provisions of the Good Friday Agreement. This would demonstrate further the divergence Northern Ireland's and Britain's positions on the need to remain under the financial umbrella of the EU.

5.5. The impact of the COVID-19 pandemic

One of the main reasons accounting for delays in the latest EU-UK negotiating rounds includes the spread of the coronavirus that has rampaged throughout Europe by the end of February. When EU Chief Negotiator Michel Barnier tested positive for Covid-19 in March 2020 and the UK chief Brexit negotiator David Frost self-isolated with other members of the team later, the future of the negotiations appeared further uncertain. The pandemic has put pressure on the Members of the European Parliament (MEPs) and compromised the possibility of securing a trade deal by the Brexit deadline. As pointed out by the European People's Party MEP and negotiator on the European Parliament's international trade committee Christopher Hansen "under these extraordinary circumstances, the UK Government should not choose to expose itself to the double whammy of the coronavirus and the exit from the EU single market, which will inevitably add to the disruption, deal or not deal" (BBC News article, 2020).

The effective standstill generated by the coronavirus global emergency has threatened the chance of meeting the tight deadline on 31 December 2020 and has shifted the attention of EU political leaders in investments to help Europe recover from the pandemic. On May 27 2020, the European Commission has proposed the New Generation EU recovery instrument, which will prioritize the actions needed to haste Europe's economic recovery and resilience[83] . Considering that the virus spread is also risking to pose a challenge to the EU in several economic fields, including sustainable development, the recovery plan aims at avoiding the damage of a short-term European crisis and building a dynamic economy that would invest in the long-term future. Indeed, the New Generation EU foresees the allocation of money through EU programs in line with the recent European Green Deal announced by Ursula Von der Leyen on December 2019. The proposed interventions in the field of sustainable development and environmental integration are as follows: a) a massive

[83] Europe's moment: Repair and Prepare for the Next Generation, European Commission, 27 May 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0456&from=EN

renovation wave of EU buildings and infrastructure and a more circular economy; b) rolling out renewable energy projects (e.g. wind, solar and clean hydrogen); c) cleaner transport and logistics, including the installation of charging points for electric vehicles and clean mobility amid cities and regions; and d) strengthening the Just Transition Fund to support re-skilling and help businesses create new economic opportunities (European Commission website, 2020). With regard to the Cohesion Policy, the European Parliament, in April 2020; adopted further measures to ensure that EU funding could be granted with exceptional flexibility to tackle the negative effects of the pandemic. Particularly, these proposals would allow Member States to use 100 percent of resources from the ERDF, including the ESF and the CF, to finance programs related to COVID-19 during the last year of the 2014-2020 cycle starting from 1 July 2020 and up to 30 June 2021 (European Parliament News website, April 2020).

Such shift on the EU political agenda has in part contributed to slow down negotiating talks between London and Brussels, as well as complicating the already ambitious schedule of backing a deal by the end of the transition period. During April talks, the European Commission has urged the UK officials to consider the idea of an extension, but Prime Minister Boris Johnson has opposed the request because "any transition extension would keep the UK bound by EU rules, when it instead needs flexibility to deal with coronavirus" (BBC News, April 2020). As already seen, in the course of the third round of negotiating talks held in June 2020, Downing Street stated that it would not ask to extend the transition, thus leaving open the possibility of a disruptive divorce from the EU if talks in the next months will continue to prolong negotiations without success. The UK Government had the last chance to call for an extension of the transition phase and rethink on another strategy to back a deal with the European Commission, also in consideration of the coronavirus crisis.

In light of these considerations, it appears evident that the prospect of a wide-ranging deal between the UK and the EU by the end of 2020 has vanished since Johnson's recent joint action with the European Commission (Kellner, Carnegie Europe article, June 2020). The Prime Minister will not have the possibility to seek an extension to the transition period, and even in the remote case that he wished to, his hands would be tied. With COVID-19 jeopardizing the Brexit negotiations and the weakening of the Boris Johnson due to its alleged negligence in recognizing the danger of the pandemic, the UK may risk another constitutional crisis unless a significant progress will be done by the end of the transition period. A breakthrough in the negotiations may occur in the next round of talks expected for July 2020, but this will largely depend on how the UK government will play its better cards

with the EU officials. The European Union may still entrust some financial concessions to combat the coronavirus crisis, insofar as the UK will stick to the level-playing-field rules and accept the EU legal framework. Such scenario appears, nevertheless, far-fetched, bearing in mind that the Prime Minister would never agree on a trade deal with the EU that would not alter the current status quo of the UK as a "client state" of the EU.

6. Conclusions

The element of innovation introduced by the EU Cohesion Policy 2014-2020 lies in its ability to balance sustainable development and environmental integration as one single issue, thus contributing to shape the multilateral vision of the Brundtland Report of a development that satisfy human needs but with a major commitment to preserving the environment and its supply of exhaustible natural resources. Such concept is at the core of a sustainability-based growth for which economic production and consumption should remain within the boundaries of ecological potential without altering the possibility for future generations to benefit from the living standards of the present. As a result, the incorporation of environmental integration in all stages of the preparation and implementation of Cohesion Policy programs must reflect a joint commitment for all EU Member States to achieving sustainable development, even in the case of initiatives co-funded by the European Commission that do not directly cope with the environment.

The pursuit of a more sustainable growth with a view to promote environmental integration is correlated to the prime objective of making the EU the most competitive and dynamic knowledge-based economy in the world capable of competing with powerful emerging economies, first and foremost the People's Republic of China. A growing interest in green policies that compels EU institutions to make significant effort towards a more sustainable future for all Member States has been the direct consequence of both EU internal and external factors. First, the challenge of globalization, which exacerbated the geopolitical and economic instabilities of the 2008 global financial crisis, has contributed to shift the EU focus from a smart approach solely based on knowledge and research towards an alternative policy-making that integrates a more sustainable and inclusive growth. In fact, more environment-oriented regulations in the EU that privilege an efficient and sustainable use of natural resources are also functional to a more competitive economy that produces no greenhouse gas (GHG) emissions and exploits diversified energy supplies, thus reducing dependency on imported fossil fuels. Second, the failure of OMC tools to advance environmental policies, like the Lisbon Strategy, called EU policy-makers to research for a successor (i.e. the Europe 2020 Strategy) that strengthens joint action of Member States, as well as defining binding targets to ensure a sustainability oriented economic growth.

The 2020 Strategy launched in 2010 to amend the structural flaws of the Lisbon Strategy pursues three mutually reinforcing and interrelated priorities- smart, sustainable and inclusive

growth- that have been embedded in the 2014-2020 Operational Programs by Member States. The second pillar of sustainability has been crucial to set the ambitious target of reducing greenhouse gas emissions by at least 20 percent compared to 1990 levels and increasing energy efficiency to 20 percent. Among the list of European Structural Investment Funds (ESIFs) co-funded by the European Commission, the European Regional Development Fund (ERDF) has a paramount role in realizing the EU targets of a more sustainable and climate-neutral economic growth during the current 2014-2020 cycle. In the course of the programming period, almost all EU Member States have devolved the ERDF, notably the Sustainable ERDF, to regional projects aimed at building a more low-carbon and resource-efficient economy, thereby complying with the strategic objectives endorsed by the Europe 2020 Strategy.

The case studies of Scotland and Northern Ireland are meaningful in the understanding of the ERDF impact on the achievement of EU climate and energy targets. As highlighted by this thesis, the Scottish and Northern Ireland Executives have largely benefited from their devolved authority, bestowed by the UK Government, on environmental and sustainable matters to utilize the EU regional funding as in a series of local initiatives.

The Scottish management of the Sustainable ERDF in low-carbon and resource-efficient projects has incentivized the attainment of two of the toughest statuary targets in the world: net zero GHG emissions by 2045 and 100 percent of national electricity consumption from renewables in 2020. As already seen, these two objectives can be interpreted not only as a significant contribution to EU climate and energy targets in the perspective of a climate-neutral and resource efficient economic growth; they also coincide with Scotland's ambitions to exploit the potential of local renewable resources to reinforce the competitive advantage of its businesses in the global market of green technologies. For these reasons, the allocation of Sustainable ERDF to Scottish sustainable sectors has given dramatic attention to renewable generation energy sources.

The thesis has tried to demonstrate that Scottish climate and energy investments through the Sustainable ERDF have yielded mixed results in the course of the 2014-2020 period. On the one hand, Scotland appears to be far from meeting its national targets of reduction in greenhouse gas emissions. Data offered by the Committee on Climate Change (CCC) and adjusted to the EU Emission Trading System (EU-ETS) show that Scotland had already missed the 'net' annual target for 2017 of 43.9 MtCO2e. The 'net' emissions reductions, adjusted to the EU ETS,, were 46.4 MtCO2e in 2017: 4 percent higher than the profile of 2016, when MtCO2e reduction was 45.2 percent, under the EU ETS, and GHG emissions

amounted to 2.5 percent. Surely, this may be the prime cause that urged the Scottish Members of Parliament (SMP) to approve the 2019 Act that lowered the target of net-zero greenhouse gas emissions from 2050 to 2045 and interim target from 2050 to 2030, thus making climate change legislation in Scotland tougher compared to other EU regions.

On the other hand, Scotland appears to be on track to reach the 100 percent of national electricity consumption, considering that renewables provided 76 percent of the electricity consumption in 2018, and the percentage is expected to continue to rise in the future. In fact, the Department for Business, Energy and Industrial Strategy (BEIS) illustrates that the renewable electricity generation capacity has been enhanced in the last two years and continues to grow in 2019, from 10.4 GW in March 2018 to 11.3 GW in the same quarter of 2019. This may be the proof that the Sustainable ERDF in the 2014-2020 period has been vital in supplying renewable energy to Scottish wide market of green resources indicative of the Scottish Government's effort to meet EU goals related to energy challenges. Nevertheless, the EU funds have not been evenly distributed across all energy sectors, a factor that may explain Scotland is lagging behind the target of ensuring a climate-neutral economy. In the opinion of the CCC, unless the Executive will strive to reduce GHG emissions in other sectors than electricity, Scotland risks not to fulfill the net-zero target set out in the 2019 Act, including the interim targets for reductions of at least 56 percent by the end of 2020, 75 percent by 2030, and 90 percent by 2040. A solution may involve the devolution of EU funds, especially the Sustainable ERDF to other energy sectors that have the potential to reduce GHG emissions and where Scotland has a competitive advantage (i.e. offshore wind energy).

Quite different is the case of Northern Ireland. In the same fashion of Scotland, the Northern Ireland Executive has resorted to the Sustainable ERDF in order to meet a series of local strategies. Specifically, the priority of fostering transit to a sustainable economy has represented an opportunity for Northern Ireland to mitigate its carbon footprint, the highest in the UK, during the 2014-2020 programming period. As reported by the Committee on Climate Change, Northern Ireland accounted for 3 percent of the UK's population and 2 percent of economic output. In 2016, GHG emissions increased to 20.6 MtCO2e in the devolved region since 1990-base year, and emissions per capita were at 11 tCO2, unlike the whole of the UK (7 tCO2 per capita). Furthermore, Northern Ireland even nowadays lags behind 20 percent of emissions reduction, compared to England and Scotland that reduced theirs by respectively 45 percent and 48 percent between the 1990 base-year and 2017.

Although Northern Ireland has registered the largest GHG emissions compared to other UK constituent entities in the last two decades, it is also true that the Sustainable ERDF has

contributed to ameliorate the generation mix of gas and renewable generation in the current EU funding period. In particular, the rate of electricity generation from coal fell by 35 percent from 2016 to 2017, while renewable electricity generation skyrocketed to 42 percent in 2017. Green projects funded by the regional development funding, such as Energy Efficiency in Social Housing Project and Belfast Rapid Transport System (BRT), have fostered the shift towards a more sustainable economy in Northern Ireland, as also proved by latest results by Northern Ireland Electricity Network (NIE) and System Operator for Northern Ireland (SONI). More specifically, electricity consumption generated from renewable generation sources was 46.8 percent on the 12-month period April 2019 to March 2020 , which represents an increase of 3.9 percentage point of total electricity consumption. This profile simply reinforces the idea that the ERDF investments in the mix of renewable generation has given a major contribution to the NI target of achieving 40 percent of electricity consumption from local renewable sources by 2020.

A second point raised by the thesis concerns the use of the Sustainable ERDF in the specific geopolitical context that involves Northern Ireland and the Republic of Ireland. It is obvious that the EU Cohesion Policy for the 2014-2020 cycle has been functional to forge a more peaceful and robust cross-border cooperation between the two parts. Green projects and initiatives covered by the INTERREG VA Program and financed by the Sustainable ERDF in the Border Region are relevant. While their prime goal is to align Northern Ireland and the Republic of Ireland to the strategic pillars of the Europe 2020 Strategy, it is possible to affirm that they have also reinforced an all-island commitment to the provisions of the Good Friday Agreement signed at the end of the 'Troubles' period, thereby calling for long-lasting political, economic, and social relations between the two parties.

A further element of peculiarity of Scotland's and Northern Ireland's cases on the role of the EU Cohesion Policy in the current programming period is directly related to the Brexit decision of the UK to leave the EU. This represents a unique case not only in the history of the European Union, but also in the management of the ESIFs in the EU CP since its launch in 1989. Under the provision of the Withdrawal Agreement signed by London and Brussels, on 1 February 2020 the UK entered a transition period that will last until the end of the year. Unless the UK-EU talks will back a free trade deal on the future political, economic, and social relations across the Channel, the consequences of a hard divorce from the EU may be catastrophic for the UK. Albeit the lack of clarity and high uncertainty that EU-UK officials have witnessed during the negotiating rounds, the European Commission has stated that all the EU funding programs, including the Cohesion Policy, will cease to be operational by the

end of the transition period.

Due to the scarcity of contemporary literature, it is quite impossible to infer the fate of the ESIFs, particularly the ERDF, in the UK and their funding for EU programs during the new 2021-2027 cycle, should London fail to secure a deal with Brussels. President of the European Commission Von der Leyen has always pointed out that a successful EU-UK free trade deal may be possible insofar as London continues to abide to common EU rules regulating business competition and safeguarding environmental sustainability (i.e. the level-playing field). Such statement can be interpreted as an invite to the UK to remain aligned with the EU's principles and strategies in order to build up a strong EU-UK relationship and collaborate for a post-Brexit renegotiation of an alternative funding that should replace the EU Structural Funds.

However, the UK Prime Minister has rejected this approach to negotiations entirely and does not appear prone to any compromise that would involve accepting the EU rules. Apart from the vague proposal of a UK Shared Prosperity Fund replacing the ESIFs, including the ERDF, no clear solution for the future management of a potential Cohesion Policy surrogate has been discussed during the negotiating talks. The most obscure point regards the geopolitical consequences, rather than the economic impact, that such stalemate in the talks may have on both Scotland and Northern Ireland. One of the most accredited theories is that the disappointing trend that negotiations are taking during the transition period may trigger call for an independence referendum to separate from the whole of the UK and either re-apply for EU Membership (Scotland) or reunite with the EU Member State of Ireland (Northern Ireland).Such theory is supported by the fact that both the two autonomous regions mostly voted to remain within the European Union at the 2016 national referendum, thus differing from the UK's overall result. Pro-EU sentiments may be justified by the relevance that Scotland and Northern Ireland have put on the Cohesion Policy, whose regulations on ESIFs funding have had the merit of reinforcing the devolution settlement and pursuing a series of ambitious regional climate and energy targets. Noteworthy is the example of Northern Ireland, which in the last decades has struggled to re-align with its Irish neighbor through green projects in the Border Region. Or the Scottish Government's ambitious strategy of expanding influence in the wide market of green technologies and renewables.

The path towards a complete rupture with the UK still appears to be challenging. Surely, the call for a new referendum has gained further support following the excellent performance of Nicola Sturgeon's Scottish National Party at the 2019 General Elections, but the majority of the Scottish electorate would not be prone to hold it now without an agreed decision that

could satisfy all the parts involved. The same can be said for Northern Ireland, where the possibility to hold an independence referendum and realize an all-island unification with the Republic of Ireland is bound to a rigid clause contained in the Good Friday Agreement (the border poll) that requires an explicit consent from the two parties. Besides, the final say on the decision to organize a referendum goes to the UK Government, whose position on the matter is manifestly adverse. However, the current turn of events exacerbated by the COVID-19 pandemic and the consequent decision of the Prime Minister Boris Johnson not to extend the transition period beyond 31 December 2020 may still have the potential to enhance Edinburgh's and Belfast's distances from London, as it has been manifest in June. Furthermore, the coronavirus crisis may compel Johnson to take a softer decision in next negotiating round in July to avoid both an accruing of separatist sentiments and the threat of a constitutional crisis.

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Department of Political Sciences

Chair of The Policy of EU Structural Funds

Summary

SUSTAINABLE DEVELOPMENT IN THE EU COHESION POLICY: A COMPARATIVE ANALYSIS OF THE ERDF OPERATIONAL PROGRAMS FOR THE 2014-2020 CYCLE BETWEEN SCOTLAND AND NORTHERN IRELAND

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Summary

This thesis aims to provide a critical discussion of the role of sustainable development in the EU Cohesion Policy, focusing upon its 'environmental sustainability' dimension. The thesis does so by incorporating into its research work also the analysis of two policy case studies, respectively Scotland and Northern Ireland. The concept of sustainability is at the very heart of a variety of EU funding programs supportive of an economic development trajectory decoupled of coal generated fuels among Member States. Nowadays, it has become one of the fundamental objectives of the EU that, with the integration of environmental policy objectives into CP, reflects the vision of a highly competitive market economy reconciling environmental responsibility. It is not a case that, in the very last years, the EU has been determined to support a more inclusive economy committed to striving for a sustainable transition to alternative sources of production. In doing so, initiatives co-financed by the European Commission have been supportive of a shift towards a more low-carbon and resource-efficient economy.

Among these, the thesis focuses on the Cohesion Policy, aka the regional development policy launched by the Delors European Commission in 1989 and delivered through the so called European Structural Investment Fund (ESIFs)[84]. In the course of cyclical five to seven-year programs, the ESIFs have co-funded investments in the less developed or declining European regions and contributed to reinforce EU solidarity and cohesion among Member States. Specifically, such investments target regions and cities in the EU that display economic, social, and territorial disparities in various sectors ranging from underdevelopment to research and innovation. In particular, the thesis illustrates the fundamental role of the European Regional Development Fund (ERDF), which in the intention of the Member States is designed to "give top priority to correcting the structural regional and regional imbalances in the European Union"[85].

In the last three cycles (2000-2020), the ERDF has envisioned direct investments in growth-enhancing sectors pursuing the new EU objectives of 'smart, sustainable and inclusive

[84] The five ESIFs are in order: 1) the European Regional Development Fund (ERDF); 2) the European Social Fund (ESF); 3) the Cohesion Fund (CF); 4) the European Agricultural Fund for Rural Development (EAFRD); and 5) the European Maritime and Fisheries Fund (EMFF)

[85] Gino Paolo Manzella, The turning points of EU Cohesion Policy, January 2009

growth'. As the thesis illustrates, such pillars have been incorporated in the financial deployment of the ERDF for the current 2014-2020 funding cycle, which more than in the past has placed a significant attention on the targets of promoting the transition towards a low-carbon economy in the EU based on climate change adaptation and promotion of resource efficiency. Environmental categories have been awarded a large proportion of direct and non-direct investments in the EU's total CP allocations for the 2014-2020 funding cycle. In particular, the concentration of ERDF onto thematic objectives (TOs) regarding investment priorities in the field of environmental protection and resource efficiency has helped Member States converge the pursuit of sustainable development and environmental integration into a common economic strategy.

The interplay of sustainable development and environmental integration is the core of the 2014-2020 CP. On the one end, the concept of sustainability-based growth brings to mind the definition of sustainable development that the United Nations highlighted in the so-called Brundtland Report in the occasion of the 1987 World Commission on Environment and Development. That is, the attainment of a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[86]. To be more precise, it means that as long as consumption that outstrips minimum satisfaction of human needs remains within the boundaries of ecological potential, thereby taking into account the scarcity of exhaustible natural resources, generations to come are more likely to have the same benefits as previous ones.

On the other one, the concept of environmental integration entails the promotion of an ecological society attentive to the issue of climate change and environmental sustainability. In the words of the European Commission, it is "the incorporation of environmental requirements into all stages of the preparation of and implementation of the Cohesion Policy…with a view to promoting sustainable development"[87]. Therefore, it is imperative for Member States to integrate environmental aspects in 2014-2020 Operational Programs (OPs)[88] in a cross-cutting manner that acknowledges the policy of resource efficiency as

[86] UNWCED, Our Common Future report, 1987, https://www.un.org/ga/search/view_doc.asp?symbol=A/42/427&Lang=E

[87] Ref. Treaty on the Functioning of the European Union (TFEU), Article 11 (ex. Article 6 TEC), 26 October 2012, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

[88] Operational Programs (OPs) are detailed plans that set out how money from the ESIF will be spent by Member States during the programming period. The ERDF OP 2014-2020 describes strategies for contributing to the delivery of the EU's Europe 2020 strategy for a smart, sustainable and inclusive growth, as well as achieving economic, social and territorial cohesion. Other OPs pursue additional objectives. For example, the European Social Fund (ESF) OP 2014-2020 defines strategies for promoting employment and social inclusion by investing in Europe's people and their skills.

crucial to the success of a long-term sustainable development strategy. Moreover, funding resources dealing with ecological issues should be taken into consideration in all aspects of CP, also within non-environmental programs. This explains why most of the current strategies co-funded by Brussels in the ongoing 2014-2020 policy cycle have allocated ESIF, notably ERDF, resources to good economic governance that place paramount emphasis on the realization of sustainable and ecological opportunities for all Member States.

However, the real focus of the 2014-2020 programming period that this thesis addresses is the relation between ERDF funded projects and the three pillars of smart, sustainable and inclusive growth contained in the Europe 2020 Strategy. More clearly, it investigates how the inclusion of these strategic objectives has contributed to outline EU regional projects aimed at building a more low-carbon and resource-efficient economy. Such innovation in defining the EU targets for a more sustainable and climate-neutral economic growth in the current 2014-2020 cycle is the result of a wide range of issues that exposed structural weaknesses in regional and national economies in Europe.

Previous EU programming cycles used to recognize the concepts of knowledge and inclusion as the only drivers of economic growth and development in a global economy, while sustainable development was considered by Member States less indispensible in order to transform the EU into one of the most dominant economies in the global market. Some recommendations set by the European Commission to advance environmental policies were enlisted in the 2000 Lisbon Strategy, though its fragile method of coordination and inadequate binding targets resulted in a lack of dedicated budget and enforcement mechanism. However, the 2008 global financial crisis and the subsequent 2011 Eurozone crisis represented a wake-up call that exposed the EU to the challenges and risks of globalization that have jeopardized years of economic and social prosperity. It was in that moment that EU authorities shifted their attention towards long-range growth priorities, other than technological knowledge and inclusion, with a multilateral view to promote environmental integration and sustainable development. Environment oriented regulations have become now fully integrated in the implementation of the 2014-2020 CP and have reinforced Member States' commitment to long-term sustainable development.

The 2020 Strategy launched in 2010 to amend the structural flaws of the Lisbon Strategy pursues three mutually reinforcing and interrelated priorities- smart, sustainable and inclusive growth- that have been embedded in the 2014-2020 Operational Programs by Member States.

In particular, the second pillar of sustainability sets the ambitious target of reducing greenhouse gas emissions by at least 20 percent compared to 1990 levels and increasing energy efficiency to 20 percent[89]. This explains further why the ERDF, among the list of ESIFs co-funded by the European Commission, has a paramount role in realizing the EU targets of a more sustainable and climate-neutral economic growth during the current 2014-2020 cycle. In the course of the programming period, almost all EU Member States have devolved the ERDF, notably the Sustainable ERDF[90], to regional projects aimed at building a more low-carbon and resource-efficient economy, thereby complying with the strategic objectives endorsed by the Europe 2020 Strategy. In order to accomplish the objective of developing a smarter, more sustainable and inclusive growth across the EU, the Strategy uses a number of flagship initiatives. One of these, the Resource Efficient Europe initiative supports a shift towards an economy based on resource efficiency and low-carbon policies and prioritizing the joining of ecological innovation and economic competitiveness. In turn, the 2014-2020 OPs use such initiative to ease allocations of environmental and sustainable development actions to Member States' regions.

Therefore, it is not a coincidence that almost all EU regions have largely resorted to the ERDF, notably the Sustainable ERDF, to deliver green projects emphasizing a more climate-neutral economy and an efficient use of resources. Among these, the thesis investigates the role of the 2014-2020 CP in the implementation of EU strategic objectives for a smarter, more sustainable and inclusive growth in the two autonomous entities of Scotland and Northern Ireland. The case studies of the two devolved authorities are meaningful in the understanding of the ERDF impact on the achievement of EU climate and energy targets. Owing to the devolution settlement granted by the UK Government, the Scottish and Northern Ireland Executives have largely benefited from their authority to utilize the EU regional funding in a series of local initiatives on environmental protection and sustainability oriented growth.

The Scottish ERDF Operational Program foresaw the distribution of EUR 476 million from the ERDF to Scottish sub-regions in the 2014-2020 period. According to the Nomenclature of Territorial Units for Statistics (NUTS)[91], Scotland follows a NUTS 2 scheme of allocation in

[89] Europe 2020- A European strategy for smart, sustainable and inclusive growth, European Commission, 3 March 2010, p.9

[90] A part of the ERDF that prioritizes investments devolved to sustainable development

[91] NUTS 1 identifies geographic groups of regions within Member States; NUTS 2 basic regions for the application of regional policies; and NUTS 3 sub-regions (i.e. Counties or provinces)

the current cycle. More precisely, EUR 98.9 million and EUR 41.6 million are allocated respectively to low-carbon and resource efficiency sectors in the most-developed[92] sub-regions (i.e. the Lowlands and Uplands), while the transition[93] sub-regions (i.e. the Highlands & Islands) received EUR 25.9 million and EUR 11.6 million for the same profile.

The Scottish management of the Sustainable ERDF in low-carbon and resource-efficient projects (e.g. the Low Carbon Infrastructure Transition Program, the Low Carbon Travel and Transport Program, and the Resource Efficient Circular Economy) has incentivized the attainment of two of the toughest statuary targets in the world set by the Scottish Government. These are the Scottish achievement of net zero greenhouse gas (GHG) emissions by 2045 and 100 percent of national electricity consumption from renewables in 2020. The two objectives can be interpreted as a significant contribution to EU climate and energy targets in the perspective of a climate-neutral and resource efficient economic growth, as referred to by the Europe 2020 Strategy. In addition, they coincide with Scotland's ambitions to exploit the potential of local renewable resources to reinforce the competitive advantage of its businesses in the global market of green technologies. For these reasons, the allocation of Sustainable ERDF to Scottish sustainable sectors has given dramatic attention to renewable generation energy sources, also considering that the devolved administration hosts a quarter of all green resources in the Northern region of Europe.

The thesis demonstrates that Scottish climate and energy investments through the Sustainable ERDF have yielded mixed results in the course of the 2014-2020 period. Surprisingly, Scotland appears to be far from meeting its national targets of reduction in greenhouse gas emissions. At a first glance, the Scottish Energy Strategy appears to be a significant incentive to accomplish the above-mentioned strategies. However, data offered by the Committee on Climate Change (CCC) and adjusted to the EU Emission Trading System (EU-ETS)[94] show that Scotland had already missed the 'net' annual target for 2017 of 43.9 MtCO2e. The 'net' emissions reductions, adjusted to the EU ETS, were 46.4 MtCO2e in 2017: 4 percent higher than the profile of 2016, when MtCO2e reduction was 45.2 percent, under the EU ETS, and

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[92] Regions with GDP per capita of more than 90 percent of the EU average

[93] Regions with GDP per capita between 75 and 90 percent of the EU average

[94] A system that covers around 45 percent of the EU's greenhouse gas emissions and operates in all EU countries, including Iceland, Liechtenstein and Norway, through a "cap and trade" principle: EU and EFTA companies may buy and trade a limited number of emission allowances on condition that emissions are cut where it costs least to do so. If a company is able to cover and reduce its emissions by surrendering a part of allowances, it can maintain the spare allowances to cover its future needs, otherwise another company that is short of allowances may buy them

GHG emissions amounted to 2.5 percent. Surely, this may be the prime cause that urged the Scottish Members of Parliament (SMP) to approve the 2019 Act that lowered the target of net-zero greenhouse gas emissions from 2050 to 2045 and interim target from 2050 to 2030, thus making climate change legislation in Scotland tougher compared to other EU regions.

By contrast, Scotland appears to be on track to reach the 100 percent of national electricity consumption, considering that renewables provided 76 percent of the electricity consumption in 2018, and the percentage is expected to continue to rise in the future. In fact, the Department for Business, Energy and Industrial Strategy (BEIS) [95] illustrates that the renewable electricity generation capacity has been enhanced in the last two years and continues to grow in 2019, from 10.4 GW in March 2018 to 11.3 GW in the same quarter of 2019. To be clearer, the number of renewables towards the total volume of electricity generated has tripled from 18.5 percent to 76 percent in 2018. This may be the proof that the Sustainable ERDF in the 2014-2020 period has been vital in supplying renewable energy to Scottish wide market of green resources indicative of the Scottish Government's effort to meet EU goals related to energy challenges. Nevertheless, the EU funds have not been evenly distributed across all energy sectors, a factor that may explain Scotland lagging behind the target of ensuring a climate-neutral economy. In the opinion of the CCC, unless the Executive will strive to reduce GHG emissions in other sectors than electricity, Scotland risks not to fulfill the net-zero target set out in the 2019 Act, including the interim targets for reductions of at least 56 percent by the end of 2020, 75 percent by 2030, and 90 percent by 2040. A solution may involve the devolution of EU funds, especially the Sustainable ERDF to other energy sectors that have the potential to reduce GHG emissions and where Scotland has a competitive advantage. Some initiatives include the installation of a deep geothermal single well (DGSW) system to generate heat from thermal energy and the implementation of the Beatrice Offshore Wind Farm project investing in offshore wind energy.

The case of Northern Ireland is also remarkable, yet different from Scotland. In addition to being the smallest and less populated constituent entity in the UK[96], Northern Ireland presents the smallest economy of all the regions within the country, with a GDP of EUR 50.8 billion corresponding to 2.1 percent of the 2017[97] UK total. Furthermore, the autonomous region

[95] Scotland's Economy, Renewable Electricity at Record Levels, Scottish Government Blogs, https://blogs.gov.scot/scotlands-economy/2019/06/27/renewable-electricity-at-record-levels/

[96] 1.87 million people according to Eurostat's 2019 data. Welsh population was 3.1 million in 2018 (Eurostat's 2019 data), whereas Scotland had a population of 5.4 million in 2017 (Eurostat's 2018 data).

[97] Eurostat, European Commission webpage, 2019

accounts for the largest greenhouse gas emissions in the whole UK territory, while energy consumption in certain economic sectors is still generated by fossil fuels. For these reasons, the ERDF Operational Program for the 2014-2020 cycle envisages the main allocation of regional funding to increase competitiveness in the R&D sector and technology transfer to Northern Ireland SMEs. In addition, the OP envisions the deployment of EUR 47 million to promote a more low-carbon economy and resource transition in all the transition sub-regions that cover the whole NUTS territorial distribution.

Similarly to the Scottish Government, the Northern Ireland Executive has resorted to the Sustainable ERDF in order to meet a series of local strategies. Specifically, the priority of fostering transit to a sustainable economy has represented an opportunity for Northern Ireland to mitigate its carbon footprint, the highest in the UK, during the 2014-2020 programming period. As reported by the Committee on Climate Change, Northern Ireland accounted for 3 percent of the UK's population and 2 percent of economic output. In 2016, GHG emissions increased to 20.6 MtCO2e in the devolved region since 1990-base year, and emissions per capita were at 11 tCO2, unlike the whole of the UK (7 tCO2 per capita). Furthermore, Northern Ireland even nowadays lags behind 20 percent of emissions reduction, compared to England and Scotland that reduced theirs by respectively 45 percent and 48 percent between the 1990 base-year and 2017.

Northern Ireland has registered the largest GHG emissions compared to other UK constituent entities in the last two decades, but it is also true that the Sustainable ERDF has contributed to ameliorate the generation mix of gas and renewable generation in the current EU funding period. In particular, the rate of electricity generation from coal fell by 35 percent from 2016 to 2017, while renewable electricity generation skyrocketed to 42 percent in 2017. Green projects funded by the regional development funding, such as Energy Efficiency in Social Housing Project and Belfast Rapid Transport System (BRT), have fostered the shift towards a more sustainable economy in Northern Ireland, as also proved by latest results by Northern Ireland Electricity Network (NIE) and System Operator for Northern Ireland (SONI). More specifically, electricity consumption generated from renewable generation sources was 46.8 percent on the 12-month period April 2019 to March 2020 , which represents an increase of 3.9 percentage point of total electricity consumption. This profile simply reinforces the idea that the ERDF investments in the mix of renewable generation has given a major contribution to the NI target of achieving 40 percent of electricity consumption from local renewable sources by 2020.

A second point raised by the thesis concerns the use of the Sustainable ERDF in the specific

geopolitical context that involves Northern Ireland and the Republic of Ireland. The EU CP for the 2014-2020 cycle has been functional to forge a more peaceful and robust cross-border cooperation between the two parts. The green projects and initiatives covered by the INTERREG VA Program and financed by the Sustainable ERDF in the Border Region in the course of the ongoing programming period are relevant. While their prime goal is to align Northern Ireland and the Republic of Ireland to the strategic pillars of the Europe 2020 Strategy, it is possible to affirm that they have also reinforced an all-island commitment to the provisions of the Good Friday Agreement signed at the end of the 'Troubles'[98] period, thereby calling for long-lasting political, economic, and social relations between the two parties. Hence, it is possible to affirm that the INTERREG VA Program paired with the use of the Sustainable ERDF has had a positive impact on the cross-border cooperation between Northern Ireland and Ireland for the 2014-2020 cycle.

A further element of peculiarity that makes Scotland's and Northern Ireland's cases on the role of the EU CP in the current programming period meaningful is directly related to the Brexit decision of the UK to leave the EU. This represents a unique case not only in the history of the EU, but also in the management of the ESIFs in the EU CP since its launch in 1989. Under the provision of the Withdrawal Agreement signed by London and Brussels, on 1 February 2020 the UK entered a transition period that will last until the end of the year. Unless the UK-EU talks will back a free trade deal on the future political, economic, and social relations across the Channel, the consequences of a hard divorce from the EU may be catastrophic for the UK. Albeit the lack of clarity and high uncertainty that EU-UK officials have witnessed during the negotiating rounds, the European Commission has stated that all the EU funding programs, including the CP, will cease to be operational by the end of the transition period.

Due to the scarcity of contemporary literature, it is quite impossible to infer the fate of the ESIFs, particularly the ERDF, in the UK and their funding for EU programs during the new 2021-2027 cycle, should London fail to secure a deal with Brussels. President of the European Commission Von der Leyen has always pointed out that a successful EU-UK free trade deal may be possible insofar as London continues to abide to common EU rules regulating business competition and safeguarding environmental. In her words, "without a level playing field on environment, labor, taxation and state aid, you cannot have the highest

[98] The term refers to the continuous episodes of inter-community violence that ended with the signature of the Belfast Agreement (or Good Friday Agreement) of 1998

quality access to the world's largest single market"[99] Such statement can be interpreted as an invite to the UK to remain aligned with the EU's principles and strategies in order to build up a strong EU-UK relationship and collaborate for a post-Brexit renegotiation of an alternative funding that should replace the EU Structural Funds.

However, the UK Prime Minister has rejected this approach to negotiations entirely and does not appear prone to any compromise that would involve accepting the EU rules. Apart from the vague proposal of a UK Shared Prosperity Fund replacing the ESIFs, including the ERDF, no clear solution for the future management of a potential CP surrogate has been discussed during the negotiating talks. Concern for a potential no-deal scenario is, therefore, high. Recent projections by the Conference of Peripheral Maritime Regions (CPMR)[100] have inferred that a hard Brexit not supported by an agreement with the EU replacing the ESIFs would be disastrous for the UK regions where regional disparities are persistent (Cornwall & Isles of Scilly, West Wales and the Valleys) or aggravated (South Yorkshire, Tees Valley & Durham and Lincolnshire).

The most obscure point regards the geopolitical consequences, rather than the economic impact, that such stalemate in the talks may have on both Scotland and Northern Ireland. One of the most accredited theories is that the disappointing trend that negotiations are taking during the transition period may trigger call for an independence referendum to separate from the whole of the UK and either re-apply for EU Membership (Scotland) or reunite with the EU Member State of Ireland (Northern Ireland).Such theory is supported by the fact that both the two autonomous regions mostly voted to remain within the EU at the 2016 national referendum (respectively 62 percent and 55 percent), thus differing from the UK's overall stance. Pro-EU sentiments may be justified by the relevance that Scotland and Northern Ireland have put on the CP, whose regulations on ESIFs funding have had the merit of reinforcing the devolution settlement and pursuing a series of ambitious regional climate and energy targets. Noteworthy is the example of Northern Ireland, which in the last decades has struggled to re-align with its Irish neighbor through green projects in the Border Region. Or the Scottish Government's ambitious strategy of expanding influence in the wide market of green technologies and renewables.

The path towards a complete rupture with the UK still appears to be challenging. Surely, the call for a new referendum has gained further support following the excellent performance of

[99] Chris Morris, Brexit: What is a level playing field?, BBC News, 21 January 2020, https://www.bbc.com/news/51180282

[100] An EU organization created in 1973 with the purpose of ensuring a strong territorial cohesion throughout European maritime areas

Nicola Sturgeon's Scottish National Party at the 2019 General Elections, but the majority of the Scottish electorate would not be prone to hold it now without an agreed decision that could satisfy all the parts involved. In fact, a recent survey by Ipsos MORI for BBC Scotland has suggested that half of the Scottish population is unanimous that a second referendum, following that of 2014, should take place, but within two or more years.

The same can be said for Northern Ireland, where the controversial matter of the Irish backstop risked to impair pre-Brexit negotiations between the UK Government and the European Commission. The possibility to hold an independence referendum and realize an all-island unification with the Republic of Ireland is bound to a rigid clause contained in the Good Friday Agreement (the border poll) that requires an explicit consent from the two parties. Besides, the final say on the decision to organize a referendum goes to the UK Government, whose position on the matter is manifestly adverse. However, the current turn of events exacerbated by the COVID-19 pandemic and the consequent decision of the Prime Minister Boris Johnson not to extend the transition period beyond 31 December 2020 may still have the potential to enhance Edinburgh's and Belfast's distances from London, as it has been manifest in June. The shift on the EU Political agenda on a recovery plan aimed at avoiding the damage of a short-term European crisis due to the pandemic has in part contributed to slow down talks between the UK Government and the EU Commission. The Coronavirus crisis may compel Johnson to take a softer decision in the next negotiating round in July to avoid both an accruing of Scottish and Irish separatist sentiments and the threat of a constitutional crisis that could emerge should a significant agreement not be reached by the end of the transition period.

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