CHAPTER 7

Environmental Impact Investments in Europe: Where Are We Headed?

Giuliana Birindelli, Annarita Trotta, Helen Chiappini, and Alessandro Rizzello

7.1 Introduction

Environmental investing is high on the European public agenda.[1] The European Union (EU) is experiencing a funding gap in meeting both the goals of the 2015 Paris Agreement on climate change and the goals of the United Nations 2030 Agenda for Sustainable Development. The funding gap is estimated at approximately EUR 180 billion per year (European

G. Birindelli • H. Chiappini (✉)
G. d'Annunzio University of Chieti-Pescara, Pescara, Italy
e-mail: giuliana.birindelli@unich.it; helen.chiappini@unich.it

A. Trotta • A. Rizzello
Department of Law, Economics and Sociology, University "Magna Græcia" of Cantanzaro, Catanzaro, Italy
e-mail: trotta@unicz.it; rizzello@unicz.it

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Commission 2016a), and the resources needed to fill the gap are expected to come from the private sector because the European balance sheet has already committed public resources for the scope (European Commission 2018a).

Thus, since 2016, the European Commission has identified the need to increase private environmental investments and has promoted several expert and technical groups to draft a road map to foster private investments in sustainable environmental activities. The process is still ongoing; however, the European Commission (2018a) has drafted three regulatory proposals on sustainable finance aimed at introducing a taxonomy qualifying an activity as environmentally sustainable, disclosing sustainable investment and environmental risks, and adopting an environmental benchmark with the purpose of evaluating an investment portfolio under climate targets. These proposals may produce extensive changes in the sustainable finance panorama, if definitely approved.

The financing of environmental issues has also captured large interest among scholars and practitioners, who have explored the field under several umbrella terms: green finance (e.g., Lindenberg 2014), environmental finance (e.g., Anderson 2016), carbon finance (e.g., Labatt and White 2011), climate finance (e.g., Buchner et al. 2013), conservation finance (e.g., Huwyler et al. 2016; Kay 2018), and environmental impact investments (e.g., Harold et al. 2015; European Commission 2016b).

The term "environmental impact investments" refers to an investment that intentionally generates a measurable environmental impact and a financial return (Global Impact Investments Network—GIIN 2016). The features of intentionality and impact measurement generally distinguish impact investments from other sustainable investments, such as responsible investments, green finance, and environmental finance.

Impact investing may occur through a set of financial models involving many different asset classes, among them equity and debt (Social Impact Investments Task force—SIIT 2014; Höchstädter and Scheck 2014). Furthermore, impact investing may be realised through a set of traditional financial models (e.g., bonds or investment funds) or innovative financial models (e.g., crowdfunding and impact bonds).

Academic contributions have addressed impact investing in environmental projects through the analysis of single case studies (Pascal et al. 2018; McFarland 2018; Kish and Fairbairn 2018) or environmental subsectors (Harold et al. 2015; Carè and De Lisa 2019; Horster 2018; Mangram 2018; McCallum and Viviers 2018). No study has analysed environmental impact investments in Europe in depth.

Thus, given both the gap in the impact investing literature and the regulatory momentum in Europe, the aim of this chapter is to explore the environmental impact investment panorama in Europe in light of the new regulatory process on sustainable finance and of worldwide impact investing practices. Thus, the chapter aims to propose a holistic view of environmental impact investments in Europe, assessing the theme from an academic and regulatory perspective and from a practical perspective by highlighting potentialities and challenges.

The methodology adopted is a multiple case study analysis. The data are collected from publicly available reports and documents.

The chapter contributes to the impact investment literature by showing that the terms sustainable finance and impact investing are increasing their points of contact, especially considering the measurement aspect. However, in Europe, some financial models for environmental impact investments remain at an infant stage. Specifically, innovative financial models such as environmental impact bonds (EIBs) are still in the design stage, while they have been developed in other jurisdictions (e.g., the United States) since 2016. Thus, useful policy recommendations may be drafted because of the need to foster the implementation of innovative impact models, especially those based on public-private partnerships, such as environmental impact bonds.

The chapter is structured as follows. Section 7.2 assesses the academic panorama on environmental investments, focusing on the (un)defined perimeter and on the main financial models. Section 7.3 analyses the first attempt to regulate sustainable investments in the European Union, focusing on the main regulatory steps and on the drafted definition of sustainable finance. Section 7.4 defines the research design, while Sect. 7.5 presents and discusses case studies of environmental impact investments in Europe. Finally, Sect. 7.6 concludes.

7.2 The Panorama of Environmental Impact Investing: Definition and Financial Models

The environmental (and social) impact investment market has developed for many years in the absence of a regulatory definition. Thus, several definitions have been established by practitioners and academics since the label "impact investments" was coined at the Rockefeller Centre in 2007 (for more details, see, e.g., Höchstädter and Scheck 2014; Rizzello et al. 2016; Chiappini 2017). Among the most relevant definitions of impact investments are some provided by international bodies such as the GIIN (2016), the Social Impact Investments Taskforce promoted by the G8 countries (SIIT 2014), and the Organisation for Economic Co-operation and Development (Wilson et al. 2015). Substantial definitional alignment has been achieved over the years in terms of the main impact investment features: intentionality, measurability of social impact, and a financial return in line with or below the market rate of return of similar investments (Höchstädter and Scheck 2014). Recently, the GIIN (2019a, p. 1) has refined "the fundamental tenets" of impact investments, on the basis of the expectations of worldwide impact investors, to include the following aspects:

- the definition of a transparent social and financial goal and the articulation of the investment goals in the investment thesis and in the strategies used to achieve the goal;
- the setup of qualitative and quantitative indicators to evaluate the achieved impacts against target impacts; and
- the identification of potential risks while implementing the impact goals and the development of mitigation plans.

These elements contribute to strengthening the impact investing perimeter.

Impact investments are realised through investments in several asset classes (Drexler and Noble 2013) and financial models (SIIT 2014). However, the literature has not yet extensively investigated environmental impact models and has not identified a specific taxonomy of impact investment models that is useful for environmental purposes.

In terms of the literature on environmental investments, it is mainly focused on explorative analyses limited to single case studies (Banga 2019; Pascal et al. 2018; McFarland 2018; Kish and Fairbairn 2018) and environmental sub-sectors (Harold et al. 2015; Horster 2018; Mangram 2018; McCallum and Viviers 2018). Only a few studies have focused on European countries (e.g., European Commission 2016b; Migliorelli and Dessertine 2017). The European Commission (2016b), for instance, has recognised both the pivotal role of environmental impact investments and the marginal diffusion of this type of investment.

In terms of model taxonomy, it appears clear that all the financial models generally used in the impact investing field may be used to finance environmental impact projects and/or organisations. Financial models used in the impact investing field present more or less innovative characteristics and different stages of diffusion (Italian National Advisory Board on G8 Taskforce 2014; Global Steering Group for Impact Investment 2018). For instance, microcredit and lending can be considered mature models, while bonds and impact investment funds are considered well-developed models. Impact bonds and crowdfunding appear to be the most innovative impact models.

Similarly, in the environmental panorama, there are more or less innovative financial models, such as environmental/green bonds, environmental impact funds, equity crowdfunding, and EIBs.

Bonds allow investors to finance environmental challenges through debt. The global panorama offers investments in "environmentally aligned" bonds and in "green" bonds. Green bonds can be distinguished from environmentally aligned bonds because the issuers of a green bond must identify a precise green bond framework in advance of issuance, and then they must provide a report about the resulting environmental impact (Shishlov et al. 2016). The International Capital Market Association (ICMA) developed in June 2018 a set of guidelines for green bond issuance: the Green Bond Principles. They aim to "promote integrity to the green bond market through guidelines that recommend transparency, disclosure and reporting" (ICMA 2018). The Climate Bonds Initiative (CBI) identified in 2018 a "universe" of USD 1.45 trillion of climate-aligned bonds, including USD 389 billion in green bonds (CBI 2019).

Investment funds are collective investment vehicles that pool capital from many investors with the aim of channelling them towards several green projects or companies (Chiappini 2017). There are over 400 impact investment funds listed in ImpactBase.[2] The funds are invested across several asset classes, sectors, and geographies. Several impact funds target environmental impact, while others target both social and environmental projects. Specifically, 140 funds target environmental themes, investing globally (26 funds) or in developing (51 funds) or developed countries (61 funds) (ImpactBase 2019b).

Box 7.1 presents two cases of traditional environmental impact investments. The most innovative financial models in the environmental impact investment panorama include crowdfunding and environmental impact bonds. Equity crowdfunding allows investors to finance investments in public enterprises that are highly involved in environmental projects. Although the number of publicly listed impact enterprises is currently quite small and restricted to few specialised market platforms, such as London's Social Stock Exchange, impact investors demonstrated greater ability to find liquid trading opportunities in impact enterprises through impact-focused, equity-crowdfunding platforms. A relevant case may be represented by the issue, in 2014, of GBP 2 million of Triodos Renewables shares through the crowdfunding platform Trillion. Despite the relevance of the topic, empirical evidence on green crowdfunding is still limited (Adhami et al. 2017), and no evidence is available about the number of environmentally focused crowdfunding platforms. The newest and the most innovative (environmental) impact model is represented by the EIB. In a nutshell, EIBs are financial models built on pay-for-performance contracts. Specifically, impact investors provide upfront capital to start a project able to generate environmentally measurable outcomes. In such a financial scheme, initial impact investments will be triggered only once pre-established impact performance targets are achieved. For these reasons, the measurability of the pre-defined outcomes is an essential requisite of such an impact investing tool. There is only one EIB case registered in the Social Finance Social Impact Bond online database,[3] and this was issued in Washington, DC. Box 7.2 reports cases of innovative impact models.

Box 7.1 Traditional Financial Models for Environmental Impact Investments

The World Bank Green Bond

The World Bank is a pioneer in the green bond market. Since the first issue in 2008, the World Bank has issued the equivalent of almost USD 13 billion in green bonds in 20 currencies through 150 transactions for both institutional and retail investors around the world. Since then, the World Bank's green bond framework (including the issuance, impact reporting, and process phases) has pioneered the development of the green bond market and expansion. As of June 30, 2018, World Bank green bonds had financed 91 eligible projects, with the greatest regional exposure in East Asia and the Pacific Region (38% of the total commitments), for a total of USD 15.4 million in commitments (World Bank 2018). The World Bank provides detailed reporting about the impacts of every project on its website as well as in the annual green bond impact report. Indeed, one of the key attractions of green bonds is the transparency and the verification processes that underpin these bonds. Such disclosures provide investors with assurance that their money is being invested in assets that provide environmental benefits.

The Essex EMEF Fund

The Edwards Mother Earth Foundation (EMEF) was started in 1997 by Jane and Robert Edwards as a financial vehicle through which they could promote a healthy earth. In 2014, the EMEF's mission evolved from what the foundation called "checkbook philanthropy" to a singular focus on impact investing for climate change. Equipped with a USD 35 million portfolio, EMEF is a true pioneer in this pursuit by dedicating, since 2015, 100% of its investable assets to impact investments. After this mindset change, EMEF started investing for impact with three different asset managers—Aperio Group, Essex, and Seattle Northwest. With Essex, EMEF invests in more than 40 companies that enable greater natural resource and energy efficiency—while also providing positive returns for investors. Specifically, the fund impact strategy is centred on public companies with an appealing thematic focus. As regards financial performance, from June 2015 to June 2018, the fund obtained an annualised return of 1.90% and cumulative returns of 5.90%.

Source: Author's elaboration

Box 7.2 Innovative Financial Models for Environmental Impact Investments

Triodos Renewable Share

The issue price was GBP 2.28 per share, with a minimum amount of GBP 50.16 or 22 shares. The share issue was successfully underwritten by 1,048 investors for a total of GBP 3.5 million in shares sold (the tipping point was fixed at GBP 2 million). With regard to environmental impact, the platform evidenced that an investment of GBP 3,250 in Triodos Renewable can produce (a) greenhouse gas emission savings equivalent to the emissions produced in a lifetime by one person and (b) clean electricity to power four homes.

The District of Columbia Water Environmental Impact Bond

In 2016, the DC Water and Sewer Authority started the world's first environmental impact bond (EIB) with the aim of funding the construction of green infrastructure to manage stormwater runoff and improve the District's water quality. Specifically, the EIB funded the installation of 20 equivalent impervious acres of green infrastructure designed to mimic natural processes to absorb and slow surges of storm water during periods of heavy rainfall in the Rock Creek sewer shed of the District of Columbia. The environmental outcome selected for the contract is the percentage reduction in storm water runoff per acre. The EIB is expected to reduce storm water runoff per acre by anywhere from a minimum of 18.6% to a top performance of 41.3%. The investments (USD 25 million) were raised (differently from a classical Social Impact Bond funding scheme) by means of a municipal bond and were provided from the Goldman Sachs Urban Investment Group and Calvert Foundation. Throughout the five years of the bond, investors will receive a semi-annual coupon payment of 3.43%. At the end of the project, investors will receive a contingent payment based on the effectiveness of the green infrastructure in reducing stormwater runoff only in case of a reduction over 41.3%. In the case of EIB under-performance (percentage of reduction less than 18.6), investors owe a risk share payment to DC Water of USD 3.3 million.

Source: Author's elaboration.

7.3 Environmental Impact Investments in Europe: An Overview

An initial attempt to regulate sustainable finance has been in progress in the European Union since 2016, when the European Commission recognised the need to close the gap between investments needed to meet climate targets and current investments in the environmental sector (Technical Expert Group on Sustainable Finance—TEG 2018). A clear perimeter of sustainable finance is recognised to limit the phenomena of sustainable-washing[4] to increase investor protection as well as the funding of sustainable initiatives. This section traces the fundamental phases of the European regulatory process and identifies the main aspects of the current regulatory proposals.

7.3.1 The (Ongoing) Regulatory Process

To meet the goals of the Paris Agreement on climate change and the Sustainable Development Goals of the 2030 United Nation Agenda, the European Commission promoted the establishment of the High-Level Expert Group (HLEG) on Sustainable Finance in December 2016 with the purpose of identifying an overall European strategy. The HLEG (2018) pointed out some policy recommendations to foster the growth of the sustainable finance market in January 2018.[5] Following the HLEG's (2018) guidelines, the European Commission has published The Action Plan (European Commission 2018a) in March 2018 that included some regulatory proposals on sustainable finance. Specifically, the proposals referred to the introduction of a taxonomy qualifying an activity as environmentally sustainable, the disclosure on sustainable investments and environmental risks, and the adoption of an environmental benchmark with the purpose of evaluating an investment portfolio under climate targets. The regulatory process is still ongoing. In fact, the European Commission, after the release of the "Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investments" (European Commission 2018b), established the TEG in July 2018 with the aim of drafting a more exhaustive taxonomy of sustainable finance on the basis of stakeholder consultation. The final report was published in June 2019; however, the TEG will continue the work on the taxonomy until late December, when the final report will be submitted to the European Commission (TEG

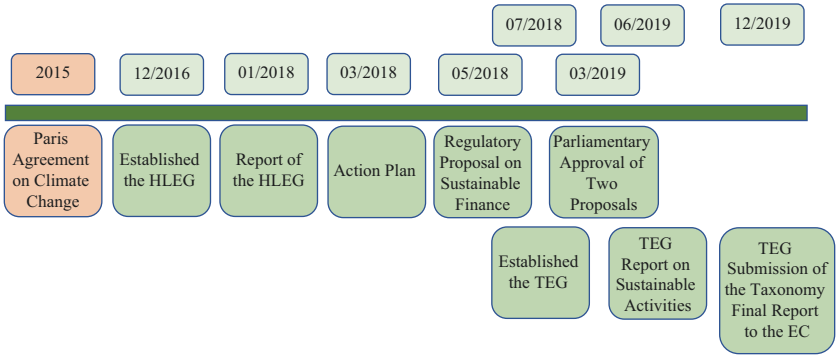

Fig. 7.1 The ongoing regulatory process of sustainable finance in Europe. (Source: Authors' elaboration)

2019). The other two lines of the European Commission's regulatory proposals concerning disclosure in sustainable investments and the adoption of an environmental benchmark have, in turn, been approved with some amendments by the European Parliament on March 28, 2019 (European Parliament 2019). Figure 7.1 summarises the regulatory process.

7.3.2 The Designed Perimeter of Sustainable Finance

The proposed perimeter of sustainable finance (still partially undefined) is based, first of all, on the determination of whether an economic activity is (or is not) environmentally sustainable. The European Commission (2018b) set a general framework based on the environmental relevance of the economic activity performed by a specific company. If a company performs an economic activity that contributes to environmental objectives—for example, climate change mitigation—the investment in that company can be considered a sustainable investment. By contrast, when a company performs both sustainable activities and other activities, only assets employed to finance environmentally sustainable activity can be considered sustainable investments.

Figure 7.2 summarises the proposed framework of sustainable investments in the European Union.

The European Commission (2018c) also set several information requirements for intermediaries that provide sustainable instruments.

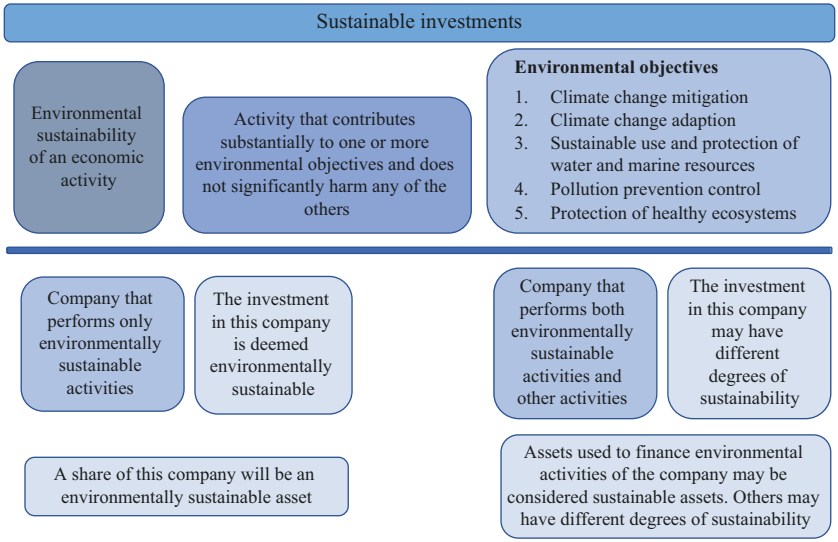

Fig. 7.2 Sustainable investments in the European Commission's proposal. (Source: Authors' elaboration based on European Commission (2018b))

According to the European proposal, a list of binding information is needed in the different phases of contracts (pre-contractual phase and post-contractual phase) and should also be available on the intermediary's website. These information prescriptions regard, for the first time, the measurability of social impact. Article 5, on pre-contractual information, requires that if a financial product has a sustainable aim, it should disclose the targeted sustainable aim (also expressed by an index) and how the aim will be achieved (European Commission 2018c). Post-contractual information must report "(a) the overall sustainability-related impact by the financial product by means of relevant sustainability indicators, (b) where an index has been designated as a reference benchmark, a comparison between the overall impact of the financial product with the designated index and a broad market index in terms of weighting, constituents and sustainability indicators" (p. 25). Moreover, the following information must be included on the website: "(a) a description of the sustainable investment target and (b) information on the methodologies used to assess, measure and monitor the impact of the sustainable investments selected for the financial product, including its data sources, screening

criteria for the underlying assets and the relevant sustainability indicators used to measure the overall sustainable impact of the financial product" (p. 24).

7.4 Research Design and Methodological Approach

This chapter investigates the environmental impact investment landscape in light of the European regulatory view on sustainable finance using a combination of existing literature and selected case studies. Given the nature of our study, a qualitative approach based on case study analysis appears adequate (Yin 2017).

Currently, the European regulatory process is being completed, but it seems to be going in the direction of environmental impact investing. In addition, the European environmental investment scenario is very promising, although it appears to be characterised by numerous innovative, yet incipient, financial models. Therefore, it would seem that an overview of relevant best practices and initiatives of "environmental impact investments" is ideal for facilitating the development of these financial approaches.

In this vein, our exploration could lead to useful suggestions for regulators and practitioners. The literature overview is able to provide a basis for mapping the empirical evidence on environmental impact investments.

The sample of European environmental impact investments was not selected randomly; we used an information-oriented selection approach (Flyvbjerg 2011). Therefore, our analysis complies with the following criteria (Yin 2003): (a) transparency, (b) reliability, and (c) scientific interest.

Our sample includes cases established in Europe until the date of analysis (March 20, 2019).

7.5 Environmental Impact Investments in Europe

In this section, we analyse and discuss four case studies of environmental impact investments in Europe. More specifically, we analyse the Climate Awareness Bond (CAB) issued by the European Investment Bank, the Green for Growth impact fund, and the green project Mar de Fulles, financed through the crowdfunding platform Citizenergy. Finally, we give an overview of the launch of Europe's first environmental impact bond, scheduled in Finland in 2019.

7.5.1 *The European Investment Bank Climate Awareness Bond*

The European Investment Bank was the first issuer of green bonds in Europe in 2007. The first bond was called the Climate Awareness Bond and supported climate projects. Currently, the European Investment Bank is one of the largest issuers of green bonds, with over EUR 23.5 billion raised across 11 currencies and EUR 4 billion raised in 2018 (European Investment Bank 2019).

Over the years, the Bank has financed 76 projects in 29 countries, with over EUR 3.2 billion in disbursements. The project locations were as follows: 60 projects were in European Union Member States (accounting for EUR 2.8 billion), and 16 projects were in 14 countries outside the European Union (accounting for EUR 374 million). Institutional investors, as fund managers, represent the main investors in green bonds. Demand mainly comes from European investors, who represented 74% of investors in the Climate Awareness Bond over 2014–2018 (European Investment Bank 2019).

The targeted financial returns are in line with the market rate, while the impact themes targeted by the European Investment Bank include renewable energy and energy efficiency. The environmental impact achieved is measured through several indicators (e.g., absolute greenhouse gas emissions, greenhouse gas emissions saved, renewable heat capacity added, and renewable electricity capacity added) and is reported to stakeholders. The reporting is aligned with the guidelines of the Green Bond Principles,[6] and the report is available on the European Investment Bank website.

7.5.2 *Green for Growth Fund*

The Green for Growth Fund (GGF) was the first specialised fund to advance energy efficiency and renewable energy in Southeast and Eastern Europe, as well as in the Middle East and North Africa. Located in Luxembourg, the fund was begun in 2009 by the European Investment Bank and Kreditanstalt für Wiederaufbau Development Bank. The GGF provides investments in the energy efficiency and renewable energy sectors both indirectly (through financial institutions) and directly (through non-financial institutions, for example, renewable energy companies and energy service companies).

The GGF investments have been made through several financial instruments (e.g., medium- and long-term senior loans, subordinated loans, syndicated loans, letters of credit, guarantees, mezzanine debt

instruments, and local debt securities), and the fund collects money through the issuance of share and note tranches, characterised by different risk-return profiles.

By May 2018, the total available funding was EUR 564.8 million, while the total committed investment portfolio accounted for EUR 482.9 million. The targeted financial returns are in line with the market benchmark.

The measurement and reporting of social impact represent a central element for the transparency and integrity of the GGF. To achieve this objective, the environmental performance of any single loan and sub-loan is individually assessed and monitored by following the relevant European Union directive on energy end-use efficiency and energy services.[7] More specifically, the GGF uses an Internet-based tool named "*e-save*" to assess the environmental and climate impact of its lending business. Finally, the environmental impacts are published in its annual reports. Since its inception, GGF has made investments that annually saved 1.9 million megawatt hours of energy and reduced CO_2 emissions by 495,551 metric tons (Green for Growth Fund 2018).

7.5.3 Citizenergy: A European Environmental-Focused Impact Crowdfunding Platform

Citizenergy is one of the European crowdfunding platforms that raises money for environmental purposes. Created in 2014 thanks to a funding programme of the European Commission, the platform focuses on renewable energy projects aimed at responding to a variety of needs of both renewable energy source promoters and potential environmental impact investors. This platform allows funders to take part in these projects by equity or debt. One of the main projects financed in this platform is Mar de Fulles. This is an eco-tourism project with the goal of establishing a sustainable eco-management network of a bioclimatic tourist complex, next to a nature park in Castello, Spain. Specifically, the impact goal was to crowd-finance the budget needed for an off-grid solar PV system and batteries. Mar de Fulles sought to obtain all of its electricity through solar PV and energy storage with a 46 kilowatt solar generation system with 592 kilowatt-hours of battery storage. The budget for the entire installation was EUR 0.28 million, with EUR 0.17 million of those funds ultimately coming from the collective investments on the crowdfunding platform. In four months, 129 investors pledged amounts between EUR 50 and EUR 23,000, with an average investment of EUR 1,349. Financial returns to investors appear to be concessionary. It is interesting to note from a survey

conducted among investors after the crowdfunding campaign emerged that 70% (46/65) of them mentioned both financial return and environmental impact as their main investment motivation.

The expected impact, as evidenced in the offer, relates to two dimensions: avoidance of CO2 and renewable energy generated purely from clean and renewable sources. To estimate the environmental impact metric, the avoidance of CO2 emissions was calculated by counting the amount of fossil fuel that each solar system or solar lantern will replace. No impact report or information is currently available about the impact achieved.

7.5.4 Towards Europe's First Environmental Impact Bond

To date, no environmental impact bond has been launched in EU countries. However, one EIB is planned to be issued in Finland in the second half of 2019. Indeed, within the targets of Finland's Action Plan for a Circular Economy, the launch of Europe's first EIB is on the agenda of the Ministry of Agriculture and Forestry. The proposal of launching a Finnish EIB came from a 2017 workshop in which more than 50 experts discussed the suitability of the SIB model for the achievement of environmental protection, bio-economy, and circular economy goals. The workshop produced two main streams of discussion with the goal of producing two feasibility evaluations of an EIB launch in one of the two themes. The first area of analysis was concentrated on the environmental problem caused by livestock manure in the Archipelago Sea catchment area. An EIB should aim to reduce emissions of nitrogen and phosphorus into the Archipelago Sea by promoting the transition to a more sustainable production process. The outcomes identified were the increase of the recycled manure business and tourism, as well as the improvement of Finland's nutrient self-sufficiency and the water quality of the Archipelago Sea.

The second line of discussion was related to municipalities and how to help them develop effective solutions to serve as miniature laboratories for innovations oriented towards producing in a carbon-neutral and resource-wise way. The outcomes identified were the reduction in greenhouse gas emissions in the participating towns and cities by at least 80% and the reduction in the use of natural resources. Only one of the projects will be selected for the launch of Europe's first EIB.

The main characteristics of these cases are represented in Table 7.1.

Table 7.1 European environmental impact investment cases

Name	*Asset Class*	*Impact Investor/ Asset Issuers*	*Environmental Targets*	*Total Amount of Capital Raised*	*Financial Returns Profile*	*Impact Strategy*	*Social Impact Disclosure Profile*
European Investment Bank Climate Awareness Bond	Green bond	European Investment Bank	Renewable energy; energy efficiency	EUR 23.5 billion (in ten years)	Market rate	Product-/ process-based	Expected environmental impact not made explicit analytically Environmental impact measured analytically ex post Annually reported
Green for Growth Fund	Impact Fund	Initially partnered by European Investment Bank and KfW Development Bank (at end 2018 includes 58 financial partners)	Renewable energy; energy efficiency	EUR 482.9 million	Market rate	Product-/ process-based	Expected environmental impact not made explicit Environmental impact measured analytically ex post and periodically reported (by following innovative measurement standards)

Mar de Fulles project	Alternative investment (reward based-crowdfunding)	Citizenergy—crowdfunding platform	Renewable energy/energy efficiency and natural resources protection	EUR 0.174 million	Concessionary	Place-/territory-based	Expected impact made explicit analytically in the offer No ex post specific measurement available
Europe's first Environmental Impact Bond in Finland	Environmental Impact Bond	–	–		–	–	–

Source: Authors' elaboration

With the exception of the environmental impact bond, for which information is not publicly shared, the other cases of European impact investments show some common features, synthetised as follows:

All financial models recognise renewable energy and energy efficiency as specific environmental aims. At the same time, all financial models target concessionary financial returns or market rate returns. By contrast, the models present some differences in terms of environmental impact measurement.

Those characteristics can be analysed through the lens of the new European regulatory process and of impact investment best practices. Specifically, all the models appear perfectly in line with impact investment best practices in terms of intentionality of achieving the environmental impact and target financial returns. Indeed, the analysed cases do not target speculative returns, as highly auspicated by international practitioners and organisations (e.g., Wilson et al. 2015).

However, the analysed cases do not appear completely in line with best practices, and the new European regulatory proposal on sustainable finance when the considered feature is the measurement of social impact and reporting. In particular, the processes adopted by the Green for Growth Fund and by the European Investment Bank bonds appear compliant with such practices and regulations, while the equity-crowdfunding model examined does not adopt measurement or reporting practices. This may be attributable to underdeveloped measurement practices connected to such innovative models (Gajda and Mason 2013).

Figure 7.3 represents the European case studies in light of impact investing best practices and European regulatory momentum. Specifically, Fig. 7.3 shows that green bond and environmental impact funds fall within the perimeter of impact investing, while crowdfunding gravitates in the orbit of sustainable finance. The current study did not assess the transparency character of financial models for impact investments.

7.6 Conclusions

This chapter contributes to the existing literature on impact investing in the following ways. First, the chapter highlights that the emergent European regulation seems to be going in the direction of environmental impact investing. Indeed, although the European Commission refers to "sustainable finance" in the proposed regulation, the attention paid to the measurement topic echoes the typical feature of impact investments. Other

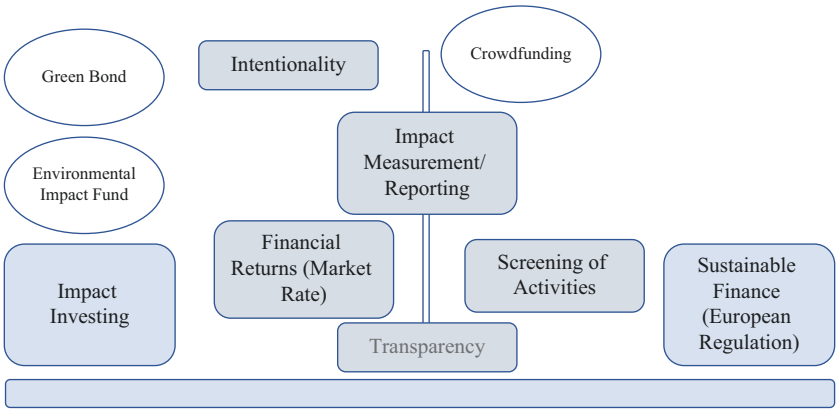

Fig. 7.3 The positioning of the European case studies. (Source: Authors' elaboration)

elements, however, remain typical of sustainable finance, such as the screening between environmental and non-environmental activities. Practitioners seem to have already benefited from the European regulatory proposal through, for instance, the GIIN (2019a) redefinition of "the four fundamental tenets" of impact investments, designed principles that seem to share some aspects of the proposed European regulatory framework, such as transparency and the need for qualitative and quantitative impact targets. Thus, regulation may be working as a "game changer" on a large scale. Indeed, regulation—as highly recommended for many years by practitioners and scholars (e.g., SIIT 2014; Chiappini 2017; Chiappini 2018; GIIN 2018)—will be essential to spurring environmental impact investment growth and facilitating efficient capital allocation.

Second, this study provides a more holistic overview of the evolution of environmental impact investments by including financial models not universally included in market reports or academic contributions. In particular, we include green bonds and crowdfunding. The reasons for such a lack of uniformity may be varied. Not all green bonds may be labelled as impact investments, especially green bonds issued outside any international impact standard reporting and measurement. On the other hand, crowdfunding for impact projects and enterprises have seen only in the last few years the birth of specific impact-oriented platforms that follow the impact industry standards.

Third, this study analyses the European environmental impact investment panorama in light of the new European regulatory framework on sustainable finance and of worldwide impact investing practices. The European panorama, pioneering in terms of regulation, does not, by contrast, appear equally innovative from the perspective of financial models. Specifically, environmental impact investing is experiencing a delay in Europe with environmental impact bonds (EIBs). A first European EIB is currently under design by Finland, while the first EIB in the world was developed in 2016. However, even in the absence of an EIB in the European environmental impact investment arena, other innovative models are at work in the area. This is the case of crowdfunding. The confirmation of such an impact investing market trend is the growing creation of crowdfunding platforms focused exclusively on impact investments, especially in continental Europe.

Finally, the analysis demonstrates that the European panorama of environmental impact investments is not fully compliant both with the European proposal on sustainable finance and with the overall guidelines of impact investments. The crowdfunding platform appears to be less compliant, especially in terms of impact measurement. In other words, the results show that European green bonds and environmental impact funds fall within the perimeter of impact investing, while European crowdfunding moves within the orbit of sustainable finance.

Future research should strengthen our analysis through the evaluation of whether these investments are also in line with the regulatory proposal on transparency (European Commission 2018c). Thus, future studies may analyse in depth the pre- and post-contractual information as well as websites of intermediaries offering environmental impact products with the purpose of assessing whether European products are already compliant with the proposed regulation. Moreover, future research may assess the overall panorama of environmental impact investing, here represented by case studies. The exhaustive assessment of European impact investing may be useful to policymakers involved in the promotion of sustainable products.

The study suggests some policy recommendations. European governments should consider an environmental impact bond within the financial architectures that are able to play a critical role in the financing of environmental targets. Indeed, this type of model allows public administrations to set up specific impact targets and to manage the overall investment process, paying a financial return only if the environmental target is achieved. The

collaborative scheme may produce benefits for all parties, but especially in terms of impact achievement (La Torre et al. 2019). Thus, an EIB should be seen as a way to complement both public and private investments (and commitments) towards European environmental goals. Thus, a rethinking of European strategies towards a green economy should also include considerations of which financial models may be fostered and supported, including through ad hoc fiscal policies. This appears essential to help the growth of the European environmental impact investment industry.

Notes

1. This study represents a research output within the research project (SIF16_00055) "An Italian platform for impact finance: financial models for social inclusion and sustainable welfare" (funded by the Italian Ministry of Education, Universities and Research).
2. ImpactBase is "a powerful online search tool, created to bring order to a fragmented and inefficient marketplace of impact investing funds and products" (GIIN 2019b). Additional information is available at https://www.impactbase.org/learn-more-about-funds
3. The Social Impact Bond global database is a full list of social impact bonds issued worldwide. The map is available on the Social Finance website. Social Finance is an organization specialised in impact finance advising. The database is available at: https://sibdatabase.socialfinance.org.uk/
4. The term sustainable-washing refers to all marketing actions aimed at including a financial instrument under the lens of sustainable finance even if the financial instrument does not present features of a sustainable instrument. Chiappini (2017) showed how much the theme of investment-washing is relevant for impact investment funds in the international panorama, focusing on environmental, social, and social-environmental funds.
5. Specifically, the HLEG (2018) highlights eight recommendations: (a) the identification of a robust classification of sustainable finance; (b) the need for clients' informed consent and disclosure in sustainable practices and investments; (c) the need for disclosure of climate change risk; (d) the development of European sustainable finance standards; (e) the establishment of a "Sustainable Infrastructure Europe facility" to expand the quality of sustainable assets; (f) the rethinking of governance in favour of sustainable finance practices; and (g) the enlargement of powers of the European Supervisory Authority.
6. The Green Bond Principles (GBP) clarify the approach for the issuance of a green bond. Specifically, an issuance aligned with the GBP should promote a step change in transparency that facilitates the tracking of funds into environmental projects, while simultaneously aiming to improve insight into the estimated impact of the projects.
7. The Energy Efficiency Directive contains a set of measures to help the European Union reach its 20% energy efficiency target by 2020.

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