# Green Finance in the UK and Spain: latest developments and key service providers

## Final report

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British Embassy Madrid

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## Foreword

In 1972, the first Earth Summit, the United Nations Conference on the Human Environment (UNCED), also known as the Stockholm Conference, was held. In December 1983, the Secretary-General of the United Nations asked the former Prime Minister of Norway, Gro Harlem Brundtland, to create an independent organization to focus on environmental and developmental problems and solutions. The Brundtland Commission -the World Commission on Environment and Development (WCED)- published "Our Common Future," the organization's main report that strongly influenced the second Earth Summit in Rio de Janeiro (1992) when the Framework Convention on Climate Change was agreed, which later led to the Kyoto Protocol on Climate Change, adopted in 1997 and in force since 2005.

The signatory countries of the Kyoto Agreement committed to reduce greenhouse gas emissions and created three Flexibility Mechanisms to facilitate such expected outcome, also considered complementary to adopted domestic measures: carbon emissions trading; clean development mechanisms (CDM) and joint implementation; the latter two via projects. Those are considered the first global effort to reduce global warming. The worldwide condition of the climate crisis has been for years an argument to allow countries with emissions reduction and limitation targets who consider that reducing emissions in their own country was too onerous, could choose to pay a cheaper price to reduce emissions in other countries.

Since 1995 (COP1 Berlin) to forthcoming COP26 in Glasgow, 26 Conferences of Parties (COP) –body of the United Nations Framework Convention on Climate Change-, most transcendental of all have been the already mentioned Kyoto one (COP3) and COP21 held in Paris in 2015.

It coincided with the United Nations' adoption of the 2030 Agenda for Sustainable Development, set out in the 17 Sustainable Development Goals (SDGs), which replaced the Millennium Development Goals set in 2000 for 2015. SDG 13 aims at "taking urgent action against climate change" and recognizes that implementation of the Paris Agreement is essential to achieving the SDGs. Since then, the 2030 Agenda, SDGs and the Paris Agreement have been walking hand in hand.

A lot has happened in the last four years. However, one turning point was the speech by former Financial Stability Board Chairman and Governor of the Bank of England Mark Carney "Breaking the tragedy of the horizon" as engagement from financial sector seems to move on.

Green finance is a key priority for the UK Government – to support delivery the ambitious strategy, to drive economic growth and to ensure the UK remains a key driving force in enabling the global transition to a low carbon economy.

# Acknowledgements

This work is the result of a joint effort of the British Embassy in Spain and Afi, Analistas Financieros Internacionales. The authors are enormously grateful to all the representatives of the institutions kindly attending the calls, videoconferences and requests of information during the difficult times caused by the COVID_19 crises.

# 1. Motivation, purpose and target audience

The transition to a decarbonized economy is one of society's biggest challenges. For this reason, today it is one of the elements that is receiving the greatest attention by public authorities as well as economic and financial agents.

This should not be surprising given the challenge that society faces in complying not only with the Paris Agreement but also with the Sustainable Development Agenda. Completing the transformation of how we live, produce, consume, invest in, remunerate resources and care for each other and the environment–our economic and social model- will take time. Its nature has a strong global component that requires a high degree of coordination at the international level. Meeting the objectives and delivering the global transition to a low carbon economy will require unprecedented levels of investment in green and low carbon technologies, services and infrastructure.

While this is being achieved, purpose for which the forthcoming COP-26 in Glasgow will be key, the action of the market itself is allowing timely progress in the transition of a diversity of agents.

In this sense, together with the evolution of supply and demand for sustainable financing, in recent years has emerged a growing number of providers of (new) products and services that provide solutions for the (new) needs or demands framed in the new paradigm of Sustainability.

It is therefore relevant to provide light and clarity to these new products and services to facilitate, encourage -in fact, engaging-, other agents, like more than a million of small and medium companies that find difficult to identify a clear greening and sustainability roadmap to follow.

This work conducts a comparative study of the evolution of the Spanish and British market in this field. It provides a structured catalogue of a representative sample of the existing such providers that can support such transformation. The final result is a Guide that tries to ease the multiple decisions companies are to take on a day to day basis, and provide a detailed view of a good range of initiatives that were born with a clear mission: to accompany others in the transition path to sustainability.

In short, the objective of the study is to identify the opportunities for the Spanish and British economic sectors through the identification of solutions and their providers so that the transition process can be as quickly and efficiently as possible.

## 2. Methodology

Beyond the permanent coordination with the British Embassy in Madrid, Afi has collected information on the services market for ecological transition and greening in a broad sense, including general information on the current situation of the market.

The existing secondary information (sectoral reports, corporate reports, news and web pages) has been the primary focus, together with specific information directly collected from providers whose products and services aim to support the sustainable transition and greening of the respective markets (Spain and the United Kingdom).

# 3. Evolution and current situation in the provision of greening services for companies in Spain and the United Kingdom. A work in progress

The emergence of new services and products to support the green transition process and to increase the linkage of sustainability with economic and financial activity is a characteristic element of recent years.

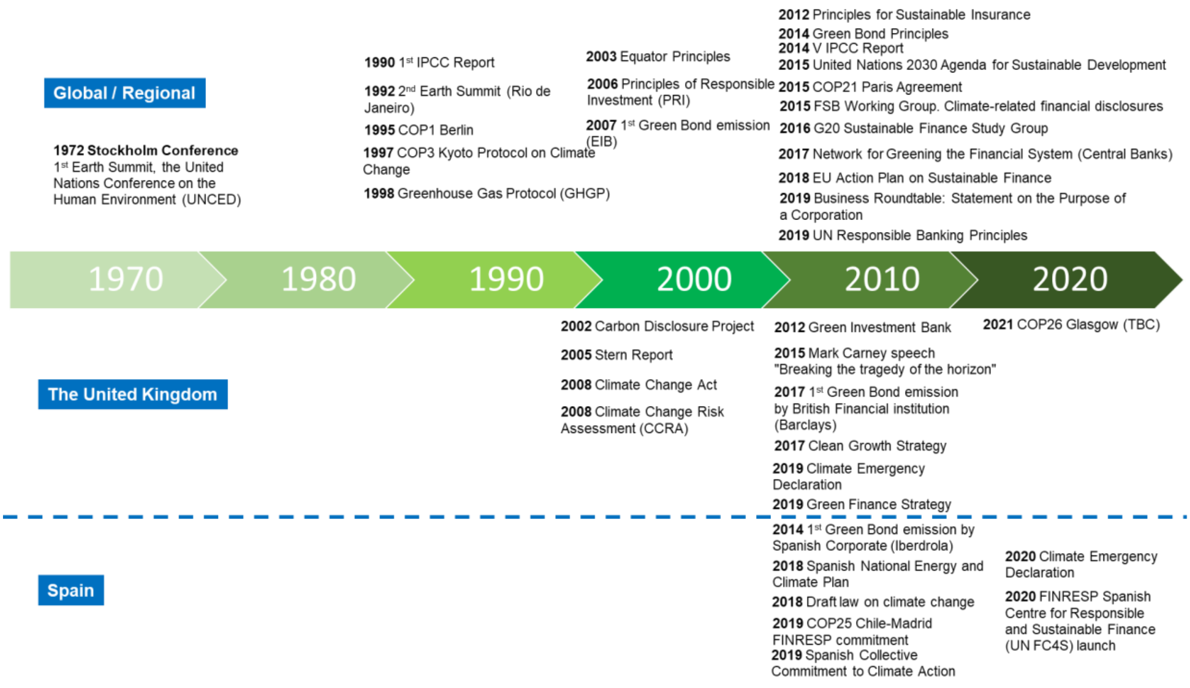
The purpose of these new services and products is often diverse and ranges from the increase of climate related information available, to the management of data, the support in the design of more sustainable products and services and the improvement of transparency and public information.

The implementation of these initiatives has been supported by an increasing activity by public and private entities developing support services for this purpose.

The current needs for transitioning into a sustainable development paradigm are enormous and the gap between and so on is still high, it should be noted that the number of actors involved in reducing this gap is numerous.

The first global initiatives that emerged in this international arena responded to the sustainability challenges that were just beginning to break the surface of collective business consciousness.

**Figure 1. Timeline: an overview**




Source: Afi

The reason why the very first initiatives were closely linked to climate change is mainly due to the change that the **Kyoto Protocol in 1997** brought into the global agenda. Accounting turned out to be relevant at that point in time. It, soon emerged initiatives aiming at assisting on the proper management and disclosure of such “new type of relevant information”. And revealed that some corporations are responsible for higher greenhouse gas emissions than many national states.

**Figure 2. The 1990s**

**1990s**

**1990** 1st IPCC Report

**1992** 2nd Earth Summit (Rio de Janeiro)

**1995** COP1 Berlin

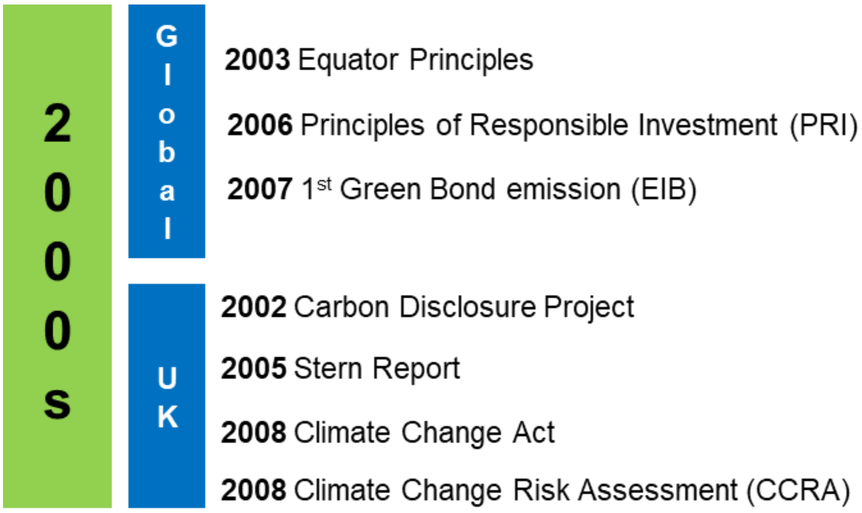
**1997** COP3 Kyoto Protocol on Climate Change

**1998** Greenhouse Gas Protocol (GHGP)

Source: Afi

Access to this type of information has proved to be very useful for the strategic management function of investors, management teams and regulators by allowing measurement and understanding of the environmental impact of a more diverse and heterogeneous range of economic activities, and, in the long run, limiting the associated risk. The so-called **Stern Report**, commissioned by the UK Government and released in **2005**, was a key point of inflection. It claimed that climate change is the result of a major market failure with enormous economic implications beyond the “mere” environmental and social dimensions. The scientific analyses that existed at that time were already robust enough for the subsequent debate to focus on the “capacities for action” rather than on the “needs for action”. In addition, it was then first claimed that the benefits of action far outweighed those of inaction, but only if action kicked-off at the time.

**Figure 3. The 2000s**



Source: Afi

With a somewhat broader approach, and supported by the United Nations, one of the first initiatives of the financial sector in the field of sustainability emerged in 2006 under the assumption –not as widespread then as it is today- that non-financial aspects could influence the financial return on investment portfolios. The launch of the **Principles of Responsible Investment (PRI)** in **2006** initiated a massive mobilization of funds under this approach that has continued to grow to this day, with a key inflection point in the Great Depression. Under a non-binding approach, PRI were an aspirational approach that is now beginning to turn into regulation at European level. In fact, the serious consideration of such information as a fiduciary duty of asset managers in their investment and administration decisions places the consideration of **Environmental, Social and Governance (ESG)** criteria at the same level as other business-as-usual factors (sectoral, technological, market, economic, financial). Since then, asset managers and other financial institutions have increasingly relied on ESG rating agencies to evaluate, measure and compare the ESG performance of companies, an element they incorporate into their risk management process and, in some cases, to define investment strategies. This type of informational service providers has grown in recent years, offering essential information for the incorporation of ESG elements in investment management. In this context, other market players have adapted their services of index provision, management software, databases and even standards that allow to identify which ESG elements are relevant –i.e. material- in each sector and company.

Today, empirical evidence is beginning to show that the relationship between ESG and financial performance is positive. Also, the combination of fiduciary duty and the broader recognition that long-term investment sustainability is a must, has turned social, environmental and corporate governance concerns increasingly important.

In **2007** the European Investment Bank (EIB) carried out the very first issuance of a **Green Bond** (Climate Awareness Bond) by creating a new category of bonds whose purpose was linked to the funds obtained. Driven also by other development banks and multilateral institutions, this segment of financing evolved allowing for the emergence of a cast of entities that created a new category of sustainable financial products, based on purpose and transparency.

Securities exchanges, companies, structuring agents and other auxiliary service providers have since adapted to this reality. In this vein, although beyond the use of funds to combat climate change, the so-called **Green Bond Principles** emerged in **2014**. These principles, appropriately updated at a later date, were developed with the guidance of issuers, investors and environmental groups. They serve as voluntary guidelines on the recommended process for the design and issuance of Green Bonds and promote transparency, disclosure and integrity in the development of the green bond market. In this market, one of the main and early issuers is Iberdrola: the first Spanish issuer back in 2014 (the second company to issue such bonds after France's EDF) has now become one of the world's largest private issuers of green bonds. The purpose of Iberdrola's investments is to support projects in renewable energy, transmission, distribution and smart grids that contribute to the transition to a low-carbon, climate-resistant economy, in line with their sustainable development commitments. However, not all the destinations of green bond issuance are referred to the energy sector, but transportation, construction and infrastructure as well as the financial sector are those that concentrate the most emissions.

In the United Kingdom, it is worth noting the issuance of Barclays in 2017 as the first financial institution to link an issuance to this typology of bonds. The funds were intended to finance mortgage loans for residential properties in England and Wales estimated to be in the top 15% of the best performing buildings in terms of carbon intensity. This is an area -efficient and sustainable buildings- where development is increasing. Supply of finance by a growing number of entities via the so-called green mortgages is yet an incipient reality, but already identified. This funding supply coincides with a greater capacity of real estate agents to articulate demand, other financial and energy agents to design models for its acceleration and entities linked to the valuation of those assets, as well as owners and potential buyers to take these characteristics into account in estimating the value of the residential or commercial property.

The principal purpose of issuing green bonds would be to raise finance for green (or sustainable) initiatives and operations, however, there may be other benefits associated with the issuance of green bonds, for example the possibility of advertising the issuer's green (or sustainable) plans, which in turn has a positive reputational impact. Furthermore, such ring-fencing is attractive to responsible investors because the funds cannot be diverted into other things that they don't like. In this sense, the Government of Spain recently announced that it wants to be a relevant player in this sector, with an estimated emission of around 5 billion to

20 years in the second half of 2020. The ICO's experience in this area, where it debuted in 2015, has served to understand the financial policy benefits and its implications for promoting sustainable economic activity.

During these years, the market for emissions labelled as sustainable has continued to evolve, with new segments (loans, guarantees, project finance) and areas (social, sustainability-linked). Along with this evolution, auxiliary service providers have emerged:

- Verifiers: entities engaged in the independent review of green bonus credentials, an element that has become common practice in the global market. Verifiers include firms and consultants with experience in accounting, finance and sustainability.

- Information managers: standards creators and setters, emissions and index information managers and analysts specialized in this segment of sustainable fixed income market activity, where climate Bond Initiative should be highlighted for their specificity.

- Stock exchanges in Europe, London, Milan, Stockholm, Luxembourg, Frankfurt and Oslo have a list/segment of dedicated green bonds.

Governments engagement has also been relevant in promoting the Green transition of the economy and the emergence of services supporting such transition. One of the very First regulations was the **Climate Change Act** enacted by the British government in **2008**. It aimed at transforming the British economy into a low carbon economy by minimizing greenhouse gas emissions associated to the economic activity.

To meet these goals, the government established five-year “carbon budgets” that currently operate up to 2032 and contemplate maximum limits of greenhouse gases that agents operating in the country are allowed to emit over a five-year period. The UK is currently in the third carbon budget period (2018 to 2022) and meeting the path set to date.

In this context, one tool that proved to be key to guarantee the development of initiatives and projects aimed at transitioning to a decarbonized economy was, again, related to the financial sector. The allocation of investments to projects contributing to the fight against climate change ought to grow rapidly and ought to be involved in projects of greater risk and longer terms. Under this premise, the creation of public-private financial instruments was one of the tools sponsored.

**Figure 4. The 2010s**

| 2010s | | |
|---|---|---|
| | Global | **2012** Principles for Sustainable Insurance |
| | | **2014** Green Bond Principles |
| | | **2014** V IPCC Report |
| | | **2015** United Nations 2030 Agenda for Sustainable Development |
| | | **2015** COP21 Paris Agreement |
| | | **2015** FSB Working Group. Climate-related financial disclosures |
| | | **2016** G20 Sustainable Finance Study Group |
| | | **2017** Network for Greening the Financial System (Central Banks) |
| | | **2018** EU Action Plan on Sustainable Finance |
| | | **2019** Business Roundtable: Statement on the Purpose of a Corporation |
| | | **2019** UN Responsible Banking Principles |
| | UK | **2012** Green Investment Bank |
| | | **2015** Mark Carney speech "Breaking the tragedy of the horizon" |
| | | **2017** Clean Growth Strategy |
| | | **2017** 1st Green Bond emission by British Financial institution (Barclays) |
| | | **2019** Climate Emergency Declaration |
| | | **2019** Green Finance Strategy |
| | Spain | **2014** 1st Green Bond emission by Spanish Corporate (Iberdrola) |
| | | **2018** Spanish National Energy and Climate Plan |
| | | **2018** Draft law on climate change |
| | | **2019** COP25 Chile-Madrid FINRESP commitment |
| | | **2019** Spanish Collective Commitment to Climate Action |

Source: Afi

The **Green Investment Bank** launched in **2012** designed an operational strategy focused on granting long-term loans for investment in projects and infrastructures that facilitate transition to a low-carbon economy. Considered a success story for its contribution to the feasibility of projects of great technological importance such as offshore wind power generation platforms, it is now a private initiative integrated in Macquaire as one of the world's largest green investment institutions.

But if there was a relevant milestone in the process of raising awareness of the need to develop a green transition process for companies and the interrelation of such need with the financial system, it is to be found in **2015**, a moment from which innovative ideas and their outreach has accelerated ever since.

The **definition of a global development framework for coordinated action was agreed in 2015** within the framework of the United Nations, its 193 member countries and representatives of the private sector and the civil society. The 17 Sustainable Development Goals (SDGs) and the 169 associated targets represent a multidisciplinary exercise that proposes action in different areas under a common global strategic plan (**2030 Agenda**) with national adaptations according to the capabilities and development stages that may be different between countries. As opposed to the previous Millennium Development Goals framed for the period 2000-2015, the SDGs are binding on companies, multilateral institutions and civil society, not only on national states.

In addition, it was finally accepted that economic and social development depends on long-term economic growth, which must be environmental and socially sustainable, conditions that require action. The idea that the SDGs should boost investment has since gained traction among institutional investors to a point that a strong statement was finally declared by the **Business Roundtable** in 2019: Business purpose is no longer driven by the traditional motto of maximization of shareholders' interests, but maximization of stakeholders' welfare.

Also in 2015 another key global agreement was achieved within the **United Nations Conference on Climate Change** (**COP-21**) hosted in Paris. The global objective of all signing states was set to limit global warming below +2 degrees centigrade compared to pre-industrial levels, which requires that, in the second half of the 21st century, carbon emissions be normalized to levels that the planet can assume, i.e. that emissions are neutralized by the Earth's capabilities of autonomous absorption.

From that specific moment, which coincided in time with the global agreement on the 2030 Agenda, there is a visible and paradigmatic shift in the overall conception of climate change and its imminent as well as long term implications. The United Kingdom and Spain have led action and become two of the greatest exponents of this commitment having recently declared the **Climate Emergency** (2019 and 2020, respectively), which is, in practice, a clear signal to all agents that Climate Change is one of the top priorities for political action.

Both countries' commitment to decarbonisation are being materialized in the development of detailed plans. If legislation in the United Kingdom already established this need in 2008, the **Clean Growth Strategy** in 2017 emphasized and updated the urgency. In the case of Spain, the foundations for a carbon neutral economy were defined in 2018 for a 2050 horizon via the **Spanish National Energy and Climate Plan.**

The size of investment plans conceived by both national strategies is very relevant (about 2% of annual GDP) and assumes a great deal of private participation, which sends a clear signal to markets on the necessary public-private collaboration and engagement to meet a long lasting sustainable growth. This visible claim for private engagement reveals numerous business opportunities to those companies and business models willing and able to align their strategies to these needs.

Leading actors from both countries were among the first to develop (i) scientific research capabilities related to low carbon industries and (ii) innovative experiences by the financial industry to provide support to initiatives associated with Climate Change and Sustainability.

The number of new business that emerged is, therefore, a clear example of the ongoing process of transition to sustainability and the clear signals emitted by the market. New business models and new entrepreneurship born sustainable will soon become a majority, now only a sample of early adopters that will lead the way to mainstreaming.

The role of the financial sector is key in this process, both as a partner to business investment decisions and as an accelerator and guidance of the change in the direction that economic activities must take. The financial sector has been sending signals and showing other agents how to activate their capabilities in the decarbonisation process.

One of the very first and more relevant of the abovementioned signals were emitted by the **Bank of England in 2015**. Back then, its governor **Mark Carney** gave a very powerful speech that opened the eyes of the financial agents all over the globe. The so-called “Breaking the Tragedy of the Horizon” marked a clear path to the work to be carried out by financial supervisors stating that "*once climate change becomes a defining issue for financial stability, it may already be too late”.* Avoiding materialization of such Tragedy requires decisive action by all financial actors, as well as clear understanding of the risks that climate change poses to financial activity, enhanced capabilities to measure those new risks with new tools, metrics and valuation methods.

The speech was delivered at Lloyd's, one of the most prestigious and venerable insurance institutions, for a reason. The audience was comprised of professionals responsible for the insurance activity in the UK who were called to urgently internalize the message and apply it in their strategy and day-to-day operations

Other new messages have been soundly heard since, incorporation more precision in how to manage climate risks and opportunities in a more effective and efficient manner. For example, the **Financial Stability Board** launched a working group to provide guidance in the form of recommendations to financial and non-financial companies on information disclosure. The original recommendations issued in 2017 were conceived as a voluntary exercise towards lenders, insurers, investors and other stakeholders but they have now become a market standard.

The approach has been clear ever since. As companies provide consistent and reliable information, markets are better equipped to assess, to value and to manage those risks. In addition, the companies themselves will be able to better assess their own risks and those related to their trading partners and counterparties. Investors will also have better and more complete information with which to make decisions about capital allocation. All of which contributes to avoid the tragedy of the horizon by all agents: investors, companies, service providers, regulators, supervisors and other agents.

The disclosure of this new, extra-financial information has allowed the emergence of business activities such as data analysis to better understand the risk that climate change imposes on financial stability. Market intelligence services on sustainability have now become a line of business activity and has encouraged the adoption and agreement of new market standards in disclosure, materiality, training, data and risk management.

The **Network for Greening the Financial System** created in **2017** by some central banks and supervisors has now achieved a high-profile global status and notoriety. Its purpose is aligning a global response through coordinated understanding to improve the contribution of the financial system in the management of risks and the mobilization of capital for green and low-carbon investments. In this area, the Bank of England has already taken its first steps in overseeing financial institutions. The stress tests defined in 2019 for insurers, an exploratory exercise in relation to climate change was included. The climate scenario set explores the impacts on the liabilities and investments of both type of companies arising from physical and transitional risks. The Bank of Spain, for its part, has given clear signals that it is an issue of concern and that it will soon develop implementing guidelines for the financial institutions under its supervision. In the meantime, both Central Banks together within the framework of The Network of Central Banks and Supervisors for Greening the Financial System (NGFS) with the aim of coordinating a response in the matter and exchanging knowledge.

The transition to a low-carbon economy requires changing millions of polluting to sustainable activities. Following the Paris Agreement and the other abovementioned milestones, a boost by the private sector has inaugurated a new phase in the development of Green finance. Green bonds and agents continue to grow, together with other financial innovations such as green securitization, RMBS, green CLOs, green covered bonds, ...) and institutions (renewable yieldcos, Green investment banks, green platforms, ...).

However, from the outset a commonly accepted definition of what is considered a sustainable activity was missing. There is no such consistent standard that can be applied to any economic activity. This means that investors cannot be sure whether their money is effectively invested in sustainable projects, or that companies are not certain that their activity is consistent with long-term sustainability targets, or what are the most adequate public incentives to speed up the sustainability transition process.

It was therefore essential to promote a coordinated work at the international level that served as a common reference to mainstream the concept. In this regard, the work of the **European Commission** to agree on a common **taxonomy**, such as the **Action Plan on Sustainable Finance** (presented in **2018**) and the corresponding working groups set up to involve the financial industry in this process is of particular interest and expected impact.

In general, the measures introduced by the Plan represent the broadest and most complex set of initiatives adopted in sustainable finance by any regulatory body to date, which will have implications beyond their European scope. The taxonomy is perhaps one of the most representative and important elements of such coordination task, and seeks to create a unified classification system to define whether "*an economic activity is environmentally sustainable for the purposes of establishing the degree of environmental sustainability of an investment"*.

From a more purposeful and non-legislative perspective, the UK Government defined the **Green Finance Strategy in 2019** to consolidate the UK's position as a global leader and to adjust the capabilities of its agents to this new context (three core elements: greening finance, financing green and capturing the opportunity). It aims to stimulate sustainable activities by defining the perimeter in which green finance moves, clarifying roles and responsibilities, promoting transparency, incorporating a long-term approach, and building a strong and consistent green financial market framework.

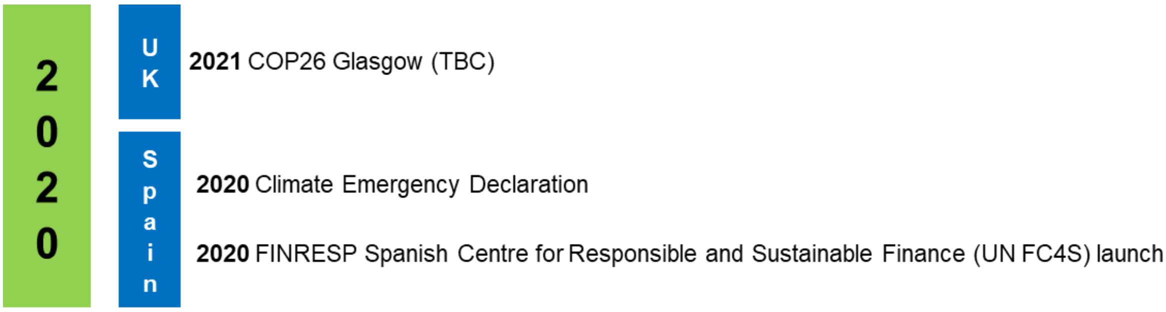
It was defined as a response to the recommendations that the **Green Finance Taskforce** prepared in 2018 on how the government and the private sector can work together to make green finance an integral part of our financial services sector. The strategy released supports the UK's economic policy for strong, sustainable and balanced growth, the delivery of its modern Industrial Strategy and its domestic and international commitments on climate change, the environment and sustainable development. Furthermore, the UK Government assumes the recommendations about transparency in climate related risks and opportunities, and makes them compulsory to companies and asset managers by 2022.

The **Green Finance Institute** was then launched to implement the strategy and to enable the development of innovative approaches to green finance through public and private sector collaboration. Other measures include the launch of a **Green Finance Education Charter** to develop industry players' capabilities in ESG via specialized training, a set of needs that will undoubtedly grow in the coming years, as evidenced by successful experiences already in place in the UK and Spain.

Such strategies and regulations have encouraged financial agents to increase their commitments. In fact, the financial sector has already become involved in discussions building a more ambitious and applicable sustainable development set of objectives. One of the most visible and recent endorsements was led by large group of financial institutions who signed the **Responsible Banking Principles** in New York en 2019 in the **United Nations Climate Action Summit**.

More recently, a majority of Spanish banks ratified a similar commitment, the **Spanish Collective Commitment to Climate Action, in December 2019** in the context of COP-25 that finally took place in Madrid, although co-organized by the Government of Chile. The Spanish banking sector took the lead by publicly identifying and announcing actions to meet the Paris Agreement commitments.

**Figure 5. 2020 (Today)**




Source: Afi

Other Spanish financial agents also enhanced their commitment: FINRESP, the **Spanish Centre for Responsible and Sustainable Finance** officially launched in January 2020. Its purpose is to address the challenges and needs of the Spanish business community (SME in particular) in their efforts to becoming sustainable and to make a positive contribution to the 2030 Agenda and the Paris Agreement goals. During COP-25 FINRESP made a public declaration on the Centre's commitments to assist the Spanish financial sector in the increase of all economic agents' awareness, capabilities and adoption of environmental, social and governance principles and practices into their daily activities and long term strategies and promote innovative formulas to promote sustainable financing, mainly among SMEs.

Expectations for COP-26 to be held in Glasgow in November 2020 are high. In this context, the Bank of England recently launched the **COP26 Private Finance Agenda** with the purpose of increasing the financial sector's engagement towards a significant reduction in net emissions of greenhouse gases while maintaining economic growth. The bottom line is that any financial decision must take into account climate change. Also, to reach net zero emissions, each company, bank, insurer and investor will need to adjust its business models for a low-carbon world.

In short, the emergence of these service providers for the green and sustainable transition of economic activity is a phenomenon that has occurred in various parts of the world and influenced by the milestones mentioned above. This publication points out at some of the most innovative cases operating in the United Kingdom and Spain as will be seen in the following section. In both countries, the variety of options is also increasing, based on the transformation of existing operators and the emergence of new agents, which facilitates the business sector a unique capacity for action.

However, there is a pattern difference between the experiences in Spain and the United Kingdom. Thus, in general, while the initiatives that have emerged so far in Spain tend to have a broader focus on overall sustainability of economic activity, the strength of the financial sector located in the United Kingdom and its climate legislation gives support services linked to these two areas (green finance) a more thriving capacity in this country.

In any case, as COP25 motto stated, “It is time for action”. And SDG 17 shows how to start, drive or accelerate the action more effectively: Partnerships for the goals.

# 4. Catalogue of Service Providers

| United Kingdom | |
|---|---|
| 1. Chartered Banker Institute | 2. Legal and General Investment Management |
| 3. Climate Bonds Initiative | 4. VIVID Economics Limited |
| 5. Financial Conduct Authority | 6. Oxford University |
| 7. Green Finance Institute | 8. The Carbon Trust |
| 9. CFA Society of the UK | 10. The Investment Association |
| 11. London Stock Exchange Group | 12. Energy Investment & Analysis |
| 13. Lloyds Banking | 14. Plenitude |
| 15. Green Investment Group | 16. CDP Worldwide (formerly Carbon Disclosure Project) |
| 17. Aviva Investors | 18. HSBC UK |
| 19. Barclays | |

| Spain | |
|---|---|
| 1. Greemko | 2. Forética |
| 3. Afi School of Finance | 4. CoHispania |
| 5. Climate Strategy Group | 6. Bankia Innovación |
| 7. Clarity AI | 8. ClimaTrade |
| 9. ECODES | 10. EIT Climate KIC |
| 11. GNE Finance | 12. Finnovating |
| 13. Canvas | 14. Ecoacsa |

## United Kingdom

| | |
|---|---|
| **Name of the entity** | **Chartered Banker Institute** |
| **Type of service/product** | World's first, benchmark Green Finance Certificate |
| **Operating mode** | Professional body providing education, training and support for bankers and other finance professionals in the UK and internationally |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: NO<br>Developing skills to support the growth of the green finance sector |
| **Business sector closely linked to your service /product** | Banking, financial services and education |
| **Year of foundation entity / service_product** | 1875 |
| **Contact details** | Simon Thompson, Chief Executive<br>simon.thompson@charteredbanker.com |
| **Link (web page)** | https://www.charteredbanker.com/qualification/green-finance-certificate.html |

## Case Nº 1 United Kingdom/Global – Chartered Banker Institute: Green Finance Certificate

### About the Chartered Banker Institute

The Chartered Banker Institute is the oldest institute of bankers in the world. Their purpose is to enhance and sustain responsible banking and professional bankers through education, training and the development of professional standards. CBI has more than 30,000 members in 89 countries.

Stewardship has been a guiding principle of the Institute since founded in 1875. Today, stewardship is considered in its broadest sense - the safe and sustainable stewardship of people and planet.

The transition to a sustainable low-carbon economy is the greatest global challenge for this and future generations. Banking and finance professionals will need to play leading roles in the transition, and the CBI helps them develop the green and sustainable finance knowledge, skills and values needed to do this.

### The Green Finance Certificate

Developed in conjunction with the UK's Green Finance Taskforce, the Green Finance Certificate™ was launched in 2018 as the first global, benchmark qualification for Green and Sustainable Finance Professionals.

The Certificate enables individuals to develop and demonstrate a comprehensive overview and understanding of the evolving green and sustainable finance sector, including:

- Scientific background to green finance – climate science and the transition to a low carbon world
- Global, international and national responses to climate change
- Climate-related financial risks, stranded assets and other environmental risks
- Key green finance principles, frameworks and standards, including the UN Sustainable Development Goals, Principles for Responsible Banking and Investment, TCFD, Green Bond Principles and Green Loan Principles
- Importance of monitoring and verification
- Green finance products and services (banking, insurance and investment)
- Green and sustainable FinTech tools and techniques
- Ethical dimensions of green and sustainable finance and the role of the Green Finance Professional

The Certificate is available to banking and finance professionals anywhere in the world. Guided self-study (130 hours) is supported by e-learning and an interactive workbook. Assessment is via a 1-hour objective test that can be taken in one of more than 5,000 exam centers worldwide, or via remote invigilation.

To apply, please visit:
https://www.charteredbanker.com/qualification/green-finance-certificate.html

### What is the usefulness of the service/product?

To support the continued growth and mainstreaming of green and sustainable finance, banking and finance professionals need to develop the knowledge and expertise of green and sustainable finance principles and practice to help direct investments to support the transition to a low carbon world, address climate related risk, and explore green finance opportunities.

The Green Finance Certificate™ is the first global, benchmark qualification for Green and Sustainable Finance Professionals. As such, it is designed to set the global standard for banking and finance professionals working in this area. It can also help professionals develop their knowledge and skills in order to pursue new careers in green and sustainable finance.

To date, the Green Finance Certificate™ learning materials have been made available to more than 30,000 banking and finance professionals via the Chartered Banker Institute.

### Potential clients

The Green Finance Certificate™ is available globally, to all banking and finance professionals and to other individuals interested in this area.

In addition, the CBI works with other professional bodies and educators to make the Certificate directly available in countries and territories currently including Australia, Hong Kong, Kazakhstan and Portugal.

### Lessons Learned

*Need to embed green and sustainable finance education in mainstream finance curricula*

While a standalone Green Finance Certificate™ plays an important role in developing specialist knowledge and skills, for green finance to be successfully mainstreamed these need to become part of the skillset for all finance professionals. The CBI is currently working to embed green and sustainable finance principles and practice into all of the Institute's banking and finance programmes.

*Rapid developments in green and sustainable finance mean regular updating is required*

The continued development of the green and sustainable finance sector, including climate science updates, regulatory developments, new market standards and guidelines and the launch of new products and services makes it challenging to keep the Green Finance Certificate™ up-to-date. Annual updates are released, and the Institute also provides a wide range of additional learning materials and online events to help banking and finance professionals develop and maintain their knowledge and skills.

| | |
|---|---|
| **Name of the entity** | **Legal & General Investment Management** |
| **Type of service/product** | Investment Management |
| **Operating mode** | LGIM is the investment management arm of Legal & General Group, a FTSE 100 company. One of Europe's largest asset managers and a major global investor, with assets under management of £1.2 trillion (as at 31 December 2019). |
| **Sustainability scope of action** | <table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>YES /</td><td>YES /</td><td>YES /</td></tr></table> |
| **Business sector closely linked to your service /product** | Financial services |
| **Year of foundation entity / service_product** | 1970 (LGIM founded) / 2016 (launch of the Future World Fund) |
| **Contact details** | Alexander Burr<br>Global ESG Public Policy Analyst<br>alexander.burr@lgim.com<br>+44 (0)203 124 305 |
| **Link (web page)** | www.lgim.com |

## Case Nº2 United Kingdom – Legal & General Investment Management

### About LGIM

Legal & General Investment Management is one of Europe's largest asset managers. Their purpose is improving the lives of their customers, building a better society for the long term and creating value for their shareholders. As a major global investor, LGIM recognizes it must play a role in providing investment solutions to a low-carbon transition.

### "The Future World Fund"

LGIM worked with one of the UK's largest private pension schemes to create a low-carbon fund that did not compromise on performance and diversification. The Future World Fund 'tilts' investment exposure *away* from companies with high carbon emissions and fossil fuel reserves and *towards* companies generating "green" revenues from low-carbon services and products.

The fund was intended to be the main *default* equity fund for the defined contribution section of the pension scheme – rather than just one fund option among many. The development of such products suitable for mainstream investors – which allow capital to flow at scale – will be essential in accelerating green finance.

To amplify impact, the climate 'tilt' works alongside LGIM's climate engagement programme – the Climate Impact Pledge. LGIM engages with circa 80 of the world's largest companies to improve their climate strategies, resulting in an annual ranking of leaders and laggards. Best performers are celebrated publicly, while the worst performers will be removed from the fund (and voted against across the rest of LGIM's funds).

### What is the usefulness of the service/product?

The fund sends an important signal to the market, both to investors and companies. It demonstrates that climate considerations can be incorporated in the pursuit of better risk-adjusted returns, and investors do not have to choose between environmental and financial performance. The fund has tracked its benchmark closely (even slightly outperforming) since its launch (as at 31/12/2019).

Furthermore, the Climate Impact Pledge encourages companies to take steps to remain successful in a low-carbon economy, and LGIM has seen some of the world's largest companies – from oil and gas to insurance – step up as a result of their engagement.

### Legal and regulatory framework

The fund reflects the growing investor need for options to address the financial risks associated with climate change. Its success has led to the development of further funds which incorporate environmental, social and governance (ESG) considerations, across all asset classes (equities, bonds, real assets) and investment styles (active, index).

### Potential clients

Initially designed for institutional investors, the Future World Fund has since been made available in a version for retail investors.

Current clients include the pension schemes of a major UK bank (the initial sponsor of the project), charities, NGOs, as well as a variety of retail investors.

### Lessons Learned

*There is appetite in the market for green mainstream funds*

Their approach has resonated with the market – once the fund was made available on a pension platform, it was chosen by a fifth of UK retail investors.

*Forceful engagement can drive company progress*

By linking their climate engagement directly to capital allocation, voting decisions, and public pressure, the Climate Impact Pledge has led to improvements from companies. As reported in their second annual ranking (https://www.lgim.com/uk/en/insights/our-thinking/market-insights/climate-impact-pledge-tackling-the-climate-emergency.html) this includes some of the companies that had initially been removed from the fund in the first year. UK pensions minister has praised LGIM's approach as a 'notable exception' among asset managers, forcing 'firms to act fast in the hope of being reinstated'.

*There is further need for data innovation*

Relative to carbon data, significantly fewer companies provide sufficiently granular reporting on their 'green' revenue streams. Given a growing number of investors interested in targeting positive climate exposure – not just reducing high carbon – LGIM is encouraging investee companies to improve their disclosure in this space.

| Name of the entity | **Climate Bonds Initiative** | | |
|---|---|---|---|
| **Type of service/product** | Mobilizing global capital for climate action. | | |
| **Operating mode** | Non-profit registered as a charity in the UK | | |
| **Sustainability scope of action** | Environmental | Social | Governance |
| | YES | NO | YES |
| **Business sector closely linked to your service /product** | Financial sector and international bonds market | | |
| **Year of foundation entity / service_product** | 2010 | | |
| **Contact details** | Sean Kidney, CEO<br>sean@climatebonds.net<br>+44 (0) 7435 280 312. | | |
| **Link (web page)** | www.climatebonds.net | | |

## Case Nº 3 United Kingdom – Climate Bonds Initiative

### About Climate Bonds Initiative

Climate Bonds Initiative (CBI) is an international organisation working solely to mobilise the largest capital market of all, the $100 trillion bond market, for climate change solutions. CBI promotes investment in projects and assets necessary for a rapid transition to a low carbon and climate resilient economy.

The strategy is to develop a large and liquid Green and Climate Bonds Market that will help drive down the cost of capital for climate projects in developed and emerging markets; to grow aggregation mechanisms for fragmented sectors; and to support governments seeking to tap debt capital markets.

CBI is an investor-focused not-for-profit. Their work therefore is an open source public good.

### Their Services

**Providing Market Intelligence**

CBI produces reports on the evolution of the green bond market globally. It also tracks post-issuance reporting and green bond pricing in the primary market, green bond underwriter league tables and stock exchanges with green/sustainability bond segments. And undertake an annual survey of bonds outstanding globally related to climate change.

Their latest Green Bond Market Summary finds that global green bond and green loan issuance reached an adjusted $257.7bn in 2019, marking a new global record. The total is up by 51% on the final 2018 figure of $170.6bn. Of the total, USD10bn (4%) are green loans.

**Showcasing Green Infrastructure Investment Opportunities**

The Green Infrastructure Investment Opportunity (GIIO) programme aims to identify and demonstrate green infrastructure investment opportunities around the world. CBI has published GIIO reports on Indonesia and Australia & New Zealand.

**Certifying against a Trusted Standard**

The Climate Bonds Standard and Certification Scheme is a FairTrade-like labelling scheme for bonds. It is designed as an easy-to-use tool for investors and governments that assists them in prioritising investments that truly contribute to addressing climate change. The Standard is a public good resource for the market. The Climate Bonds Taxonomy is the backbone of the standards work and defines investments that are part of the low carbon economy. The Climate Bonds Standard is overseen by a Board representing $51 trillion of assets under management. The Standard and Taxonomy formed the basis of the recently published EU Taxonomy.

**Policy Research and Advisory**

CBI provides policy research, drafting and advisory services to help governments, central banks and other stakeholders create the enabling environment to mobilise global capital for climate action. CBI has worked with governments in developed and emerging markets to produce sustainable finance guidelines, reviewed infrastructure pipelines against the CBI Taxonomy and the EU Taxonomy, conducted research on re-financing options for on-tax energy efficiency programmes, and supported governments around the world with the efforts to develop green bond frameworks.

**Training and Capacity Building**

The Green Bond Boot Camp is an intensive training course intended as a comprehensive introduction for professionals who want to benefit from the fast-growing market in Green Bonds. From bond issuers, investors, central or commercial banks, capital markets specialists or other professionals in the field, attendees can benefit from CBI's expertise and intelligence including the most updated data and news in the Green bonds universe and can enjoy the opportunity to exchange knowledge between peers.

### What is the usefulness of the service/product?

Focusing on mobilizing global capital for climate action, CBI has proven itself to be a useful partner to governments, regulators, issuers, investors by providing a wide range of training, research, advisory, consultancy and certification services.

CBI's market data provides a comprehensive overview of the green bond market. Also provide analysis and commentary on new issuers, and maintain information the issuer's green bond framework, external review documentation and use of proceeds.

The CBI Taxonomy is a guide to climate aligned assets and projects. It is a tool for issuers, investors, governments and municipalities to help them understand what the key investments are that will deliver a low carbon economy. The Taxonomy aims to encourage and be an important resource for common green definitions across global markets, in a way that supports the growth of a cohesive thematic bond market that delivers a low carbon economy.

### Legal and regulatory framework

CBI supported the EU Technical Expert Group on Sustainable Finance in producing its final recommendations to the European Commission on the EU Taxonomy. The report contains recommendations relating to the overarching design of the Taxonomy. It also contains a summary of the economic activities covered by the technical screening criteria to which CBI provided input based on their experience developing the CBI Taxonomy.

The Climate Bonds Standards also served as a reference during the drafting of the Chinese green bond guidelines and the Preparation Instructions on the 2015 Green Bond Endorsed Project Catalogue.

### Potential clients

CBI is engaged with all actors throughout the financial market including issuers, investors, regulators, stock exchanges and governments. CBI certifies green bonds across numerous sectors including, but not limited to utilities, buildings, transport and agriculture.

In particular, CBI can work with sovereigns and sub-sovereigns government bodies that are interested in issuing green bonds, can identify and propose solutions to remove the barriers to investing in green projects, and conduct portfolio reviews of project pipelines against the CBI Taxonomy and the EU Taxonomy. CBI can also support national and regional efforts to develop new, or adopt existing taxonomies to serve as infrastructure procurement plans.

CBI is primarily active in Europe, China and the USA, and have a strong regional presence in Latin America, ASEAN and the Africa.

*Further Readings:*

2019 Green Bond Market Summary
https://www.climatebonds.net/resources/reports/2019-green-bond-market-summary

Green Bond European Investor Survey
https://www.climatebonds.net/resources/reports/green-bond-european-investor-survey-2019

<table>
<tr><td>Name of the entity</td><td>Vivid Economics Limited</td></tr>
<tr><td>Type of service/product</td><td>Economic Consultancy</td></tr>
<tr><td>Operating mode</td><td>Vivid Economics is a strategic economics consultancy spanning public policy and support for commercial decision making with a broad, international focus. Vivid’s teams of expert consultants apply deep and rigorous analysis to provide practical solutions that generate lasting value for its clients and for the world.</td></tr>
<tr><td>Sustainability scope of action</td><td><table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>YES</td><td>YES</td><td>YES</td></tr></table><br>Vivid Economics’ mission is ‘putting economics to good use’ with capabilities across: Carbon Markets / Climate & Disaster Resilience / Ecosystems & Natural Capital / Geospatial & Big Data Analytics / Net Zero Transitions / Market Design & Economic Regulation / Special Economic Zones / Sustainable Development / Technology & Innovation / Trade, Investment & Competitiveness / Transaction Advisory</td></tr>
<tr><td>Business sector closely linked to your service /product</td><td>Agriculture, Forestry & Land Use / Cities / Energy / Finance / Fisheries / Industry, Manufacturing & Mining / Oil & Gas / Transport & Logistics / Water</td></tr>
<tr><td>Year of foundation entity / service_product</td><td>2006 / _._._._</td></tr>
<tr><td>Contact details</td><td>Jason Eis | Executive Director T: +44 (0) 844 8000 254 info@videconomics.com<br>163 Eversholt Street, London, NW1 1BU Twitter: @videconomics</td></tr>
<tr><td>Link (web page)</td><td>www.videconomics.com</td></tr>
</table>

## Case Nº 4 United Kingdom – VIVID: The Inevitable Policy Response

### About VIVID

*Vivid Economics is a strategic economics consultancy spanning public policy and support for commercial decision making with a broad, international focus*

### The Inevitable Policy Response

The **Inevitable Policy Response (IPR)** is a pioneering project commissioned by the UN-supported **Principles of Responsible Investment (PRI)**, delivered in partnership with Vivid Economics, Energy Transition Advisors, Carbon Tracker Initiative, 2-Degrees Investing Initiative, and Grantham Institute on Climate Change and the Environment.

With support from The Finance Hub, the Gordon and Betty Moore Foundation, KR Foundation, and ClimateWorks Foundation.

### What is the usefulness of the service/product?

IPR predicts that an abrupt and disruptive policy response to climate change will happen by 2025, leading to sweeping changes to the economy including energy demand (oil, gas, coal and renewables), transport, food prices, crop yields, and rates of deforestation. This will create considerably greater disruption than many investors and businesses are prepared for today. IPR aims to:

- Prepare the financial markets for the ensuing portfolio risks and opportunities by providing a Forecast Policy Scenario (FPS), which lays out the policies that are likely to be implemented up to 2050 and quantifies the impact of this response on the real economy and financial markets.
- Deliver a reality-check to investors who assume governments will take limited action on climate change, while at the same time, provide them with a realistic forecasting tool to navigate this complex and evolving landscape.
- Respond to fresh concerns that financial markets are overly reliant on business-as-usual outlooks – such as the International Energy Agency's Stated Policy Scenario (STEPS) – that assume a limited policy response to climate change.

A core part of the project is the **Forecast Policy Scenario (FPS)**, which provides a high conviction, comprehensive and detailed picture of how the inevitable policy response to climate change will likely unfold and models the impact of the forecasted policies on the real economy up to 2050

Unlike other climate scenarios that are reverse-engineered from a pre-defined temperature goal – such as achieving well below 2°C – the Forecast Policy Scenario "works up" from a detailed, realistic and probabilistic assessment of policy and technology developments, taking into account current institutional and behavioural limitations. A dedicated website can be found here.

### Legal and regulatory framework

In 2017, the Task Force on Climate-related Financial Disclosures (TCFD) released its final recommendations, which provide a framework for companies and other organizations to develop more effective climate-related financial disclosures through their existing reporting processes.

Although currently voluntary in nature, there is wide agreement among market participants and regulators that TCFD disclosures will become mandatory in the near future. This would include a requirement that investors disclose on how their boards undertake forward-looking climate risk assessment to test the resilience of investment strategy. IPR, alongside Paris Aligned scenarios, offers a way to engage boards and apply forward-looking climate risk assessment, enabling good practice investor disclosure.

### Potential clients

Local and national governments, multinational companies, international and non-government organizations, private and public financial institutions.

### Statistics or illustrations related to the product/service

Significant research materials have been released as part of this project, which outline the reasons why a forceful and disruptive policy response to climate change is likely by 2025; what policy levers are likely to be used and where; and what the impact will be on the macro economy.

Modelling of the asset level implications are released in stages. The release schedule has been structured as follows:

1. **Socialising the IPR concept** (September 2019 onwards) Introducing the concept – arguing why an inevitable policy response is likely occur by 2025. Research papers include:

   • What is IPR? - An introduction to the project – find it here

   • The trillion-dollar energy windfall – a discussion paper on tipping points in renewable energy markets, a key part in 'why' a policy response to climate change is likely within the near term – find it here

   • Business Mandate – a unique meta-analysis of public corporate support for the transition, a key part in 'why' a policy response to climate change is likely within the near term – find it here

2. **Modelling impacts on the real economy** (September 2019 onwards) Introducing the Forecast Policy Scenario – outlining what policy levers are likely to be used and where, before modelling what their impact on the macroeconomy would be. Research papers include:

   • Policy Forecasts - A robust real-world analysis outlines and justifies the forecast of what policies the economists expect to see – find it here

   • Forecast Policy Scenario: Macroeconomic Results - models the impact of the forecasted policies on the real economy up to 2050, tracing detailed effects on all emitting sectors, including changes to energy demand (oil, gas, coal), transport, food prices, crop yields, and rates of deforestation – find it here

3. **Modelling asset level implications** (December and Q1 2020 onwards) Expanding the Forecast Policy Scenario – providing investors with a unique business planning tool by modelling the impact of the inevitable policy response on the shares of the MSCI ACWI using a company "bottom up" approach.

   • Equity Results, December 2019 – Detailed analysis based on company level impacts and expressed at the sector level, which aims to improve investor understanding of the potential for major winners and losers to emerge between and within key sectors including energy, automobiles, utilities, minerals, and agriculture – find it here.

   • Real estate, sovereign debt, corporate debt, infrastructure and private equity, April 2020.

*Specialized media coverage:*

• FT - Investors must reset expectations of action on climate change, Fiona Reynolds' letter, 11th Sep 2019

• Responsible Investor - New long-term forecasts offer alternative to IEA scenario 11th September

• Reuters Breaking Views - Big Oil's climate smokescreen is about to clear, 13th September
• Dow Jones - Investors Expect Delayed But Forceful Climate Regulations, 13th September

• Environmental Finance - Don't rely on easy climate gains in land-use sector, PRI report warns, 13th September

• IPE – PRI develops 'inevitable policy response' forecast, 17th September

• Reuters - 'Markets face major risks over lax climate forecasts, top investors warn', 23rd Sep 2019

• Bloomberg - 'Investors Aren't Ready for Climate Policy Shifts, UN Group Says', 24th Sep 2019

• Financial Times – Climate change could cause a new mortgage default crisis, 26th Sep 2019

## Lessons Learned

The PRI's message to investors and companies is: "**Act now to protect and enhance the value of your portfolios by using the IPR forecast in your investment strategies"**.

| | |
|---|---|
| **Name of the entity** | **Financial Conduct Authority (FCA)** |
| **Type of service/product** | The Financial Conduct Authority is the conduct regulator for 59,000 financial services firms and financial markets in the UK and the prudential regulator for over 18,000 of those firms.<br><br>The **Green FinTech Challenge** was launched in October 2018 to support innovation and growth in the Green Finance sector as part of the government's Green Great Britain Week. |
| **Operating mode** | FCA is an independent public body funded entirely by fees charged to the firms regulated.<br><br>FCA's operational objectives are:<br>• To protect consumers<br>• To protect and enhance financial markets integrity of the UK financial system;<br>• To promote competition in the interests of consumers.<br><br>FCA's work and purpose defined by the Financial Services and Markets Act 2000 (FSMA). |
| **Sustainability scope of action** | Environmental: YES<br>Social: YES<br>Governance: YES |
| **Business sector closely linked to your service /product** | Financial sector / Consumers |
| **Year of foundation entity / service_product** | 01.04.2013<br>01.10.2018/ 11.01.2019 (Application period) |
| **Contact details** | FCA 12 Endeavour Square, London, E20 1JN<br>fintech.challenge@fca.org.uk Tel +44 (0)20 7066 4488 Tel: +44 (0)20 7066 5756 |
| **Link (web page)** | www.fca.org.uk |

## Case Nº 5 United Kingdom – FCA: The Green FinTech Challenge

### About the FINANCIAL CONDUCT AUTHORITY

The Financial Conduct Authority is the conduct regulator for 59,000 financial services firms and financial markets in the UK and the prudential regulator for over 18,000 of those firms.

### GREEN FINTECH CHALLENGE

The FCA wants a financial services market that works well when responding to the challenges of climate change, as well as the potential opportunities.

In October 2018 the Green FinTech Challenge was launched (application window closed Jan 11th, 2019) to support innovation and growth in the Green Finance sector as part of the government's Green Great Britain Week.

The initiative offers support via the most appropriate avenue for the successful applicant, depending on the individual needs and maturity of the firm. Successful applicants will benefit from a range of services, which include:

- The Regulatory Sandbox
- Direct Support
- The Advice Unit
- Bespoke Green Finance cohort engagement

### What is the usefulness of the service/product?

The FinTech Challenge is a **pilot approach for FCA Innovate**. This involves them taking a more active role in driving innovation in an area where there is see clear benefit to UK consumers and markets.

The pilot FinTech Challenge focuses on firms developing innovative solutions to assist in the UK's transition to a greener economy.

The FinTech Challenge does not replace other FCA's existing Innovate services.

Once the Green FinTech Challenge is completed, a decision on whether further Challenges will be rolled out will be taken.

### Legal and regulatory framework

Over the next few decades, climate change is likely to fundamentally transform the economies. The FCA takes all risks that have an impact on the regulated markets and institutions, including risks posed by climate change.

The approach to climate change: **Climate Change and Green Finance Discussion Paper**.

### Potential clients

The challenge was open to start-ups, incumbents and technology providers which met the eligibility criteria:

- Assisting in the transition to a greener economy
- Benefit to UK markets and consumers
- Need for Innovate services

### Statistics or illustrations related to the product/service

**9 firms have been accepted and are receiving support across the range of FCA Innovate's services**. FCA support has helped the firms understand the regulatory implications of their business models and accelerate their developments. It's also helped them to understand the issues facing innovative firms in this area and to identify common barriers to innovation.

- <u>Metrics and taxonomies</u>: Firms find it challenging to measure their own environmental impact, with inconsistent metrics and unclear expectations of what is required. Some of the Green FinTech Challenge firms are developing technology to more accurately measure environmental impact.
- <u>Transparency and disclosures</u>: Some of the Green Cohort firms felt that a lack of clarity in the requirements for funds to disclose how their asset allocation justifies the designation 'Environmental, Social, Governance ('ESG') can lead to difficulty for investors (institutional and retail) making like for like comparisons. A few of the firms in the Green Cohort are developing models

providing investors the opportunity to invest in ESG investments or renewable energy projects.

- Data and data quality: There is a lack of reliable ESG data in the green finance sector. Without better ESG data, analysis of firms or investments as to their environmental exposure or impact provides challenges to investors. This is exacerbated by the lack of consistent reporting standards and reporting requirements. There is a role for innovative technologies to improve the quality, quantity and accessibility of ESG data.
- Improving consumer behaviours: Providing consumers with better information on environmental impacts empowers them to make more sustainable choices.

**Sandbox firms**

- **Enian**: a machine-learning tool that uses live satellite data and draws on Enian's data library of 100,000 commercial solar photovoltaics (PV) and wind power assets to predict investment returns for greenfield projects.
- **Sustainability.Exchange**: a platform for corporate Environmental, Social and Governance (ESG) performance ratings and a blockchain-based prediction market, for ESG focused institutional investors.

**Direct Support firms:**

- **Barclays**: an impact investing ecosystem platform that aims to connect accelerators, fund managers, institutional investors, investor networks, and wealth managers.
- **CoEnergy.app**: a platform that automates the setup and management of share registry services for community energy projects.
- **Cogo**: an app that connects consumers with businesses that align with their social and environmental values.
- **Energimine**: a tokenised rewards platform which incentivises consumers to adopt greener lifestyle changes.
- **I-Warranty**: a mobile app that enables consumers to instantaneously capture receipts, register products and provide an easy to use, digital way to manage warranties and make claims. The app aims to reduce environmental impact by extending the lifespan of repairable goods and reduction e-waste and paper based warranties.

**Advice Unit firms:**

- **Neural Alpha**: a software development company that focuses on financial services. The firm is developing a software platform for matching investors' sustainability preferences to investments.
- **Plenitude**: an ethical robo-adviser that allows users to incorporate their values into their investments plan.

## Lessons Learned

In October 2018, the **Discussion Paper on Climate Change and Green Finance** was published. This sought views on potential FCA action on climate change and green finance, in line with the strategic objective of ensuring relevant financial markets function well.

On 16 October 2019 the FCA published a **feedback statement** identifies a number of priorities, which will provide a foundation for the FCA's future work on climate change and green finance, **focused on delivering the following outcomes**:

- **Issuers** provide markets with readily available, reliable and consistent information on their exposure to material climate change risks and opportunities.
- **Regulated financial services firms** integrate consideration of material climate change risks and opportunities into their business, risk and investment decisions.
- **Consumers** have access to green finance products and services, which meet their needs and preferences, and receive appropriate information and advice to support their investment decisions.

| | |
|---|---|
| **Name of the entity** | **The Oxford Sustainable Finance Programme, University of Oxford** |
| **Type of service/product** | Executive training |
| **Operating mode** | Teaching and engaging with institutional investors, banks, NGOs, and regulators |
| **Sustainability scope of action** | Environmental: YES / NO; Social: YES / NO; Governance: YES / NO<br>Environment-related risks, impacts, and opportunities across different sectors, geographies, and asset classes |
| **Business sector closely linked to your service /product** | Financial and public sectors |
| **Year of foundation entity / service_product** | The Oxford Sustainable Finance Programme at the University of Oxford Smith School of Enterprise and the Environment were established in 2012. |
| **Contact details** | Ben Caldecott <ben.caldecott@smithschool.ox.ac.uk><br>Xiaoyan Zhou <xiao.zhou@smithschool.ox.ac.uk> |
| **Link (web page)** | https://www.smithschool.ox.ac.uk/research/sustainable-finance/ |

## Case Nº 6. United Kingdom. Sustainable Finance Foundation Course

### About Oxford Sustainable Finance Programme

The Oxford Sustainable Finance Programme at the University of Oxford Smith School of Enterprise and the Environment is a multidisciplinary research centre working to be the world's best place for research and teaching on sustainable finance and investment. Established in 2012 to align the theory and practice of finance and investment with global environmental sustainability.

The Oxford Sustainable Finance Program researches environment-related risks, impacts, and opportunities across different sectors, geographies, and asset classes; how such factors are emerging and how they positively or negatively affect asset values; how they might be interrelated or correlated; their materiality (in terms of scale, impact, timing, and likelihood); who will be affected; and what affected groups can do to pre-emptively manage risk.

The production of high-quality research on the materiality of environment-related factors is a necessary, though insufficient, condition for these factors to be successfully integrated into decision-making. Consequently, development of data, analytics, frameworks, and models required to enable the integration of this information.

The Programme also directly engages with financial institutions (and policymakers and regulators) to manage environment-related risks, as well as capture opportunities associated with the transition to global environmental sustainability.

### "Sustainable Finance Foundation Course"

The Sustainable Finance Foundation Course (SFFC) was launched in 2016 and is the premier short-course on sustainable finance globally. It aims to attract the best and brightest current and future leaders and deliver a unique experience that equips participants with the knowledge and networks required to undertake significant future work on sustainable finance. The course is centred around a five-day residential workshop held at the University of Oxford from Monday 14th to Friday 18th September 2020.

The course has been designed and developed by the Oxford Sustainable Finance Programme as an introduction to sustainable finance for professionals working in a range of sectors, for example: executives working in financial institutions that need to understand how sustainability, the environment, and climate change relates to finance and investment; civil servants, regulators, and central bankers working to develop policies that can foster the development of sustainable finance; staff at environmental NGOs who would like to help the global financial system create better environmental outcomes; philanthropic funders looking to navigate sustainable finance topics so as to support the most impactful activities; and trustees or company directors that want to understand how sustainable finance relates to their fiduciary duties.

Participants will engage critically with systems and theories in sustainable finance and investment such as: active ownership, the carbon bubble, climate finance, conservation finance, disclosure, divestment, engagement, ESG, green banks, green bonds, green benchmarks and indices, impact investing, public private partnerships, reporting, responsible investment, stranded assets, and green taxonomies.

### Impact

The residential workshop is held over five consecutive days at the University of Oxford.

Through the course participants will 1) develop a foundational knowledge in the emerging theories and practice of sustainable finance and investment; 2) become confident in navigating and critically analysing the key aspects and developments in sustainable finance, as well as how to engage with different financial sector stakeholders for collaboration; and 3)study how different policies, regulations and supervisory expectations related to sustainable finance are evolving in different jurisdictions, their direction of travel, and opportunities for influence.

### Potential target group

The course is designed for financial institutions, civil servants, regulators, and central bankers.

| Name of the entity | Green Finance Institute |
|---|---|
| Type of service/product | The Green Finance Institute is an independent company initially funded by the UK Government and the City of London Corporation. Their mission is to actively mobilise capital towards an emission-free and climate resilient economy.<br><br>The Institute is financed by government, led by bankers and positioned as the principal interface between the public and private sectors on Green Finance collaboration in the UK. |
| Operating mode | The Institute's operating model focuses on convening extraordinary groups of experts across finance, industry, academia, civil society and government to unlock barriers to greater and faster deployment of green capital towards a sustainable, net-zero carbon economy which is also climate resilient. |
| Sustainability scope of action | Environmental: YES<br>Social: YES<br>Governance: YES |
| Business sector closely linked to your service /product | The Green Finance Institute works across public and private sectors, academia and civil society, focusing on financial solutions and products. |
| Year of foundation entity / service_product | 2019 |
| Contact details | Dr. Rhian- Mari Thomas rhian-mari.thomas@gfi.green |
| Link (web page) | https://www.greenfinanceinstitute.co.uk/ |

## Case Nº 7. United Kingdom – Green Finance Institute (GFI)

### About the Green Finance Institute

The Green Finance Institute was launched in July 2019. It is an independent organisation supported by seed funding from the UK Government and the City of London Corporation. Its mission is to mobilise capital through accelerating the domestic and global transition towards a sustainable, net-zero carbon and climate-resilient economy.

Sitting at the nexus of public and private sectors and rooted in the heart of the capital markets, the organisation is led by bankers and is the UK's principal forum for public and private sector collaboration in green finance. Its operating model focuses on three main objectives:

1. Convening and leading mission-led coalitions to structure and scale green finance solutions
2. Driving the global green finance agenda through international dialogue, partnerships and trade.
3. Supporting the greening of the financial system

### Summary of Projects and Coalitions

| Coalition | Description | Application |
|---|---|---|
| **Coalition for the Energy Efficiency of Buildings (CEEB)** | The Institute launched the CEEB with the central aim of developing the market for financing net-zero carbon, climate-resilient buildings by accelerating the pace of financial innovation. | The built environment accounts for 30% of emissions in the UK. Incentives to invest in the retrofitting of its building stock to make it more energy efficient is a major variable in reducing the UK's carbon footprint.<br>There are cross sectoral challenges which act as barriers to the retrofitting of homes which lack energy efficiency. Facilitating cross-sector collaboration helps to overcome these barriers. |
| **Global Resources Initiative (GRI) Taskforce** | The Green Finance Institute leads the finance working group of the GRI. It has several recommendations aimed at ensuring the UK's global commodity supply chain prioritises sustainable commodities. These include:<br>o Sustainable import guarantee<br>o Carbon offset exchange<br>o Blended finance advisory council<br>o Responsible commodities bond | A sustainable import guarantee: Providing a guarantee for sustainable Imports will improve the cost of capital and that saved cost can be passed to the customer. This will differentiate sustainable imports into the UK and drive demand for sustainable commodities across supply chains. |
| **Sovereign Bonds** | The Green Finance Institute is actively engaged in scaling the Sovereign Green Bond market, offering deep sector expertise to drive innovation and adoption across different countries | Green bonds can be used to mobilise capital for environmental causes and the transition to a net zero economy.<br><br>By supporting the UK Government in issuing a green bond, it provides a clear signal to private sector finance that green finance is supported in the UK. |
| **COP26** | The Green Finance Institute is a key partner to the UK Government in driving its COP26 programmes | The GFI and City of London Corporation co-host the Finance Friends of Cop26, to align and amplify the ambition of the financial services sector in support of UK Government's COP26 objectives. |

| Coalition | Description | Application |
|---|---|---|
| **Public Sector Education** | The Green Finance Institute hosted its first Public Sector Education Summit in October 2019. Nearly 300 delegates attended from 15 countries. | Upskilling the public sector to be comfortable with green financing and green financing opportunities is vital to reaching net zero targets. |

## Supporting the greening of the financial system

The Green Finance Institute also collaborates with financial regulators and policy makers to optimise commercial opportunities for financial services arising from regulation and policy developments. It sits on the FCA's and PRA's joint-chaired Climate Finance Risk Forum.

## Potential clients

The Institute does not operate a traditional client or membership model; rather it convenes global experts from across financial services, business, civil society, academia and government sectors on a voluntary and collaborative basis. Its model is to work with these partners to galvanise and aggregate momentum across the industry culminating in new financial instruments that green the economy.

The Green Finance Institute partners with stakeholders from relevant sectors of the financial community, based on the defined challenge being addressed (e.g. CEEB requires consumer lending, mortgages and insurance expertise (see notes in CEEB)).

## Statistics

Coalition for the Energy Efficiency of Buildings (CEEB)

- With more than 62% of residential buildings in the UK constructed before 1970, the built environment is responsible for over 30% of the nation's emissions. According to the UK Committee on Climate Change, energy consumption in UK homes must decrease by 24% before 2030 for the nation to meet its legally binding net-zero emissions target.
- In December 2019 the Institute convened 34 members to collaboratively develop the market for financing low-carbon buildings. Since launching, the coalition has garnered significant interest with more than 50 members now working alongside the Green Finance Institute to bring innovative financial solutions to market.
- The coalition members successfully delivered the 'market review phase' of the CEEB within two months and proposed a long-list of 23 'demonstrator' financial projects to help stimulate investment into energy efficient homes.
- The coalition will be proceeding to design, develop and launch a portfolio of financial and data demonstrators.

A further role of the Institute is working closely with the Government to drive the global green finance agenda through international dialogue, partnerships and trade. Examples of this work include:

- International Green Finance Coordination group – The Institute chairs a working group of Government departments and quasi-Governmental entities to enhance collaboration and knowledge sharing across the public sector on green finance initiatives.
  - The Institute is also exploring partnerships with similar representative organizations in different jurisdictions.
- Public Sector Education – The Institute has provided in conjunction with the Oxford University Sustainable Finance Programme 'Green Finance 101' training certificates to c.150 participants.

## Lessons Learned

*Clear lines of ownership and responsibility in projects facilitate more successful projects.*

The Green Finance Institute has been most successful when it has a clear mandate and the outcomes of its involvement are agreed at the outset. Furthermore, the outcomes should align to its vision and mission.

*Focusing on its core competencies helps the Green Finance Institute be effective.*

The Green Finance Institute is largely made up of individuals with experience in financial services and is able to use those skills to drive the development of new products and services alongside a close network of public and private sector actors, academics and civil society whose complementary skills are drawn upon as needed.

*Focusing on real economy outcomes*

The Institute's focus on real world outcomes is important as it ensures that their work is accessible to the real economy. For example, the CEEB focuses on residential properties and how they can be retrofited for energy efficiency.

| | |
|---|---|
| **Name of the entity** | **The Carbon Trust** |
| **Type of service/product** | A mission driven, not-for-profit pure play sustainability consultancy, the mission being to accelerate the move to a sustainable, low carbon economy. The Carbon Trust has provided advisory, assurance/certification and program management services to corporates, the public sector and governments globally for nearly twenty years. 220 employees across 7 offices, head office in London.<br>**SERVICES**<br>***Advisory*** – Science based target setting, business model innovation, footprint measurement and analysis, value chain and supply chain sustainability, climate change impact evaluation and TCFD disclosure, environmental reporting and disclosure, resource efficiency – carbon, water and waste measurement and reduction.<br>***Assurance*** – certification of GHG emissions, product footprint certification, ISO50001, PAS2080.<br>***Green Finance*** – Taxonomy design for green and sustainable activities, green and sustainable bonds framework design, Second Party Opinions, CBI pre and post verifier reports, impact assessment design and reporting, identification of green assets for financing purposes, capacity building for financial institutions, technical assistance for country or region level green finance market development programs, portfolio Footprinting and design. |
| **Operating mode** | As a not-for-profit mission driven organisation The Carbon Trust works on a fee basis related to time. Any project considered will be reviewed for both commercial practicality and mission impact. The Carbon Trust is not a lobbying organisation and will work with sectors or organisation that are seeking to transition their businesses towards a low carbon future. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | All sectors |
| **Year of foundation entity / service_product** | 2000 |
| **Contact details** | Gina Hall, Investment Director and Global Head of Sustainable Finance, gina.hall@carbontrust.com<br>Nick Harris, Senior Manager Green Finance, nick.harris@carbontrust.com |
| **Link (web page)** | www.carbontrust.com |

## Case Nº 8. United Kingdom – Carbon Trust

### About Carbon Trust

The Carbon Trust is a global Sustainability consultant with a specialist green finance team providing services to financial institutions. It seeks to help organisations either promote their green activities through assurance or develop their products, services or approach to investment through their sustainability advice.

### Carbon Trust

The Caron Trust provides: Taxonomy design for green and sustainable activities, green and sustainable bonds framework design, Second Party Opinions, CBI pre and post verifier reports, impact assessment design and reporting, identification of green assets for financing purposes, sustainability capacity building for financial institutions, technical assistance for country or region level green finance market development programs, portfolio foot printing and design, sustainability engagement with portfolio companies.

### What is the usefulness of the service/product?

The advisory services above help clients to understand and benefit from the opportunities that transition will present. On the other side of the coin their services help to identify and quantify risk related to climate change and thereby minimize it.

Their assurance activities help companies to avoid inadvertent greenwash or reputational risk by providing an authoritative and informed opinion on the green credentials of assets, products or services. At the same time this can provide reassurance to customers and investors.

### Legal and regulatory framework

Their services cover several areas of current and potential regulation. These include reporting requirements by listed companies to report their GHG emissions. Climate change related stress testing requirements from central banks. The activities and disclosure required of the plethora of bodies such as the PRI, GRI, SBTi, Equator principles etc. Their green bond work adheres to the standards required of labelled green bonds and The Carbon Trust is approved verifier to all the available standards. It also contributes through technical working groups to the EU's sustainable finance initiative.

### Potential clients

The Carbon Trust has individual specialist who work with the central and development banks, private banks, insurance, and asset management clients. The Carbon Trust has worked not just with leaders in green finance but with organisations at all points of their sustainability journey.

## Case 8B. United Kingdom. Carbon Trust EIB Transition Risk Assessment

### About the European Investment Bank

EIB is the world's largest international lending institutions. It is owned by the 27 Member States of the European Union (EU), and acts as principal EU's long-term lending institution. As a public bank with objectives driven by EU-policies, its leading priority is to promote European economic development and integration. The bank invests in a diverse range of sectors, with the largest portfolio exposure being in the transport, energy and industrial sectors.

### Project need

The EIB is aiming to develop a consistent approach to assessing climate risk in its portfolio, of which transition risk will be a potentially significant and immediate area of impact. The project covered supporting the EIB to identify the most appropriate risk assessment methodologies to use for its portfolio and to draft an implementation plan. This goal is built into the Bank's Climate Strategy which includes a commitment to "Assess and manage portfolio climate change risks". The recent release of the final report on Climate-related Disclosures by the European Commission's TEG on sustainable finance has created a link between the TCFD recommendations and the wider guidance on the Non-Financial Reporting Directive, cementing the importance of building appropriate capabilities at the EIB to assess climate risks in a way that is consistent with these disclosure frameworks.

### Carbon Trust services

The Carbon Trust supports EIB to:

- Create an overview of methodologies being used by financial institutions to assess climate change transition risk in their investment portfolios, identifying clear criteria to allow for comparability;
- Assess the methodologies based on their suitability and fit for the EIB, using an agreed system and drawing upon interviews with third-party stakeholders; and
- Recommend suitable methodologies and advise EIB on to how to take them forward.

### Outputs

The project resulted in developing a longlist of methodologies that were assessed against three preliminary criteria to produce a shortlist of most appropriate tools. Each shortlisted tool was assessed against a range of criteria that relate to 4 overarching categories:

- General: Overarching information related to the tool, including the existing users, the extent to which the tool is aligned with the TCFD and the range of climate scenarios covered
- Nature of Risk: The types of risks that the tool assesses at an asset and portfolio-level, including the breadth of risk factors considered
- EIB Applicability: The extent to which the tool covers the geographies, instruments and sectors that are of importance for the EIB
- Implementation: The manner in which the tool can be integrated into the existing risk assessment practices of the EIB, including data requirements and the types of outputs that are produced

In addition, Carbon Trust have engaged with the internal Sustainability and Risk teams to understand how climate risk is currently being considered in the lending process, and to identify how to integrate the chosen methodology into the banks processes.

### About the Client

The client is one of the UK's major retail banks. They provide a full range of services across personal and corporate customers

The bank is committing to an ambitious sustainability program which aligns itself with the UK's emissions reductions goals and the aims of the government's green finance strategy. They have also committed to reporting according the Task Force on Climate Related Disclosures.

### Project need

In order to support their sustainability ambitions the need for a set of sustainability metrics and targets was identified. The purpose was to Demonstrate the bank's contribution to the UK's transition to a low carbon economy and to enable the bank to identify business opportunities and risks going forward in each of the business areas.

### Carbon Trust services

To develop a sustainability metrics framework that could be used to measure, track and communicate progress towards the bank's sustainability ambitions.

### Outputs

The project was divided in to 5 stages.

1. Framework development
2. Metrics development
3. Target setting on the basis of UK Climate ambition
4. Current performance against target
5. Review and set sector specific targets

The initial framework development reviewed the landscape of metrics and target setting across peers in the industry and leaders in sectors outside financial services, to establish what leadership looked like and to provide a comprehensive set of potential metrics for each of the business areas in the bank.

The Metric Development phase took the outputs of the framework and in conjunction with the business units agreed one or two suitable metrics. Having established the metric, relevant decarbonisation pathways were created to inform the setting of targets.

These targets were then tested against current performance. This process was intended firstly to highlight any data gaps or inconsistencies that would need addressing, and secondly to give a sense of the tasks required to bridge any gaps and the implications for those business areas.

The outputs also served to support the bank's reporting against TCFD, specifically in addressing the requirement for setting metrics and targets, but also by informing thinking related to risks and opportunities presented by transition to a low carbon economy from regulatory and market risk principally.

| | |
|---|---|
| **Name of the entity** | **CFA Society of the UK** |
| **Type of service/product** | The Certificate in ESG Investing – an Ofqual regulated Level 4 qualification providing investment professionals with knowledge and skills with regard to the integration of environmental, social and governance factors into investment decision-making. |
| **Operating mode** | The Certificate in ESG Investing is delivered through computer-based training at test centres throughout the UK and in some EU countries, including Spain. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | Investment Management |
| **Year of foundation entity / service_product** | 1955 /2019 |
| **Contact details** | Will Goodhart, Chief Executive, wgoodhart@cfauk.org; +44 207 648 6212 |
| **Link (web page)** | https://www.cfauk.org/study/esg |

## Case Nº 9. United Kingdom – CFA Society UK

### About CFA Society UK

CFA Society UK is a professional membership body representing more than 12,000 investment professionals. The society promotes the highest standards of ethics, education and professional excellence in the investment sector.

CFA UK is part of the worldwide network of member societies of CFA Institute, the global, not-for-profit association of investment professionals, that awards the CFA and CIPM designations.

CFA UK's mission is to build a better investment profession by serving the public interest. This means ensuring that investment professionals have the skills and knowledge to invest sustainably taking environmental, social and governance factors into account.

### Certificate in ESG Investing

CFA UK is the awarding body for the Certificate in ESG Investing. The certificate covers the following syllabus and requires around 130 hours of study before candidates sit the exam through computer-based testing at test centres across Europe.

The ESG market • Governance factors • Environmental factors • Social factors • ESG Analysis, Valuation and Integration • Engagement and Stewardship • ESG Integrated Portfolio Construction and Management • Investment Mandates, Portfolio Analytics and Client Reporting

CFA UK is proud to be working with sister societies such as CFA Society Spain to make the certificate available to candidates in Spain.

### What is the usefulness of the service/product?

Designed for practitioners working in investment roles who want to learn how to analyse and integrate material ESG factors, the certificate is also suitable for anyone working in sales & distribution, wealth management, product development, financial advice, consulting, risk and anyone looking to improve their understanding of ESG issues. The skills learned are equally applicable to all asset classes.

By studying for the Certificate in ESG Investing, individuals:

• Gain a unique and practical qualification • Improve their competitive career advantage

• Develop the skills and competencies to fulfil their fiduciary responsibilities and meet their firm's responsible investment mandates

### Legal and regulatory framework

Developed in consultation with leading firms and supported by the UN PRI, the certificate enables candidates to expand their ESG knowledge and skills.

As well as including extensive coverage of the regulatory and policy frameworks governing green finance and broader ESG issues across leading markets, the certificate is also a good way for employers to demonstrate their commitment to ensuring that their staff and trained and competent to incorporate ESG factors into investment advisory and investment management practices.

### Potential clients

The Certificate in ESG Investing is being used by investment firms, investment consultants, ratings agencies, index providers and others to broaden their teams' understanding of ESG issues and to bring them up to speed with the key concepts around green finance.

As the certificate, which was only launched in September 2019, becomes even more widely adopted within the investment sector, it is expected that Masters students, management consultants and others also to begin incorporating the study programme into their learning and development practices.

### Lessons Learned

*There is intense demand for learning around green finance and ESG*

CFA UK developed the Certificate in ESG Investing in response to market feedback and demand.

*The knowledge base and understanding of best practice are evolving rapidly*

Version 1 of the official training materials (OTM) for the Certificate in ESG Investing was published in June last year. Version 2 of the OTM will be published in May. The substantial additions and amendments to all of the chapters in the OTM reflect the rapid developments in regulation and policy as well as the evolution of investment practice. Relationships such as those with CFA Society Spain will prove vital in helping them to keep the certificate at the forefront of ESG thought and practice.

*The need for an understanding of climate finance and investment is starting to predominate*

One of the areas with significant demand for knowledge and skills is in the area of climate and investment. While there is considerable coverage of environmental issues in the Certificate in ESG Investing, it is observed that there is a need for a specialist certificate covering investment opportunities and investment risks with respect to climate. CFA looks forward to working with their fellow CFA member societies on the development and distribution of a new certificate in 2020 and 2021.

| | |
|---|---|
| **Name of the entity** | **The Investment Association** |
| **Type of service/product** | Industry-endorsed Framework to articulate the components of responsible investment |
| **Operating mode** | The Investment Association is a UK-based trade association that represents the investment management industry. It has some 250 members who have £7.7trn assets under management as well over 150 FinTech members operating in the industry and capital markets. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br><br>The Framework is intended to reflect the full range of responsible investment approaches carried out by investment managers. |
| **Business sector closely linked to your service /product** | Investment Management |
| **Year of foundation entity / service_product** | 1959 |
| **Contact details** | Jess Foulds<br>Policy Specialist, Capital Markets<br>Camomile Court, 23 Camomile Street, London EC3A 7LL |
| **Link (web page)** | https://www.theia.org/sites/default/files/2019-11/20191118-iaresponsibleinvestmentframework.pdf |

## Case Nº 10 United Kingdom – The Investment Association

### About the Investment Association

The Investment Association (IA) supports UK investment management, supporting British savers, investors and businesses. Its 250 members manage £7.7 trillion, £1.8 trillion of which is on behalf of European clients – providing the UK with an important economic contribution in the form of export earnings, tax paid, and jobs created.

*Sustainability and Responsible Investment at the IA*

At the start of 2018, the IA established sustainability and responsible investment as a policy area to consider the wider role of investment managers in relation to society and the environment. The IA has a Sustainability and Responsible Investment Committee made up of over 35 firms, which gives strategic direction to the industry's collective work. The development of standards and definitions plays a central role in this work and the IA launched its Responsible Investment Framework in November 2019. The Framework is a crucial step in bringing consistency to how investment managers describe responsible investment to policymakers, regulators and clients.

### The IA Responsible Investment Framework

The IA Responsible Investment Framework sets out the different ways in which investment managers carry out responsible investment.

It distinguishes between responsible investment on a firm-level and responsible investment at fund-level.

The firm-level part of the Framework captures responsible investment approaches that apply across the firm, specifically, stewardship, ESG integration and exclusions.

The fund-level part refers to the responsible investment characteristics of investment strategies, by way of investment funds or segregated mandates. This part of the Framework is made up of the following components:

1/ Exclusions e.g. norms-based exclusions;

2/ Sustainability focus e.g. sustainability themed funds or a positive tilt;

3/ Impact investing e.g. generating a positive social impact;

4/ ESG integration i.e. how firm-wide policies apply in practice to an investment strategy;

5/ Stewardship i.e. how firm-wide stewardship policies apply in practice to an investment strategy.

### What is the usefulness of the service/product?

The IA Responsible Investment Framework has multiple intended uses, including:

1/ Explaining to all audiences how investment managers carry out responsible investment;

2/ Publication of industry statistics for responsible investment;

3/ For IA member firms to use as they see fit, for example, with clients or to map product ranges against;

4/ To serve as a basis for the IA fund-level work to communicate responsible investment characteristics.

### Legal and regulatory framework

At the start of 2018, the lack of a common language and framework to describe different approaches to responsible investment was identified as a key barrier to the promotion and development of responsible investment in the UK.

To address this, the IA's Sustainability and Responsible Investment Committee agreed to take forward a workstream on standards and definitions.

In 2020, the IA's work on the communication of responsible investment characteristics at a fund-level is designed to help support the industry, in particular, given incoming changes to the MiFID Suitability Assessment. It can also help firms meet expectations around clarity of objectives set out in the FCA's Policy Statement 19/4.

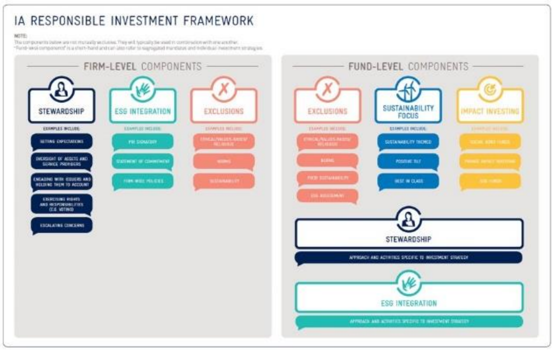
## Potential clients

The Framework is intended for – but not limited to – use by the IA and its members, as well as by stakeholders and partners who may wish to use the Framework as a reference point.

The IA intends to use the Framework to explain to different audiences, including policymakers and regulators, the different ways in which investment managers carry out responsible investment.

## Statistics or illustrations related to the product/service

The Framework consists of a diagram showing the different responsible investment components split across firm-level and fund-level and an accompanying glossary.




## Lessons Learned

Interest in responsible investment is clearly growing – from the investment management industry, policymakers and regulators, clients, and society. This can be driven by various different motivations, including:

- To maximise long term returns;
- To achieve particular sustainability outcomes (for example, investment in renewable energy); and/or
- To reflect a particular set of values or beliefs.

Ultimately, this increased focus also comes from a growing awareness that all agents have a part to play in promoting a more sustainable economy and planet.

The lack of a common language has been a significant barrier to date to the promotion and growth of responsible investment.

With the creation of the Responsible Investment Framework, the IA and its members have come together to bring clarity and consistency to the way investment managers describe responsible investment products and services to their clients and to make it easier for all savers to understand the opportunities available to them.

### *Next Steps*

In 2020, the IA continues to work towards industry collaboration with all key stakeholders to help promote and develop responsible investment. This includes:

- Wider socialisation of the IA Framework. Specifically, the IA is partnering with organisations and initiatives around the world to encourage the use of consistent language through adoption of the IA Framework;
- Publication of industry statistics in line with the Framework. In this way, the IA can demonstrate where there is growing interest in responsible investment through flows into responsible investment funds;
- Work on the communication of responsible investment at a fund-level, including further development of a UK retail product label;
- A dedicated focus on climate change – including preparations for COP 26 and the investment management industry's contribution to climate action;
- The Stewardship Working Group, part of HM Treasury's Asset Management Taskforce, has been tasked with enhancing the industry's contribution to the UK economy through stewardship and with encouraging long-termism within investment practices.

| | |
|---|---|
| **Name of the entity** | **The London Stock Exchange Group** |
| **Type of service/product** | Global financial markets infrastructure business. |
| **Operating mode** | |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | Information Services, Risk and Balance Sheet Management and Capital Formation |
| **Year of foundation entity / service_product** | London Stock Exchange is one of the world's oldest stock exchanges and can trace its history back more than 300 years. London Stock Exchange Group was created in October 2007 when London Stock Exchange merged with Milan Stock Exchange, Borsa Italiana. |
| **Contact details** | Ayuna Nechaeva<br>Head of Europe - Primary Markets |
| **Link (web page)** | https://www.lseg.com/ |

## Case Nº. 11 United Kingdom – London Stock Exchange Group

### About London Stock Exchange Group

The transition to a low-carbon or "net zero" economy is set to become one of the defining issues of the twenty-first century. The scientific community has detailed the risks, and many policymakers, regulators and businesses are now taking action.

An increasing number of companies and institutional investors are recognising the risks posed by climate change with the rationale for strong action clearer than ever. The green economy represents 6 percent of the market cap of global listed companies, approximately $4 trillion. With an estimated $30 trillion in assets under management now implementing sustainable investment strategies, investors around the globe are increasingly focused on sustainability. This figure is set to increase, with investment in Environmental, Social and Governance (ESG) based strategies growing by 20% annually. Sitting at the heart of the world's financial markets, London Stock Exchange Group (LSEG) is well positioned to support the global transition to a sustainable low-carbon economy.

In the UK, the FCA recently set out proposals designed to improve the climate change disclosures for companies and other issuers, building on the work of the industry-led Task Force on Climate-related Financial Disclosures (TCFD) and the UK Government's streamlined Energy and Carbon Reporting Framework. The Governor of the Bank of England, Mark Carney, said in a speech in October 2019 that "firms that align their business models to the transition to a net zero world will be rewarded handsomely. Those that fail to adapt will cease to exist." Sustainable business models and investment are now both an environmental and commercial imperative.

London is a global centre for green and sustainable finance and London Stock Exchange is leveraging the collective strength of their markets and the wider London Stock Exchange Group businesses. Together, with the expertise of the City of London, the LSEG is working to convene the market to respond to these key issues. By raising awareness and increasing knowledge LSEG can facilitate consistent, investment-grade information flows, showcase best practice and champion issuers in new growth markets.

LSEG is innovating across asset classes to develop the financial instruments needed to help all their issuers raise the capital they need to support long-term sustainable business models and infrastructure.

This includes:

**EQUITIES - Green Economy Mark**

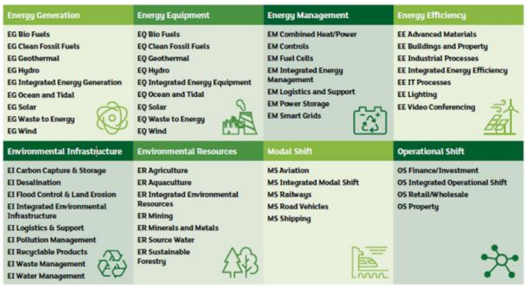
This is awarded to listed companies and funds across all segments of London's equity markets that generate 50%+ revenues from environmentally positive goods, products and services. Currently 74 issuers with a combined market capitalisation of more than £60bn have been awarded the Mark, with an approximate 50:50 split of Main Market and AIM issuers.

Underpinning the Mark is a comprehensive taxonomy of Green Revenues developed and managed by FTSE Russell for its global investor clients (table 1). The Mark enables investors to easily identify those issuers active in the green economy across all sectors – not only renewable energy but also areas such as chemicals, transport and agriculture that may otherwise be overlooked. It also enables London Stock Exchange to facilitate dialogue and engagement across a broad range of business activities that have a common environmental theme.

**FIXED INCOME - Sustainable Bond Market:**

London Stock Exchange listed the first ever green bond in 2007 from the World Bank and was the first major exchange to create a dedicated green bond segment in 2015 as that market grew. The latest evolution is the creation of a dedicated Sustainable Bond Market (SBM), comprising of separate segments for certified green, social, sustainability bonds, along with increased oversight of annual reporting. SBM also includes a segment for vanilla bonds from Green Economy issuers (using the taxonomy above) that generate 90%+ green revenues. There is potential within the structure for additional innovations, such as climate transition bonds, a concept that London Stock Exchange and other market actors are developing to enable heavy emitting sectors to raise capital to support their transition strategies.

**Green Revenues Taxonomy**




**ISSUER SUPPORT - Guide to Green Finance ESG Disclosure Score & online tool**

To help issuers understand and maximise opportunities London Stock Exchange develops guidance documents and tools for issuers and the advisory community.

Recognising that different industries are differently exposed to ESG risks, the **ESG Disclosure Score** is an innovation to help issuers understand what the key metrics for disclosure are in their sector. It provides a percentage score for their disclosure of the key ESG metrics for their industry sector and benchmarking against industry peers. The score is provided to large-cap issuers via the London Stock Exchange Issuer Services platform with industry average comparison. An online tool has been developed to enable all other issuers to calculate their own score, providing specific information on disclosure metrics using internationally recognised standards as well as industry benchmarks.

**"Navigating the Green Finance Landscape"** is a comprehensive 70-page guide to Green Finance providing investor and policy context to green finance and overviews of all relevant capital-raising tools, featuring issuer case studies. It was published in October 2019 and follows a previous publication providing guidance to issuers on effective ESG disclosure.

LSEG also regularly convenes the market on key topics. Often these may be on specialist areas such as green bonds or with regional focus. In October 2019 London Stock Exchange hosted its first **Sustainable Finance & Investment Summit**, a full-day conference with 'deep dive' workshops held at in London to support issuers. It featured panels of issuers, investors, regulators, policymakers and disclosure-standards bodies.

Downloads of the guide and detailed factsheets of the above initiatives are available from: [www.lseg.com/sustainable.](www.lseg.com/sustainable)

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|---|---|
| **Name of the entity** | **ENIAN (Energy Investment & Analysis)** |
| **Type of service/product** | Enterprise SaaS. ENIAN combine data, intelligence and workflow tools into a single Web interface to help renewable energy professionals accelerate project development. |
| **Operating mode** | Seed-stage startup. ENIAN have offices in London and Edinburgh. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br><br>ENIAN's vision is a future where every professional has access to the world's energy data and energy intelligence is shared across all industries. |
| **Business sector closely linked to your service /product** | Renewable energy project development. |
| **Year of foundation entity / service_product** | 2016/ _._._._ |
| **Contact details** | Phillip Bruner, Co-founder & CEO |
| **Link (web page)** | www.enian.co |

## Case Nº 12 United Kingdom – Energy Investment & Analysis

### About Energy Investment & Analysis

ENIAN is an enterprise SaaS company specialising in solutions for renewable energy professionals.

Their mission is to decentralize energy data access by mapping and sharing it globally.

Their flagship product is a B2B platform that enables rapid data-driven assessment of commercial wind and solar projects. The platform layers data, intelligence and workflow tools into a seamless UX helping augment decision-making for professionals across the value chain.

ENIAN increases the number of solar and wind projects that attract investment and the speed at which projects enter construction, positively impacting on all aspects of the energy trilemma.

Emissions reduction: Assuming 805 projects receive investment (by YR5) as a result of platform use, and an average project size of 2.6MW, carbon savings of 1950 tonnes of CO2e/year/project, translating to a saving of >1M tonnes CO2e over 5YRS.

Rapid scale-up of renewables will play a crucial role in meeting future energy supply, increasing security of supply. Help reduce dependence on imported fuels and long-term price volatility when energy demand is predicted to increase by 30% globally by 2030.

Strong political/market alignment fulfilling requirements from IRENA, Paris Agreement.

### What is the usefulness of the service/product?

INVESTORS & ADVISORS: (a) assess projects rapidly, accurately and enables better decision making. Market research indicates ~10% of projects are currently supported. Through enhancing decision making, ENIAN could increase this by 10% (direct feedback from UK Green Investment Bank) as more projects become bankable at scale => increased ROI of ~£20M for investors. (b) Reduction in upfront costs by 50% and time to reach financial close by 50%. (c) Greater investment in earlier stage, small-mid scale projects which are optimal from an engineering perspective with huge potential return.
DEVELOPERS: (a) improve the accuracy, reliability and speed of project prequalification (from 1 day to 1 hour/project); (b) reliably estimate ROI for RE projects of any type (supplier/technology) in any location; (c) a team of 10 data analysts for data collection and analysis costs ~£655k p.a. ENIAN eliminates prequalification costs through automation. (d) streamline decision-making => assuming average project size of 2.6MW with a CAPEX of £5M, an average saving of £100k/project through using the platform. If 805 projects receive investment by YR5, this translates to savings of >£80M.

### Legal and regulatory framework

Currently exploring enabling commercial transactions to be facilitated via the platform, which is an FCA regulated activity.

### Potential clients

Developers, investors and advisors.

### Statistics or illustrations related to the product/service

This is proprietary information. There are different models for holding client funds or partnering with an authorised fund. These are regulated activities that ENIAN are currently exploring the potential of.

### Lessons Learned

*Regulatory compliance with FCA regulations is an expensive commitment.*

The FCA sandbox is very useful for tech startups in that it gives them a space to explore the viability of a particular model before committing resources to compliance.

*Renewable energy is currently hindered due to a lack of clear and consistent regulatory incentives.*

Unlike the oil, gas and nuclear sector which are regular historical beneficiaries of consistent support from government, renewables have yet to see it.

| | |
|---|---|
| **Name of the entity** | **Lloyds Banking Group** |
| **Type of service/product** | Lending |
| **Operating mode** | The aim of the Clean Growth Financing Initiative (CGFI) is to be the widest UK green lending proposition in the market |
| **Sustainability scope of action** | Environmental: YES / NO; Social: YES / NO; Governance: YES / NO<br><br>The maximum number of text characters (with spaces) allowed in this subject line is 200. |
| **Business sector closely linked to your service /product** | Commercial Banking clients |
| **Year of foundation entity / service_product** | 14th May 2018 |
| **Contact details** | |
| **Link (web page)** | https://www.lloydsbank.com/business/commercial-banking/clean-growth-financing-initiative.html<br>https://business.bankofscotland.co.uk/25m-plus-turnover/products-and-services/financing/clean-growth-financing-initiative.html |

## Case Nº. 13 United Kingdom – LBG Clean Growth Finance Initiative

### About Lloyds Banking Group

As the UK's largest financial services group, Lloyds Banking Group (LBG) can make a real difference to tackling climate change by helping to finance a greener future together. This will require new ways of living, working and investing for their businesses and their customers.

LBG has set an ambitious goal to accelerate working with customers, government and the market to help reduce the carbon emissions financed by more than 50% by 2030. This is the estimated equivalent of removing the emissions produced by almost a quarter of UK homes.

There is an urgent need to transition to a low-carbon future, grow the green economy and promote green finance for the future prosperity of the UK. To enable the transition, more will be required from all organisations and government: LBG does not have all the answers today, but it is committed to continuing to make progress.

### Clean Growth Financing Initiative

LBG ambition is to become a leading UK commercial bank for sustainable growth, supporting their clients to transition to sustainable business models and operations, and to pursue new clean growth opportunities.

LBG supports business through their industry leading Clean Growth Financing Initiative (CGFI) which aims to be the widest UK green lending proposition in the market. The £2bn scheme offers discounted finance to commercial banking clients investing in a lower carbon future.

CGFI can support a broad range of investments in sustainable business – from small improvements in environmental impact, right through to large-scale renewable energy infrastructure.

For example, with support from CGFI, Teemill Tech, a sustainable t-shirt manufacturer, bought a 15,000 square feet site to expand its operations. Their renewable energy-powered factory on the Isle of Wight uses robotics and Artificial Intelligence, creating efficiencies that make sustainability affordable. Their expansion will increase capacity tenfold, creating 100 new jobs over the next three years.

### What is the usefulness of the service/product?

CGFI provides discounted funding for green investment and capital expenditure to help British businesses reduce environmental impacts and to support their transition to a low carbon economy business model.

This product is available for:

- Reduction in carbon and greenhouse gas emissions for core business processes, properties and infrastructure.
- Energy efficiency, renewables, environmental sustainability improvements or production of related products.
- Investment in low carbon vehicles and transport.
- Investment to improve water efficiency.
- Investment to reduce waste or improve recycling rate.

**For businesses with £3-£25 million turnover lending is available in Sterling as follows:**

0% arrangement fee for term lending (£50K min) or up to 25 basis points reduction on the all in fixed rate for asset finance (£25K min) for new / additional UK green investment and capital expenditure.

**For businesses with turnover over £25 million turnover lending is available in Sterling, Euro and US Dollar sterling as follows:**

Up to 25 basis points margin discount for qualifying green purposes on UK deals and up to 10 basis points on European deals for up to 5 years. The lending is available across term lending, purpose revolving credit facilities (£50K min) and asset finance (£25K min) for new / additional UK and European capex and investment.

### Eligibility Criteria

The CGFI eligibility criteria were built from existing green bond and emerging green Loan Markets Association (LMA) principles. LBG has simplified and widened these to better fit Commercial Banking lending and asset finance opportunities.

While green loan standards are evolving, LBG has teamed up with leading sustainability consultants to determine a list of qualifying green criteria.

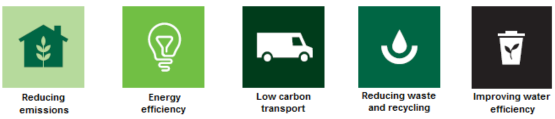
The criteria are also heavily guided by UK government Clean Growth Strategy.

### Potential clients

The scheme is available through the ringfenced bank to UK and European Economic Area commercial clients.

The loan purpose must be on the eligibility list and standard product terms & conditions apply.

### Pictures and Statistics related to CGFI




CGFI supports a range of eligible activity including reducing emissions, improving energy efficiency, reducing waste, improving water efficiency, and funding low carbon transport and renewable energy. In 2019, LBG expanded eligibility to include hire purchase and leasing in the agriculture and manufacturing sectors.

LBG has provided more than £950 million of financing since launching in 2018.

### Lessons Learned

*Clear purpose and robust environmental impact evaluation*

CGFI's purpose is to help businesses reduce environmental impacts (including energy usage, carbon / greenhouse gas emissions, reduction in waste).

Facilities provided for are for clear, specific green investments. General corporate facilities, re-financing of existing debt, or acquisitions are not eligible.

A side letter is completed alongside the facility agreement to document eligibility and support measurable benefit evaluation and due diligence.

Where investments are outside their published criteria, LBG works hard to evaluate whether they can meet sensible green finance thresholds, and if so adapt their criteria for the future.

*Positive social co-benefit*

While the main focus of CGFI is environmental impact, in some instances, the positive social co-benefit is created.

For example, Company Shop Group, the largest commercial redistributor of surplus food and household products in the UK, saved over 25,000 tonnes of good food which may have otherwise gone to waste. Supported by a £4.2 million funding package from CGFI, Company Shop Group, opened three new stores in 2019 where their members can enjoy high quality food and household brands at super low prices. This affordability is particularly important for low income households.

<table>
<tr><td>Name of the entity</td><td>Plenitude.io Ltd</td></tr>
<tr><td>Type of service/product</td><td>Values-driven digital wealth and pensions manager</td></tr>
<tr><td>Operating mode</td><td>Cloud-based B2B SaaS platform</td></tr>
<tr><td>Sustainability scope of action</td><td><table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>YES</td><td>YES</td><td>YES</td></tr></table><br>Low-carbon investments aligned with the Paris Agreement and the UN's Sustainability Development Goals (SDGs)</td></tr>
<tr><td>Business sector closely linked to your service /product</td><td>Financial services – Investment Management and Pensions</td></tr>
<tr><td>Year of foundation entity / service product</td><td>2016</td></tr>
<tr><td>Contact details</td><td>Geilan Malet-Bates, Co-Founder<br>geilan@plenitude.io</td></tr>
<tr><td>Link (web page)</td><td>www.plenitude.io</td></tr>
</table>

## Case Nº. 14 United Kingdom – ESG & Sustainable Investing

### About Plenitude

Plenitude is a London-based, B2B values-led digital wealth and pensions manager, established in London in 2016.

With more than 20 years' experience in capital markets in addition to industry-recognised ESG expertise, their focus is on delivering returns that are driven by ethical and climate-friendly practices. Plenitude believes that the financial sector is best placed to tackle the global climate crisis and that ESG investing is the future of investing if we are to reduce the climate change risks that we face. Plenitude's vision is one in which "ESG investing" is so widespread it is simply known as "investing".

Plenitude is a member of the UK Sustainable Investment and Finance Association (UKSIF), the only robo-advisor in the Financial Conduct Authority (FCA)'s first Green FinTech Challenge cohort – recognition for developing an innovative product to assist in the UK's transition to a greener economy - and an Appointed Representative of RiskSave, a leading FCA authorization entity.

In April, Plenitude was named one of the World's 100 Most Innovative WealthTech Companies in 2020, thus making the 2020 WealthTech100. Firms that make the list are independently considered the world's most innovative technology solution providers for asset managers, private banks and financial advisors.

### Plenitude product suite

- A **Robo-Advice platform** offering either a white-labelled or a co-branded Liability-Driven Investment (LDI) solution which, looks beyond simple risk and return principles, incorporating an investors' values alongside financial metrics, to provide holistic personalised investment guidance. This leads to positive long-term environmental and social outcomes in addition to sustainable financial returns.
- **Green Guidance** for retail investors and those at the start of their investing journey. Their proprietary database adds ethical and climate concerns to the investment and suitability process, developing engaging and relevant investment ideas.
- An institutional **ESG** advisory arm in partnership with a London-based boutique ETF firm in order to provide a better understanding of the risks and opportunities that could materially affect investment performance.
- Access to a range of the best and most appropriate **Funds** for their strategy which, are combined to match a client's requirements and reflect their commitment to only utilise those belonging to signatories of the UN-backed Principles for Responsible Investment (UNPRI).

### What is the usefulness of the service/product?

Their platform responds to the evidenced growing global demand for ESG and sustainable investing strategies by providing retail investors access to tailored investment guidance traditionally afforded solely to (U)HNWI and institutional investors.

Plenitude's patent for AI in investing prescribes three service layers which, allow for a straight-forward user journey for their customers' customers in aligning their values with their investments: 1) An environmental suitability and data module; 2) A more advanced ESG investment portfolio construction module and 3) ESG risk module which contains advanced risk management frameworks.

This effective approach allows for new business for those institutions lacking a sustainability division, at a low SaaS cost.

Their SIPP permissions allow them to help address both the large existing funding deficit in 80% of UK pension schemes (per 2019 PWC report) and the significant gender pensions gap, although Plenitude of course acknowledges that the latter is due to the underlying gender pay gap; according to Fidelity, the average millennial male auto-enrolled pension pot will be worth £142K at the State pension age of 68 whilst for women of this demographic it will be significantly less at only £126k.

### Legal and regulatory framework

As an investment manager, Plenitude is regulated by the FCA.

Additional legal and regulatory considerations key to their operations:

- The EU Taxonomy
- MIFID II
- ISO PAS 7340 & upcoming 7341

### Potential clients

Plenitude has the regulatory permissions to provide its services in the UK and throughout Europe to financial institutions who wish to target those individuals concerned about climate change and who want to align their investments with their values.

Morgan Stanley states that 95% of millennials are twice as likely to engage in an investment if it has a strong underlying ethical thesis. Deloitte note that half of assets under management by 2030 will belong to millennials and those in Generation X.

Their customers are Family Offices, private banks and wealth managers who can access that affluent market through their platform, whilst likewise allowing banks and building societies to offer their less-affluent clients access to ESG savings and pensions too.

### Statistics or illustrations related to the product/service

- Global Sustainable Investing Alliance (GSIA) 2018 biennial report shows a 34% increase in institutional fund flows into sustainable strategies, from $22.9 trillion in 2016 to $30.7 trillion in 2018 and with that figure surely higher now.
- European fund flows into sustainable strategies increased from ~ €45bn in 2018 to €120bn in 2019, across both active and passive investment strategies (Morgan Stanley research).
- A 2019 UK DFID survey reveals that 68% of UK savers want their investments to consider environmental and social impacts alongside financial performance: interest is even higher for people with investible assets over £25,000, millennials and women.

### Lessons Learned

#### Target market clarity

Their B2B approach has allowed them to successfully engage key partners in their quest to facilitate sustainable investing for, and have further reach into, a growing retail market.

#### The approach to offering guidance

Plenitude was fortunate enough to work with the FCA, within the scope of the Green FinTech Challenge on the nature of RoboAdvice and ethical investing and whether their platform would be offering guidance or advice. As such, they were in a unique position to receive an invaluable informal steer on the right way forward to present their product.

#### Transparency and clarity of ESG investments

Continuous rigorous steps will be required, given dislocations between data providers' ESG ratings and the lack of transparency behind scoring methodologies, to ensure the integrity of their investment platform, the soundness of the funds they choose and thus investments' adherence to ESG compliance.

| | |
|---|---|
| **Name of the entity** | **Macquarie's Green Investment Group** |
| **Type of service/product** | Specialist advice on green finance investment instruments and green impact reporting for public disclosure. |
| **Operating mode** | Green Investment Group (GIG) is a specialist developer, sponsor and investor with a mission to accelerate the transition to a greener global economy. |
| **Sustainability scope of action** | Environmental: YES; Social: NO; Governance: NO<br><br>Green Investment Group supports the growth of the global green economy by making new green infrastructure investments and developing new projects. |
| **Business sector closely linked to your service /product** | Green infrastructure investment |
| **Year of foundation entity / service product** | 2012 |
| **Contact details** | Lindsay Roberts – Head of Media and External Communications<br>GreenImpactAdvisory@greeninvestmentgroup.com<br>+44 20 3037 4014 |
| **Link (web page)** | www.greeninvestmentgroup.com |

## Case Nº 15. United Kingdom – Green Investment Group Advisory Services

### About Green Investment Group

Green Investment Group (GIG) is a specialist developer, sponsor and investor with a mission to accelerate the transition to a greener global economy. GIG originates from the Green Investment Bank (GIB) which was launched in 2012 by the UK Government, with the aim of mobilizing private finance into the green energy sector. This is a legacy that continued when GIB was acquired by Macquarie in 2017, and in less than three years GIG has continued to emerge as a unique global platform with one of the world's largest teams of specialist green investors.

Their investment decisions are underpinned by robust principles and policies designed to ensure that each investment contributes to their green purpose. it's the green impact of each investment is assessed, monitored and reported to the highest standards. Every investment considered by them must pass through a robust green impact assessment process before it can be approved, and is subject to robust, detailed and continuous green impact monitoring, spanning all aspects of its green performance.

A key focus for GIG is using this expertise to help its clients and third parties make greener choices. The global transition to a greener economy requires investors, corporates and governments to understand the impact of their investment and financing decisions, and importantly to ensure that they can stand up to scrutiny in defining "green". As the world's first green investment bank with expertise in green finance, measurement and sustainability, GIG is well positioned to support the growing demand for transparency stemming from investors, shareholders, regulators and communities. To do so, GIG and its regulated affiliates offer clients specialist advice on green finance investment instruments and green impact reporting for public disclosure.

### Green Impact Advisory Services

GIG's Green Impact Advisory Services help its clients by providing quantifiable assessments of the environmental benefits of assets, portfolios, funds and bonds. Services also include advice on developing sustainability frameworks and governance processes supporting green finance instruments.

GIG's Green Impact Reporting service is a market-leading approach to assessing the environmental benefits of assets, either standalone or aggregated. Produced by the Green Impact Advisory team, the reports present the actual and forecast green performance of the asset(s) and measure the alignment with the United Nations Sustainable Development Goals.

The GIG Carbon Score is a key element of the Green Impact Reporting methodology. In 2019, in collaboration with BloombergNEF (BNEF), GIG made available GIG Carbon Scores on the BNEF platform to measure the carbon reduction potential of over 40,000 solar and wind assets across the globe. The GIG Carbon Score presents a quantified estimate of the avoided annual greenhouse gas emissions of assets and portfolios.

### What is the usefulness of the service/product?

The products and services provided by GIG's Green Impact Advisory team provides crucial insight into the positive impact and benefits of green investments, enabling investors, corporates and governments to quantify their risk-adjusted investments into low carbon infrastructure.

As a leading investor itself in the green economy, GIG undertakes these rigorous methods of assessments to report on the green impact of all of its investments. In addition to the announcement of an asset purchase, data is collated annually and published in GIG's Annual Progress Report.

### Legal and regulatory framework

When GIB was established in 2012 there was not a harmonized approach from the investment community in measuring green impact. It was a concern for them that a lack of a robust methodology meant that investment opportunities to support the green economy were being overlooked by investors, and the justification for what was "green" was unclear.

GIG built its own approach to measure green impact, designed by an investor for investors. GIG published a description of its methodology in its green investment handbook. Ultimately, it has provided GIG and numerous other investors, governments and corporates with clear, accessible climate-related data.

### Potential clients

GIG interacts with the four key groups of operators in the green market:

- **Fund managers**: working to promote the green impact of their prospective funds be it assisting with fundraising or reporting to shareholders
- **Asset owners / developers**: articulating the positive impact of green infrastructure with clarity to attract investor appetite
- **Green bond / loan issuers**: undertaking proprietary Green Impact Assessment services, helping to ensure that issuance aligns with Green Bond Principles and Green Loan Principles impact reporting recommendations
- **Clients**: seeking advice on embedding robust green impact methodologies into data-centric solutions

### Statistics or illustrations related to the product/service

The GIG Green Impact methodology is informed by a mix of quantitative metrics, qualitative information and expert opinion, and have been applied to and calibrated on over $20bn of GIG's investments into green projects since 2012.

The pioneering Carbon Score methodology has been applied to over 40,000 wind and solar projects, making it possible for asset owners, fund managers, investors and developers to access powerful insights and analytical data on a global platform, allowing unprecedented measurement of contributions to climate goals. This represents over 60% of operational or consented projects globally, increasing the availability of standardized climate-related data.

### Lessons Learned

When GIB became GIG in 2017, it was their ambition to build GIG into a truly global business. As of 2020 GIG has invested significantly in the business to enable its move into project development, quadrupling the people working for GIG and its operating platforms from 100 to over 400 and working with their partners to build a global development pipeline in excess of 20 GW. This has enabled them to bring their specialist financial expertise to projects from their very inception to provide high-quality investment opportunities in more sophisticated markets and developing markets. 2019 was arguably the year which the climate emergency truly entered the public consciousness. Guided by GIG's enshrined green constitution, at GIG they're determined to continue leading the charge.

| | |
|---|---|
| **Name of the entity** | **CDP Worldwide** |
| **Type of service/product** | CDP runs a gold-standard disclosure system for investors, companies, cities, states and regions to report environmental impact. |
| **Operating mode** | CDP focuses investors, companies and cities on taking action to build a truly sustainable economy by measuring and understanding their environmental impact. |
| **Sustainability scope of action** | Environmental: YES; Social: NO; Governance: YES<br><br>CDP helps companies to measure and manage risks and opportunities on climate change, water security and deforestation |
| **Business sector closely linked to your service /product** | CDP works with investors, businesses, governments and other NGOs to drive systemic change. |
| **Year of foundation entity / service_product** | 2001 |
| **Contact details** | Paul Simpson - CEO |
| **Link (web page)** | www.cdp.net |

## Case Nº16. United Kingdom. CDP Worldwide

### About CDP Worldwide

CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to measure and manage their environmental impacts. Over the past 15 years CDP has created a system that has resulted in unparalleled engagement on environmental issues worldwide.

They want to see a thriving economy that works for people and planet in the long term. Information is a fundamental basis for action, and CDP helps investors, companies and cities to measure and understand their risks and opportunities on climate change, water security and deforestation, and thereby take action to build a truly sustainable economy. They do so at the request of their investors, purchasers and city stakeholders.

CDP aim to make environmental reporting mainstream and provide detailed insights to drive action for a climate safe, water secure, deforestation free world. These insights enable investors, companies, and governments to mitigate risks from the use of energy and natural resources, and to identify opportunities for taking a responsible approach to the environment.

### CDP's product

CDP works with investors and big buyers to drive a change in behaviour in private sector organisations across capital markets and supply chains, and reframe governance in such a way that aligning business strategy with the goals of the Paris Agreement is viewed as fundamental to managing risk, thus ensuring public and private investment flows are being re-engineered to favour zero carbon, climate resilient investments.

CDP has transformed its approach to disclosure to align with the sector focus of its research, league tables, recommendations from the Task-Force on Climate-Related Financial Disclosure (TCFD) and Science-Based-Targets (SBTs). It is working to reach a substantial breakthrough in engagement with key hard-to-abate/high emitting sectors to kick start the transformational shift by whole industry sectors.

The financial sector remains CDP's most powerful authority and they continue to drive increased levels of disclosure and stronger action through the allocation of capital. Nearly 300 major financial institutions already disclose through CDP -- including big names like Citibank, HSBC and Morgan Stanley. Following detailed consultation with the sector, CDP has launched its first questionnaire focusing on publicly listed financial services companies, specifically focusing on their financed impacts, and is further developing transition pathway methodologies, indicators and scoring for this industry, integrated into the disclosure platform for the cycles in 2021 and onwards. This will leverage the influence of banks to request disclosure from their borrower clients. These questions will help banks, asset managers and insurers understand their specific environmental impacts, while the data generated improves market understanding of the challenge. This development will fill a critical gap, highlighted by the international TCFD, amongst others.

### What is the usefulness of the service/product?

There is no longer any question that climate change will dominate the economies of the future. Recent announcements from the World Economic Forum, the outgoing Governor of the Bank of England, BlackRock and Microsoft show that the conversation around climate risk and opportunity has moved squarely into the world's most influential boardrooms. CDP's research backs this up. In 2019, 215 of the world's largest companies told them they saw nearly $1 trillion at risk from climate impacts, alongside a staggering $2 trillion in opportunities from things like low carbon technologies and sustainable business models. The business case for action could not be clearer, and consensus is building. Discussions now focus on how best to meet the challenges and harness the opportunities.

It will require good tools. As the gold standard in environmental reporting, CDP helps companies get data to respond to this growing market demand and works to identify and address blindspots in the system. Their scoring system benchmarks companies against each other in their performance against climate change, water security and forest indicators and their data is integrated into finance platforms such as Bloomberg and Google Finance.

## Legal and regulatory framework

The TCFD is calling for all financial institutions to fully engage in the decarbonisation of their portfolios and their recommendations are for the sector to shift focus to indirect financing – scope 3 emission - which are by far the largest source of carbon emissions financial institutions have influence over.

In June 2019, the EU published updated guidelines on non-financial reporting aligned with the TCFD recommendations, which CDP helped draft. Though these new guidelines are currently not binding, they help companies meet the requirements, and they also represent a transition of many EU states to become climate-neutral in line with the Paris Agreement by 2050.

At a national level, the UK has now pledged to become net-zero by 2050, the first of the G7 countries to make such a commitment. In addition, the UK has published its Green Finance Strategy that covers TCFD implementation in detail and expects all listed companies and large asset owners to disclose in line with the TCFD recommendations by 2022.

Critically the new generation of CDP's disclosure will also serve as a tool for compliance on climate related disclosure regulation in G20 economies

## Potential clients

CDP works with investors, businesses, governments and other NGOs to drive systemic change:

- CDP's annual climate change, water security and forests questionnaires are sent to companies on behalf of 515+ investor signatories representing US$106 trillion in assets.
- Over 147 major buyers, with combined purchasing power of US$4 trillion are asking their suppliers to disclose through CDP
- 8,400+ companies representing more than 50% of global market capitalization and 920 cities, states and regions now disclose environmental data through CDP.

## Statistics or illustrations related to the product/service

International investors, multinational companies, and global policy makers use CDP data and insights to make better-informed decisions. Responses to CDP's annual climate change, water security and forests questionnaires are disseminated across CDP's global networks and through the likes of Bloomberg, MSCI and S&P. This transparency allows investors, corporations, cities, states and regions to learn from each other faster, benchmark performance against peers and develop transition plans for a low-carbon future. This has led to:

- More than 641 million tons of CO2 emissions reductions by the highest emitting companies in 2018 – up 77% from the previous year.
- An additional 633 million tons of CO2 saved across 5,500 suppliers, resulting in cost reductions of US$19.3 billion.
- Over one-third of reporting cities committing to renewable energy or electricity target, including over 50 cities sourcing at least 75% of their energy from non-fossil fuel sources.
- More than 1,000 companies using a carbon price or working to integrate one in the next two years, in their business plans.

## Lessons Learned

As BlackRock CEO Larry Fink said recently, "The evidence on climate risk is compelling investors to reassess core assumptions about modern finance."

| | |
|---|---|
| **Name of the entity** | **Aviva Investors** |
| **Type of service/product** | Aviva Investors Climate Transition European equity Fund |
| **Operating mode** | European Equity Fund investing in listed European stocks. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br><br>This is a climate transition fund with an environmental scope. Aviva integrates ESG inputs within its process so that Social and Governance criteria are integrated as well. |
| **Business sector closely linked to your service /product** | All sectors listed |
| **Year of foundation entity / service_product** | 22/07/2019 |
| **Contact details** | Thomas Page-Lecuyer thomas.pagelecuyer@avivainvestors.com; +33 6 24 94 67 29 |
| **Link (web page)** | https://www.avivainvestors.com/en-gb/capabilities/equities/climate-transition-european-equity-fund/ |

## Case Nº 17. United Kingdom – Aviva Investors Climate Transition European Equity Fund

### About Aviva Investors

Global warming is one of the greatest challenges of the modern world. Aviva Investors, as a committed investor, must act and support the transition to a low-carbon and climate-resilient world. Through the fund, they invest in European companies that are making fundamental changes for a sustainable future.

They are committed to monitoring their investments in relation to the climate and being accountable for their impact. They are also an engaged shareholder and encourage companies to be transparent on ESG criteria. Their focus on market reform helps to ensure the right conditions for effective climate transition are created.

### Name of the product

Aviva Investors Climate Transition European equity fund seeks to outperform the broad European equity market whilst delivering positive climate risk management.

This strategy follows a pioneer approach to climate investing, whereby Aviva not only invests in Solution providers that are looking to reduce emissions and adapt to the physical impacts of climate change, but they also target Transition orientated companies aligning their business models for a warmer, low-carbon world.

Within the European equity universe, Aviva identifies the companies that can play a major role in the climate transition. First, they exclude companies that produce more carbon-intensive fossil fuels. Then they analyse each stock from two angles, using a selective filter: companies that offer solutions for adapting or alleviating climate change; and companies that are adjusting their operating and production methods to adapt to a world with higher temperatures, while reducing their carbon emissions.

### What is the usefulness of the product?

According to the OECD, delaying the transition to a low-carbon economic model will be costly: if action is delayed until 2025, it could cost G20 countries 2% of GDP after 10 years. The greater the delay, the higher the transition cost and the more abrupt the adjustment. Aviva Investors has continued to build on strong foundations for addressing climate change within its investment activities They also recognise that tackling climate breakdown will provide investment opportunities. S&P estimates that more than $10tn will need to be invested in clean energy through to 2040, which includes an additional $5.2tn in renewable energy on top of the $6.9tn business as usual forecast.

Aviva Investors launched its proprietary climate strategy model in order to support companies that provide solutions for reducing the impacts of, or adapting to the consequences of, climate breakdown as well as those which proactively steer their business models (throughout their entire value chain) to be resilient. Both to decarbonisation policies and physical change induced by climate variations.

### Legal and regulatory framework

The fund is ESG labelled, it meets the Luxflag criteria: being UCITS or AIFMD compliant, describe a clear ESG strategy, demonstrating

how it integrates its ESG strategy and criteria throughout the investment process, screening 100% of its invested portfolio according to one of the ESG strategies and standards, applying an exclusion policy, and publishing its full portfolio at least once per year and be transparent towards investors.

The fund meets the French Article 173 Energy Transition law disclosure requirements. The Article 173 Energy Transition law was adopted in August 2015 by France, the first country to introduce legislation enforcing companies, investors and banks to communicate on their climate risks management. On an annual basis, Aviva publishes a reporting about: 1.ESG integration: They integrated ESG inputs into their investment decision process using external and internal research, and they annually disclose how ESG inputs are integrated within investment policies and decisions. 2.Assessment of climate related risks: They provide full transparency on their portfolios for clear assessment of climate related risks, and they annually disclose how they manage and monitor physical as well as climate transition risks whilst defining improvement objectives

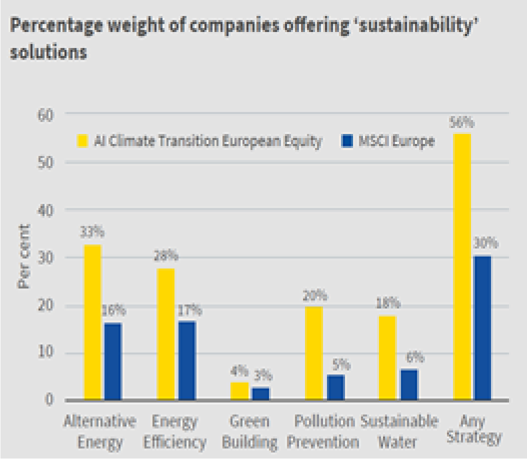
Aviva also promotes shareholder engagement to leverage their influence with invested companies and encourage increasingly sustainable and responsible practices, and to meet the disclosure requirements of Article 173 of the Energy Transition Act.
The fund is a Luxembourg SICAC and registered in Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland and UK.

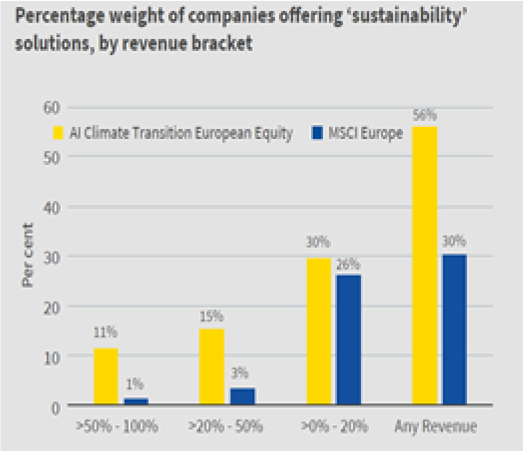
### Potential clients

Both institutional, wholesale, and retail clients. It is also intended for clients who need to meet sustainable investing requirements and want to integrate ESG risk.

### Statistics or illustrations related to the product/service

The illustrations below show the percentage weight of companies offering sustainability solutions in which the fund invested as at the end of December 2020. The second illustration shows it by revenue bracket.




Source: Aviva Investors, as at 31 December 2019

| | |
|---|---|
| **Name of the entity** | **HSBC UK** |
| **Type of service/product** | HSBC UK Bank plc is the HSBC Group's UK ring-fenced bank, largely comprising Retail Banking and Wealth Management, Commercial Banking and Private Banking. HSBC UK Bank plc and its subsidiaries form part of the HSBC Group. |
| **Operating mode** | The maximum number of text characters (with spaces) allowed in this subject line is 400. |
| **Sustainability scope of action** | Environmental: YES<br>Social: YES<br>Governance: YES |
| **Business sector closely linked to your service /product** | Commercial Banking (CMB) customers range from small enterprises focused primarily on their domestic markets, through to large corporates operating globally.<br><br>CMB supports their customers with tailored financial products and services to allow them to operate efficiently and to grow. C provide working capital, term loans, payment services and international trade facilitation. Through close collaboration with GB&M, HSBC can also offers expertise in mergers and acquisitions, and provide access to the capital markets. |
| **Year of foundation entity / service_product** | Their Green Loan proposition was launched in 2018 and expanded 2019. |
| **Contact details** | Matthew Swain<br>Matthew.swain@hsbc.com<br>0044 (0) 7920542670 |
| **Link (web page)** | https://www.about.hsbc.co.uk/hsbc-uk |

## Case Nº 18. United Kingdom – HSBC UK

### About HSBC UK

HSBC UK serves personal and business customers in the UK and has an extensive branch network across the country to support the needs of their customers.

HSBC UK was created on 1 July 2018 in response to the Financial Services (Banking Reform) Act 2013 which requires that all banks 'ring-fence' their core banking services in the UK by 1 January 2019.

### Their approach to Sustainability

HSBC recognises its wider obligations to the communities in which they operate, and understand economic growth must also be sustainable.

Their sustainable growth initiatives are set out in an integrated strategy aligned to their HSBC Group strategy and their global business operations. These initiatives are managed across three pillars: sustainable finance; sustainable networks and entrepreneurship; and future skills. These are underpinned by their sustainability risk policies and approach to sustainable operations. Now more than ever, there is a need to develop the skills, business innovation and low-carbon solutions needed to secure long-term prosperity for all. For HSBC UK, these are the key elements of sustainable growth which they can influence. More general information on their sustainability strategy is published annually in the HSBC Holdings plc ESG (Environmental, Social and Governance) Update.
https://www.hsbc.com/ourapproach/measuring-their-impact

### The development of Green Loans

A key objective for HSBC UK is to provide financing to enable the transition to a low-carbon economy and to help clients manage transition risk, provide credit and lending facilities, as well as advisory services and access to capital markets.

In July 2019, HSBC UK launched a Green Loan proposition for their Commercial Banking customers in the UK, aligning their Green Loan offering to the EMEA and Asia-Pacific Loan Market Association's ("LMA") Green Loan Principles ("GLP") published in March 2018, which aim to create market standards and guidelines, providing a consistent methodology for use across the green loan market. HSBC contributed to the publication of these principles.

There are four pillars that underpin the GLP, and any potential project must satisfy all four to qualify as a green loan. The first pillar is that the use of proceeds for the loan must be used for an eligible sustainable project. Secondly, under pillar two the borrower must provide their sustainability policies/objectives, and details of project selection. Pillar three ensures proceeds are tracked to maintain transparency and integrity, while pillar four outlines how the borrower must report on the use of proceeds and the progress of the project.

The HSBC Green Lending proposition is available for Green Term Loans, Green Revolving Credit Facilities and Green Asset Finance to Large Corporates, Mid-Market Enterprises and SMEs. Green Loans are available from a minimum size of £300,000, enabling businesses to access finance to support their sustainability projects. For Green RCFs, the minimum size of facility is £1m.

In 2019 HSBC UK provided the first GLP aligned Green RCF to a UK Real Estate Investment Trust, acting as Green Loan Coordinator on the transaction. The Green RCF was a tranche within a wider RCF facility, and the use of proceeds for this RCF is dictated by a 'Green Finance Framework'. This framework describes the borrower's sustainability objectives, the minimum green eligibility criteria, and the green development plan. This framework has been reviewed externally, and the borrower will also publish an independent verified report annually, confirming the terms of the green loan and the framework continue to be satisfied

In the UK they provided USD0.9bn of green loans and sustainable finance to their clients in 2019, and at a group level they have now provided or facilitated USD52.4bn of sustainable finance for their clients globally since announcing their sustainable finance aim to provide USD100bn of sustainable finance globally by 2025.

HSBC Group has issued USD3.4bn of green and sustainability bonds. HSBC's green bond report provides a summary and their asset register lists the loans that underpin the issuances. The latest report includes USD1.1bn of balances as at 30 June 2019 that were booked on the HSBC UK balance sheet. The green bond and asset register is available at www.hsbc.com/investors/fixed-income-investors/green-andsustainability-bonds

### What is the usefulness of the service/product?

The benefits of Green Loans include but are not limited to

Positive impact on the environment and/or positive mitigation to climate change.

The ability for the customer to strengthen their positive impact on reputation and credibility.

Providing greater resilience to market disruption caused by climate change and decreasing risk across portfolios.

### Legal and regulatory framework

As mentioned above the GLP are aligned to the EMEA and Asia-Pacific Loan Market Association's Green Loan Principles.

### Potential clients

HSBC has provided loans to corporates of all sizes in a range of sectors and for a range of project types, including green buildings, sustainable agriculture projects, renewables, and recycling projects.

### GLP 4 pillars

| GLP | |
|---|---|
| Pillar 1<br>Use of Proceeds | The utilisation of the loan proceeds must be for green projects |
| Pillar 2<br>Process for Project Evaluation and Selection | The borrower should communicate to the lender what their environmental sustainability objectives are and how they have assessed the project as being green / sustainable |
| Pillar 3<br>Management of Proceeds | The borrower should appropriately track the loan proceeds to ensure transparency and integrity in the use of the proceeds |
| Pillar 4<br>Reporting | The borrower should report on the use of proceeds and the progress of the project to the lender on an annual basis, or until the funds are fully drawn |

| | |
|---|---|
| **Name of the entity** | **Barclays** |
| **Type of service/product** | Barclays is a British universal bank. They are diversified by business, by different types of customer and client, and by geography. Their businesses include consumer banking and payments operations around the world, as well as a top-tier, full service, global corporate and investment bank Their purpose is creating opportunities to rise. For over 325 years they have funded progress, and today they remain committed to helping to make our world more sustainable, more inclusive and more connected For further information about Barclays, please visit their website home.barclays |
| **Operating mode** | The maximum number of text characters (with spaces) allowed in this subject line is 400. |
| **Sustainability scope of action** | <table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>YES</td><td>YES</td><td>YES</td></tr></table><br>Their five focus areas tackle the way they does business, through the themes of running a responsible business, supporting and enabling their colleagues, and managing their environmental and social impacts in a responsible way.<br>They are looking at the products and services they offer through the theme of making growth green, sustainable and inclusive. They are growing their social and environmental financing and targeting new and innovative product solutions.<br>Finally, they are supporting the wider agenda by investing in their communities, working in partnership with a range of organisations.<br>Their approach is underpinned by their commitment to the Principles for Responsible Banking (PRB), of which Barclays was one of the founding banks.<br>• ESG Resource Hub home.barclays/esg<br>• Corporate Bank Green Solutions https://www.barclayscorporate.com/solutions/solutions-from-across-barclays/green-solutions/<br>• Investment Banking https://www.investmentbank.barclays.com/banking.html<br>• ESG Research https://www.investmentbank.barclays.com/research/esg-research.html |
| **Business sector closely linked to your service /product** | Retail and Wholesale Financial Services |
| **Year of foundation entity / service_product** | 2017 for Green Product Suite |
| **Contact details** | Marco DeBenedictis \| Head of Sustainable Finance \| Sustainable Product Group \| Barclays International \|<br>Tel: +44 207 116 5670 \| Mob: +44 7999 410 999\| Email marco.debenedictis@barclays.com |
| **Link (web page)** | home.barclays |

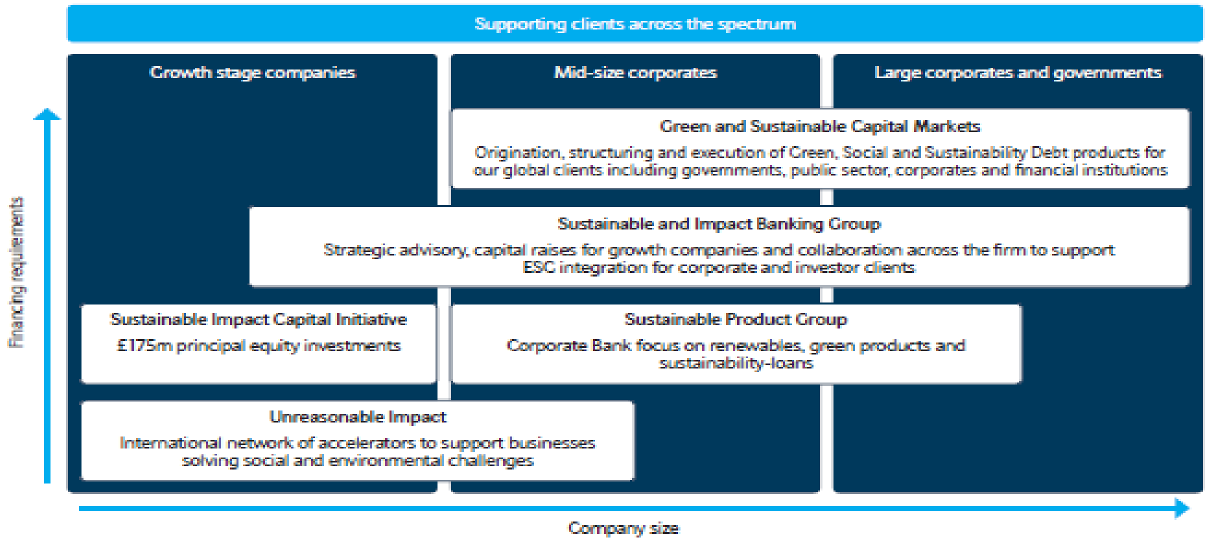
## Case Nº 19. United Kingdom – Barclays

### Barclays

### Their approach to enhancing sustainable finance

The existing platform for green and sustainable finance continues to grow and work towards facilitating £150bn in social and environmental financing by 2025. Barclayis has also increased its commitment to green finance, with a new target to provide at least £100bn of Green Finance by 2030.

As part of Barclays' client franchises, dedicated teams to deliver products and solutions across client segments and geographies have been established. Barclays also invests in strategic initiatives to help accelerate growth stage companies.

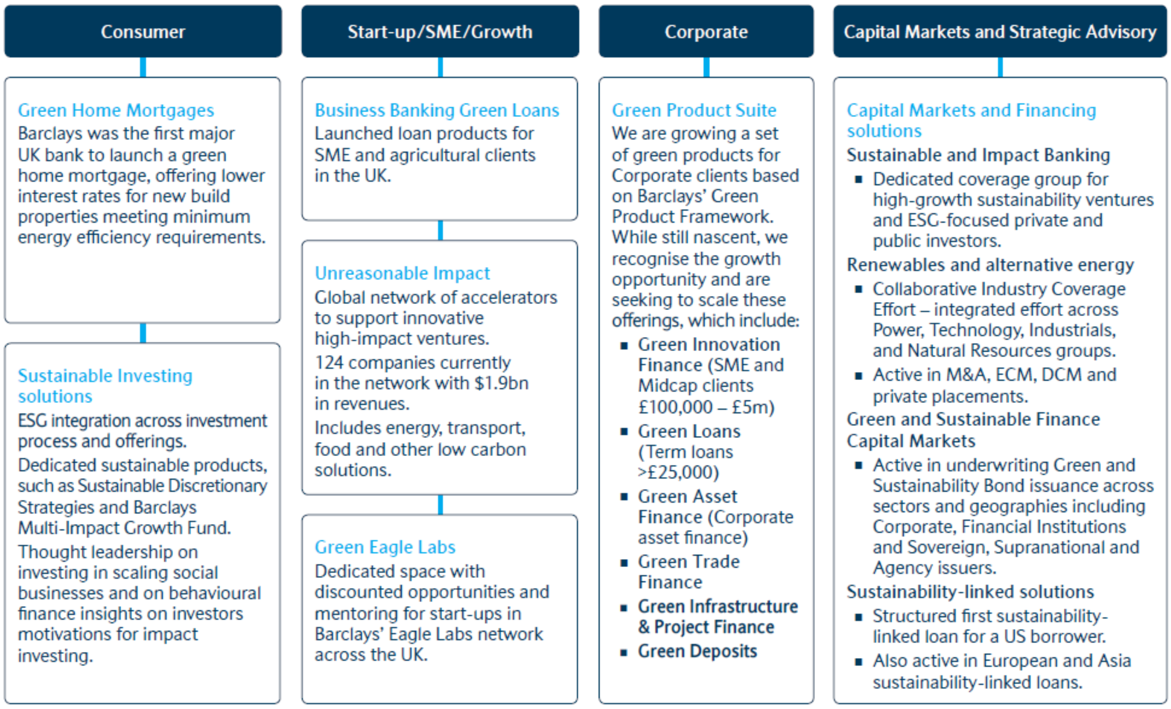



In March 2019, Barclays Banking business formalised and launched the Green and Sustainable Capital Markets team. The team originates, structures and executes green, social and sustainability debt capital market transactions as well as new products and issuance frameworks for then bank's clients globally.

The Sustainable and Impact Banking (SIB) group within the Investment Bank is advising two groups of corporate clients; emerging growth companies with an innovative technology or business model that is enabling the low-carbon economy and large established companies that are transitioning their businesses to become more sustainable. The SIB group advises these companies on corporate strategy and capital raising.

The Corporate Bank's Sustainable Product group focuses growth in renewables, project finance and sustainability-linked loans, whilst working with traditional product teams to develop future ESG offerings for SME and some large corporate clients.

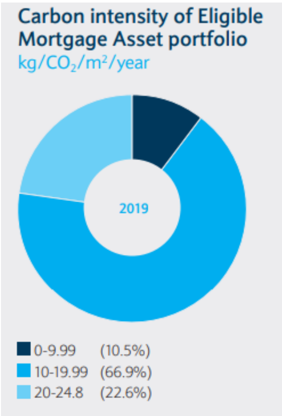
In 2019, the green and sustainable retail product offering was enhanced. Barclays has been working to improve accessibility of existing green finance products for example through the reduction of lending thresholds for then bank's UK Green loans from £1m to £25,000.

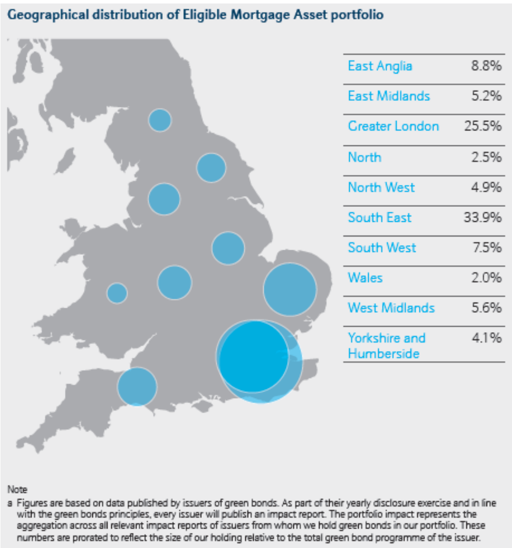



## Barclays PLC Green Bond Issuance and impact

Barclays was the first UK bank to issue a Green Bond using UK assets. In 2017, Barclays issued a EUR 500 million bond using UK assets. These proceeds were allocated to finance and refinance Barclays' residential mortgages on properties in England and Wales which are in the top 15% of the lowest carbon intensive buildings in these countries.

As at 31 December 2019, Barclay's Green Bond pool contained 1,723 mortgage loans for residential properties with a nominal value of £442.5m. The average carbon intensity for Barclays' allocated Eligible Mortgage Asset portfolio is 15.64KgCO2/m2, almost 67% lower than the EPC dataset average of 48.12KgCO2/m2. The portfolio generates an annual carbon saving of 6,919.66 tonnes CO2, or 13.84 tonnes of CO2 emissions for every EUR 1 million of bond proceeds allocated.



## Spain

| | |
|---|---|
| **Name of the entity** | **GreeMko, Green Management Technology** |
| **Type of service/product** | Calculate automatically the environmental footprint of your company with its own software, including the carbon footprint (Scope 1, 2 & 3). |
| **Operating mode** | The software captures automatically all the necessary data from the evidences. A SaaS solution for companies of all sizes and sectors to manage all the environmental aspects. The solution facilitates companies access to green loans and let financial institutions scale the issuance of green loans. Additionally, the solution for mobility calculates the carbon footprint from commuting. |
| **Sustainability scope of action** | Environmental: YES; Social: NO; Governance: NO<br><br>GreeMko facilitates companies their journey towards sustainability. Thanks to GreeMko software companies can focus in the important tasks, try to reduce their environmental impact, and not in the reporting. Mainly focus to UN SDG 13, Climate Action. |
| **Business sector closely linked to your service /product** | Software (Software as a Service) |
| **Year of foundation entity / service product** | 2018 / 2019 |
| **Contact details** | Jorge Portillo, +34 690119900, george@greemko.com |
| **Link (web page)** | www.greemko.com |

## Case Nº 1. Spain – GreeMko, Green Management Technology

### About "GreeMko"

The solution facilitates companies access to green loans and let financial institutions scale the issuance of green loans.

GreeMko satisfies the core components of the Green Loan Principles:

1. Historical data: fast analysis thanks to automatization.
2. Communication: stakeholders (bilateral and multilateral loan) can access the solution with different roles.
3. Follow up: establish and follow up throughout the year the Sustainable Performance Targets (KPIs).
4. Verification: third parties can verify easily and quickly (data traceability and evidences enclosed in the software).

### "Green Management Automation"

The first software that calculates automatically the environmental footprint of companies, assets or projects. Including the carbon footprint (Scope 1, 2 & 3).

Data is captured automatically: Forget to introduce data manually. Once all data is captured, carbon footprint is calculated automatically.

Dashboards: All the information in one click. Manage all the environmental aspect in an easy and efficient way, so environmental department can focus in more added value task.

Consolidation & report: Automatic & real time Reports, benchmarks, ratios and more from the whole company or a branch office. Save time & resources.

### What is the usefulness of the service/product?

Efficient since data is captured and consolidated automatically, reliable because the errors reduction and the data is traceable.

Easy access to management dashboards and reports for all kind environmental aspects (integral solution including, energy, water, waste, etc.).

And finally, it´s a global solution for companies with global presence.

### Legal and regulatory framework

Green Loans were issued according the Loan Market Association guidelines and they were verified by third parties.

The European Commission has published (March 2020) its final recommendations on the EU sustainable taxonomy, including "substantial new user guidance" to help investors and companies meet obligations for reporting against the framework.

The taxonomy is a list of economic activities and corresponding performance criteria consistent with the EU's commitment to reach net-zero carbon emissions by 2050.

### Potential clients

- Private and public companies willing to access to green loans.
- Financial institutions willing to scale the issuance of green loans.
- Multilateral Development Banks.
- Clients with global presence.

### Statistics or illustrations related to the product/service

The dashboard facilitates companies' environmental management and follow-up their objectives linked to their green loan.

## Lessons Learned

### Green Loans, part of the solution for a more sustainable economy.

Green Loans can bring the appropriate incentives for companies to start, or accelerate, their journey towards sustainability.

### A scalable solution.

Many financial institutions, private and public, are working to include sustainability linked products in their portfolio in the short or midterm. To do so, and in order to be available by companies of all sectors and sizes, scalable solutions are needed to facilitate the set off for the market.

### An integral solution.

A solution for all environmental related aspects so it can be used for green loan linked to water reduction, energy efficiency, waste reduction, carbon footprint or others.

| | |
|---|---|
| **Name of the entity** | **Forética** |
| **Type of service/product** | **SGE 21 Standard**. The first European standard for the implementation, auditing and certification of an ethically and socially responsible management system. |
| **Operating mode** | Business Association. Non-profit organization. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | Corporates and SME |
| **Year of foundation entity / service_product** | 1999<br>SGE 21 Standard. First edition launched in 2000. |
| **Contact details** | Jaime Silos, Director of Corporate Development<br>Calle Almagro 12, 3ª planta 28010 Madrid<br>Tel. +34 91 522 79 46<br>foretica@foretica.es |
| **Link (web page)** | www.foretica.org |

## Case Nº 2 Spain – SGE 21 Standard

### About Foretica

Forética is the leading organization in sustainability and corporate social responsibility. Its mission is to integrate the social, environmental and governance aspects into the strategy and management of companies and organizations. It currently consists of more than 240 partners, including 43% of the companies listed in the IBEX 35, as well as subsidiaries of multinationals, small and medium-sized enterprises, reference NGOs and personal partners.

Forética is the representative of the World Business Council for Sustainable Development (WBCSD) in Spain and therefore the Spanish Business Council for Sustainable Development. In Europe, Forética is a national partner of CSR Europe. In addition, it is part of the State Council of CSR in Spain.

### SGE 21 Standard

The standard consists of nine management areas that establish the requirements that are deemed appropriate to demonstrate the evidence of its implementation:

- Organization's Governance
- People at the organization
  http://foretica.org/sge21/
- Clients
- Suppliers and value chains
- Society and communities
- Environment
- Investors
- Competition
- Public Administrations

### What is the usefulness of the service/product?

- Enables better risk management.
- Promotes a responsible culture in the organization.
- It facilitates access to new clients that incorporate ESG aspects (such as public administrations or large corporations) into their procurement criteria.
- It is easily integrated with other management systems.
- It facilitates the obtaining of information and indicators of Social Responsibility.
- It helps to demonstrate to stakeholders the real commitment of the organization to the management of CSR, generating trust.
- It contributes to the credibility and trust of the organization thanks to the processes of review and external recognition.

### Legal and regulatory framework

The assessment of compliance with this Standard involves voluntarily acquiring a commitment to sustainability in economic, social and environmental matters. In addition, it involves applying ethical values, demonstrating them and maintaining them.

The certification process is carried out exclusively through Forética-approved certification bodies in three-year certification cycles (initial audit in the first year and follow-up audits in the following two years).

List of Forética Certification Entities:

- ADOK
- APPLUS + Certificación
- Bureau Veritas Certificación
- Cámara Certifica
- DNV Business Assurance
- Instituto de Certificación CDQ
- OCA Instituto de Certificación
- SGS
- TÜV Rheinland Ibérica

### Potential clients

Financial institutions, Corporates, SMEs and Non-profit organizations.

### Statistics or illustrations related to the product/service

146 entities have carried out an external evaluation process of SGE 21, both conformity assessment and certification as of Dec 2019.

### Lessons Learned

Implementing this system is a conviction for the management of the organization of its ability to generate responsible leadership.

Forética was a first mover globally presenting the first all-encompassing management system for Corporate Responsibility.

This standard has helped a number of SME accessing key European markets such as the UK and Germany particularly in the retail space.

It also provides great value for public procurement processes as it provides a thorough and independent third party assurance of company´s integration of environmental, social and governance practices.

| | |
|---|---|
| **Name of the entity** | **Afi School of Finance (Afi Escuela de Finanzas)** |
| **Type of service/product** | Executive Development Program specialized in Sustainable Finance |
| **Operating mode** | Afi School of Finance is a prestigious school of finance that offers a broad range of courses targeted at professionals and new graduates. |
| **Sustainability scope of action** | Environmental: YES<br>Social: YES<br>Governance: YES |
| **Business sector closely linked to your service /product** | The maximum number of text characters (with spaces) allowed in this subject line is 200. |
| **Year of foundation entity / service_product** | _._._._ / _._._._ |
| **Contact details** | Mónica Guardado, Managing Director<br>C/Marqués de Villamejor, 5, 28006 Madrid, Spain<br>Tel. (+34) 915 200 180<br>Twitter: @Afi_Escuela |
| **Link (web page)** | www.afiescueladefinanzas.es |

## Case Nº 3 Spain– Executive Development Program on Sustainable Finance

### About Afi Escuela de Finanzas

Afi is a leading Spanish provider of advisory, consultancy and training services in economics, finance and technology. It was founded in 1987 by a group of prominent academics and has gone on to become a benchmark in the financial arena. Afi Escuela's team comprises more than 150 highly-qualified professionals, including some 20 partners.

Afi' consultancy model is underpinned by rigorous expertise coupled with a strong customer orientation, service promise and innovation pledge. **Afi also operates Afi Escuela de Finanzas**, a prestigious school of finance that offers a broad range of courses targeted at professionals and new graduates.

After more than 25 years of activity, Afi Escuela has formed a large community of professionals in the economic-financial-technological field.

### Executive Development Program specialized in Sustainable Finance

Sustainability has become a cross-cutting trend affecting the economy as a whole, society and with particular relevance and impact, the financial sector.

Any progress in this area requires deep knowledge of regulatory trends; environmental, social and governance best practices; reporting obligations or financial valuation of sustainable products and projects.

This course 57-hour training program provides an inventory of the knowledge and practices proven in sustainable finance that have emerged in recent years, thereby offering adequate learning to develop the skills of participants in planning, access, sustainable finance delivery and monitoring.

The program is articulated on four pillars: (i) the role of regulations; (ii) the environmental dimension; (iii) the social sphere; (iv) and the economic operators involved (public institutions, financial institutions, asset managers, companies, etc.)

Syllabus

I. Sustainable finance in the new international financial agenda.
II. Sustainable finance in economic theory.
III. Development of climate scenarios.
IV. Stranded assets.
V. Sustainable financing, financial innovations at the product-level in the banking sector
VI. Public sustainable investment funds.
VII. Correction of environmental externalities.
VIII. The European market for CO2 emissions.
IX. Disclosure of corporate financial information.
X. Making risk maps.
XI. Accounting framework for long-term investments.
XII. Green Bonds and the capital market transition to a low-carbon economy.
XIII. Market investment and sustainable finance.
XIV. Sustainable financing, product-level financial innovations in the banking system. Financing of efficient technologies: mortgage finance.
XV. Fintech and Sustainable finance.
XVI. Climate risks from an insurance perspective.
XVII. Valuation of sustainable investments.
XVIII. The venture capital investment market and sustainable investments.

### What is the usefulness of the service/product?

The program brings together the knowledge and proven practices built up in the sustainable finance field in recent years, providing participants with the know-how and skills needed to plan, access, execute and monitor sustainable finance instruments.

Designed for people directly or indirectly linked to the financial sector who want to better understand sustainable finance, manage risks associated with environmental, social, and governance issues, or explore the links between sustainability and economics.

Attendees will be able to understand the logic of intervention behind sustainable finance, the elements on which it is based, the development and analysis methodologies that are applied, as well as basic concepts that will be involved in future regulatory developments at European level.

### Legal and regulatory framework

The training course is designed for those working on finance world who want to get a better understanding about the linkages between finance and sustainability. It explores the growing importance of environmental and social risk management, the new financial paradigm and its implication on performance.

### Potential clients

- Regulators working to develop policies that can encourage sustainable finance development.
- Strategic planning managers who need to identify the interrelationships between planning, the new trend in regulation on sustainable finance and market opportunities.
- Executives working in financial institutions that need an introduction to sustainability, the environment and climate change when it comes to finance and investment.
- Managers of risk control units of banks who want to incorporate sustainability considerations into their analyses.
- Asset managers who want to understand how sustainable finance relates to their fiduciary duties.
- Managers of philanthropic entities looking to master sustainable finance issues to support the most impactful activities.
- Responsible for the elaboration of reporting and disclosure of non-financial information.

### Statistics or illustrations related to the product/service

Forthcoming II Edition April-June 2020 (tentative due to COVID_19 health crisis).

### Lessons Learned

It does not give you the recipe, but it structures your way of thinking.

Those people interested in having a complete vision of the financial and non-financial aspects obtain from this course the ability to understand the relationship between both groups of factors.

A unique training program at the leading edge of sustainable finance knowledge

The programme brings together the knowledge and proven practices built up in the sustainable finance field in recent years, providing participants with the know-how and skills needed to plan, access, execute and monitor sustainable finance instruments.

| | |
|---|---|
| **Name of the entity** | CoHispania |
| **Type of service/product** | Consulting, appraisal and real estate valuation |
| **Operating mode** | |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | Real Estate |
| **Year of foundation entity / service_product** | 1989 / 2019 |
| **Contact details** | Eduardo Serra Gesta.<br>eserra@cohispania.com<br>+34 606457882 |
| **Link (web page)** | www.cohispania.com |

## Case Nº 4 Spain –CoHispania

### About CoHispania

CoHispania is an independent appraisal Company approved by Bank of Spain since 1989.

Experts in real estate valuations and appraisals of all types of real estate and purposes: mortgage, real estate investment funds, pension funds and Automated Valuation Model (AVM). Specialized in real estate, financial and industrial consulting, as well as valuations of companies, M&A and goodwill and intangible assets.

The only valuation company with an efficient valuation model for sustainable and energy efficient buildings, fundamental for financial institutions to start marketing green mortgages in Spain.

Creators of The Project Monitoring in 2007: Control and supervision activity between entity and client on any process related to the development of a construction. It helps the internal organization of the promoter, gives reliability to financial institutions and security to the end customer thanks to periodic reports on the status and progress of the work.

Valuation of sustainable and energy-efficient buildings. The valuation sector played a key role in designing a valuation model that took into account the energy efficiency and sustainability characteristics of buildings.

In 2019 CoHispania adopted this commitment by joining the EeMAP (Energy Efficient Mortgage) initiative aimed at creating a 'green' European mortgage or energy efficiency to incentivize borrowers to improve energy efficiency acquiring new ones with high energy efficiency. After months of work, an energy-efficient and sustainable building valuation and appraisal model came to light in 2019.

### What is the usefulness of the service/product?

The valuation of a sustainable or energy-efficient property includes aspects that are not taken into account in a traditional valuation.

This valuation report is essential for financial institutions to market green mortgages in Spain. This valuation report allows the financial institution to easily observe the efficient characteristics of the building to be financed and includes, for the end user, a recommendation guide and a summary on the sustainability of its property, divided in four main groups:

- Sustainability,
- Energy Efficiency,
- Health and
- Welfare and Construction

Also facilities and takes into account the demands of the most widespread certifiers in Spain:

- BREEAM
- LEED
- GREEN
- Passivhaus.

**Efficient valuation model structure**

1. Consideration of the elements evaluated in the 4 Certificates
2. Structuring the assessment through 4 large sections
   - 2.1. Energy efficiency
   - 2.2. Sustainability
   - 2.3. Health and welfare
   - 2.4. Construction and installations
3. Basic baseline parameters
   - 3.1. Climate zone according to CTE
   - 3.2. Type of building

   3.3. Type of works
   3.4. State
4. Complementary information
   4.1. Existence of building energy certificate and validity
   4.2. Energy rationing
   4.3. Possession of sustainable certification
   4.4. Certifier and certification category
   4.5. Existence of user guide

## Legal and regulatory framework

There is no legal obstacle to this initiative. Taking into account that the purpose of much of this type of valuation will be to obtain financing through a mortgage guarantee, the legislative limit in Spain to create this model is Order ECO/805/2003 and its subsequent amendments.

This ministerial order is not contrary to either Energy Efficiency or Sustainability, but one of the fundamental characteristics and differentiating of inefficient properties must be considered in the assessment. Otherwise, qualitative information on the good, which can influence its construction costs, a fundamental issue in a valuation and the value of the property, decisive in mortgage transactions, is omitted. It is therefore necessary to know, consider and assume that Energy Efficiency or Sustainability are intrinsically related to cost and value. This model is market oriented and focused on the specific demands of CoHispania's customers.

In Spain, the number of buildings built in some form of certification has increased to 45% in the last year. In addition, the new Technical Building Code published in December 2019 and which increases the level of demand to tend towards the Almost Zero Energy Consumption Buildings and adapts the Code to new requirements that will improve the performance in relation to both energy efficiency and their sustainability as well as the health, comfort and safety of users.


## Potential clients

Financial institutions, public administrations, end user.

## Illustrations related to the product/ service.

*Final assessment of a sustainable or energy-efficient building*


The property would present a good level of Energy Efficiency, and is very careful with aspects related to Health and Welfare, although it can be considered that it does not reach the appropriate levels, for its qualification as Sustainable Building- The property has good characteristics.

| | |
|---|---|
| **Name of the entity** | **Climate Strategy Group ("Climate Strategy & Partners")** |
| **Type of service/product** | Energy efficiency and low carbon asset identification, financial structuring, technology review, project management, fundraising, strategy consulting and energy efficiency project execution services. |
| **Operating mode** | Climate Strategy Group works with public and private sector clients who wish to mitigate performance risk and reduce energy consumption while generating stable financial savings, enhancing asset value and delivering other multiple defined benefits in a one-stop solution. In addition, Climate Strategy Group works to identify such projects, structure them for third party finance and provide strategy consulting services. |
| **Sustainability scope of action** | Environmental: YES; Social: NO; Governance: PARTIAL<br><br>Climate Strategy Group' work contributes to lowering CO2 emissions by upgrading city infrastructure, retrofitting buildings, upgrading equipment and by implementing innovative energy technologies. This work results in the improved habitability of buildings, improved health of occupants, improved competitiveness of industries, lower costs for cities and reduces energy poverty. |
| **Business sector closely linked to your service /product** | The product brings together financial as well as technical expertise, therefore the sectors closely linked to the product are the financial and ESCO sectors. |
| **Year of foundation entity / service_product** | 2009/2016 |
| **Contact details** | Mauricio Yrivarren, Senior Research Associate.<br>info@climatestrategy.com & myrivarren@eecapadvisors.com<br>+34 91 047 1969 |
| **Link (web page)** | www.climatestrategy.com (group)<br>www.eecapadvisors.com (product) |

# Case Nº 5 Spain – Energy Efficiency & Green Energy Asset Structuring

## About Climate Strategy Group (CSG)

Founded in 2009, by climate finance expert Peter Sweatman, CSG provides strategic consultancy in the opportunities created by the need to combat climate change.

In 2016, CSG launched its specialist energy efficiency finance subsidiary Energy Efficiency Capital Advisors (EECA) to provide clients with advice, financial solutions, structuring and execution services for their energy efficiency (EE) projects and investments.

Through the EECA team, CSG delivers the successful implementation of EE technologies for a range of businesses, developing tailor-made and low cost client solutions that cover the full cycle of the EE investment process.

### Tailor-made and efficient client solutions

*Six steps for solutions include:*

- Asset identification
- Financial structuring
- Technology review
- Project management
- Fundraising
- Execution services

### What is the usefulness of the service/product?

EECA offers a one-stop shop approach working with a client to structure solutions for commercial, retail, buildings, cities, industrial plants and governments with technical partners.

CSG's integrated solutions deliver the following:

- Increased income: by reducing energy and maintenance costs
- Enhanced value and performance: of property assets and commercial premises
- Investment-grade internal funding structures: to deliver optimal and secure economic and reporting outcomes

Selected examples can be seen in table 1.

**Table 1. Selected transactions in Spain**

| Client(s) | Service | Municipality | Technology | EECA Role |
|---|---|---|---|---|
| Eiffel & 3e | Structured bridge Loan facility for EE | Canyelles (Catalonia) | 2,000 Street lights | Lead Advisor |
| SUSI Partners & imesAPI | Non-recourse financing for street lighting upgrades | Puerto de la Cruz (Canary Islands) | 7,000 Street lights | Lead Advisor |
| SUSI Partners & Rubatec | Non-recourse financing for street lighting upgrades | La Roca del Valles (Catalonia) | 4,000 Street lights | Lead Advisor |
| SUSI Partners & CICE | Structured bridge Loan facility for EE | Flix (Catalonia) & Palomares del Río (Andalucia) | 7,000 Street lights | Lead Advisor |

### CSG's business model has three phases:

Screening phase (1-2 months):

- Asset identification: EECA will help Client and its FM review and sort in-house EE projects to create a potentially investable asset.

Structuring phase (2-4 months):

- Technology Review & Financial Structuring: EECA will define and agree appropriate contractual terms for this phase with Client and FM.

Execution phase (12-18 months):

- Third party fundraising & Project Management and Execution Services: EECA will coordinate the negotiation and signing of: (i) supply, installation and O&M agreement, (ii) project company financing agreement, and (iii) service contract between Project Company and Client based on savings sharing

## Current & potential clients

CSG has a presence in Spain and the UK, and products and services are available in Europe, the US, and LATAM. EECA (and CSG) works with cities, companies and governments and an array of institutions in the financial and energy technology space.

Selected clients at Group level includes: SUSI Partners, Rubatec, imesAPI, Caixa Bank, Clece, SICE, Ferrovial, Gestamp, the Government of Mexico, IPEEC G20, the European Commission, Repsol, UNEP FI, Braemar Energy Ventures, and Johnson Controls.

## Statistics

- As of 2020, EECA has refinanced EE projects for upwards of EUR 60MM.
- The EECA EE asset pipeline for Iberia for 2018/19 and for 2019/20 was of EUR 40MM and EUR 51MM respectively.
- Projects in the pipeline include: street lighting, public buildings, retail/tertiary, industry self-consumption, and renewable energy.

## Lessons Learned

*Independence*

EECA provides objective and independent advice without a bias for technology, structure, cost of capital nor financing source. In addition, EECA is entirely owned and managed by its partners and is therefore able to deliver optimal client solutions.

*Networks*

EECA has access to a formal network of energy efficient technology providers and institutional investors which has been developed over many years. This allows teams to identify, package and mine the EE investments of all classes from within CSG client's balance sheets creating "investments grade" assets for sale or retention.

*Policy Perspectives*

CSG a global leader in EE investment policy design. As EE asset performance is highly influenced by energy policy, EECA is well connected and positioned to advice clients on the identification, mitigation and management of these ricks and opportunities.

| | |
|---|---|
| **Name of the entity** | **Bankia Innovación** |
| **Type of service/product** | Financial Institution |
| **Operating mode** | Bankia is the fourth largest entity in the Spanish financial sector |
| **Sustainability scope of action** | Environmental: YES / NO; Social: YES / NO; Governance: YES / NO<br><br>Bankia has assessed its contribution to the 169 SDGs, taking into account its activity and mission as a financial institution and the important issues for its stakeholders. It has also taken into account the progress made by Spain in each SDG, as reflected in the Spanish Action Plan for the 2030 Agenda.<br>The result of this analysis has allowed them to identify how Bankia's activity makes a priority contribution to six of the 17 SDGs (7, 8, 9, 10, 16 and 17). In addition, the entity focuses on contributing to the SDGs of Sustainable Cities and Communities (SDG 11), Responsible Consumption (SDG 12), Gender Equality (SDG 5) and Quality Education (SDG 4). It also assumes and promotes the SDG for Climate Action (SDG 13) as a necessary global challenge for society as a whole.<br><br>In this way, Bankia's contribution to the SDGs can be classified into five blocks of activity: sustainable finance, financial inclusion, sustainable cities, equality and diversity and strong institutions and alliances. |
| **Business sector closely linked to your service /product** | Retail Banking and Business banking |
| **Year of foundation entity / service_product** | 2010/2017 |
| **Contact details** | Raquel Fernán Pisonero<br>; +34660129312;rfernan@bankia.com |
| **Link (web page)** | https://www.bankia.com/es/ |

## Case No. 6. Spain – BeGreen: Market place for GHG emission reduction management

*Bankia is a financial institution that operates* throughout Spain and whose activity is centred on retail and business banking.

Its main shareholder is the State.

In 2018, Bankia consolidated its position as the fourth largest financial institution in Spain, with a market share of more than 10% in the market as a whole.

- **Social Action**

**Throught Finantial support** for environmental projects developed by different NGOs and Foundations.

- **Bussiness**

Bankia assumes the Equator Principles as a tool for the management, evaluation and monitoring of **environmental and social risks** in the responsible financing of projects.

Bankia supports the **financing and climate change recommendations** of the Task Force on Climate-related Financial Disclosure (**TCFD**) promoted by the UN's Financial Stability Board (FSB).

**2019-2020 Responsible Management Plan**. Specific actions for contributing to the transition towards a low carbon economy through 1) **financing and 2) investment**

- **Environmental management**

**100% of the electricity** consumed in Bankia **is green energy** (with GoOs). RE100.

- **Carbon footprint management:**

Bankia has **registered its carbon footprint** for the years 2014- 2017 in the Carbon Footprint, Compensation and CO2 Absorption Projects MITECO dependent register.

**Reduction** (more than 15 MM€ investment on environmental projects);

**Offsetting** $CO_2$ emissions in the voluntary market (last year Bankia offset 12 % of its carbon footprint purchasing carbon credits from national an international projects);

### BeGreen: Market place for GHG emission reduction management

The project for the creation of a national market for the generation and exchange of carbon credits. The platform, based on Blockchain technology, will allow agents who are interested in offsetting their carbon footprint, access CO2 credits generated in national projects, thereby promoting the Ecological Transition and promoting the fulfilment of the Sustainable Development Goals.

### What is the usefulness of the service/product?

Bankia's objective with this program is to contribute to the technological transformation of the Spanish productive sector towards a low carbon economy.

For this, specific financial products will be created linked to the change from polluting technologies to clean technologies that facilitate the development of these projects. Once they have been executed, they will have the possibility of being incorporated into a collaborative platform where the CO2 reductions generated within the framework of the CLIMA PROJECTS are made visible and can be acquired by MITECO.

To guarantee the transparency, reliability and immutability of the process, blockchain technology will be used that will highlight the verified reductions in CO2 emissions linked to these initiatives that would otherwise be lost.

The blockchain technology allow them:

- Verify in real time the destination of the investment made in the project.
- Optimize the process of monitoring, reporting and verification of carbon credits.
- Guarantee full transparency of the process.
- Eliminate the risk of double accounting.
- Reduce the time and operating costs of the process of generation and exchange of Carbon Credits.

## Legal and regulatory framework

Innovative technology-based project applicable in the Finance system.

This Project is outside the regulatory scope, but is related to regulated matters insofar as the tokens are similar to negotiable securities and, therefore, they are eligible for the provisions of the securities market regulations, as they are applicable to all financial instruments whose issuance, negotiation or commercialization takes place in Spain.

The principle of freedom of issue of the securities governs, since they can be issued without the need for prior administrative authorization, and any technique chosen by the issuer can be used for their placement. Therefore, to issue the tokens it is not necessary to request any license. However, and following the previous logic, in the event of a public offer or request for admission to trading in official secondary markets, the registration and publication of an informative brochure would be necessary.

## Potential clients

The project is interesting for governments, associations, project promoters and the financial sector in general, as well as for organizations or individuals aware of the reduction of $CO_2$ emissions committed to a low carbon economy, helping to achieve climate objectives signed in the Paris Agreement.

For society in general

The existence of tons of tokenized and transactionable $CO_2$, as well as a voluntary market, has cross-cutting effects in other aspects of a social nature, since investing in these tokens not only encourages alternative investment in often saturated financial markets, but it also results in a social and environmental benefit. Consequently, BGreen is presented as a form of support to the State and society in general for the transition towards a more sustainable economy and to fulfil the commitments that have been assumed in this matter.

## Statistics or illustrations related to the product/service


## Lessons Learned

The difficulties that Bankia has encountered when it has wanted to bet on the purchase of $CO_2$ credits generated in Spanish $CO_2$ reduction and / or absorption projects have been the following:

1. With the guarantee of the Ministry of Ecological Transition (hereinafter "the Ministry"). it is only possible to buy credits from absorption projects linked to reforestation. There is no option to acquire credits from projects that reduce $CO_2$ (due to a change in technology, for example) or other types of absorption projects (other than reforestation).

2. The price of the carbon credit linked to projects registered in the Registry is very high (in 2018 it ranged from € 120-200 / ton). This price makes its purchase enormously difficult, so Bankia was forced to resort to the international $CO_2$ market where the cost / ton of $CO_2$ can be up to 25 times less.

3. There is no visibility of other projects to combat climate change carried out in Spain other than those published on the Ministry's website. To identify and invest in these types of projects not published on said website, it is necessary to carry out exhaustive searches and, once identified, consult their conditions one by one. This situation is what drives companies like Bankia, aware of the reduction in $CO_2$, to go to the purchase of certificates in the international market, which means a diversion of incentives to Spanish project.

<table>
<tr><td>Name of the entity</td><td>Clarity AI</td></tr>
<tr><td>Type of service/product</td><td>Sustainability technology platform</td></tr>
<tr><td>Operating mode</td><td>Clarity AI is a HIGHLY INNOVATIVE TECH COMPANY offering a gold standard technology platform to help investors optimise the sustainability and societal impact of their investment portfolios.</td></tr>
<tr><td>Sustainability scope of action</td><td><table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>YES</td><td>YES</td><td>YES</td></tr></table></td></tr>
<tr><td>Business sector closely linked to your service /product</td><td>Software/data providers</td></tr>
<tr><td>Year of foundation entity / service_product</td><td>2017</td></tr>
<tr><td>Contact details</td><td>Paloma Baena<br>paloma.baena@clarity.ai<br>+34 639 60 76 46</td></tr>
<tr><td>Link (web page)</td><td>www.clarity.ai</td></tr>
</table>

## Case Nº. 7 Spain – Clarity AI

### About Clarity AI

**Clarity AI,** a global company headquartered in the USA with offices in Madrid and London.

Founded in 2017 to contribute to a more socially efficient capital allocation by providing **decision makers** with the **most reliable and comprehensive sustainability platform.**

Clarity AI harnesses the **power of data**, advanced **technologies** and **research** to identify and solve the most relevant data limitations in the market of sustainable and social impact investment.

### "Clarity AI Platform"

Clarity AI aims to become the **gold standard and leading tech provider of social impact solutions for all of society's stakeholders** (investors, consumers, governments, etc.).

Clarity AI provides a highly customizable platform built on proprietary, transparent and traceable end-to-end methodologies, accessible via web app or integrated into investors' internal systems. The platform is built on top of the largest and most reliable sustainability database on ESG data.

Leveraging its proprietary methodology and database, Clarity AI provides the only **end-to-end platform to** offer both aggregated **ESG Risk and Impact scores**, as well proprietary modules (climate, impact on SDGs) and extensive data visualization by ESG category, organization and security.

### What is the usefulness of the service/product?

Clarity AI offers a best-in-class solution offering 3 key characteristics:

1. **Societal impact gold standard**

Exclusive science-based proprietary modules to assess sustainable impact and risk, including rating customization capabilities

2. **Fully-fledged platform**

Flexible and scalable tech platform, offering a seamless integration and robust performance. Through proprietary methodologies, Clarity AI enables investors to understand what companies in which sectors contribute most to society, to the sustainable development goals and to the life of people across the word. Clarity AI also enables companies to understand their sustainability performance and make strategic improvements.

3. **Most reliable data and largest coverage**

Leveraging of data gathering and curation methods, machine learning algorithms and estimation models

### Legal and regulatory framework

Clarity AI's mission is to facilitate, in a rigorous, data driven and scalable way, the alignment of investment/capital allocation decisions with global standards and regulations that pursue sustainability outcomes, such as the UN SDGs, EU taxonomy or the UK Stewardship code 2020.

As a **one-stop-shop for analyzing the sustainability of investments**, Clarity AI's sustainability platform is integrating new modules that track compliance with the above mentioned regulations.

### Potential clients

Clarity AI's platform allows investors, asset managers and asset owners, to analyze and report on the sustainability of their portfolios and **ensure compliance with increasing government regulation**.

Additional to investors, Clarity AI's platform is also being used by **corporations,** to benchmark themselves against their peers and to identify and report critical data to help asset managers complying with current and future regulations**.**

Over the long term, Clarity AI aims to provide sustainability solutions for all actors involved in the sustainability ecosystem, from standard setters and regulators to individuals.

## Statistics or illustrations related to the product/service


## Lessons Learned

*Every day that investors can't make well-informed decisions about sustainable investments, the planet grows more exposed to environmental and social risks.*

There is no other comprehensive, cross-framework solution that can produce the context investors need to make sustainable investments. Greenwashing is increasing, there is an annual investment gap of €2.5Tn in developing countries alone, and more than four fifths of the world's largest companies are unlikely to meet the targets set out in the Paris Agreement by 2050. Through Clarity AI's platform, investors can optimize capital allocation making decisions based on risk, return AND societal impact.

| | |
|---|---|
| **Name of the entity** | ClimateTrade |
| **Type of service/product** | Marketplace for Carbon Offsetting and green financing. |
| **Operating mode** | ClimateTrade allows companies, either by legal mandate or by high CSR standards, to offset their emissions by purchasing peer-to-peer carbon credits directly from mitigation project developers worldwide. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: NO<br>Corporations or entities focused on offset their carbon footprint or their customers footprint. |
| **Business sector closely linked to your service /product** | Cargo shipping / oil companies / airlines |
| **Year of foundation entity / service_product** | 2017 |
| **Contact details** | Francisco Benedito, CEO and Co-founder / fran@climatetrade.com / +34 675 69 59 27 |
| **Link (web page)** | www.climatetrade.com |

## Case Study Nº 8. Spain – ClimateTrade - Electronic Carbon offsetting

### About ClimateTrade

ClimateTrade is a marketplace that allows companies, either by legal mandate or by high CSR standards, to offset their emissions by purchasing peer-to-peer carbon credits directly from mitigation project developers worldwide, without intermediaries.

Created in 2017 ClimateTrade achieved a recognition from UN as the best solution worldwide for the carbon markets Post 2020.

### What is the usefulness of the service/product?

1. Companies can offset emissions easily, selecting the projects they like in the platform, and all in minutes with total transparency and traceability.
2. Carbon API: Integration of the Climatetrade offsetting service in the different systems of an organization thanks to ClimateTrade's API (Application Programming Interface) for providers and customers.

### Legal and regulatory framework

**Paris Agreement:** Commitment to achieve carbon neutrality by 2050

**The Corporate social responsibility** (CSR) as a management instrument which intends to move towards the most committed business activity in the economic / labour, social and environmental fields.

**Non-Financial Reporting:** mandatory for corporations of +250 employees.

**The European New Green Deal**: The goal of the Green New Deal is to reduce greenhouse gas emissions in order to avoid the worst consequences of climate change while also trying to fix societal problems like economic inequality and racial injustice.

Consumers and investors demand sustainability in companies everytime more, and they will have to achieve carbon neutrality by 2050.

### Potential clients

Corporations or entities focused on offsetting their carbon footprint (B2B) as an organization (carbon neutrality) or for their activities whether is by legal mandate or by high CSR standards. Also ClimateTrade offers these services to their customers and providers through integration in the company systems to offset their carbon footprint while in the product purchase process (Customers) or before selling the product e.g. airlines buying ticket process

Sectors: Cargo shipping / oil companies / airlines

Current customers: Iberia, Telefonica, Melia Hotels, Norauto, Correos, Danone

### Statistics or illustrations related to the product/service

*Climatetrade platform*

### Lessons Learned

*Companies need to reduce, and streamline their processes and operations but at the end they need to offset the part to achieve carbon neutrality.*

Companies have to make their processes more efficient otherwise customers will accuse them of green washing and won't buy their products.

Companies cannot become carbon neutral only by reducing or streamlining their processes. There is always some polluting processes or activities and they need to offset them.

*Every single company in the next years will make all efforts possible to become carbon neutral.*

- Basically all transactions will be carbon measured and if you are not making your products more carbon efficient won´t be competitive anymore
- Customers won´t buy products from you if you are polluting
- It will become mandatory by law.

LINKS:

https://www.networkmiddleeast.com/technology/software/87021-opinion-how-technology-is-driving-the-worlds-transition-to-green-economy

https://es.cointelegraph.com/news/iberia-will-offset-co2-emissions-with-the-climate-trade-platform-that-uses-blockchain-technology

https://www.ledgerinsights.com/carbon-credit-blockchain-acciona-climatetrade/

https://finance.yahoo.com/news/spanish-postal-correos-offset-co2-120026979.html

| | |
|---|---|
| **Name of the entity** | **Fundación Ecología y Desarrollo (ECODES)** |
| **Type of service/product** | Climate change risk assessment model which allows financial sector entities to evaluate the predisposition of their credit and investment portfolios in terms of their exposure to climate change risks and opportunities. |
| **Operating mode** | It is a product / service that features algorithms written in open source code coupled with technical assistance to assist with portfolio segmentation in relation to climate change risks and based on the indexes obtained. The product / service, and the underlying algorithms consider probability variations based on the effects of climate change on credit and investment portfolios. |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br><br>The product incorporates the TFCD recommendations and the EU sustainable finance criteria. It will soon incorporate social variables to allow for the analysis of social impacts that result from the low –carbon transition. |
| **Business sector closely linked to your service /product** | The tool is designed primarily for use by the banking sector, but is useful also for other financial sector entities such as fund managers and investment advisors, as well as insurance companies and public sector entities tasked with socioeconomic planning and development. |
| **Year of foundation entity / service_product** | 1992/2017 |
| **Contact details** | Víctor Viñuales, Executive Director<br>+34 976 29 82 82<br>victor.vinuales@ecodes.org |
| **Link (web page)** | https://ecodes.org/hacemos/produccion-y-consumo-responsable/inversion-socialmente-responsable/promoviendo-la-inversion-socialmente-responsable |

## Case Nº 9 Spain – Climate Change Risk Assessment Model for Credit Portfolios

### About ECODES

ECODES is an independent not-for-profit organisation, founded in 1992 to develop, manage, and promote sustainable development projects and corporate social responsibility in Spain and Latin America.

ECODES' mission is to assist those who want to advance a more sustainable future by providing them with the information and practical and effective tools necessary to address the environmental, social, economic and ethical challenges that they face. ECODES works with public agencies, businesses, non-profits and individuals to develop, implement and promote more sustainable models of production and consumption.

ECODES is a recognised leader in Spain in the field of corporate social responsibility, sustainability analysis and socially responsible investment services having been the first organisation in Spain to conduct environmental, social and governance research on the largest Spanish publically traded companies and the first to launch SRI investment vehicles in the Spanish market in collaboration with the financial companies, Banco Urquijo and Renta 4. In regards to ESG research, ECODES has consolidated its research partnership with Eiris during nearly thirteen years of experience, during which time ECODES has responded to market developments in Spain and helped in the development and implementation of new criteria based on those demands.

In terms of CSR implementation at the company level, ECODES has been a pioneer in Spain having helped various companies and organisations diagnose the state of their CSR management, and develop policies, plans and measures in response to the initial diagnosis. In addition, ECODES has helped several companies report on their CSR performance based on the GRI reporting framework.

### Climate change risk assessment model for credit portfolios

Building on its substantial experience in the analysis of environmental and social impacts, ECODES' specialist technical team, in collaboration with the Department of Applied Statistics at the Autonomous University of Barcelona, began in 2003 to develop statistical models for analysing financial impacts with an environmental component. In the past two years, work has been done to adjust these models, already tested in different financial institutions, to take into account the new impact factors associated with the physical and transition risks related to climate change.

And as a result of this development work, ECODES is now in a position to implement in any type of financial institution the risk assessment model for evaluating risks derived from climate change that may impact credit or investment portfolios.

The tool that allows financial institutions to evaluate the climate change risk exposure of their credit or investment portfolios. The first phase of the product roll-out features the implementation of specifically designed algorithms, that allow financial institutions to assign each company in a credit or investment portfolio a Predisposition Index to the Negative Effects of Climate Change (PINECC). Similarly, each company client is assigned a vulnerability code for each of the types of risks considered (acute physical, chronic and transitional physical). And finally, each client is assigned an identification code to identify activities carried out by each client that can be considered as a direct contributor climate change mitigation based on the EU Taxonomy.

In a second phase of implementation, and through the use of geo-positioning models that highlight exposure to unfavorable climatic areas combined with an automatic analysis of emissions declarations (European PRTR), each client with a high predisposition (P) is assigned an Exposure Index for the Effects Negatives of Climate Change (EINECC).

During the third phase of implementation, data from intensive monitoring of events with negative climate change impacts as the PINECC and the EINECC ratings of individual client companies are used to estimate potential economic impacts related to climate change and that may impact the financial performance of the portfolio. Taken together, these phases allow the financial institution to segment and monitor their portfolios based on companies' predisposition and exposure to suffer negative shocks related to climate change.

The financial phase of work entails the calibration of the institution's financial rating models, allowing for the effective incorporation of the potential effects of climate change into their risk assessment processes.

## What is the usefulness of the service/product?

The usefulness of the product is based on the model's ability to classify portfolio companies based on their potential vulnerability to the physical effects of climate change and / or the effects derived from the transition to a low-carbon economy. Likewise, the model features valuable information that can be incorporated into the design by financial institutions of policies that respond to the growing market for "green" financing products based on the criteria detailed in the recently published European taxonomy on sustainable activities.

In addition, the evolution of the model will b especially useful for public administrations seeking to conduct rigorous analyses of the effects of the gradual de-carbonisation of the economy on national, regional and local socioeconomic systems, in a way that allows them to design the most effective policies for a just and fair transition in terms of social and economic factors.

## Legal and regulatory framework

The framework of this product / service is based on the Taskforce on Climate-related Financial Disclosures (TFCD's) recommendations regarding the Risk Management dimension related to climate change. In this area, organisations are urged to consider the procedures used to assess relevant impacts derived from the effects of climate change.

Similarly, the EU has recently published, the latest technical report on its Taxonomy for Sustainable Activities. This report considers two groups of impacts associated with climate change: the impacts due to transition to a low carbon economy, and the physical impacts directly related to extreme weather events.

In this context, banking was singled out as one of the sectors very vulnerable to the effects of climate change, requiring specialised methods and tools to assess these risks.

## Potential clients

Based on the functionality and features of the product, ECODES considers three main sectors to be target customers:

1. The financial sector, and specifically the departments responsible for managing credit portfolios. The model may be also be used to establish sustainable investment policies, as it allows for portfolio segmentation based on an index of a company's potential contribution to climate change mitigation and/or adaptation.

2. The public sector, and specifically the departments and areas related to socioeconomic development and planning for a socially just transition to a low carbon economy.

3. Investment fund managers and managers of other financial vehicles that may see the value of their assets affected by the impacts of climate change.

## Lessons Learned

*Financial institutions are currently not calibrating financial rating models with climate change data.*

The featured model and tailored consulting services attempts to respond to this current weakness in risk assessment procedures. The model features algorithms written in open source code coupled with technical assistance to assist with portfolio segmentation in relation to climate change risks and based on the indexes obtained.

The product, therefore considers probability variations based on the effects of climate change. With the available climate change data, and based on classification schemes such as the UE Taxonomy on sustainable activities as well as the analysis of an additional 56 environmental variables, the implementation of the model allows for a future calibration of financial risk model based on the systematic application of the sequential phases of the product / service.

| | |
|---|---|
| **Name of the entity** | **EIT Climate KIC Spain** |
| **Type of service/product** | EIT Climate-KIC is a public-private partnership comprising the Climate-KIC Association and the Climate-KIC Holding.<br><br>The Holding’s activities include pursuing public and private funding, sponsorship, incorporating, participating in and financing businesses and companies, and providing advice and services to others. |
| **Operating mode** | EIT Climate-KIC is helping Europe mitigate and adapt to climate change by innovating its finance, land, industry and city systems. Funding received from public and private partners, as well as an annual grant from the European Commission through its European Institute of Innovation and Technology (EIT). |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES |
| **Business sector closely linked to your service /product** | Business companies and associations, regional and local administrations, universities and technology institutes. |
| **Year of foundation entity / service_product** | 2010 |
| **Contact details** | José L. Muñoz-Bonet<br>Director of Spanish Branch<br>EIT Climate-KIC & EIT Cross-KIC Spain ET Chair<br>c/ Quart, 80 (Botanic) 46008 Valencia, Spain |
| **Link (web page)** | EIT Climate KIC Spain: https://spain.climate-kic.org/<br>EIT Climate KIC Europe: https://www.climate-kic.org/ |

## Case Nº 10 Spain – EIT Climate KIC Accelerator

### About Climate KIC Spain

EIT Climate-KIC is a Knowledge and Innovation Community established and funded by the European Institute of Innovation and Technology (EIT) in 2010.

EIT Climate-KIC's purpose is to tackle climate change through innovation. It is Europe's largest public-private partnership with this purpose – a growing pan-European community of diverse organisations united by a commitment to direct the power of creativity and human ingenuity at the climate change challenge.

EIT Climate-KIC brings together large and small companies, scientific institutions and universities, city authorities and other public bodies, start-ups, and students. With over 350 formal organisational partners from across 25 countries (*see* *partners in Spain* *and* *partners in the UK*), EIT Climate-KIC works on innovation to mitigate climate change and to adapt to its unavoidable impacts.

EIT Climate-KIC prioritises activities around sector areas, or systems, where developing climate innovation along impact pathways can have the most potential for environmental gain and continued prosperity.

**EIT Climate-KIC's Climate Innovation Impact Goals (2019-2022)**

1. Promote retrofit and decentralised energy
2. Nurture nature-based resilience for cities
3. Accelerate sustainable urban mobility
4. Make agriculture climate –smart
5. Reform food systems
6. Nurture forests in integrated landscapes
7. Build circular material flows
8. Reduce industry emissions
9. Reboot regional economies
10. Mainstream climate in financial markets: advance metrics, standards and instruments that enable transparent, true-cost and benefit accounting for a well below 2°C pathway
11. Democratise climate risk information
12. Foster bankable green assets in cities

**EIT Climate-KIC's Areas of action (2019-2022)** *(due to limits on extension, more details are provided on the sustainable finance area of action – Decision Metrics and Finance).*

- Urban transitions: Creating the climate-resilient, zero-carbon towns and cities of the future
- Sustainable Production Systems: Fostering innovation to reduce industrial carbon emissions
- Decision Metrics & Finance: Unlocking finance for climate action. Aiming to mainstream climate in financial markets, democratise climate risk information, and foster bankable green assets, especially in cities. Working with network of partners to develop the metrics and financial mechanisms to redirect and mobilise the finance needed to quickly scale up climate action.
  - Financial Markets and Accounting
  - Low-carbon City Local Lab (LoCal)
  - Climate Risk Information (CRI)
  - Mission Finance
- Sustainable Land Use: Accelerating climate-smart agriculture, sustainable food and climate-resilient forests.

### EIT Climate KIC Accelerator

Since 2012 the Accelerator programme has incubated and accelerated more than 1000 pro-climate start-ups, becoming one of Europe's leading accelerator programmes for impact and cleantech ventures and one of the most solid offers of EIT Climate-KIC's product portfolio.

### What is the usefulness of the service/product?

The principal objective of the Start-up Accelerator programme is to help start-ups achieve major early-stage milestones so that, once they graduate from the programme, they are ready for investment and scaling. The Spanish Start-up Accelerator programme in 2020 will cover the 3 stages of the programme and offer a support of up to EUR 75,000 (throughout the 3 stages). A call is expected to select the companies that will enrol the programme.

In these stages, different objectives and type of support are given:

- Stage 1: Fundamentals- Help entrepreneurs translate pro-climate inventions into viable business model assessment framework, and present a plan for validating that business model by real-world customers.
- Stage 2: Validation- Help entrepreneurs translate business plans into concrete value propositions. Provide evidence of the validation of the business model by real-world customers and develop and present a plan for developing products / services to market-readiness and achieving market entry.
- Stage 3: Delivery- Help entrepreneurs translate validated business models into first transactions with first customers / beneficiaries and /or investors. Start-ups will pursue market entry with core product/service in beachhead markets and achieve a meaningful number of commercial transactions that validate the core value proposition and / or attract capital to progress into the next stage in the business development.

Previous editions Start-ups: https://www.climate-kic.org/start-ups/

### Potential clients /partners

Business companies and associations, regional and local administrations, universities and technology institutes, non-profit organizations.

Evaluation criteria for Climate KIC Accelerator programme:

- Alignment with EIT Climate KIC new strategy, Impact Goals and Deep Demonstrations.
- Innovativeness
- Feasibility
- Team
- Climate benefit
- Scalability
- Long term perspective
- Programme fit

### Lessons Learned

**Stimulating new climate-positive business models is a powerful way to address climate change across sectors and systems.**

To identify, support and invest in entrepreneurs through every stage of innovation, helping them move from initial concepts, through testing and demonstration to achieve commercial scale is a reliable way to improve green economy.

**The EIT Climate-KIC Accelerator is the only EU/Spanish business acceleration programme focused on cleantech commercialisation.**

With fast track entrepreneurship education, top-notch tools & techniques and intensive coaching, EIT Climate-KIC has set up the world's first real-life business school for cleantech entrepreneurs.

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| **Name of the entity** | **Global New Energy Finance (GNE Finance)** |
| **Type of service/product** | • Eco-sustainable home renovation program design, set up and operation<br>• Consumer lending for eco-sustainable home renovations |
| **Operating mode** | GNE Finance is a private company based in Barcelona, Spain |
| **Sustainability scope of action** | <table><tr><td>Environmental</td><td>Social</td><td>Governance</td></tr><tr><td>**YES**</td><td>**YES**</td><td>**YES**</td></tr></table><br>GNE Finance is a high impact investment company focused on maximizing social, environmental and economic impacts through eco-sustainable home renovation programs. As a business that balances purpose with profit, GNE Finance is pursuing a B-Corp certification to a join group of nearly 50 companies in Spain as certified B-Corp. |
| **Business sector closely linked to your service /product** | • Finance: Sustainable finance, Financial services, Consumer lending<br>• Construction: Building renovation, Home renovation<br>• Energy: Energy efficiency, Renewable energy |
| **Year of foundation entity / service_product** | 2016 |
| **Contact details** | Kristina Klimovich, Head of Advisory and Consulting Business Unit |
| **Link (web page)** | www.gnefinance.com |

## Case Nº 11. Spain – Eco-Sustainable Home Renovation Financing

### About GNE Finance

GNE Finance empowers cities and regions to deliver on their goals and ambitions by making eco-sustainable home renovation easier, simpler and more affordable for all. GNE Finance delivers **eco-sustainable home renovation programs** that combine technical assistance, affordable financing and smart funding. GNE works with cities and regions to design the programs accessible to all citizens, including vulnerable groups.

GNE Finance currently has several pilot programs operating in Catalonia and the Basque Country. Additionally, the company is working on a number of projects for the European Commission.

### 1. Eco-sustainable home renovation loans

**GNE Finance offers loans specifically designed for eco-sustainable home renovation**. Homeowners can finance up to 100% of investments in the project. Long terms and attractive interest rates result in **affordable monthly repayments** motivating homeowners to take action.

**Eligible properties:** Apartments, stand-alone and semi-detached houses, and multi-family buildings.

**Eligible measures:**

- **Energy efficiency**: actions that improve energy efficiency of homes (e.g. insulation, windows, heaters, air conditioning, etc.)
- **Renewable energy**: equipment to generate clean energy (e.g. aerothermal systems, photovoltaic panels, etc.)
- **Accessibility**: measures that improve accessibility and mobility in houses.
- **Smart homes**: equipment that improves energy consumption control.

Energy savings are considered during financing analysis of the project benefitting homeowners that develop more eco-sustainable projects.

### What is the usefulness of the service/product?

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| **The application is faster and easier** than a bank | |
| | *Use digital data management tools to simplify the process* |
| **Secure payment procedure**: homeowners are not exposed to contractor performance risk | |
| | *Payments to contractors are made directly by the program only when the work has already been finished and validated by homeowners* |
| **Long-term loans** from 5 to 15 years | |
| | *Loans' duration is matched with useful lifetime of the implemented measures and the projected savings* |
| **Lower monthly payments** | |
| | *Longer terms translate into lower monthly payments, which are mainly covered by savings so to minimize the impact on the family's budget* |
| Flexible loan amount: **€5.000,00 to € 100.000,00** per household | |
| | *Loans meet individual renovation needs and provide support for the most ambitious renovations.* |
| **No cost of cancellation or re-financing** | |
| | *More flexibility compared to bank financing.* |

### 2. Effective home renovation programs

The fight against climate change starts at home where inefficient cooling and heating equipment, lack of proper insulation and often absence of renewable energy technologies are all contributing to an increasing carbon footprint and negative impacts on health and comfort.

Home renovation is costly and stressful, GNE Finance offers a market-tested formula addressing the needs of citizens, public authorities, energy services contractors and resulting in a high social, economic and environmental impact:

- Market analysis and program co-design
- Set up of effective program structure
- Sales and Marketing
- Affordable smart financing
- Impact tracking
- Digital tools

## Special Focus on Vulnerable Groups

GNE Finance is committed to providing home renovation to all Europeans ensuring that **low-income, vulnerable consumers, disadvantaged neighborhoods** are not left behind. The ultimate goal is to improve the living conditions and decrease the carbon footprint. GNE Finance offers affordable loans to vulnerable groups thanks for the Social Guarantee Fund and provides free energy audits from a network of volunteers and inclusion of vulnerable populations through trainings and special programs.

## Current Programs

HOLA DOMUS

The first home renovation pilot program in Olot, Catalonia. www.HolaDomus.com

OPENGELA

Home renovation program in the Basque Country, focused on supporting vulnerable groups living in multi-family buildings. www.OpenGela.eus.

## Potential clients

**Eco-sustainable home renovation loans** are available to Catalonia (Spain) residents so far and will be soon available in the Basque Country (Spain). Every promoter (person or company) planning to do a home/ building renovation is a potential client. Owners and tenants can request financing for their home renovation projects. Clients will have to show capacity to repay the loan and authorize a digital credit score analysis.

**Effective home renovation programs** are available for European public authorities, including cities, regions, energy agencies.

## Statistics

More than 300 European cities[1] have declared climate emergencies and 93% of European citizens are recognizing climate change as a serious problem and the majority have taken at least one action to fight it[2].

Buildings consume 40% of energy and emit 36% of $CO_2$ emissions in the EU, while people spend 90% of their time indoors. Buildings affect the environment and European citizens' health, well-being and productivity. Yet nearly 97 % of all buildings are inefficient[3].

## Lessons Learned

***One of the major barriers for eco-sustainable home renovation is lack of appropriate financing.***

As bank loans are not adapted to finance eco-sustainable home renovation projects, citizens struggle to find dedicated financial solutions to develop their projects. In order to provide options to citizens, GNE Finance developed its product and constantly adapts to customers' needs and public authorities' policy goals.

***However, financing is only part of the solution.***

In order to reach scale and achieve a significantly increase in the rate of home renovation, it is essential to provide homeowners with **technical assistance and support along the home renovation journey.** GNE Finance designs and delivers programs that combine such assistance with affordable financing.

[1] https://www.covenantofmayors.eu/news-and-events/news/1703-cities-massively-declare-a-state-of-climate-emergency.html

[2] https://ec.europa.eu/clima/citizens/support_en

[3] http://bpie.eu/publication/97-of-buildings-in-the-eu-need-to-be-upgraded/

| | |
|---|---|
| **Name of the entity** | **Finnovating** |
| **Type of service/product** | Open Innovation Platform |
| **Operating mode** | Corporates accelerate their digital transformation through Finnovating's Platform |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br><br>Because of a real acceleration of their digital transformation, Finnovating impact on every ESG of its clients, which are corporates |
| **Business sector closely linked to your service /product** | Work for Financial Institutions, Insurance sector, Real Estate sector, Legal firms, etc. |
| **Year of foundation entity / service_product** | 2015 / 2016 |
| **Contact details** | Fernando Álvarez-Cascos López, fernando.alvarez-cascos@finnovating.com, +34 648088399 |
| **Link (web page)** | www.finnovating.com |

## Case Nº 12. Spain – Finnovating – Open Innovation Platform

### About Finnovating

Finnovating is an Open Innovation Platform that allows corporates to accelerate their digital transformation through collaboration with the best sustainable X-Tech sector (FinTech, InsurTech, PropTech, LegalTech, RegTech and WealthTech).

Finnovating identifies necessities, opportunities for corporates and then the best solution/startup for them (in order to invest or to collaborate) is presented, with the Sustainable Development Goals (SDGs) they are covering.

Also creates ecosystems via Unconferences, which are private meetings with corporates and CEOs. Finnovating has awarded startups FinTech with prizes to the most sustainable FinTech since 2016 in 6 countries to. **This year the first worldwide Summit focused on FinTech and Sustainability will be launched.**

### "Open Innovation Platform Services and conferences" What is the usefulness of the service/product?

Regarding the Unconferences and linking it to Sustainability, it will be launched during this year, a FinTech 4 Sustainability Summit that gathers corporates, regulators and FinTechs that are really focused on real sustainability. Only Sustainable FinTechs will explain their businesses and only sustainable corporates and regulators will explain what they do in order to meet sustainability.

### Legal and regulatory framework

There is no regulatory problem.

### Potential clients

Every corporate that wants to transform its business into something way more digital and sustainable.

### Statistics or illustrations related to the product/service

More than 40 FinTechs across Europe and Latin America are expected to attend the FinTech 4 Sustainability Summit.

Around 25% of total FinTechs in Spain are really sustainable and more than 80% of them offer B2B services, which means that Open Innovation is more sustainable than ever.

### Lessons Learned

*Open Innovation Platform*

Accelerate the sustainable digital transformation through collaboration with FinTech ecosystem alongside the world.

*Participate in unique FinTech Private Meetings*

Though the platform, corporates will have the opportunity to participate in private meetings with CEOs FinTech that meet sustainable goals. **Allow Sustainable players to participate at the first worldwide FinTech 4 Sustainability Summit.**

*Be part of a worldwide FinTech Platform*

Finnovating allows corporates to be part of a worldwide platform that helps them to meet other corporates of startups in order to learn, to collaborate or to invest, always based in the SDGs. Like no other.

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| **Name of the entity** | **CANVAS Estrategias Sostenibles** |
| **Type of service/product** | Strategic sustainability consulting firm. Through helping other organizations integrate sustainability in the core business, Canvas drives forward the purpose "to boost social leadership for a sustainable future" |
| **Operating mode** | Limited Liability Company |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: No<br><br>Canvas helps clients make better decisions and integrate sustainability into their business |
| **Business sector closely linked to your service /product** | Consulting sustainability services and Sustainability Think Tank |
| **Year of foundation entity / service_product** | 03/ 04 / 2014 |
| **Contact details** | Isabel López, co-founder<br>E-mail: isabel@canvasconsultores.com<br>Téléphone : +34617992213 |
| **Link (web page)** | www.canvasconsultores.com |

## Case Nº13. Spain – CANVAS Estrategias Sostenibles

### About CANVAS

CANVAS is a strategic sustainability consulting firm. Founded in 2014, CANVAS purpose is to boost social leadership for a sustainable future.

Through helping other organizations integrate sustainability in their core business, Canvas can help organizations drive their business with purpose.

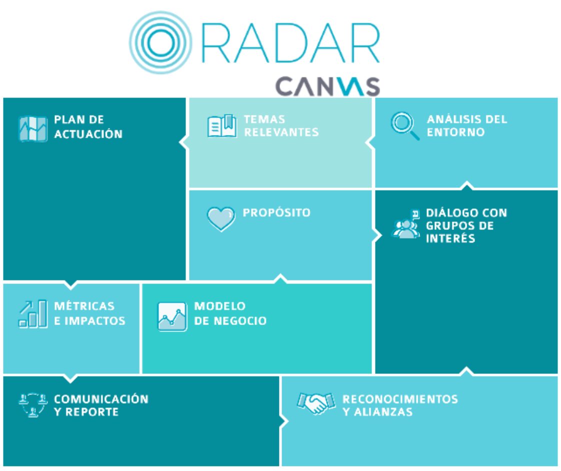
A B Corp company. Certified B Corporations are businesses that meet the highest standards of verified social and environmental performance, public transparency, and legal accountability to balance profit and purpose.

Canvas designs and facilitates powerful dialogues and collaborations through its model 'CANVAS of Sustainability' and RADAR CANVAS, its investigation & knowledge tool.

### CANVAS OF SUSTAINABILITY & RADAR CANVAS

The CANVAS model of sustainability integrates in a canvas the essential aspects of a responsible and sustainable business.

Promotes the definition of purpose, stakeholder engagement, materiality studies, design of sustainability strategies and goal-setting to achieve the SDGs, as well as metrics, communication and sustainability reporting.




RADAR CANVAS is a social intelligence and knowledge platform that analyses more than 250 key international sources for understanding the current reality and the necessary skills in sustainability management. It focuses on generation of research and advocacy to transform thinking and drive sustainability.

### What is the usefulness of the service/product?

- Increase productivity and reduce costs.
- Increase business ability to comply with regulation.
- Increase business ability to adapt to changes and uncertainty
- Employee engagement.
- Access to investment capital.
- Collaboration between NGOS and organizations.

### Legal and regulatory framework

- Assist companies to understand sustainability issues and make better decisions.
- Acting ahead of regulation and avoid risks

### Potential clients

All products and services are available to any organizations and industries interested in promoting sustainability.

### Statistics or illustrations related to the product/service

+10,000 annual hours for RADAR CANVAS investigation

63% of CANVAS projects integrate the SDGs

### Lessons Learned

As a B Corp and leaders of this emerging economy, at Canvas it is believed:

- That each of them must be the change all of them seek in the world.
- That all business ought to be conducted as if people and place mattered.
- That, through their products, practices, and profits, businesses should aspire to do no harm, and benefit all.
- To do so requires that everyone acts with the understanding that everyone is dependent upon another and thus responsible for each other and future generations.

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| **Name of the entity** | **Ecoacsa Reserva de Biodiversidad S.L.** |
| **Type of service/product** | Sustainable Finance consultancy & service provider |
| **Operating mode** | Ecoacsa provides consultancy on sustainable finances linked to different categories of services: climate change risks & opportunities, Natural capital strategies & approaches, Eu Taxonomy, Regulatory adaptation and Reporting & Disclosure |
| **Sustainability scope of action** | Environmental: YES; Social: YES; Governance: YES<br>Although main expertise is related to environmental issues, Ecoacsa also addresses social and governance aspects. |
| **Business sector closely linked to your service /product** | Finance sector, energy sector, extractive sector |
| **Year of foundation entity / service_product** | April 13th, 2012 / 2015 |
| **Contact details** | David Álvarez, davidalvarez@ecoacsa.com +34 679511383 |
| **Link (web page)** | www.ecoacsa.com |

## Case Nº14. Spain – Natural Capital in finance sector

### Ecoacsa

Ecoacsa is a Company that develops its activity around environmental markets, biodiversity integration in management and Natural capital Accounting. Ecoacsa participates actively in different international initiatives like the development of the EU Taxonomy or the Natural Capital Coalition.

In addition, Ecoacsa helps companies to identify, assess, measure and disclose the natural capital risks and opportunities within their operations or investment portfolios:

Through innovative natural capital approaches, which considers not only impacts on natural capital but also dependencies, Ecoacsa provides monetary valuation services for those risk (impacts and dependences) as well as the opportunities.

### "Natural Capital Risk Tool"

The Natural Capital Risk Tool (NCR Tool) let financial institutions to understand which investment sectors have the greatest impacts and dependencies on natural capital and determine what level of investment would need to be committed in order to reduce or manage the impacts and dependencies identified.

The NCR tool is aligned with the EU Taxonomy and let Finantial institutions to identity in which investment activities there is a potential risk regarding natural capital issues.

The NCR Tool provides a matrix, defining impacts on natural capital, based on peer reviewed research on environmental impacts for each investment portfolio sector

In this regard, the NCR tool could be spatially referenced (GIS) providing financial institutions additional information on climate and natural capital risks (impacts and dependencies) in the operation countries where their investments activities are taking place.

### What is the usefulness of the service/product?

Having this critical information about which sector receiving investment, has the greatest impacts and dependencies on natural capital, would allow financial institutions to take better decisions and focus future actions or strategies around avoiding and minimizing environmental risks within its investment portfolio.

### Legal and regulatory framework

The tool is linked to the new recommendations of the EU Taxonomy in the EU Sustainable Finance Plan.

It will be soon adapted to other finance regulations (EPA...)

### Potential clients

This product is available for:

- Banks.
- Financial institutions.
- Private equity.
- Asset managers

### Statistics or illustrations related to the product/service

More information on a case study could be found at the Natural Capital Coalition website and at https://naturalcapitalcoalition.org/connecting-finance-and-natural-capital-case-study-for-bankinter/

### Lessons Learned

*Decision making process.*

NCR Tools is very useful to determinate the reason, scope, risks, impacts, and dependencies

*Implement the EU Taxonomy*

Considering the current Taxonomy, the NCR tool let integrate both impacts and dependencies.