Inquiry: Design of a Sustainable Financial System

2° Investing Initiative

UNEP

Building a Sustainable Financial System in the European Union

THE FIVE 'R's OF MARKET AND POLICY INNOVATION FOR THE GREEN TRANSITION

March 2016

The Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme to advance policy options to improve the financial system's effectiveness in mobilizing capital towards a green and inclusive economy—in other words, sustainable development. Established in January 2014, it published its final report, *The Financial System We Need*, in October 2015.

More information on the Inquiry is at: *www.unep.org/inquiry* and *www.unepinquiry.org* or from:

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The 2° Investing Initiative

The 2° Investing Initiative (2°ii) is a multi-stakeholder think tank working to align the financial sector with 2° C climate goals. Our research seeks to align investment processes of financial institutions with 2° C climate scenarios; develop the metrics and tools to measure the climate performance of financial institutions; mobilize regulatory and policy incentives to shift capital to energy transition financing.

More information on the 2° Investing Initiative is at: *www.2degrees-investing.org*

About this report

This paper has co-authored by the UNEP Inquiry (Jeremy McDaniels and Nick Robins) and the 2° Investing Initiative (Diane Strauss, Jakob Thomä and Stan Dupré). Errors and omissions remain the responsibility of the authors. This report is part of the Sustainable Energy Investment Metrics project (SEI Metrics) and has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649982. The report reflects only the authors' view and the European Union's EASME is not responsible for any use that may be made of the information it contains.

Comments

Comments are welcome and should be sent to *nick.robins@unep.org*.

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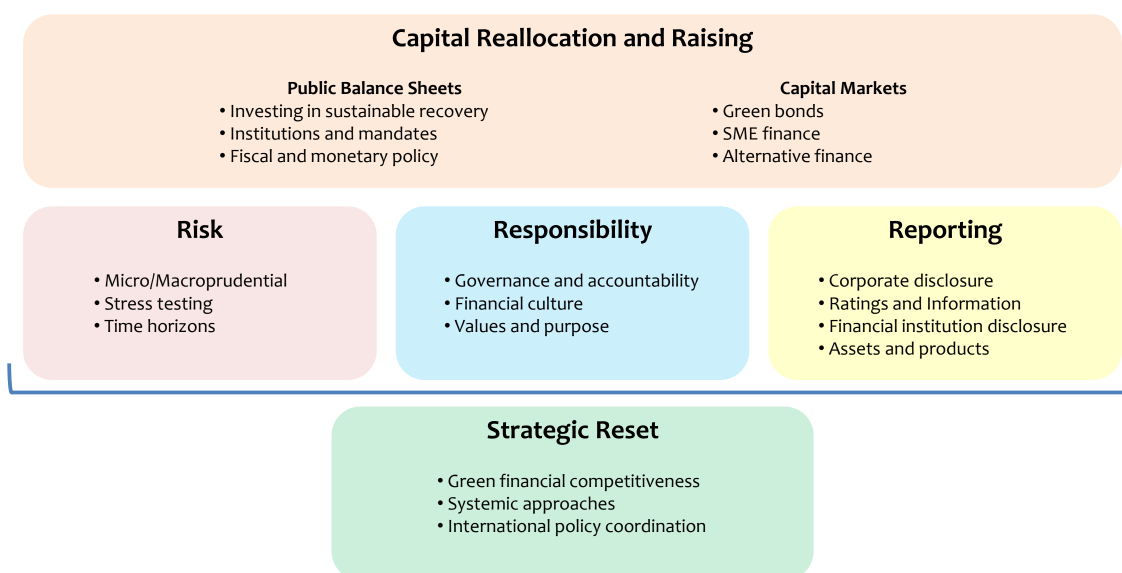
EXECUTIVE SUMMARY

Over the past 20 years, the European Union (EU) has often been at the forefront of efforts to build a financial system that supports sustainable development. A growing number of social entrepreneurs, mainstream financial institutions, as well as public investment banks have led these efforts. Increasingly, European financial policymakers and regulators are exploring their role in enabling an orderly transition to a prosperous low-carbon economy. This report presents a stock-take of actions under way at the European Union level and in selected Member States to align the rules governing the financial system with environmental sustainability. This is a fast-moving debate, with global developments such as China's launch of the new G20 Green Finance Study Group pointing to the strategic nature of the agenda.

The European Commission (EC) estimates that up to €2 trillion will be required to meet the policy goals of the Europe 2020 Strategy for smart, sustainable and inclusive growth. The scale of the investment challenge has prompted a new focus on the strategic role of financial policy and regulation in harnessing the EU financial system. In this context, building a sustainable financial system can contribute to economic recovery by allocating capital to new growth sectors, as well as improving the efficiency and effectiveness of the capital intermediation process through improved risk management, better flows of information and a core alignment with long-term social purpose.

Looking across the range of innovations across the EU, five broad policy priorities emerge. The central challenge of financing sustainable development in the EU is one of capital **reallocation**. Enhancing frameworks for **risk management**, clarifying the core **responsibilities** of financial institutions and improving **reporting** and disclosure across these dimensions will be necessary to fully unlock flows of sustainable finance. A growing number of Member States are delivering on individual aspects of these priorities, and others are acting within given asset classes. The debate is now advancing to the system level and the need for a strategic **reset**, seeking to link previously unconnected initiatives and to enhance the capacity of the financial system to support renewed economic competitiveness and improved sustainability performance.

Figure ES1: The 5Rs of sustainable finance



Priority 1. Reallocation

Public Balance Sheets

Following the financial crisis, willingness to mobilize public balance sheets to promote long-term economic growth objectives has increased. Inflecting this momentum to support investments necessary for sustainable long-term growth is a key priority for the roll-out of the Juncker Plan. The European Fund for Strategic Investments has mobilized roughly €50 billion – translating to 15% of the €315 billion target of the Juncker plan – during its first six months of operations, with over half of approved projects in sustainability-related areas including energy and climate action, environmental and resource efficiency, transport, and research and development.

The EU's regional and national public investment institutions – such as the European Investment Bank (EIB), Germany's KfW, France's Caisse des Dépôts et Consignations (CDC), and the UK Green Investment Bank (GIB) – are recognized leaders in supporting new markets for green investments, and prefiguring emerging practice in the private sector through new green market standards for lending. In countries such as France, fiscal incentives are channelling household savings to SME finance and local infrastructure. At the Union level, a debate is emerging around how the European Central Bank could realize its Treaty mandate to support sustainable development, with discussion focusing on its quantitative easing (QE) programme. In a speech given at the COP21 climate negotiations in Paris, Banque de France Governor François Villeroy de Galhau noted the importance of current monetary policy in encouraging "investment in longer-term projects, with better returns than government bonds, such as infrastructures and energy transition", within the context of broader macroeconomic objectives.

Capital Markets

With the Capital Markets Union (CMU) action plan, the EU is putting significant effort towards mobilizing Europe's financial system to better serve the real economy. Crucial to this is developing effective approaches to serve the emerging industries of the future in terms of green infrastructure, clean technology innovation and resource-efficient SMEs. Leveraging debt capital markets through the use of green bonds is gaining increasing attention from both market institutions and policymakers. At present, however, neither European Member States nor the Union as a whole have developed a long-term strategy for this promising area, which is needed to ensure market integrity and scale up volumes. Enhancing access to finance for resource-efficient SMEs through alternative finance channels such as peer-to-peer lending also has potential, one that is still as yet largely unexplored. At a systemic level, promoting capital market competitiveness through green finance is emerging as a priority. For example, the UK's City of London has just launched a new Green Finance Initiative.

Priority 2. Risk

Awareness of the potential for sustainability factors to pose prudential risks has been building among Member State financial regulators, largely focused on climate and carbon factors. A cluster of leadership is emerging which is being recognized globally. The Bank of England's Prudential Regulation Authority (PRA) recently published an assessment of climate risk to the UK insurance sector, identifying how physical, transition and liability risks may affect firms and policy holders. This approach has now been taken up by other European central banks, and by the Financial Stability Board at the global level. In Sweden, the Financial Services Authority (FSA) published an assessment of banks' internal rules for credit and lending from an environmental perspective in December 2015, and is intending to publish an assessment of the impacts of climate change on financial stability in 2016.

Bringing future shocks into today's decisions will be critical in overcoming what Bank of England Governor Mark Carney has termed the "tragedy of horizon" in factoring sustainable development into

financial decision-making. Going forward, the European Union has a major opportunity to pool resources and connect different initiatives and approaches. This includes sustainability stress testing, building on leading initiatives, such as France's recent decision to integrate climate factors into stress tests for banks.

Priority 3. Responsibility

EU Member States have been leaders in the design of financial policies and regulation that integrate non-financial factors within the core responsibilities of financial institutions. Of the 14 jurisdictions globally where regulators now require pensions funds to disclose information on their approach to environmental, social and governance (ESG) issues, 10 are located in the EU. An increasing number of Member States – including the Netherlands, Sweden and the UK – have gone beyond simple disclosure to clarify that fiduciary obligations do not preclude the consideration of material sustainability factors in the investment process. This debate is part of a broader shift occurring across the EU, as new societal expectations drive change in the way financial institutions understand their core responsibilities to consumers, clients and future generations. Emerging lessons from the integration of key ESG issues point to the importance of embedding sustainability factors into the incentives, skills and values that drive financial culture. Efforts to realign finance with social purpose are under way from the individual to the systemic level – in the Netherlands, an oath for banking professionals encodes ethical conduct into all professional behaviour.

Priority 4. Reporting

Effective reporting and disclosure is a foundational element of a sustainable financial system – enabling consumers to pick the right financial products, investors to make informed choices, and regulators to assess threats to financial system resilience from sustainability-related shocks. Frameworks for corporate and financial institution disclosure in European countries are at the leading edge of this evolving agenda: corporate disclosure of greenhouse gas (GHG) emissions is now mandatory in a number of European countries, including Denmark, France and the UK. Progress is advancing at the Union level with the implementation of the Non-Financial Reporting Directive. However, multiple barriers remain – as well as significant fragmentation. Sustainability disclosure by financial institutions – to shareholders, stakeholders, beneficiaries and broader civil society – is also becoming a core area of regulatory focus. The new French Energy Transition Act is the most comprehensive climate disclosure regime in the world, with multiple requirements on listed companies, banks and investors. France is also enhancing transparency at the product level, with sustainability labelling schemes to be implemented in 2016.

Priority 5. A Strategic Reset

European Member States are scaling up sustainable finance innovation. This is now being matched by a growing number of initiatives at the EU level, including consultations on long-term and sustainable investments,[1] non-financial reporting,[2] and new research initiatives. However, many of the efforts are relatively new – and address only some aspects of the sustainable finance landscape.

The fast-moving nature of the sustainable finance agenda means that there is now an important opportunity to explore how these national and EU innovations can be taken forward at a strategic level. Developing an **EU Strategy for Sustainable Finance** could help drive synergies between sustainability targets and economic growth objectives at the Union level, while boosting international competitiveness as new markets emerge. Such a strategy could cover the following themes:

1. **Reset:** Assess ***strategic challenges and opportunities*** for the harmonization of existing sustainable finance efforts within the EU and key areas for future work, in order to clarify thinking in advance of broader EC processes on finance through 2016.

2. **Reallocation:** Develop a ***Green Capital Markets Plan*** as a complement to the core CMU: this could provide guidance to facilitate the issuance of green products as well as the greening of equity and debt markets, encourage the integration of sustainability factors in ratings and research, and clarify market creation roles for public finance institutions.

3. **Risk:** Establish a ***Finance and Sustainability Risk Forum*** to institutionalize information sharing on how sustainability factors may affect prudential risks, potentially linked to the European Systemic Risk Board.

4. **Responsibility:** Clarify the ***sustainability dimensions of investor duties and financial responsibilities*** by bringing together pensions regulators. This could be an initial catalyst for EU-level guidance on how best to integrate sustainability priorities within frameworks for investor governance in both common law and non-common law countries.

5. **Reporting:** Measure ***sustainable finance flows***, focusing on redirection of capital to low-carbon investments at national and regional levels. Such efforts represent an important first step in monitoring progress towards a sustainable financial system in the EU.

Mapping National and EU-level Policy Leadership on Sustainable Finance

Theme	Priority Area	National Policy Leadership
Capital Reallocation: Public balance Sheets	EU Budget allocation	France: The EIB has partnered with CDC to deliver a €2 billion funding line for French SMEs and the energy transition
	Market standards and guidance	UK: The GIB Greening Handbook sets out practical tools to assess, monitor and report the green impact and performance of investments
	Market creation	Germany: KfW provides low-interest rate loans for SMEs for energy efficiency refurbishment and construction UK: The GIB has been instrumental in kick-starting the investment trust market for financing renewable energy projects
	Engaging in capital markets	Germany: KfW issued its first green bond of €1.5 billion in July 2014 and has announced a green bond purchase programme
	Fiscal incentives	France: Livret A and FCPI schemes provide tax incentives for individuals, utilizing savings for investments in SMEs, local infrastructure and social housing
	Monetary policy and QE	France: Commentary from Governor François Villeroy de Galhau regarding importance of climate change for central bank mandates and the role of monetary policy
	Collateral frameworks	
Capital Reallocation: Markets	Greening capital markets	UK: Green Finance Initiative launched by City of London Corporation in January 2016, focusing on green bonds
	Green bonds	Increasing leadership on green bond principles across many countries
	SME finance	Germany: Evidence suggests that increased banking diversity can enhance SME access to finance
	Alternative finance	UK: a targeted regulatory regime has helped facilitate major growth, with the UK now holding 80% of the rapidly growing EU alternative finance market
Risk	Prudential risk assessment	UK: Bank of England PRA review into climate risks to the UK insurance sector, identifying physical, transition and liability risks
	Systemic risk	Sweden: FSA submitted a report to government on how climate change will affect financial stability in March 2016.
	Stress testing	France: Energy Transition Law stipulates that the government will publish a carbon and climate risk stress test report of the financial sector in 2016
Responsibility	Fiduciary duty and investor governance	Netherlands: New pensions legislation implies that that taking account of sustainability issues is an integral aspect of the "prudent person" principle
	Stewardship and engagement	UK: World's first Stewardship Code implemented in 2010, inspiring similar efforts from many other countries
	Performance measurement	
	Incentives and remuneration	
	Skills and capabilities	France: White Paper on Ecological Transition specifically recognizes need for investor capacity building in sustainability risk management
	Values and purpose	Netherlands: Dutch Banker's Code encodes ethical conduct and integrity principles into all professional behaviour
Reporting	Corporate disclosure	Finland: Helsinki Stock Exchange was recently rated the world's top-performing exchange in terms of sustainability disclosure
	Financial institution disclosure	France: Energy Transition Law (2015) requires mandatory carbon footprinting of investment activities, an assessment of climate risk (physical and transition risk) and disclosure of contribution to energy transition and climate goals
	Assets and products	France: Energy transition and SRI Labelling Schemes to be implemented in 2016
	Ratings and information	
	Shareholders, beneficiaries, civil society	Sweden: Investigation into transparency of fund sustainability for individual consumers
Strategic Reset	Green competitiveness	Sweden: Financial sector mandated to contribute to sustainable development in order to enhance national green competitiveness, leading to implementation of multiple policy measures across asset classes and enhancements of regulatory capacity

EU Action/Instrument
European Fund for Strategic Investments: mobilized €50 billion, with over half of the approved projects in areas of energy and climate action, environmental and resource efficiency, transport, and research and development
EIB: implementing carbon emissions limits for project finance lending, affecting finance for coal-fired power plants (2013)
EIB: Project Bonds Credit Enhancement Facility pilot phase has supported nine infrastructure projects in six Member States as of November 2014
EIB: Climate Awareness Bond issuance in 2007 pioneered green bond market; EIB largest green bond issuer to date with issuance of €8.5 billion
No action, but increasing debate on potential for greening the ECB QE programme
ECB: Reduction of the risk premium applicable to Asset-backed security (ABS) collateral to 10% from 16% and the quality threshold for six ABS classes to support lending to SMEs
Capital Markets Union action plan: Acknowledges importance of long-term sustainable infrastructure investment, other initiatives targeting long-term investment
Capital Markets Union action plan: SME finance central priority of CMU efforts
Capital Markets Union action plan: identifies priority areas linked to alternative finance – including the promotion of crowdfunding, private placement and loan-originating funds
IORP II Directive: draft adopted in January 2016, requires funds to undertake assessment of new emerging risks related to climate change, use of resources, the environment, and to disclose this information to beneficiaries
ESRB: published assessment of the impacts of a transition to a low-carbon economy on systemic risk, in response to ECB request
DG-ENV: published study on opportunity and feasibility for incorporating resource efficiency more explicitly into fiduciary duties
Shareholders' Rights Directive: transparency and reporting on the turnover and maturity of funds
Directive on non-financial reporting: requires European companies to report on their non-financial information; public consultation on guidelines currently under way (to April 2016)
IORP II Directive: draft adopted in January 2016, requires funds disclose new and emerging environmental risks to beneficiaries
PRIIPS Directive: Improves disclosure of the key information documents for retail investors

1 INTRODUCTION

Over the past 20 years, the European Union has often been at the forefront of efforts to build a financial system that supports sustainable development. Innovations in ethical finance, social entrepreneurship and responsible investment emerged from financial capitals such as London, Paris and Frankfurt. In the 2000s, EU Member States, organizations and firms were foundational to the emerging debate on sustainability-related disclosure (including GHG emissions), then motivating further evolution in ESG integration and environmental finance markets. In the wake of the financial crisis, a focus on systemic risk led to the implementation of new regulatory frameworks for banking, insurance and investment. Now, European institutions and organizations are advancing the agenda on climate risk, including stranded carbon assets. Over the last two years, financial institutions and regulators have increased their focus on these issues, with significant momentum building up to COP21 in December 2015. Multiple initiatives are currently underway within the European Commission level relevant to sustainable finance – but these issues have not yet been considered at a strategic level.

The European Sustainable Finance Landscape in Numbers

Total Assets: Europe is home to the largest share of assets managed in accordance with the integration of environmental, social and governance (ESG) factors, with 63.7% of the global total.[3] Europe is now leading is efforts to align asset allocations with a 2 degree warming limit.[4]

Investment: 47% of the signatories to the Principles for Responsible Investment (PRI) are based in the EU.[5] A recent study suggests that the growth in deployment of Sustainable and Responsible Investment (SRI) strategies is outstripping the growth of Europe's asset management industry as a whole.[6]

Insurance: Europe is home to many major global insurance and reinsurance firms leading the way on sustainability integration across underwriting and investment, with 35% of the signatories of the Principles for Sustainable Insurance.[7]

Banking and Project Finance: 37% of the signatories of the Equator Principles are based in the EU.[8] Major public financial institutions – such as the EIB – are leading in the way in applying emissions limits as a way to screen out high-carbon investments like coal-fired power plants.

Climate Finance: The EU and its Member States are global leaders in climate finance, delivering a combined total of €14.5 billion in 2014.[9]

Europe is currently faced with a dual challenge of addressing pressing sustainability issues (including climate change-related targets), while at the same time overcoming a persistent low-growth trap.[10] The EU has pledged to reduce emissions (relative to 1990 levels) by at least 40% by 2030 and at least 60% by 2040. The EC estimates that up to €2 trillion will be required to meet the policy goals of the Europe 2020 Strategy for smart, sustainable and inclusive growth,[11] with more recent communications highlighting the need to enhance the wider framework for sustainable finance.[12] In October 2015, the EC released its annual

work programme for 2016, committing to "start work now to secure Europe's future sustainability" with a new approach to ensuring economic growth and social and environmental sustainability beyond the 2020 timeframe.[13]

As the scale of the sustainable development challenge becomes clear, there is growing focus on the strategic role of financial policy and regulation in harnessing Europe's financial system to support the transition to a low-carbon and resilient economy. The UNEP Inquiry into the Design of a Sustainable Financial System has uncovered a "quiet revolution" across several EU member states during the course of its global work programme, as described in the recent global report *The Financial System We Need*.[14] Increasingly, financial policymakers and regulators are exploring their role in enabling an orderly transition to a prosperous low-carbon economy.

The central challenge of financing sustainable development in the EU is one of capital reallocation. With some of the world's most highly developed and sophisticated financial systems, a low-to-zero bound interest rate environment and abundant investment capital, the challenge is financing more sustainable long-term investments, while also reducing flows of finance to unsustainable investment options that may lock in carbon emissions or present barriers to adaptation. In this context, building a sustainable financial system can contribute to economic recovery by allocating capital to core growth sectors, as well as improving the efficiency and effectiveness of the capital intermediation process itself through improved risk management, better flows of information and a core alignment with long-term social purpose.

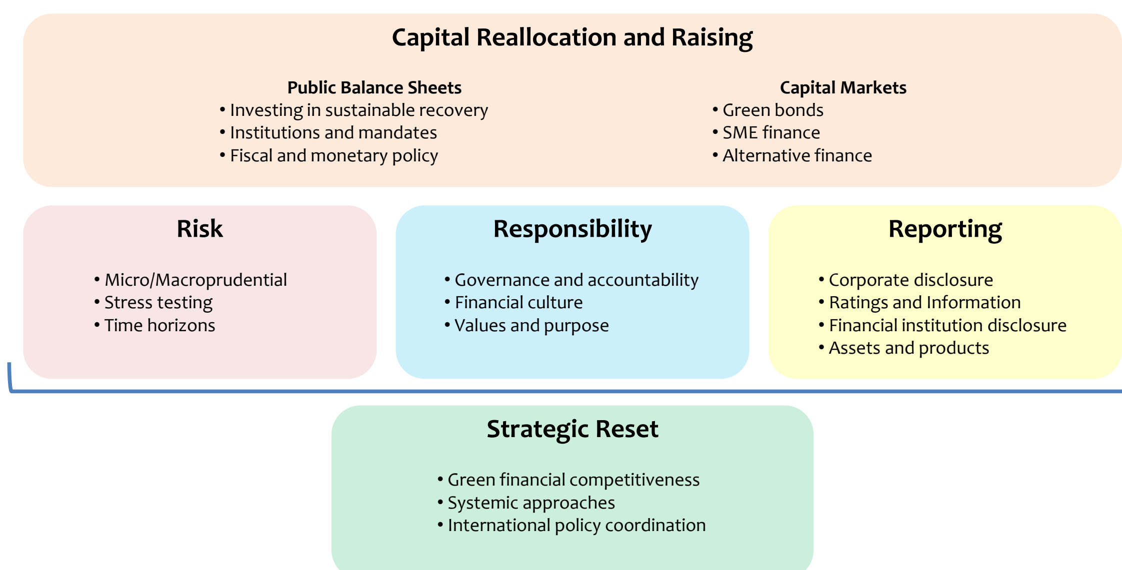
The case for embedding sustainability factors into the financial system is supported by rising expectations from civil society, leadership from individual financial institutions as well as the growing significance of sustainable development in broader economic and financial policymaking. In essence, the emerging paradigm is based around a new balance between risk, reward and the social responsibilities of financial institutions, a capital-raising process aligned with long-term sustainable growth and improved reporting across all dimensions of this process.

National financial systems in Europe depend on overarching dynamics – but they are also in a position to influence and foster innovation at the EU level.[15] In addition, Europe is home to many pioneering sustainable finance initiatives that are setting the agenda both domestically and internationally on topics including green bonds, climate disclosure and risk, integrated reporting, responsible investment and stress testing. Furthermore, financial innovations in Europe have impacts for the financing of sustainable development at a global scale. Beyond this, European institutions – alongside representatives from Member States – will have a role to play in setting a new global agenda for sustainability within financial policy and regulation. Heading into 2016, the global momentum is likely to intensify, with China's launch of the new G20 Green Finance Study Group, co-chaired by the UK. It is time to bring together the multiple strands of national leadership into a coherent strategy for sustainable finance at the EU level.

This report presents a stock-take of actions under way at the European Union level and in selected Member States to align the rules governing the financial system with environmental sustainability. It is not intended to offer a comprehensive view across the EU28, but rather focuses on Union-level action in the context of emerging practice within major EU Member State financial sectors. Looking across the range of innovations across the EU, five broad policy priorities emerge:

- **Reallocation:** harnessing public balance sheets and leveraging public finance institutions, as well as mobilizing Europe's capital markets to enhance sustainable finance, through green bonds, new products and access to finance for SMEs;
- **Risk:** Assessing and managing new dimensions of prudential risks at the institutional and systemic levels;
- **Responsibility:** Strengthening governance and accountability, enhancing financial culture and reaffirming purpose

- **Reporting:** Improving transparency and disclosure across corporates, financial institutions, asset classes and markets – through to end consumers
- **Reset:** Implementing a systemic approach to align the financial system with sustainability to drive green economic and financial competitiveness



As noted above, the key challenge is one of capital reallocation and raising – where the roles of the EU's and Member States' public balance sheets are proving to be critical, alongside the central priority of mobilizing Europe's capital markets to better serve the real economy. Enhancing frameworks for risk management, clarifying the core responsibilities of financial institutions and improving reporting and disclosure across all of these dimensions will be necessary to fully unlock flows of sustainable finance. A growing number of Member States are delivering on individual aspects of these priorities and others are acting within given asset classes. The debate is now advancing to the system level and the need for a strategic reset, seeking to link previously unconnected initiatives to upgrade the ways in which the financial system can contribute to both renewed economic competitiveness and enhanced sustainability performance.

2 REALLOCATION: RAISING CAPITAL FOR THE TRANSITION

2.1 Public Balance Sheets: Stimulus, Leverage and Market Creation

Following the financial crisis, willingness to mobilize public balance sheets to promote long-term economic growth objectives has increased. Inflecting this momentum to support investments necessary for sustainable long-term growth is a key priority for the roll-out of the Juncker Plan. Actions by Member States confirm that these and other efforts to drive investment can be aligned with the capital needs of the transition to a low-carbon economy. Notable in this respect are:

- Budgetary allocations towards the Juncker Plan, including through European Fund for Strategic Investment
- The changing orientation of the EU's public financial institutions, with new roles in market creation, standards development, private leverage and greater engagement in capital markets.
- The provision of incentives for green investments and the development of innovative products and instruments
- An emerging debate on sustainability and long-term investment priorities for monetary policies and institutional mandates

2.1.1 Investing for Europe: Budgetary Allocations to the EU's Economic Recovery

The EU Investment Plan for Europe was adopted in November 2014 as the primary programme to generate economic growth throughout the European Union. The Juncker plan's central objective is the mobilization of €315 billion over 2015-17, through three main channels:

- The newly created European Fund for Strategic Investment (EFSI)
- Transparency on investment opportunities in Europe, including the European Investment Project Portal[16] and advisory services, including the European Investment Advisory Hub (operational since September 2015).[17]
- Efforts to improve the investment environment, including market integration strategies such as the Capital Markets Union, Energy Union, Single Market Strategy and others.

European Fund for Strategic Investments

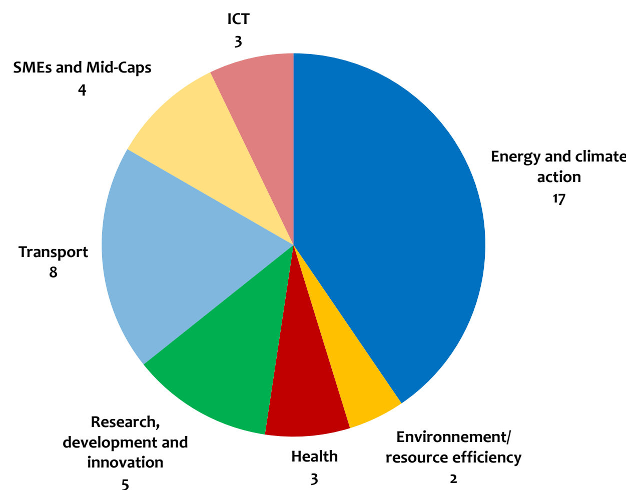
The EFSI was established early in 2015 by the EIB Group (both the European Investment Bank and the European Investment Fund) and the European Commission to enable increased lending and attract private capital for projects in strategic sectors such as renewable energy, transport and research and development, alongside a focus on SME financing.[18] The EFSI is designed to leverage private capital, which represents about 80% of the total expected investment value.[19]

As of January 2016, the EFSI has approved 42 projects (either agreed or under consideration), amounting to roughly €25 billion of investment. More than half of these projects are in sustainability-related areas, including energy and climate action, environmental and resource efficiency, transport, and research and development. Signed operations of the EIF amount to roughly €25 billion of equity investments and

guarantees for SME portfolios, with over 75,000 SMEs and Midcap companies expected to benefit from enhanced access to finance. Taken together, these project approvals and agreements mean that the EFSI has mobilized roughly €50 billion – translating to roughly 15% of the €315 billion allocation of the Juncker plan – during its first six months of operations. A detailed breakdown by sector is presented in Figure 1.

Figure 1: Overview of EFSI Project Approvals

	Number of projects/ agreements	EIB/EIF approved financing	Total expected investment triggered
Infrastructure and innovation projects approved	42	€5.7 billion	€25 billion
SME financing agreements signed	84	€1.8 billion	€25 billion



Source: European Commission Factsheets[20]

Table 1: Detailed Overview by Sector

Sector	Total approved projects	Total EIB financing (million €)	Expected total investment (billion €)	Member States
Agriculture	2	75	1.2	FI, PL
Circular Economy	6	225	1.74	BE, ES, FI, FR, IT
Energy	17	2,500	13	BE, DE, DK, ES, FR, IE, IT, SE, UK
Health	4	400	1	AT, ES, IE, UK
ICT	3	N/A	N/A	FR, IT
RDI	5	325	2	ES, FI, IT
Transport	8	1,500	4.6	ES, FR, IT, NL, SK

Source: European Commission Factsheets[21] *Note: some projects span more than one sector.*

The EFSI is expected to play a strategic role in balancing the type of public spending done across EU Member States, including through increased coordination with instruments like the European Structural and Investment Funds (ESI Funds[22]). The ESI Funds are expected to channel more than €450 billion from the EU budget during 2014-2020 into funding programmes for research and innovation, digital

technologies, support to the low-carbon economy and SMEs.[23] EFSI also complements existing financing for innovation, such as the InnovFin programme.

InnovFin

InnovFin (EU Finance for Innovators) is a joint initiative launched by the EIB Group in cooperation with the European Commission under *Horizon 2020*, the EU's Research and Innovation programme.[24] In December 2015, the European Commission and the EIB announced changes to InnovFin to allow higher-risk, yet innovative, sustainable business models and plans to access to the scheme, building on changes to the EU's Circular Economy Strategy, as a way to support climate goals.[25]

The EFSI approach reflects a deeper shift in the use of public resources to achieve greater impact through the leveraging of private capital. The EIB Group expects that it will be able to achieve a 15x leverage ratio on certain major projects – drawing on the experience of existing EIB instruments such as the EIB renewable fund. The EFSI will allow the EIB group to scale up partnership models with national financial institutions and development banks to fill gaps in institutional architecture.

Critical and complementary to the funding elements of the EFSI will be advisory services to enhance institutional capacity building – and ease the difficulties of "first-time" projects with greater shared experience and expertise. Going into 2016, the EFSI is expected to ramp up activity, following the formal establishment of an investment committee. Plans include a greater profiling of projects that will be supported, as well developing new lending products to cover a wider range of risk profiles.

2.1.2 Development Finance: The Changing Role of the EU's Public Financial Institutions

Public financial institutions (PFIs) are publicly created and/or mandated financial institutions designed to address market failures and contribute to broader economic policy goals. In the banking sector, PFIs include multilateral and national development banks, export-import banks, public 'commercial banks' and other national or regional 'stakeholder banks' (for example savings banks and cooperatives). Public investment funds, such as sovereign wealth funds or public pension funds, may also be considered as PFIs.

Europe's multilateral, national and regional development banks are delivering an increasing breadth of functions relevant to sustainable finance, stemming from core access, risk and capacity roles (Table 2).

Table 2: The Role, Functions and Tools of Public Financial Institutions

Role	Functions	Tools and instruments
Facilitate access to capital	Providing long-term capital Facilitating access to private capital	Concessional and non-concessional lending Equity investment International climate funds Public-private partnerships
Reduce risk	Risk sharing Credit enhancement mechanisms	Structured finance: Guarantees Public private partnerships Junior debt/mezzanine financing
Fill the capacity gap	Aiding project development Reducing project risks	Technical assistance Capacity building Information tools

Source: Cochran *et al.* (2014)[26]

PFIs also can play a number of other roles that are relevant to sustainable finance objectives. By right of their public ownership structure and mandate, PFIs can act as 'first-movers' within the marketplace in contexts that could be too risky or costly for private institutions. From this position, PFIs can play a catalytic role in three main areas:

New market standards: PFIs can exhibit leadership through the development of new market standards, pioneering or prefiguring practice within the private sector. For example, major European regional and national development banks have implemented broad policy reforms to guide lending decisions. Notable in this context is the EIB's decision in 2013 to limit the financing of coal-fired power plants through the implementation of stringent emissions limits and the application of a shadow carbon price to energy investments.

Market Creation: In addition to more conventional risk-sharing activities, PFIs can support the establishment of new markets by acting as a new force of demand. In the UK, for example, the GIB was designed with the specific objective of addressing market failures within the financing of low-carbon investments, overcoming excess risk aversion by working on a commercial basis to crowd in private capital through co-investments. At the EU level, multiple efforts could be slightly tweaked to support markets for low-carbon investments:

- **EIB Project Bonds Credit Enhancement Facility:** The PBCE is designed to catalyse debt market financing for trans-European transport networks (TEN-T), trans-European energy networks (TEN-E), ICT and broadband, by deploying fiscal resources from the EU budget managed by the EIB to crowd in private capital. As of November 2014, the initiative has supported nine infrastructure projects in six Member States. From a sustainability perspective, the PBCE can both improve the

Funding for Sustainability: EU and National Development Banks

EIB Group: The EIB is the world's largest multilateral development bank and has set a minimum standard of allocating 25% of overall lending to support climate – a total of €19 billion in 2014.[27] It plans to finance €100 billion of climate-related investments between 2015 and 2020.[28]

KfW Bankengruppe: During 2012-2014, over one third of KfW's total commitment volume was channelled to climate and environmental protection.[29] As of November 2015, commitments in environmental and energy finance reached €6.9 billion, with €2.7 billion allocated to energy efficiency finance.[30] Energy efficiency retrofit and construction programmes targeting SMEs have helped support new markets in these areas. In April 2015 KfW announced plans for a €1 billion green bond purchasing programme.[31]

Caisse des Dépôts et Consignations: CDC, the French public financial institution, raised €2.5 billion worth of loans and investments for the energy transition in 2014, and currently plans to allocate €15 billion in direct financing for energy transition projects between 2014 and 2017.[32] The EIB has partnered with CDC to deliver a €2 billion funding line for French SMEs and the energy transition.[33]

Agence Française de Développement: AfD, the main implementing agency for French development assistance, allocated 53% of 2014 foreign aid funding to investments to fight climate disruption, amounting to over €4 billion.[34]

Green Investment Bank: As of December 2015 the UK's GIB has backed 62 green infrastructure projects, committing £2.3 billion as part of transactions worth £10.1 billion.[35]

access and cost to finance for low-carbon and climate-resilient infrastructure – but as yet does not integrate sustainability criteria.

- **Joint SME Initiative and EIB-EIF Initiative for asset-backed securities:** The Joint SME Initiative places a strong emphasis on credit enhancement for asset-backed securities of SME loans.[36] Although this initiative is not designed for low-carbon investments, it provides an example of how financial instruments and tools could be used for small-scale low-carbon investments. Additionally, the EIB and the European investment Fund (EIF) has a joint initiative in the asset-backed securities market, which combines EIB investment in senior tranches of ABS issuance with guarantees from the EIF for the mezzanine tranches.

Engaging in capital markets: Public actors directly engage in capital markets, notably as debt issuers. From a sustainability perspective, this position can help mobilize sustainable investment through many different avenues, including through isuing 'green bonds' and supporting the development of coherent market standards.

2.1.3 Fiscal Incentives

Taxation ranks among the most prominent tools in the context of environmental and sustainability objectives. The majority of environmental tax incentives focus on downstream investment decisions for governments, households and companies, including environmental duties on retail electricity, transport fuels and emissions. To date, opportunities for linking tax incentives within the financial system to sustainability objectives have been relatively underexplored. One area of potential alignment is the body of tax incentives focused on individual consumers, including tax incentives for savers and retail investors. By providing tax exemptions to retail investors, savers' capital can potentially be steered towards specific investments, in particular green sectors or SMEs. A notable example of national-level innovation is France, where different incentive mechanisms are used to steer the allocation of savings to specific socially oriented funds.

Tax Incentives for Individual Savers in France

Out of the €11.3 billion of public spending used for tax exemptions of savings in France in 2013, 70% of this was directly related to the official goal to finance the economy.[37] Savings deposited in a Livret A (a tax-exempt fund) are utilized by public banks, including CDC. CDC-managed funds are half allocated to loans for social housing and local infrastructure, and half invested in capital markets. In the case of FCPI (Fonds Commun de Placement dans l'Innovation) – another tax exempt investment product – asset managers directly invest 60% of the amount outstanding in innovative SMEs. Although the complexity and diversity associated with these incentives undermines the efficiency of the overall mechanism, this model could be leveraged to further align existing tax incentives for savers with sustainable finance objectives.

2.1.4 Monetary Policies

The aftermath of the global financial crisis saw both an adjustment in traditional policy frameworks, such as collateral frameworks, and the introduction of new unconventional monetary policy tools. Most notable among these are asset purchase programmes, or quantitative easing (QE), designed to increase investment when interest rates are at the zero-bound limit. Beyond asset purchase programmes, schemes have been developed at the Member State level to incentivize lending to underserved groups within the real economy, including the SME sector.[38] Since 2014, a debate has emerged on the consideration of sustainability objectives within monetary policy tools. This is a contentious topic – and one that is intimately linked the broader discussion on the boundaries of central bank mandates.

Green Quantitative Easing

The ECB implemented a €1.1 trillion QE plan in March 2015. So far, no QE programme implemented has considered sustainability or long-term investment priorities – but a debate is emerging around the potential for creating "Green QE" at EU and national levels.

> **The ECB's Quantitative Easing Programme**
>
> In January 2015 the ECB announced a significant expansion of its existing asset purchase programme to supplement the ongoing Asset-Backed Securities and Covered Bonds Purchase Programmes (ABSPP and CBPP3). With the introduction of the Public Sector Purchase Programme (PSPP), the Eurosystem now injects €60 billion monthly into the Eurosystem through the purchase of sovereign bonds from Euro-area governments and securities from European institutions, alongside the ongoing ABSPP and CBPP3 purchases. The PSPP programme is expected to run until September 2016.

France Stratégie,[39] the French Prime Ministerial think tank, has explored how monetary policy could support low-carbon investment at a time of fiscal constraints, focusing on the inclusion of climate factors in the ECB's asset purchase programme through the use of carbon certificates.[40] Other French policy think tanks, including CIRED[41,42] have supported this idea. The Green New Deal Group[43] and others have argued that QE programmes could give special consideration to green assets. At the EU level, a recent paper by the EU Green Party argues for the implementation of "Green QE" funded by national banks and implemented through a specialized division of the EIB.[44]

Collateral Frameworks

Collateral frameworks regulate the assets that can be pledged by commercial banks in credit operations with the central bank.[45] Collateral assets accepted by the ECB are considered liquid and non-risky by the rest of the financial markets and therefore gain on attractiveness. In the long run, central banks could give a very strong signal to the markets by adjusting collateral frameworks based on sustainability criteria. Another potential option could be the development of temporary collateral regimes to boost the economy. The ECB first expressed its intention to investigate the possible acceptance of SME-linked ABS-guaranteed mezzanine tranches as Eurosystem collateral in 2013 and has subsequently implemented multiple measures to revitalize securitization for SMEs.[46]

Sustainability and Institutional Mandates

The mandates of PFIs in some EU Member States are being adapted to support values-based objectives and long-term social well-being, including through the direct or indirect consideration of sustainability factors. Public institutional investors and sovereign wealth funds now have been given sustainability mandates or have affirmed sustainable investment priorities, including in Sweden, the Netherlands and France. Now, the discussion on mandates is extending to central banks. In the last months of 2015, central bank governors in the UK and France have made statements on the management of climate risks and opportunities from a central bank perspective. In a September 2015 speech at Lloyd's of London, Bank of England Governor Mark Carney commented that the "tragedy of horizon" posed by climate change will be felt beyond the horizon of central banks and that "once climate change becomes a defining issue for financial stability, it may already be too late."[47]

In a speech given at COP21, Banque de France Governor François Villeroy de Galhau noted the importance of current monetary policy in encouraging "investment in longer-term projects, with better returns than government bonds, such as infrastructures and energy transition", within the context of broader

macroeconomic objectives. In addition, he remarked that "monetary policy will have to play its role of contributing to a smoother rebalancing of price structures" as climate change affects growth and resource allocation.[48]

Sustainability and the ECB Mandate

Article 127(1) of the Treaty on the Functioning of the European Union governing the objectives of the European System of Central Banks creates a hierarchy of objectives between price stability and economic growth: "The primary objective of the European System of Central Banks […] shall be to maintain price stability […] Without prejudice to the objective of price stability, the ECB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union."

Article 3 mentioned in the mandate of the ECB sets a number of broader goals including "peace, security, and the sustainable development of the Earth" (Article 3.5). In this context, as long as price stability is not at risk, the ECB could in principle support these wider objectives. While the ECB currently does not include Article 3 in the interpretation of its mandate, this article provides the legal basis for hypothetically applying these in the future.

2.2 Capital Markets: Mobilizing, Greening and Enhancing Access

A primary focus of the European Commission is mobilizing Europe's capital markets to better serve the real economy. The challenge is making sure that new initiatives – such as the Capital Markets Union (CMU) and other efforts – are well suited to serve the needs of emerging industries of the future, including green infrastructure, clean technology innovation and resource-efficient SMEs.

2.2.1 The Capital Markets Union

In September 2015, the European Commission formally set out a plan to achieve a single market for capital in Europe. The CMU action plan presents 20 key measures, built around four principles: creating more opportunities for investors; connecting finance to the wider economy; fostering a stronger and more resilient financial system; and deepening integration and increasing competition. Initial actions announced in the plan include amendments to the treatment of infrastructure projects under the Solvency II framework[49] (lowering capital charges levied on infrastructure investments by insurers and pension funds), a proposal for a new regulatory framework for securitization,[50] and consultations on venture capital and covered bonds.

The CMU action plan does not directly focus on sustainable finance priorities, except in relationship to infrastructure investment. It notes that increasing sustainable investment will be critical to achieving the 2030 climate and energy policy targets, as well as broader objectives under the Sustainable Development Goals. Key to this will be green bonds: market-driven standards developed around project selection criteria from MDBs (including the World Bank, EIB and EBRD), as well as voluntary standards and principles originating other bodies, are noted as a potential catalyst for market growth.

The CMU Green Paper and recent action plan document have inspired a significant amount of commentary from European NGOs and civil society institutions such as E3G,[51] industry associations, including Eurosif,[52,53] as well as many financial firms, notably Aviva.[54] Financial institutions and civil society groups continue to be active in encouraging greater focus on sustainability finance aspects of the CMU action plan, including the potential for considering sustainable finance at a strategic level.

Overview of Capital Markets Union Action Plan

Providing more funding choices for Europe's business and SMEs: A central focus of the CMU action plan is addressing barriers to raising capital markets financing faced by SMEs. The EC cites a clear need to enhance access to finance, with European SMEs receiving five times less funding from capital markets than those in the US. Specific actions include:

- Modernizing the prospectus directive to reduce costs to business of publicly raising funds, including a review of barriers to equity and debt listings by small firms
- New measures to support venture capital and equity financing, starting with public consultations also launched in September 2015
- The promotion of alternative financing channels such as crowdfunding, private placement and loan-originating funds
- The "exploration" of a pan-European approach to enhance ways to connect SMEs with diverse funding sources

Ensuring an appropriate regulatory environment for long-term and sustainable investment and financing of Europe's infrastructure: Immediate changes to Solvency II calibrations to "better reflect the true risk" of infrastructure investment have been implemented. Beyond this, a review of the cumulative impacts of regulatory reforms is expected to enhance coherence and consistency.

Increasing Investment and choices for retail and institutional investors: Looking across the retail savings, life assurance and pension funds space, the commission has put forward multiple changes to enhance competition and choice, including:

- Supporting enhanced cross-border competition
- Exploring new choices for retirement saving and the potential to build an EU market for personal private pensions
- Eliminating cross-border fees and barriers through an effective European fund passport

Enhancing the capacity of banks to lend: The Commission acknowledges that traditional bank lending will continue to be a major source of funding for businesses. Measures to increase banking capacity include a proposed new securitization law to free up capacity on bank balance sheets, and assessing the potential for building a pan-European covered bond framework. Measures to enhance market diversity have also been put forward, including the possibility for exempting local credit unions from the scope of EU capital requirements on banks.

Breaking down cross-border barriers and developing capital markets: The Commission highlights multiple barriers to cross-border investment and has put forward a suite of measures to address obstacles originating from insolvency, tax and securities laws at national levels, as well as actions to address issues stemming from "fragmented" market infrastructure.

Beyond the CMU process, the European Commission has increased its focus on sustainable finance through different channels. In late December 2015, the EC launched a public consultation on long-term and sustainable investments, which are seen as necessary to maintain and extend European competitiveness, as well as being beneficial to the EU's policy objectives linked to the promotion environmentally and socially sustainable wealth creation[55] (see sections 4.1 and 5.2 for further discussion of responsible investment and ESG integration).

In addition, the EC is examining how best to use new capital market channels and risk-sharing agreements to channel financing towards sustainable investments – including the greening of the EU's building stock. The EU Energy Efficiency Financial Institutions Group published its final report in February 2015,[56] providing a comprehensive set of market-level, broader economic, financial and institutional actions to scale up energy efficiency investment. Efforts are currently under way to unlock new financing channels for efficiency retrofit investment as part of the Juncker Plan – a critical priority for the greening of Europe's existing building stock.

2.2.2 Scaling up Green Bonds

Green bonds and green covered bonds can be a significant source of funding for a sustainable recovery. To mobilize this source, policymakers can take advantage of momentum at national and international levels to support the growth of green bond markets. However, the market integrity critical for to successful green bond scale up – delivered through standards, verification and certification – has not yet been pursued at the European level.

Going forward, green bond markets in Europe are likely to experience significant growth – growth that could have exponential benefits for Europe as a global capital market hub, if the correct market and policy conditions are set in appropriate timeframes. While the commission has stated it will monitor the need for EU green bond standards, it is clear that there is a major opportunity at present to achieve market growth and sustainability objectives through the financial system. An EU-level green bond market development strategy could consider a 10-point agenda from the Climate Bonds Initiative.[57]

A 10-point Agenda for Green Bond Market Development

1. Market Integrity: support the establishment of common green definitions, standards, verification, certification – as well as enforcement through securities regulation to protect consumers.
2. Pipeline Development: enabling issuers and investors to plan ahead and build expertise.
3. Strategic Issuance: from public agencies such as development banks and municipalities.
4. Product Development: through aggregation of small projects, use of standardized contracts, securitization and supporting warehousing facilities.
5. Improving risk/return profile: through credit enhancement such as partial guarantees, subordinated debt and insurance.
6. Improving returns: through tax credits and incentives (such as Clean Renewable Energy Bonds in the US); tax incentives can also strengthen market integrity through linkage to verified performance.
7. Facilitating green bond investment from public funds: through mandates for sovereign wealth funds and pension funds.
8. Central bank bond purchases: include green bonds in reserve management and asset purchase policies.
9. Regulatory adjustment: to give a preferential weighting for green bonds in capital requirements.
10. International cooperation: to avoid market fragmentation and underpinning market liquidity through mutual recognition of standards.

A coordinated and integrated strategy could achieve significant gains in tackling issuer-level, investor-level and market-level barriers that may be linked. Efforts to generate a robust pipeline of green projects on the supply side could be enhanced by public commitments from public institutions to boost demand for green bonds, through sustainability mandates from governments or the convening role of central banks. As the international green bond market continues to grow, Europe's major financial centres could

benefit from lively competition in offshore issuance. Supporting markets for specific types of green bonds – including covered bonds – could represent a policy pathway within the CMU process, drawing on emerging market practice: in 2015, Berlin Hyp released the first-ever Green Pfandbrief, based on loans assigned to the acquisition and construction of green buildings.[58]

Greening the City of London: Promoting International Competitiveness

The EU is host to several globally significant financial centres – including the City of London. While the City has long been a source of ESG and ethical finance innovation, sustainability could be best described as "sleeping giant" of the UK financial system.[59] Advancing the City's green competitiveness has now been taken up as a critical priority for 2016 with the launch of a new Green Finance Initiative convened by the City of London Corporation, with the support of the UK Treasury. The first task of this effort will be green bonds – with the scope expanding in coming years as momentum builds.

2.2.3 Access to Finance for SMEs

The EC envisions expanding access to capital markets for SMEs through the CMU action plan. While there may be some room to overcome existing barriers for middle-size enterprises, addressing the banking structure and underlying characteristics is likely to be a more promising policy avenue to improve the access to financing for the majority of SMEs. In addition to driving employment growth, SMEs will be critical in delivering the product and service innovations necessary to roll out Europe's transition to a low-carbon green economy at commercial scale. In addition, Europe's SMEs are prime targets for energy and resource efficiency improvements. Meeting this challenge is contingent on access to finance – which is predominately bank credit.

Recent research examining European markets suggests that banking structure – the number of banks and their relative size, ownership and business models, and levels of competition – may influence access to finance for SMEs beyond broader macroeconomic factors.[60]

2.2.4 Alternative Finance

Alternative finance – instruments and channels such as equity-based crowdfunding and peer-to-peer lending – is steadily growing as a source of credit to SMEs in Europe. European alternative finance markets have grown at an average of 146% per annum since 2012, increasing in size from €487 million in 2012 to €2,957 million in 2014.[61] This growth has been driven by the UK, which represents roughly 80% of the European market. However, business capital raising through alternative finance channels is exhibiting strong growth in many European countries; with €385 million raised for nearly 10,000 SMEs between 2012 and 2014.[62]

While it may be too early to predict the long-term potential of alternative finance to deliver a viable financing channel European SMEs, evidence suggests that a clear that stable and supportive regulatory environment will be key to unlocking progress.[65] Going forward, CMU priority areas linked to alternative finance – including the promotion of crowdfunding, private placement and loan-originating funds – could consider how best to act as a channel for financing the greening of SMEs and innovative sustainable business models.

The Role of Banking Diversity

Europe's banking sector can be divided into three main categories of banks: commercial banks, cooperative banks and public banks – notably savings banks. The relative prominence of each category within national banking sectors varies significantly: while certain countries (such as the UK) are dominated by a few major commercial banks, other countries (such as Germany) have more diverse sectors, with a higher prevalence of public firms. France is the only European country where the majority (60%) of deposits and loans are managed by cooperative banks – institutions that are owned directly by their customers.[63]

Evidence suggests that banking sector diversity can create an environment that enhances the availability and cost of finance for SMEs. A necessary condition for such diversity is the presence of non-commercial banks, which may be particularly well equipped to service the financing needs of a "small" green economy.[64] Four factors are key:

- **Financial Assets:** Non-commercial banks generally place greater emphasis on long-term lending to the real economy, with a greater share of assets in "non-bank" lending relative to commercial banks. Lending by non-commercial banks is on average allocated towards smaller firms, over longer time horizons.
- **Local presence:** Banking diversity ensures the presence of financial institutions that focus on retail customer facing-activities. Research has shown that the local presence of banks facilitates local lending and strengthens innovation.
- **Time horizons:** Lending by non-commercial banks is generally longer-term in nature than that of commercial banks, stemming from a focus on real estate and mortgage lending.
- **Stability of credit provision:** A diversity of banking ownership, business models and lending allocations may help to buffer against financial shocks if risk exposures differ more across individual financial institutions. On the whole, this can ensure more stable credit provision and a more resilient banking system.

3 RISK: FROM THE MARGINAL TO THE SYSTEMIC

Recognition is increasing across the EU that sustainability factors – including climate change – may pose physical, market and policy-related risks to financial firms. In recent years, this debate has focused on the risk of high-carbon assets – including the equity and debt of fossil fuel energy firms, electrical utilities and other firms involved in high-carbon activities. In parallel, there has been an ongoing debate between financial institutions and regulators regarding the potential for unintended disincentives and biases against longer-term green investments resulting from tighter prudential constraints, including capital requirements and risk weightings.

The impacts of the impending low-carbon transition on European financial institutions and capital markets will require forward-looking responses from financial regulators and supervisory bodies, in terms of their consideration of both sustainability-related risks and potential constraints on new opportunities. Many national level actors are innovating in response to these challenges – a cluster of leadership is emerging, which is being recognized globally. Coordination and collaboration at the regional level could significantly advance progress.

3.1 EU Prudential Frameworks

In the wake of the financial crisis, the European Commission initiated a significant overhaul of prudential regulation to enhance risk management within individual financial institutions and to reduce the potential for systemic risks. The current regulatory framework within the EU approaches prudential risks through micro (firm-level) and macro (systemic) approaches.

Prudential Frameworks for Financial Institutions in Europe

Banking: The Capital Requirements Directive (CRD) IV is based on three regulatory pillars defined in the Basel III agreement:[66]

- Pillar 1 covers capital requirements, risk and liquidity coverage and containing leverage.
- Pillar 2 addresses questions around internal risk management processes in banks and regulatory supervision.
- Pillar 3 sets the disclosure requirements necessary to assess the capital adequacy of institutions.

Insurance: Solvency II was adopted by the Council and the European Parliament in 2009 (Directive 2009/138/EC). It focuses on harmonizing and modernizing the solvency, risk measurement and management framework, and reporting requirements of insurers.

Occupational Pension Funds: In January 2016, the European Parliament adopted a draft proposal for new rules on occupational pension funds (IORP II).

Currently, sustainability factors are not directly considered with EU-level prudential rules for banks or insurance firms. However, debate in building in this area – a recent study by the Cambridge Institute for Sustainability Leadership and UNEP FI into sustainability risks within the Basel III framework identified considerable scope for deploying supervisory review (Pillar 2) and market discipline (Pillar 3) to embed environmental risks in the banking sector.[67]

Awareness of the potential for sustainability factors to affect financial stability has been building among European institutions, so far largely focused on climate-related risks – including the risks posed by stranded carbon assets resulting from the low-carbon transition, which has been discussed by the ESRB.

Bringing future shocks into today's decisions will be critical in overcoming the "tragedy of horizon" in factoring sustainable development into financial decision-making. Now, research is moving towards the macroeconomic dimensions of climate and sustainability risk – including impacts on prices and economic activity, as well as operation dimensions including the integration of sustainability factors into financial stress tests. Going forward, the European Commission has a strong opportunity to pool resources and connect different initiatives and approaches.

Climate and Carbon Risk: The Emerging EU-level Debate

Stability issues emerging from stranded carbon assets – popularized through the "carbon bubble" hypothesis the Carbon Tracker Initiative put forward – are becoming an important item on the European agenda. In 2014, a report commissioned by the Green European Foundation estimated the combined losses of EU banks, insurance firms and pension funds on carbon assets to be in the range of €350-400 billion under a "low-carbon breakthrough" scenario, but this is estimated to be far less costly for financial institutions than an uncertain transition or a "do nothing" scenario.[68]

In response to a letter from Green MEPs, ECB President Mario Draghi requested that the ESRB review concerns the long-term sustainability of investments involving fossil fuel reserves. In February 2016, the ESRB published its assessment of the impacts of the transition to a low-carbon economy on systemic risk.[69] The assessment finds that an adverse scenario of a "hard landing" caused by a late and abrupt transition could affect systemic risk through three main channels:

- Macroeconomic impacts of sudden changes in energy use, including an upward shock in energy prices, which would impair economic growth on both supply and demand sides;
- Revaluation of carbon-intensive assets, such as stranded fossil fuel reserves, posing stability risks emerging from a prevalence of debt finance in fossil fuel and utility firms and potential negative feedback loops; and
- Increasing incidence of natural catastrophes.

The report concludes that markets may not have fully priced in the risks from climate change and that the effects of a "hard landing" would be amplified by macroeconomic and macrofinancial channels.

Estimates of the total EU capital stock that may be affected by carbon risk vary. While there appears to be consensus that high-carbon assets may not alone be a source of systemic risk, such risk is likely to be strongly intertwined with other financials risks and associated with higher market volatility. Furthermore, efforts to mitigate carbon risk may not automatically result in capital allocation to green investments.

3.2 National Level Action

An increasing body of national financial regulators and central banks are starting to consider sustainability factors within prudential risk management. The focus in recent years has been on high-level assessments of systemic risks, often stemming from stranded high-carbon assets. However, due to assessment timeframes, such risks are often judged immaterial over the short term – despite recognition of their longer-term importance.

- In the UK, the connection between climate change and the Bank of England's regulatory mandates at prudential levels were first made in 2012,[70] with initial assessments findings suggesting little evidence of systemic risk over the short term.
- In 2014, the Dutch Central Bank (DNB) has also examined the exposure of the country's finance sector – banks, insurers and pension funds – to carbon risk, specifically sharp falls in asset values and loan losses stemming from the revaluation of high-carbon assets. DNB concluded that there is currently "no unacceptable risk" from exposure to oil, gas and coal companies.[71]
- In Sweden, the Financial Services Authority reported to government about how climate change may affect financial stability in March 2015. While the FSA concluded that climate change may not currently constitute a major threat to financial stability, risks may however increase over time, and existing data on which this opinion is based is far from comprehensive.[72]
- In France, under Article 173 of the new Energy Transition Law, the government has requested a report to be published on how to implement regular stress tests related to climate change. This report is to be submitted by December 2016.

Innovation is now emerging at the prudential level – with the Bank of England's assessment of climate risks to the UK insurance sector. Enabled by high-level policy architecture put in place under the 2008 UK Climate Change Act, the report presents a framework for identifying how physical, transition and liability risks may affect firms and policyholders. This approach has now been taken up by other European central banks, and by the Financial Stability Board at the global level.

Leadership from the UK: How a Risk Focus is Re-energizing the Green Finance Agenda

The UK's financial institutions, capital markets and regulators have a long history of advancing sustainable finance innovation – from ethical finance, ESG integration, through to corporate GHG reporting, new thinking on fiduciary duty and the establishment of world's first Green Investment Bank.[73] Since 2012, UK institutions have been at the forefront of the climate risk debate – which is now a driver of regulatory and policy innovation to green the UK financial system.

In 2014, the Bank of England's Prudential Regulation Authority (PRA) began to review the impact of climate change on its mandate to promote the safety and soundness of insurance firms, following an invitation from DEFRA to produce an adaptation report under the 2008 UK Climate Change Act. Published in September 2015, the review identifies three primary risk factors through which climate change could impact the insurance sector:[74]

- **Physical Risks**, including direct impacts from extreme weather events and natural disasters, as well as indirect impacts such as natural capital degradation or disruptions to trade, which may challenge insurance markets and overarching industry business model.
- **Transition Risks**, primarily financial risks stemming from disruptive economic and policy changes affecting markets. On the investment side, such risks may directly or indirectly affect carbon-intensive securities, resulting in capital market volatility,

while underwriting business may be slightly affected by reduced premiums from certain sectors.

- **Liability Risks**, including the costs of climate change damages being passed onto insurers through third-party liability policies such as personal indemnity or corporate director's and officer's insurance. The transformation of low-probability risks into large, unforeseen liabilities to insurers – such as the case of losses from asbestos – could be caused by, or significantly exacerbated, through dangerous climate change.

While the PRA is not the first insurance supervisor to examine the implications of climate change, the review is the most intensive to date. Importantly, the PRA has stated that its role as an insurance supervisor "brings challenges such as climate change much more clearly into focus," providing a "natural starting point" for central bank work examining systemic environmental risks.

4 RESPONSIBILITY: GOVERNANCE, CULTURE AND VALUES

EU countries have been leaders in the design of financial policies and regulations that integrate non-financial factors within the core responsibilities of financial institutions – including the fiduciary duties and stewardship of investment institutions. In the wake of the financial crisis, failures of risk management, incentives and professional ethics had detrimental and long-lasting impacts on public trust in the financial system,[75,76] inspiring renewed regulatory efforts to address market abuse and illegal practices. In parallel to an ongoing process of regulatory reform, a broader shift is occurring across the EU as new societal expectations drive change in the way financial institutions understand their core responsibilities to consumers, clients and future generations. Underlying this shift is an increasing focus within national central banks and regulatory bodies on the relationship of financial systems to the real economy and civil society – and the purpose the financial system in serving the needs of a low-carbon, climate-resilient economy. But as new instruments are deployed at the EU-level, including on shareholder rights and fiduciary duty, the broader links between these issues and other capital markets policies have not yet been solidified.

4.1 Governance and Accountability

4.1.1 Fiduciary Duty and Investor Governance

For over a decade, EU Member States have been at the forefront of ESG integration – of the 14 jurisdictions where regulators now require pensions funds to disclose information on their approach to ESG issues, ten are located in Europe. Many member states – such as the Netherlands and the UK – have clarified that fiduciary obligations do not preclude the consideration of material sustainability factors in the investment process.

The governance of pension funds in European countries is steered by an array of statutory and common law measures often linked to the fiduciary duty of intermediaries. A detailed review of practice in eight countries undertaken by the PRI and the UNEP Inquiry has concluded that "a failure to consider long-term drivers of investment value including environmental, social and governance issues in investment practice is a failure of fiduciary duty" – and that the integration of sustainability factors enables better investment decisions and improves performance.[77] The review puts forward several key recommendations for action on fiduciary duty at the European level, focusing on the provision of guidance to:

- "Clarify that fiduciary duty requires asset owners to pay attention to long-term factors (including ESG factors) in their decision- making and in the decision-making of their agents.
- Clarify that responsible investment includes ESG integration, engagement, voting and public policy engagement.
- Encourage member states to ensure that fiduciary duty and responsible investment-related legislation is harmonised and consistent across Europe.
- Encourage member states to monitor the implementation of legislation and other policy measures relating to fiduciary duty and responsible investment, and report on the investment and other outcomes that result."[78]

The European Commission's DG-ENV published a study into resource efficiency and fiduciary duties of investors in late 2015, focusing on relationships between environmental sustainability, investor decision-making and fiduciary duty.[79] The report assesses the opportunity and feasibility for incorporating resource efficiency more explicitly into fiduciary duties, focusing on legal requirements, statutory provisions, incentives and practitioner skills and competencies. The key recommendations of the study include:

- National financial authorities (with support from the EC) to provide guidance and interpretation of fiduciary duties and the extent to which institutional investors may include ESG issues;
- Mandatory disclosure of sustainable and responsible investment policies;
- Monitoring and verification of the application of sustainable and responsible investment policies, as well as measurement of the environmental and social impacts of investments;
- Development of stewardship codes for asset managers and intermediaries; and
- Support for research on the measurement and quantification of ESG impacts and risks of investments.

4.1.2 Stewardship and Shareholder Engagement

Financial institutions and retail investors, in their capacity as shareholders, can influence a significant amount of the company's capital allocation through their voting rights and dialogue with the company. By extension, sustainable financial markets will require capital stewardship and a management of this capital in line with long-term sustainability considerations from investors. Following the leadership of the UK Stewardship Code in 2010, many Member States have implemented stewardship coes for institutional investors such as pension funds. The majority of these codes have a specific focus on shareholder rights, as well as engagement.

At the Union Level, the European Parliament is currently discussing the Shareholder Rights Directive, which sets out to strengthen the rights of shareholders and foster their engagement. The first avenue through which this is achieved is via stronger transparency requirements on shareholder engagement. Part of the debate currently evolves around requiring all asset owners and asset managers to report on their engagement policy on a "comply or explain basis". Second, an improved structure is proposed that makes it easier to identify shareholders.

Table 3: Links Between Incentives, Short-termism and Capital Allocation

Incentive	Link to short-termism	Influence on capital allocation
Benchmark-relative performance	Conventional time frames for performance evaluation may be from one quarter to three years.	Short-term performance structures do not adequately reward alternative investment strategies which deviate from established benchmarks.
Transaction-linked performance	Portfolio turnover increases, holding periods decrease.	Shorter holding periods may decrease incentives for long-term management.
Share-price performance	Executive compensation structures create perverse incentives to increase volatility.	Increasing volatility may increase the relative risk premium of certain classes of investments.
Earnings performance	Performance time frames incentivize short-term growth over investment.	Managers are incentivized to increase short-term earnings, reducing investment in longer-term growth.
Dividend payouts and share buy-backs	Pressure for increased short-term dividend growth reduces retained cash.	Reduced equity capital decreases capacity for investment in internal R&D and innovation.

4.1.3 Performance Measurement

Current market norms for performance measurement – including the use of benchmarks, metrics and assessment timeframes – have significant implications for organizational behaviour and relationships between financial intermediaries. This is most clearly the case in the investment chain, where a constellation of market norms and standards incentivize short-term investment behaviour.

By and large, market capitalization-weighted indices drive investment in EU equity markets. Recent research undertaken by the 2 Degrees Investing Initiative and the UNEP Inquiry has found that landscape of market capitalization-weighted indices favours high-carbon sectors and creates biases against green, low-carbon technologies.[80] As a consequence of this bias, institutional investors have lower exposure to the green economy. In the context of the transition to a low-carbon economy, this may imply capital misallocation creating financial risk. Several key issues emerge from this research:

- Products are not fully transparent for institutional and retail investors. Policies can play a key role in increasing the transparency of financial markets, notably with regard to the diversification of benchmark indices.
- Second, potential suboptimal diversification delivered by the current landscape of mainstream financial products may be a challenge to questions around fiduciary duty. This may apply in particular to the mandates of public investors as well.
- Thirdly, diversification of indices plays a key role in EC regulation on capital reserve requirements.

4.2 Financial Culture

4.2.1 Incentives and Remuneration

Incentive structures, with the combination of short-termism and risk-taking they brought on, have been judged as a primary driver and amplifier of behaviour that led to the financial crisis. Existing incentive structures and remuneration schemes have been shown to incentivize illegal or unethical activity,[81] reinforce and amplify asset bubbles and volatility,[82,83] increase systemic risks,[84] and negatively impact

Tackling Short-term Incentives in the Investment Chain: an Industry Perspective[85]

Along the investment chain, remuneration schemes are tightly correlated to short-term performance. Asset manager Aviva lists a number of counter-incentives in its Sustainable Capital Market Union Manifesto. Its recommendations cover intermediaries that are not on the radar screen of policymakers. Its policy suggestions include:

- Aligning the structure of investment consultant fees with long-term consideration, given that the current structures encourage frequent shifts within fund managers (for example, fees for winning new tenders are higher than regular fees as an advisor).
- Correlating fund manager bonuses with their engagement as stewards.
- Changing the reward structure of executives of listed companies as their remuneration is mostly focused on earning per shares or shareholders return, which rewards solely value creation in comparison to promoting sustainable investment.
- Dedicating commission charges to investment bank research specifically to encourage sustainable investment.

Requiring fund managers to allocate at least 5% of their research commission budget to ESG research for sell-side brokers.

capital productivity and overall system efficiency.[86,87] Key to this issue is the use of conventional performance time frames and metrics – such as quarterly or annual benchmarking – that can reinforce short-termism in financial markets, affecting capital allocation choices.

In the wake of the financial crisis, EU-level reform packages had major impacts on structures governing risk alignment within individual compensation, with many EU Member States following international guidance put forward by the FSB.[88] While implications for sustainability risk and performance have not yet been considered, market innovations are emerging: an increasing number of EU corporations and financial institutions are linking individual compensation with sustainability criteria, but very few firms directly tie remuneration to quantitative targets.[89,90,91,92] At the organizational level, support is emerging for the integration of sustainability and ESG priorities incentive structures within the context of the Capital Markets Union process.[93]

4.2.2 Skills and Capabilities

While certain leading European financial institutions (principally institutional investors and insurers) are at the forefront of ESG integration, low-carbon product design and sustainability risk analysis, a skills gap exists among mainstream financial practitioners in the appreciation and understanding of sustainability factors. EU Member State governments have acknowledged the importance of skills and capabilities in supporting broader processes to align financial systems with sustainable development. In the recent White Paper on Financing the Ecological Transition,[94] the French government put forward a range of measures to "re-centre the behavioural set of stakeholder practices around the objectives of ecological transition and funding," including a specific recommendation to train fund trustees and financial intermediaries in technological and environmental risk assessment methodologies. In Sweden, the capacities of the regulator are in focus: the government has encouraging the Swedish Financial Service Authority to assess how it may facilitate the contribution of the financial sector to sustainable development.

4.3 Values and Purpose

Underlying the movement to strengthen responsibility and financial culture is a more profound shift in thought on the ultimate purpose of the financial system in society. While the financial crisis has played a key role, this shift has also been inspired by the strong tradition of social and cooperative institutions in certain European countries. Europe is the heartland of the social banking movement, being the home of world-leading institutions such as the Dutch Triodos Bank.[95] Values-based financial markets – such as Islamic Finance – are expanding in some Member States.[96]

In the Netherlands, affirming key values and purpose is emerging as a core element nancial practice across investment and banking. Codes of conduct for financial services professionals – similar to those in place in other professions, such as law or health – are emerging as a way to build public trust, inculcating the importance of ethical behaviour into financial practice. In countries like Sweden, a systemic approach is being taken to support overall economic competiveness: the government has set out a new mandate for Sweden's financial sector in the recent Budget Bill and has established an expert group on "Green Transformation and Competitiveness" to explore how best to use the financial system to achieve sustainability objectives.

Leadership from the Netherlands: Affirming Responsibility at Multiple Levels

In the Netherlands, clarifying responsibility to society is emerging as a prominent aspect of the core strategies and mandates of financial institutions. The Dutch Banker's Oath was developed by the Dutch Banking Association (NVB) as a mandatory mechanism to encode ethical conduct and integrity principles into all professional behaviour, now covering over 90,000 employees.[97] Within the investment space, large public funds – such as PFZW – have put in place investment frameworks and policies that directly link the generation of long-term returns to social and environmental sustainability. New legislation implemented in 2015 requiring pension funds to report on their consideration of ESG issues implies that taking account of sustainability issues is an integral aspect of the "prudent person" principle.[98]

Re-establishing financial purpose has also been pursued at a systemic level, including through the mandates of public institutions. The Dutch Central Bank has reconfigured its mandate to include "safeguarding financial stability and contributing to sustainable prosperity in the Netherlands" and has made the supervision of integrity, conduct and culture one of the pillars of its supervisory strategy. Currently, a cross-sectoral platform on sustainable finance is being established to promote a holistic approach.

5 REPORTING: IMPROVING DISCLOSURE AND TRANSPARENCY

Looking across the state of innovation in European countries, it is clear that enhanced reporting is a foundational element for the establishment sustainable financial systems – enabling consumers to pick the right financial products, investors to make informed choices and regulators to assess the threat to the resilience of the financial system from sustainability-related disruption (Table 4).

Frameworks for corporate and financial institution disclosure in European countries are at the leading edge of this fast-moving agenda. However, progress on enhancing disclosure is fragmented. There is now a major opportunity to scale up enhanced sustainability disclosure at the European level – and to contribute leadership to the international policy process, including the FSB's recently announced Task Force on Climate-related Financial Disclosures.[99]

Table 4: The Role of Reporting Across Responsibility, Risk and Capital Reallocation Priorities

Action Area	Current reporting dimensions	Sustainability Alignment
Capital Reallocation: Public Balance Sheets	Monetary and fiscal policies, central bank operations, public financial institutions	Improving policy coherence on sustainable long-term investment requirements and financing mechanisms, reporting on sustainability risk and performance by public financial institutions, clarifying how sustainability may be considered within institutional mandates
Capital Reallocation: Markets	Corporate disclosure, listing rules, exchanges, products, ratings and research	Enhancing environmental reporting on stock exchanges to consider a broader range of sustainability factors beyond GHG emissions, development of clear EU standards for environmental product offerings such as green bonds and green IPOs, clarifying role of environmental information in credit ratings and investment research
Risk	Reporting on prudential risks through national and EU risk frameworks	Integrating sustainability factors into stress testing at firm and system levels across asset classes – including banking and investment. Considering the potential for sustainability-related risks to impact financial stability through macroeconomic change (pricing)
Responsibility	Reporting by financial institutions to shareholders and beneficiaries	Reporting on sustainability risks and opportunities to balance sheets, investment portfolios, operations and product offerings, including strategies undertaken to contribute to sustainable development (low carbon transition), disclosure of core institutional values and professional codes of practice

5.1 Corporate Disclosure

Efforts to cultivate effective disclosure of sustainability-related information have a long history in Europe, spanning more than 20 years. Corporate disclosure of GHG emissions is now mandatory in several EU Member States, including United Kingdom, France and Denmark. Eight of the exchanges ranked in the top 10 of a recent global assessment of sustainability disclosure are located in Europe.[100] The Helsinki Stock Exchange, a top performer globally, had high disclosure rates across seven sustainability indicators from its 19 listed companies.

However, growth in disclosure of other (non-carbon) indicators among European exchanges has stalled. In the UK, there have been discussions on rolling back reporting requirements. Implementing and retaining strong policies on disclosure is a foundational element for the integration of sustainability priorities across the investment chain – an issue recently been noted by FSB Chair Mark Carney.[101]

Progress is advancing at the EU level with the Directive on the disclosure of non-financial and diversity information (Non-Financial Reporting Directive), which requires large companies (over 500 employees) to disclose information on "policies, risks and outcomes as regards environmental matters, social and employee aspects, respect for human rights, anticorruption and bribery issues, and diversity in their board of directors" in annual reports.[102] In addition to listed companies, the Directive applies to other public-interest entities, such as banks, insurance companies and other companies that may be designated relevant by member states. Based on a "comply or explain" format, the directive provides considerable flexibility to disclose information "in the way they consider most useful", which may be in a separate report, as well as freedom in the choice of disclosure standards or guidelines they may employ. A consultation to collect non-binding guidance on the methodology for reporting this information was launched in January 2016, running until April.[103]

While the Directive represents an important step forward, a number of barriers to the enhancement of disclosure in EU capital markets may remain:

- First, accounting standards, such as the ones for financial reporting requirements, have not yet been widely adopted for non-financial data reporting – despite the presence of multiple international institutions providing guidance and standards.
- Second, sustainability reports may not inform strategic decisions, as companies may not deliver disclosure of the appropriate quality.
- Finally, reporting frameworks concentrate on sustainability performance, as opposed to sustainability risks to operations or overarching business models.

5.2 Disclosure by Financial Institutions

Enhancing sustainability-related disclosure by financial institutions – to shareholders, stakeholders, beneficiaries and broader civil society – is now a central regulatory priority in many Member States. New frameworks are being implemented to improve transparency and facilitate better customer choice. Efforts have been concentrated on investment institutions, with requirements on institutional investors to disclose policies on how they consider or integrate ESG issues within decision-making.

In recent years, substantial progress was made on new approaches to performance and risk management disclosures, including portfolio carbon footprinting. Many of these developments have been institutionalized within the draft French Energy Transition Law, arguably the most ambitious national law on ESG and climate disclosure to date. Adopted in France in July 2015, the law imposes a range of disclosure requirements on financial firms as well as listed companies.[104]

Table 5: Disclosure Requirements on Pension Funds in Selected Member States

Country	Disclosure Requirement
Austria	Since 2005, pension funds are required to report on ESG if they implement an ESG approach to investment; however, this does not apply to pension funds that do not consider ESG criteria.[105]
Belgium	The Loi Pension Complémentaires (Occupational Pension Law) of 2003 and Law of 2004 require mandatory disclosure by supplementary pension schemes and collective investment schemes in annual reports on the degree to which they take into account ethical, social and/or environmental criteria in their investment policies.[106]
Denmark	Danish funds are covered by legislation on corporate social responsibility (CSR) applying to all large companies – intended to "improve the international competitiveness of Danish business" – that requires them to report on their CSR policies. Pension funds can comply with the requirement by stating that they are signatories to the PRI.
Germany	With the Insurance Supervision Act of 2002, German funds must inform beneficiaries in writing of whether, and, if so, how, it takes ethical, social and ecological interests into account in the way it invests the contributions paid.[107]
Italy	Since 2005, pension funds are obliged to include in their annual report and their communication to the investors whether and to what extent ESG criteria are adopted in the management of assets.[108]
Netherlands	New legislation implemented in 2015 requires funds to state in their annual report how their investment policy takes account of the environment and the climate, human rights and social issues.[109] This legislation implied that taking account of sustainability issues is an integral aspect of the "prudent person" principle.
United Kingdom	Since 2005, UK funds' Statement of Investment Principles must cover "the extent (if at all) to which social, environmental or ethical considerations are taken into account in the selection, retention and realization of investments; and their policy (if any) in relation to the exercise of the rights (including voting rights) attaching to the investments."[110] Following the publication of the Law Commission report on fiduciary duty, this law has been under review.

At the EU level, the European Commission has recently taken legislative steps to enhance ESG risk assessment, governance and disclosure by occupational pension funds. In 2014, the European Commission proposed a revision (IORP II) of the existing Institutions for Occupational Retirement Provision (IORP) Directive.[111] In January 2016 the ECON committee of the European Parliament voted to adopt the draft proposal for IORP II,[112] which contains multiple provisions pertaining to the long-term sustainable investment of IORP assets and reporting on ESG risks:

- **Intergenerational Equity**: the text notes Member States should take into account "the objective for all institutions to ensure the intergenerational balance of occupational pension schemes, by aiming to have an equitable spread of risks and benefits between generations."
- **Risk Assessment and Governance:** the text specifies that every institution will undertake its own risk assessment, including "an assessment of new or emerging risks, including risks related to climate change, use of resources, the environment, social risks and risks related to the depreciation of assets due to regulatory change".
- **Disclosure:** IORPs will have to disclose the assessment of "emerging risks" to members of the scheme, as well as information on how ESG factors are considered in the investment approach.
- **Investor duties:** the text specifies that the 'prudent person' rule "shall not prevent institutions from taking into account the potential long-term impact of investment decisions on environmental, social, governance or ethical factors."

Leadership from France: the Energy Transition Act

Enacted in August 2015, the Energy Transition Act provides a medium- and long-term strategy for the low-carbon transition in France.[113] Article 173 is designed as a consistent package of measures affecting a wide range of entities, with several key measures to foster the integration of climate change (and ESG issues) into the decision-making process of financial institutions.

- Corporate disclosure of climate information: Provision III requires listed companies and/or large non-listed firms (non-financial and financial alike) to report on the financial risks in relation with the consequences of climate change as well as the measures taken to reduce them. Provision IV extends existing carbon disclosure requirements (on scope 1 and 2 emissions) and requires corporates to report on the climate change implications across supply chains and the use of goods and services they produce.
- Integration of climate-related issues by the financial sector: Provision V requires the government to report by end 2016 on how to assess climate-related risks in the banking sector. Provision VI extends an existing ESG reporting requirement (Article 224 of the 2010 Grenelle II Act) to require an explanation of how physical and transition risks related to climate change are taken into account, and an assessment of the contribution of the asset allocation to the low carbon transition. It also extends the reporting requirements so that both asset managers and institutional investors are now required to report on how they take into account ESG criteria into their investment strategy.

Secondary legislation providing further details on the reporting modalities of provision VI was enacted in December 2015. No particular modality has been imposed by public authorities – instead, a "comply or explain" approach was chosen as a way of fostering innovation and accelerating the development of best practices in the coming years.pillars of its supervisory strategy. Currently, a cross-sectoral platform on sustainable finance is being established to promote a holistic approach.

Civil society actors have been advocating for the integration of ESG factors in investment management as the process moves forward through trialogue discussions. A group of 11 organizations wrote to the European Council to ask for support for specific IORP amendments pertaining to transparency and consideration of environmental, social and governance factors (ESG) in the investment process of pension funds.[114]

5.3 Disclosure of Investment and Insurance Products

Retail investors rarely invest in shares or bonds directly – but rather so through packaged investment products, including pension fund and insurance products. At the EU level, the 2014 Packaged Retail and Insurance-based Investment Products (PRIIPs) Directive governs the information given to retail customers investing in 'packaged investment products'.[115] The key innovation of this regulation is the introduction of a Key Investor Information Document (KIID) – a brief standardized document designed to present the key features of an investment product in order to enhance comparability. The European Parliament debated whether the KIID should provide information on the environmental, social and governance performance of funds. As a lack of robust metrics for such measurement was identified as a barrier, potential ESG integration has been postponed until 2018 as part of a future review. As an initial step, the European Parliament mandated the European Commission in a delegated act to come up with a methodology to discriminate between ESG funds and non-ESG funds.

Member States have implemented a variety of measures to enhance the transparency and visibility of sustainable investment products. In Austria, the government has created a channel for environmental quality labelling for financial products through the Austrian EcoLabel:[116] domestically domiciled and international sustainability themed funds are eligible to apply for quality label. In Italy, securities regulator CONSOB implemented a disclosure obligation for all financial products labelled as ethical or socially responsible in 2010.[117] The French government announced its intention to develop a publicly sponsored SRI label in 2012. In 2014, it was decided that two labels would be created: an "Energy Transition and Climate" label and a broader, more generic label, released in 2015. A public consultation was launched in October 2015 on the rules guiding the Energy Transition and Climate Label, with the SRI label expected

Leadership from Sweden – A Systemic Approach

Sweden is exhibiting sustainability leadership on multiple fronts in the financial system, linking clear environmental targets to financial policy and regulation. The Swedish Parliament has set out 16 environmental quality objectives to be achieved by 2020, which function as benchmarks for all environmental related development in Sweden. Importantly, these objectives are framed within a "generational goal": to hand over to the next generation a society in which the major environmental problems have been solved, without increasing environmental and health problems outside Sweden's borders.[118]

The foundational realignment of Sweden's finance sector with sustainability is now flowing from the recently passed Budget Bill, which confirms that financial markets should contribute to sustainable development. Sustainability is now being carried forward as a priority across financial asset classes and through the investment chain to end consumers.

The AP funds, Sweden's public pension fuds, have been mandated to invest in a responsible way. New lega requirements were proposed for the AP funds to give special attention to how sustainable development can be promoted in 2015.[119] The AP4 fund was one of the world's first to undertake a comprehensive carbon footprint. Efforts are now under way to enhance the comparability of carbon footprint activities across the public and private investment community. Following cross-sectoral roundtables held by the government, the Swedish Investment Fund Association and Insurance Sweden are taking forward efforts to find common ground in the footprinting space among their respective member institutions.

The government is also looking beyond the investment space to banking and capital markets. In response to a government request, the Financial Services Authority recently published an assessment of banks' internal rules for credit provision from an environment and sustainability perspective.[120] Risk assessment has also been undertaken at the system level, with the FSA reporting on the impacts of climate change on financial stability in Sweden in March 2016.

Since 2015, the government has been undertaking an investigation on how best to improve disclosure and comparability of how both active and passive mutual fund managers integrate sustainability aspects in their management.[121] A key dimension of this investigation is increasing transparency to individual savers, including assessing what information is appropriate for households to make more sustainable investment decisions.

At a higher level, sustainability alignment is being integrated into the mandates of financial regulators: the Swedish government is now encouraging the FSA to examine how it may contribute to sustainable development, with the FSA expected to publish an assessment sustainable development within its mandate during the second half of 2016.

to enter into force in 2016. Experts have suggested that implementation may be complex, however, as decisions regarding the criteria and rating methodologies are ultimately public, but certified entities will be responsible for product scoring.[122]

5.4 Measuring Progress

Sustainability reports of companies remain mainly "process-based", offering a review of management frameworks, corporate principles and policies, the existence of monitoring and auditing systems, as well as public reporting and target setting. This information is analysed and scored by non-financial rating agencies. Asset managers and index providers rely on data to rank and select companies in order to "optimize the impact" of a portfolio, especially vis-à-vis carbon emissions, the number of jobs created, resource efficiency and other factors. However, such indicators do not inform the market of net contributions to the resilience of the environmental system. The key is to measure emission reductions (a measurement from a BAU scenario) and the remaining distance to a specified target (a portfolio in line with climate goals).

Certain pension funds are exhibiting individual leadership in this area. In October 2015, the UK's Environment Agency Pension Fund announced a world-first policy to ensure that the Fund's portfolio and investment processes are aligned with a 2 degrees global warming goal.[123] It sets out a number of actions to achieve this goal in its policy, including decarbonizing its equity portfolio to reduce exposure to future emissions, investing in low-carbon, energy efficiency and other mitigation opportunities, and active engagement to support a smooth low-carbon transition. In 2015, the think thank 2° Investing Initiative developed the first assessment framework able to measure the alignment of an equity portfolio with climate goals.[124] This model is being developed for other asset classes such as bonds and for banks.

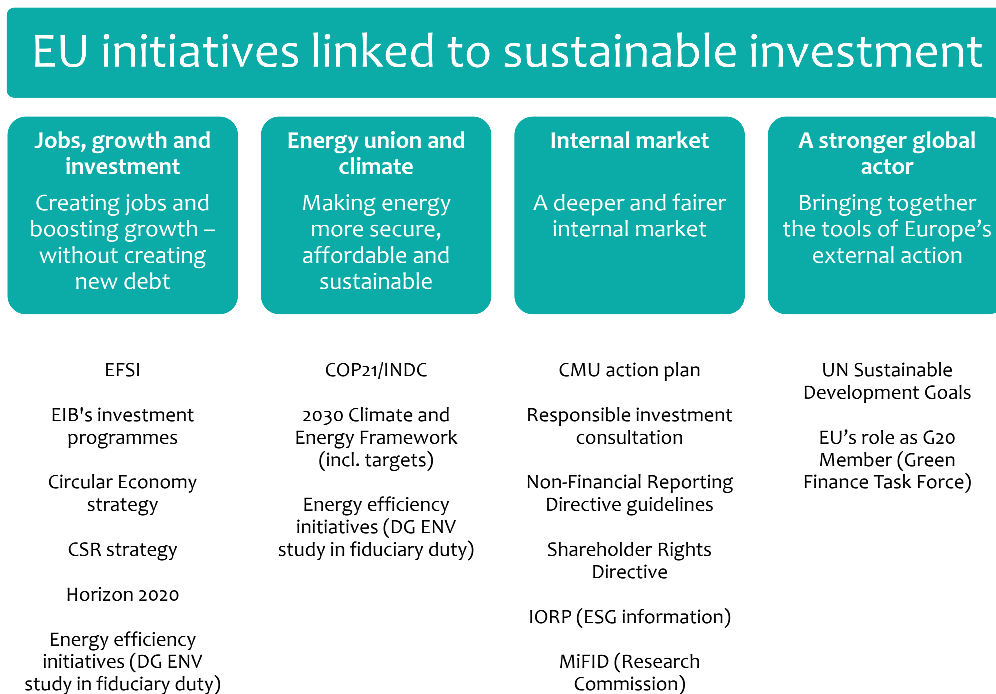
At a system level, little is understood regarding domestic and international flows of sustainable finance in EU Member States. France is one of the few countries where research has been undertaken in this area. French think tank I4CE (formerly CDC Climat Research) released a public and private climate finance landscape focusing on domestic flows in France in 2011[125] and for the period 2011-2014, which identifies total flows of between 20 and 25 billion euro in 2011 and approximately more than 30 billion euro in 2013. These flows represent from 1% to 1.5% of France's GDP and 5% of its gross fixed capital formation.[126]

6 NEXT STEPS: TOWARDS A STRATEGIC RESET

Looking over time and across countries, it is clear the EU Member States – and the institutions of the European Union – have been significant sources of sustainable finance innovation. This is a fast-moving agenda with many new national regulatory and legislative packages emerging in 2015. The growing array of national-level innovations and emerging EU efforts, raises the question as to how best to achieve coherence at the EU level – and how best to link Member State innovation with wider EU-level practice.[127]

The multitude of initiatives that are now under way at the Union level – including consultations on long-term and sustainable investments,[128] non-financial reporting,[129] and new research initiatives – attest that significant momentum- is building (Figure 2). However, there are gaps in the way different policy drivers are developed.[130] Many of the efforts are relatively new – and address only some aspects of the sustainable finance landscape. As a result, the potential exists to incorporate the sustainability dimension more fully in key initiatives, as well as to establish processes to ensure consistency across these efforts.

Figure 2: EU Initiatives Linked to Sustainable Finance



Source: Aviva[131]

Following the launch of the new Sustainable Development Goals and the successful negotiation of the Paris Agreement on climate change in 2015, increasing attention is now focusing on practical measures to mobilize the trillions necessary to deliver the transition to a low-carbon, sustainable economy. 2016 holds out the promise of being the "year of green finance" – including within the G20, where under its 2016 presidency China has established a Green Finance Study Group co-chaired by the People's Bank of China and the Bank of England, with UNEP acting as secretariat.

The evolutionary nature of the sustainable finance agenda means that there is now an opportunity to explore how these national and EU innovations can be taken forward at a strategic level. Developing an **EU Strategy for Sustainable Finance** could help drive synergies between sustainability targets and economic growth objectives at the Union level, while boosting international competitiveness as new markets emerge. Such a strategy could cover the following themes:

1. **Reset:** Assess ***strategic challenges and opportunities*** for the harmonization of existing sustainable finance efforts within the EU and key areas for future work, in order to clarify thinking in advance of broader EC processes on finance through 2016.
2. **Reallocation:** Develop a ***Green Capital Markets Plan*** as a complement to the core CMU: this could provide guidance to facilitate the issuance of green products as well as the greening of equity and debt markets, encourage the integration of sustainability factors in ratings and research, and clarify market creation roles for public finance institutions.
3. **Risk:** Establish a ***Finance and Sustainability Risk Forum*** to institutionalize information sharing on how sustainability factors may affect prudential risks, potentially linked to the European Systemic Risk Board.
4. **Responsibility:** Clarify the ***sustainability dimensions of investor duties and financial responsibilities*** by bringing together pensions regulators. This could be an initial catalyst for EU-level guidance on how best to integrate sustainability priorities within frameworks for investor governance in both common law and non-common law countries.
5. **Reporting:** Measure ***sustainable finance flows***, focusing on redirection of capital to low-carbon investments at national and regional levels. Such efforts represent an important first step in monitoring progress towards a sustainable financial system in the EU.

An efficient and effective financial system is central to the successful delivery of the EU's plan for economic recovery, social progress and environmental sustainability. Innovation is building across the Union – and the opportunity is now to take the next steps in a strategic reset to build a sustainable financial system.

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[130] For example, while the CMU Action Plan notes the potential to harness finance to deliver environmental sustainability (particularly through growth in green bond markets), it does not contain direct links to broader environmental policy objectives/consider the innovations emerging at member state level.

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NOTES

NOTES

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