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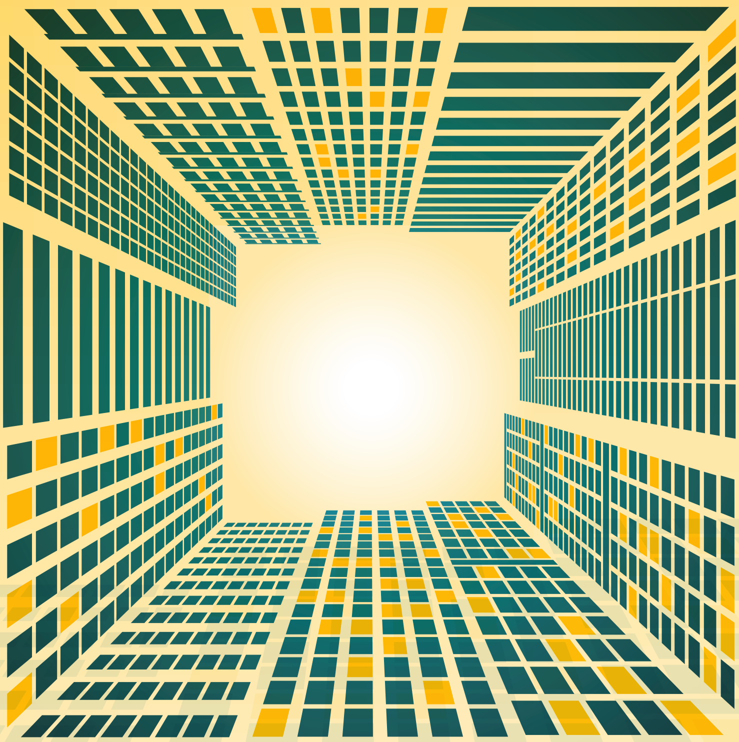
Inquiry: Design of a Sustainable Financial System

G7 2017 ITALIA

MINISTERO DELL'AMBIENTE E DELLA TUTELA DEL TERRITORIO E DEL MARE

ACCELERATING FINANCIAL CENTRE ACTION ON SUSTAINABLE DEVELOPMENT

HOW INTERNATIONAL COOPERATION CAN SCALE UP GREEN AND SUSTAINABLE FINANCE



CASABLANCA FINANCE CITY
القطب المالي للدار البيضاء

MARRAKECH 2016
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UN CLIMATE CHANGE CONFERENCE

DECEMBER 2017

The UN Environment Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme (UN Environment) 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, the Inquiry published its first global report, 'The Financial System We Need' in October 2015, with the second edition launched in October 2016. The Inquiry has worked in around 20 countries and produced a wide array of briefings and reports on sustainable finance.

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

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Casablanca Finance City Authority

CFCA is a public-private partnership dedicated to positioning Casablanca as an international economic and financial centre and a premier gateway into African market for financial institutions, headquarters of multinational corporations and professional service firms. Casablanca Financial City Authority is empowered by law with the overall management and promotion of Casablanca Finance City. CFCA was set up in July 2010 with a high-level shareholding that represents the Moroccan financial sector. It includes Bank Al Maghrib (the central bank), the Casablanca Stock Exchange (CSE) and the Caisse de Dépôt et de Gestion (CDG).

More information about CFCA can be found at *www.casablancafinancecity.com*

About this report

This report presents the case for strategic action by the world's financial centres on climate change and sustainable development. It then outlines the goal and planned activities of the new International Network of Financial Centres for Sustainability, which was inspired by work undertaken by Italy as part of its 2017 G7 Presidency.[1] The network was launched in September 2017 at a meeting co-hosted by the Casablanca Finance City Authority and UN Environment in association with Morocco's COP22 Presidency and Italy's Ministry of the Environment.

The authors of this report are Nick Robins (Co-Director) and Jeremy McDaniels (Programme Manager) of the UN Environment Inquiry into the Design of a Sustainable Financial System. The opinions expressed in this paper are those of the authors alone.

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ACCELERATING FINANCIAL CENTRE ACTION ON SUSTAINABLE DEVELOPMENT

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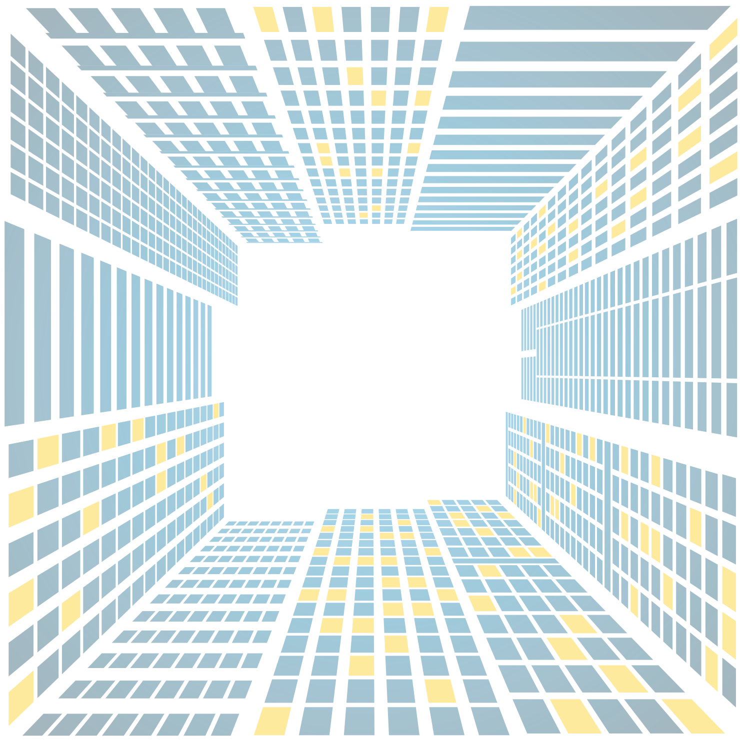


CONTENTS

EXECUTIVE SUMMARY

Mobilizing the world's financial centres is essential to make progress on climate change and sustainable development. The momentum towards a sustainable financial system is clear: integrating environmental, social and governance (ESG) factors into investment portfolios is delivering superior returns, the green bond market continues to expand, governments are developing national roadmaps and financial regulators are starting to incorporate environmental risks into market supervision. This momentum is, however, insufficient to deliver the Paris Agreement and the Sustainable Development Goals (SDGs).

The world's financial centres now have a historic opportunity to help close this gap by accelerating the expansion of green and sustainable finance. Financial centres are the locations where the demand for and supply of finance come together. They are the places where green and sustainable financial services will need to be scaled up across banking, capital markets, fintech, insurance and investment. This report presents the case for strategic action by financial centres and introduces the new International Network of Financial Centres for Sustainability that was launched in Casablanca in September 2017. Financial centres generate a powerful clustering effect that can also be deployed to drive sustainable finance.

Looking across the world, we have identified over 20 centres that are now active in sustainable finance. A number have now established or are planning dedicated initiatives for sustainable finance, notably Astana, Casablanca, Dublin, Frankfurt, Geneva, London, Luxembourg, Milan, Paris, Shanghai, Shenzhen, Stockholm, Toronto and Zurich. These are often less than a few years old. Nevertheless, it is already becoming clear that specific initiatives for sustainability can add value in four areas:

- **Demonstrate cross-sectoral connections:** The proximity of practitioners in different sectors enables financial centre initiatives to make connections, for example, between green bonds and green loans.

- **Act to fill market gaps:** Financial centre initiatives can also help to identify market gaps and then help to channel efforts to fill them, for example, through dedicated climate finance accelerators.

- **Move from awareness to expertise:** Financial centre initiatives can also work to move from simple awareness-raising to building the skills and expertise needed for sustainable financial markets.

- **Bridge the public and the private:** The hosts for these green finance initiatives are invariably public-private partnerships, and thus can play a key role in bridging market interests and policy objectives.

Financial centres clearly compete. But sustainable finance is not a zero-sum game and the potential for dialogue and knowledge-sharing is considerable. As part of its 2017 G7 Presidency, Italy explored the potential of financial centres to accelerate sustainable finance. G7 Environment Ministers then recognized in their June communiqué "the commitments to sustainability made by an increasing number of financial centres and the potential of these initiatives to be furthered through international cooperation". The mechanism to do this is the new International Network. The Network is open to all financial centres and will be a leadership group. Its objective is to "exchange experience and take common action on shared priorities to accelerate the expansion of green and sustainable finance".

Just like initiatives at the country level, the Network will seek to add value through a mix of activities across seven strategic areas:

1. ***Raising awareness*** in the world's financial centres of the strategic imperative of climate change and sustainable development.

2. ***Strengthening market practices*** by helping to bring clarity and convergence on key definitions, taxonomies and standards, and supporting their implementation in order to build a 'level playing field'.

3. ***Promoting market expansion*** through cooperation between financial centres across the range of sustainable financial services, including a focus on cross-border financial flows.

4. ***Stimulating financial innovation*** through collaboration on initiatives to fill market gaps and develop breakthrough approaches.

5. ***Building capacity*** among financial centre professionals through sharing and delivering materials for training, professional education and peer exchange.

6. ***Providing an authoritative voice to policymakers*** at the city and regional as well as national and international levels on effective ways to harness financial centres.

7. ***Enabling performance measurement*** by supporting data collection and analysis that communicates financial centre contributions to sustainable development.

Priorities for possible early action by the Network identified at the Casablanca meeting of financial centres include:

- Providing **'how-to guidance'** on the design of financial centre initiatives and critical success factors.

- Helping bring clarity and convergence on **definitions, taxonomies and classifications** to build liquid and trusted markets.

- Sharing experience on critical issues such as **green loans** and **green fintech**.

- Working together **to promote, endorse and implement key standards** such as the Task Force on Climate-related Financial Disclosures (TCFD).

- Raising **skills and build capacity** in sustainable finance through peer exchange, web portals and possible sustainable finance summer schools.

- Developing models to **connect financial centres with real economy needs**, for example, building on China's Green Finance Zone model.

- Cooperating to **expand international flows** by identifying homogenous projects, assets and structures across borders for aggregation at scale in sustainable vehicles.

- Working with **city-based climate initiatives** (such as the C40 Climate Leadership Group and the Covenant of Mayors) to build up pipelines of green urban assets and mobilizing the necessary capital.

By joining forces, the world's leading financial centres can make a real difference – making the transition to sustainable finance cheaper, smoother and faster. The network's inaugural meeting will take place on 12-13 April 2018 in Milan.

1 SUSTAINABLE FINANCE: A HISTORIC OPPORTUNITY FOR THE WORLD'S FINANCIAL CENTRES

1.1 2017 – The Year that Sustainable Finance Entered the Mainstream

2017 looks set to be the year of sustainable finance – when the significance of ESG factors became acknowledged as a mainstream feature of financial sector development. This does not mean that the financial system is fully aligned with the imperatives of confronting climate change or delivering sustainable development. But it does mean that sustainability is now recognized as a key performance indicator at all levels – from the management of individual assets through financial portfolios and financial institutions up to the governance of the financial system as a whole.

To date, most attention has been focused on the environmental dimension – what can be called green finance, with a particular focus on climate change. To respond to the structural challenge of sustainable development requires the systematic incorporation of environmental, social and governance factors to deliver long-term prosperity – in other words, sustainable finance.

Box 1: Defining Green and Sustainable Finance

Green Finance is defined as financial services that provide environmental benefits within the context of environmentally sustainable development, such as action on climate change. **Sustainable Finance** is defined as financial services that are aligned with the Sustainable Development Goals, including the implementation Paris Agreement on Climate Change.

Four key signals of this shift in 2017 include:

1 **Financial Materiality:** Investment institutions with assets under management of over US$70 trillion are now committed to implement the Principles for Responsible Investment, which require the integration of ESG factors in capital allocation, shareholder engagement as well as policy dialogue. The materiality of these factors was underscored by the Financial Times, which concluded that there is "mounting evidence that funds which observe environmental, social and governance (ESG) standards tend to outperform those that don't by a significant margin".[2]

US$70 trillion

Assets aligned with the Principles for Responsible Investment

2 **Capital Raising:** Green bonds are one of the most visible expressions of the ongoing reallocation of capital. In November 2017, global green bond issuance broke a new record of US$100 billion – up from US$81 billion in 2016 – and is on track for US$130 billion by year end. So far in 2017, China, France and the US have been the leading issuing countries.[3] Equity markets are also transforming in response to the sustainability challenge: the Sustainable Stock Exchanges (SSE) Initiative now has 66 stock exchanges as members, representing more than 77% of listed equity market capitalization at over US$55 trillion.

US$100 billion

Record issuance of green bonds as of November 2017

3 **National Policy Action:** By October 2017, nearly 300 financial policy and regulatory measures targeting sustainability were in place in over 60 countries.[4] The growth in new measures has averaged around 20% year on year since 2010, with an increase of nearly 30% since July 2016.[5] Following the lead of countries such as China[6] and Morocco,[7] a growing number of governments have embarked on developing national roadmaps for green and sustainable finance, including Italy[8] and Singapore.[9] The European Union has also launched a high-level expert group on sustainable finance to hardwire sustainability into its financial architecture.[10]

300

Policy and regulatory measures to align financial systems with sustainability and promote green and sustainable finance

4 **International Financial Cooperation:** In 2017, the G20 continued to explore the policy implications of green finance under Germany's Presidency, focusing on risk and data. The G7 also explored sustainable finance for the first time under Italy's Presidency, focusing on finance for small and medium-sized enterprises (SMEs) as well as financial centres. In addition, the Financial Stability Board's TCFD presented its final recommendations for consistent reporting by business and finance. The TCFD is one of the clearest expressions of sustainability factors becoming part of international market norms. The next challenge is one of implementation.

1

Global framework for disclosure of climate risks and opportunities by corporate and financial sectors

This momentum is very encouraging – but remains insufficient to deliver the aims of either the Paris Agreement or the SDGs. For example, to be on track to meet the objectives of the Paris Agreement, US$1 trillion in annual green bond issuance could be needed, 10 times the existing market.[11] It is in this context that the potentially pivotal role of financial centres for sustainability needs to be positioned.

1.2 The Pivotal Position of Financial Centres

The world has more than 100 international financial centres – and many more centres serving local and national economies.[12] Financial centres can be described as locations with "an intense concentration of a wide variety of financial businesses and transactions".[13] They generate a powerful clustering effect by concentrating a number of interlocking financial activities – banking, capital markets, investing, insurance, professional services (law, accountancy) as well as regulation. For this reason, many governments have established special agencies to promote dedicated international financial services centres.

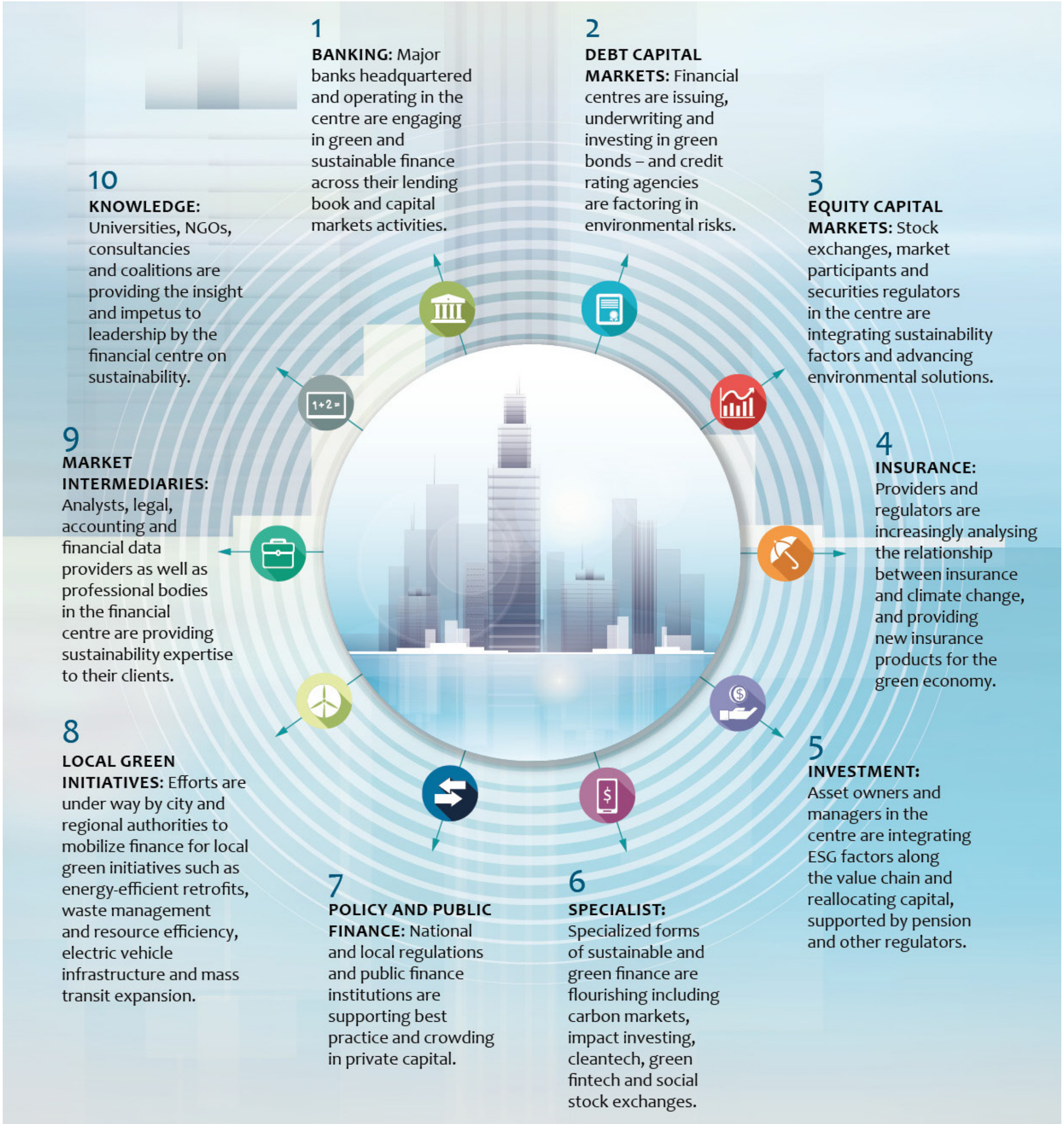
This clustering effect in financial centres can also be used to drive more systematic action to scale up sustainable finance. Financial centres are the nexus points where the demand for and supply of finance come together. They are the locations where the expansion of green and sustainable financial services will need to take place across 10 interlocking dimensions (Figure 1)

"Private initiatives need to complement the role of governments in the greening of private finance. Private actors need to play a leading role when it comes to the development of disclosure standards, climate scenario analysis or sectoral impact evaluation standards. To accelerate this process, consideration of sustainability criteria or accounting frameworks in credit ratings should be reinforced. The constitution of green financial centres is also key to push forward this dynamic."

Emmanuel Macron, President, France[14]

Financial centres also bring a critical spatial dimension to the promotion of sustainable finance. Ten years after the global financial crisis, recognition of the need for the financial system to serve the real economy is clearer than ever. Key to this is building strong links between the world's financial centres where the supply of capital is concentrated and the economic hinterland where the demand for sustainable finance lies. This means developing new forms of financial intermediation as China has done with its 'green finance zones' (see Box 2).

Figure 1: Financial Centres – the 10 Dimensions of Sustainable Finance[15]



Box 2: Closing the Investment Gap – Green Finance Zones in China

China introduced its national strategy for Greening the Financial System in September 2016. A key theme was how to connect the supply of green finance in its major financial centres – such as Shanghai and Shenzhen – with demand across the economy. In June 2017, China's State Council set up five pilot 'green finance zones' in Guangdong, Guizhou, Jiangxi, Xinjiang and Zhejiang. Local Green Finance Committees have worked with national regulatory authorities, research institutes and financial institutions to promote training, exchange and cooperation. In addition, a further 10 provinces and autonomous regions have released policy frameworks on green finance.[16]

The next section explores how a growing number of the world's financial centres are now picking up the baton of sustainability.

2 MAPPING FINANCIAL CENTRE ACTION ON SUSTAINABILITY

2.1 Green and Sustainable Finance: A New Generation of Public-private Partnerships

The growth in green and sustainable finance is now engaging a wide spectrum of financial centres across the world. This section reviews this experience – with a particular focus on those centres that have launched their own dedicated initiatives on green and sustainable finance to supplement market forces. Two broad forces are driving the establishment of these initiatives:

- The desire from national governments to ensure that their financial centres are rising to the challenge of mobilizing capital to deliver key environmental, climate and sustainable development targets.

- The ambition among key market players themselves to develop sustainability as a key element of financial centre competitiveness.

A new generation of public-private partnerships is emerging as a result. Some are led by existing promotional agencies (such as the Casablanca Finance City Authority, the City of London Corporation, Paris EUROPLACE). Others are promoted by national-level sustainability bodies (such as China's Green Finance Committee, Sustainable Nation Ireland and Swiss Sustainable Finance). In some centres, private sector initiatives are building on the back of government policy (such as Hong Kong's Green Finance Task Force and Deutsche Börse's Sustainable Finance Initiative). This diversity shows that there is no single template. In addition, a number of financial centres are active in sustainable finance without yet establishing a dedicated initiative (such as Mumbai or New York). Finally, most financial centres have yet to engage at all.

In the rest of this section, we profile how green and sustainable finance is taking shape in different financial centres. This review is presented alphabetically by country, examining activities in 22 different centres.

2.2 Financial Centre Action across the World

Brazil

Brazil has a long tradition of harnessing its financial system for sustainable development – often through a powerful dynamic between government policy, financial regulators, public financial institutions and market actors.[17] Key financial centres include Sao Paulo and Rio de Janeiro.

Sao Paulo: Brazil's main financial centre is Sao Paolo, hosting the majority of Brazilian banks, insurance firms, and the main exchange. The Brazilian Federation of Banks, FEBRABAN, has completed one of the world's first estimates of the loans and credit financing for the green economy – finding that 17% of total corporate loans in Brazil were allocated to the green economy as of end 2015.[18] Recently, it installed a Financial Sector Committee on Sustainability, which goes beyond banking, and includes as its members financial market associations representing the insurance sector, capital markets, pension funds and the Brazilian Stock Exchange.

CANADA

Momentum is growing in Canada's financial sector for a strategic approach to climate change and sustainable development, building on growing client demand for responsible investment, increasing impacts from extreme events and a burgeoning green bond market. As a federal country, Canada has a range of financial centres including Calgary, Montreal, Toronto and Vancouver.

Toronto: Situated in the province of Ontario, Toronto is Canada's largest finance centre and has the second largest employment in finance and insurance in North America. Toronto has a number of distinguishing characteristics in terms of green and sustainable finance, including a long-term commitment to responsible investment among leading asset owners, a large number of cleantech companies,[19] a nascent green bond market, and leadership from the provincial government. In 2013, Ontario's Premier announced that it would be the first province to issue green bonds,[20,21] with cumulative issuance reaching CAD$2.05 billion for clean transportation and energy efficiency projects.[22] Major banks such as RBC are becoming increasingly active in the Green Bond space.[23] Policy and regulatory changes have played an important role. In November 2016, the Ontario government amended legislation requiring pension plans to disclose how ESG factors are addressed in their Statement of Investment Policies and Procedures (SIP&Ps). In August 2017, the Ontario government unveiled the new Green Ontario Fund to finance sustainable infrastructure and efficiency, with a first programme targeting residential energy efficiency retrofits.[24] The Toronto Financial Services Alliance is leading discussions on how the city can position itself as a green financial centre.

CHINA

China has taken one of the world's most comprehensive efforts to promote the development of a green financial system, encapsulated a set of guidelines endorsed by the central bank, finance ministry and all financial regulators in September 2016, just before the 2016 Hangzhou G20 summit.[25] China's assertive approach to building up its green bond market resulted in 2016 issuance of US$23 billion up from just US$1 billion in 2015. China has a number of leading financial centres including Beijing as well as Shanghai and Shenzhen.

Shanghai: Shanghai is China's leading financial centre, with a concentration of major institutions and steadily growing green finance markets. As of March 2017, the Shanghai Stock Exchange has supported the issuance of 14 green bonds and four green asset-backed securitization products, worth RMB25 billion (US$3.6 billion). Lujiazui Finance City (Shanghai's financial services promotional authority) established a Green Finance Committee in March 2017, with the aim of establishing Lujiazui as a primary Asian green finance hub.[26] The centre recently announced actions include a plan to establish a comprehensive green financing information platform and a project database, and to develop a "Lujiazui Standard" for green finance, based on international best practices together with conditions in China.[27]

> *"Shanghai wants to rapidly and solidly expand green finance practice and is excited to work with other financial centres in the network which is creative for green finance development from early stage covering internationalization and balance simultaneously."*
>
> *Kong Wei, Convenor, Lujiazui Financial City Green Finance Committee*

Shenzhen: Shenzhen launched its Green Finance Committee in June 2017. So far, it has drawn up an action plan covering focusing on developing green fund evaluation and certification criteria, as well research on a Green Finance Centre Index to evaluate the status of green finance across China. Shenzhen will promote innovation across a series of green finance products, including but not limited to carbon finance, green bonds, and green insurance; it will also establish the first professional guarantee company for green business. In addition, it will pioneer the digitalization of green finance certification through cutting-edge financial technology, such as blockchain technology. Finally, it will explore cross-border cooperation with Hong Kong and international centres. Shenzhen's financial regulator is currently working on a comprehensive policy to support the development of green finance and shape the holistic ecosystem in favour of green finance business.

France

France's work on green and sustainable finance took a major step forward with the hosting of the COP21 climate conference in December 2015.[28] As well as delivering the Paris Agreement, COP21 also helped to fast-forward financial sector action domestically. This included the introduction of an ambitious legislative package on financial disclosure under Article 173 of the Energy Transition law, requiring investors to report how they integrate ESG issues into their investment policies and the alignment of portfolios with global climate targets. Energy Transition[29] and SRI[30] labels have been introduced for investment products to increase transparency for consumers; the labels have now granted to 13 and 60 funds respectively, together representing around €12 billion in assets.

Paris: Action on green and sustainable finance in Paris stretches back more than a decade. Many financial institutions based in Paris are recognized global leaders in sustainable finance, with major investors, insurers and banks taking action to decarbonize investment portfolios and reallocate capital to sustainable assets. Both the Ile-de-France region and the city of Paris have issued green bonds.

Paris EUROPLACE is the agency charged with promoting and developing the city as a financial centre. It has been working on sustainable finance for a number of years. Following COP21, it launched its Paris Green and Sustainable Finance project in May 2016; this produced a comprehensive assessment of the opportunities later in 2016.[31] In June 2017, this was relaunched as the "Finance for Tomorrow" initiative for sustainable finance[32] with three strategic goals: first, to differentiate the Paris marketplace by the quality of its products and its expertise; second, to reinforce the synergies between private and public sector action; and third, to promote international outreach. Finance for Tomorrow is structured around six priority areas, including research and innovation (such as fintech), benchmarking financial centres on green finance, removing policy barriers, highlighting France's approach to climate disclosure, expanding the issuance of green bonds as well organizing international promotion and networking.[33] The initiative is market-led and works closely with France's government. For example, one of the objectives of France's sovereign green bond was "cementing the Paris marketplace's leadership".[34]

"The current momentum is exceptional to make finance commit to more sustainable and inclusive growth. There is much we can do together to shift the trillions. Those who cooperate most will benefit most."

Philippe Zaouati, CEO, Mirova and Chair, Finance for Tomorrow

Germany

Germany's engagement with sustainable finance took a major step forward with its 2017 presidency of the G20. In October, a new Hub for Sustainable Finance was established.[35] Germany's financial system is relatively decentralized with a number of financial centres in Dusseldorf, Frankfurt and Munich.

Frankfurt: Situated in the state of Hessen, Frankfurt is Germany's leading financial centre. Here, the locus of sustainable and green finance activity has occurred at the stock exchange. Deutsche Börse Group has developed a number of sustainability-related initiatives.[36] Since 2011, the exchange has also encouraged the adoption of the German Sustainability Code, an instrument that "aims at rendering companies' sustainability efforts transparent and comparable".[37] In March 2017, Deutsche Börse Group launched its "Accelerating Sustainable Finance" Initiative in Frankfurt. The aim of the initiative is to establish a new dialogue platform with the financial centre's key participants, including financial institutions as well as representatives from academia and non-governmental organizations.[38] The initiative is focusing on a number of priority tasks including defining the framework conditions, identifying measures, products, services and the responsibility of the Frankfurt financial centre in achieving the SDGs, and aligning corporate governance with international standards.[39] In November 2017, Tarek Al-Wazir, Economics Minister of Hessen, announced the launch of a green finance cluster for Frankfurt to ensure that the city articulates its voice internationally, with an initial focus on the relationship between finance and climate goals and the associated risks.[40]

Hong Kong, SAR China

Building on China's ambitious green finance efforts in May 2016, the Hong Kong Financial Services Development Council (FSDC) released a report setting out how to establish Hong Kong as a regional green finance hub.[41] The report outlined a range of actions, such as establishing a green finance labelling scheme as well as engaging universities and professional associations to train new green finance professionals. Since then, green finance has become recognized as a strategic priority by the Hong Kong government.[42] In October 2017, Hong Kong's Chief Executive Carrie Lam set out her green finance vision, including through the issuance of green bonds.[43] This work has been supported by a private sector green finance task force.

"To demonstrate our support for sustainable development and determination to combat climate change, and to promote the development of green finance in Hong Kong, we will take the lead in arranging the issuance of a green bond in the next financial year. Through this initiative, we seek to encourage investors in the Mainland and along the Belt and Road as well as international investors to arrange financing of their green projects through our capital markets."

Carrie Lam, Chief Executive, Hong Kong[44]

India

Financing India's goals for inclusive and sustainable growth requires the mobilization of additional low-cost, long-term capital. Raising incomes for the 800 million people living on less than US$2 per day, generating livelihoods for the 12 million people entering the workforce every year and generating the natural resource base at a time of climate change require innovative approaches to the challenge of sustainable finance. India has been taking a range of efforts to scale up green and sustainable finance, notably to expand renewable power.[45] Green bonds have been the attractor – with the focus on Indian banks, corporates and municipalities gaining access to lower cost of capital. India's central bank, the Reserve Bank, is also carrying out a review of green finance opportunities. Mumbai is India's main financial centre and has been active in seizing the green bond opportunity. Anchor institutions have included the National Stock Exchange and the securities regulator (SEBI), which has issued a set of green bond guidelines.

Ireland

Dublin:[46] As part of its IFS 2020 Action Plan to develop the financial services sector,[47] the Irish government has engaged Sustainable Nation Ireland to continue the promotion and position of Dublin as an international hub for green finance. Under this plan, Sustainable Nation will develop a dedicated climate finance accelerator. Capacity-building and skills upgrading are central to these efforts – Sustainable Nation has announced it will deliver a new certificate in green finance accredited under Ireland's National Framework of Qualifications. In addition, it is developing a diploma in financing clean energy targeted at leadership development for African policymakers.

Italy

In Italy, sustainable finance has become a strategic priority following a year-long national dialogue that was finalized in February 2017. The dialogue was led by the Ministry of the Environment in partnership with the UN Environment Inquiry and involved Banca d'Italia, the Ministry of Finance, other key public authorities, as well as market actors from the banking, capital markets, insurance and investment sectors. The dialogue resulted in a shared view that sustainable finance was a strategic opportunity for Italy and has led to the establishment of a national observatory for sustainable finance (Osservatorio Nazionale per la Finanza Sostenibile). One of its priorities is to promote Milan as a sustainable financial centre. In addition, Italy's Ministry of the Environment placed sustainable finance on the agenda of its G7 Presidency in 2017, focusing on SMEs and the role of financial centres.

Milan: For Milan, green finance is seen as part of a larger strategy to attract foreign investment, building on its record in the areas of green start-ups and angel investors.[48] Borsa Italiana (BI), based in Milan, is a leading driver of the Italian sustainable finance agenda. In March 2017, BI added a new segment on its ExtraMOT PRO market dedicated to the issuance of green and social bonds,[49] and ranks 10th among all stock exchanges for its share green revenues. To address the SME green finance challenge, BI has been promoting the issuance of green "mini-bonds" – the market for which is now larger than that for mainstream green bonds.[50] A sustainable financial centre working group has been established and the initiative will be launched in early 2018.

"Sustainable finance cannot be a footnote or a sideshow. Rather it now has to be seen as part of the wider programme of structural reform of the economy."

Pier Carlo Padoan, Minister of Economy and Finance, Italy[51]

Japan

Japan is a world leader in energy efficiency and policy action to support sustainable finance has been under way for almost a decade, starting with the establishment of an environmentally rated loan portfolio by the Development Bank of Japan in 2004. The Principles for Financial Action in the 21st century were launched in 2012 by the Ministry of the Environment and a group of leading financial institutions, with the aim of stimulating a more strategic engagement between finance and the environment. Japan's banks are now some of the world's largest private lenders and intermediaries in green assets, notably renewable energy.[52] Japan's Government Pension Investment Fund, the world's largest public pension fund, has established a specific Stewardship and ESG division, with the aim of advancing ESG and responsible investment practices in the country.[53] Japan is also a major buyer of green bonds, particularly by retail investors (for example through ‘Green Samurai’ bonds denominated in yen). Finally, Japan’s insurers have been active in international efforts to improve disaster resilience.

Tokyo: Tokyo is Japan’s largest financial centre followed by Osaka. The Tokyo Metropolitan Government has recently expanded its activities to promote Tokyo as a leading global financial centre. In November 2016, the city established an advisory panel for Global Financial Centre Tokyo. The initiative has four priorities including ‘contributing to solving social issues’.[54] Alongside this, Tokyo’s Governor Yuriko Koike has announced that the Metropolitan Government plans to issue its first green bond.

Kazakhstan

Astana: The Astana International Financial Center (AIFC) is a new financial market established in 2015 by the government of Kazakhstan.[55] The AIFC is now actively seeking to develop itself as a regional hub for green finance as part of its effort to promote financial sector development, alongside efforts to promote Islamic finance and encourage fintech innovation.[56] Currently, AIFC, the government of Kazakhstan and the European Bank for Reconstruction and Development (EBRD) are working together to articulate a strategic plan for green financial system in Kazakhstan.[57] AIFC will be fully functional from 1 January 2018.

Kenya

Nairobi: The largest financial centre in East Africa, Nairobi is becoming a focal point for sustainable investments in Kenya’s clean energy infrastructure, and is using innovative distribution channels – including mobile technologies – to increase access to sustainable finance for households and SMEs. The Kenyan Banker’s Association (KBA) launched its Sustainable Finance Initiative and Guiding Principles in 2015.[58] The Kenya Green Bond Programme was launched in March 2017 by the KBA, the Nairobi Securities Exchange, Financial Sector Deepening Africa, the Dutch institution FMO and the International Finance Corporation (IFC). The objective of the programme is to catalyse the development of a Kenyan green bond market, and support issuance through the development of supporting market infrastructure. At the national government level, the Kenyan Treasury has established the Nairobi International Financial Centre Authority to promote Nairobi’s regional and global competitiveness as a financial hub for East Africa,[59] and is considering actions to advance sustainable finance as a national strategy – such as the issuance of a Kenyan sovereign green bond. In addition, the Kenyan Central Bank is exploring how to scale up private investment in green assets, following from the success of mobile applications in enhancing access to finance.

Luxembourg

With an initial focus on microfinance, Luxembourg has been active in sustainable finance for more than a decade, notably by leveraging its role as a global investment fund hub in the area of responsible investment and impact investment, providing a broad range of suitable investment vehicles, as well as a dedicated sustainable finance labelling agency established in 2006. Luxembourg’s current initiatives in green and climate finance are building on this existing investment fund and capital markets ecosystem. The government of Luxembourg launched a climate finance task force in 2015, based around six operation vectors: consolidation, strategic partnerships, quality control, innovation, regulatory frameworks and promotion. In the lead-up to COP22, the Luxembourg Stock Exchange launched the Luxembourg Green Exchange, the world’s first and only exchange dedicated exclusively to green securities, which now has a total market capitalization of €57 billion.[60] In June 2017, finance labelling agency LuxFLAG launched a new green bond label, requiring issuers to report on qualitative and quantitative performance indicators in the management of proceeds, including the SDGs.[61] To promote innovation, the government recently launched a climate finance accelerator, which will support new and innovative asset managers investing in projects with a measurable impact in the fight against climate change.

Morocco

At COP22 in November 2016, Morocco released its national Roadmap for aligning the financial sector with sustainable development,[62] developed in collaboration with the central bank, regulatory authorities and market stakeholders. The Roadmap sets out a strategic vision to scale up sustainable finance in Morocco and spur sustainable development across the African continent, with actions based around five complementary dimensions:

1 Extending risk-based governance to socio-environmental risks;

2 Developing sustainable financial tools and products;

3 Promoting financial inclusion as a driver for sustainable development;

4 Capacity-building in the field of sustainable finance; and

5 Transparency and market discipline

Casablanca: The Casablanca Finance City Authority (CFC) aims to play an instrumental role in promoting and catalysing green initiatives in Africa and its main ambition is to channel and scale up international investments to the region. This specifically applies to green investments flows, as Africa currently represents a limited share of the international climate finance. Furthermore, CFC aspires to build its green finance ecosystem (which already includes green investments funds) and build a platform of expertise and knowledge-sharing in sustainable finance. The Moroccan financial sector stakeholders are conducting a strategic mission to identify, map and move towards the implementation of reforms aimed at harnessing the financial and capital markets to meet the needs of sustainable development. A priority issue is climate resilience – and Casablanca Finance City will be hosting the Adaptation of African Agriculture (AAA) initiative which aims to reduce the vulnerability of African agriculture to climate change. The initiative is actively supported by more than 25 African countries, international organizations, development banks, the private sector, civil society and the scientific community.

Singapore

A city-state financial centre, Singapore is the leading financial hub in Asia, hosting a major concentration of global and regional financial firms. Private institutions and coalitions based in Singapore are scaling up efforts to advance sustainable finance. In 2016, the Singapore Exchange launched 'comply or explain' reporting rules covering environmental policies and performance, which will cover all listed companies by 2018.[63] Stewardship Asia recently launched the Singapore Stewardship Principles, which aim to enable investors to be active and responsible shareholders by articulating the core actions associated with investor stewardship.[64] The Monetary Authority of Singapore (MAS) is advancing policy action on sustainability issues, such as pollution from transboundary haze, and is providing fiscal incentives for issuers of green bonds.[65] The Collaborative Initiative for Green Finance in Singapore was launched in May

2017 by the Singapore Institute of International Affairs, with the support of MAS and UN Environment.[66] Over a five-month engagement, the initiative held a series of roundtables for financial institutions based in Singapore, leading to a report published in November 2017.[67]

"Pursuing green finance is a logical, attainable and necessary next step for Singapore, both as a financial hub and for our contribution to the global environmental challenges."

Simon Tay, Chairman, Singapore Institute of International Affairs[68]

SWEDEN

Sweden has long been a pioneer in sustainable finance. Its government has set the expectation that the financial sector will actively contribute to sustainable development and has engaged the financial regulator to examine the management of sustainability risks by financial institutions. The Swedish Investors for Sustainable Development initiative has been established to identify practical ways to support implementation of the SDGs, notably on gender equality, clean water and sanitation, decent work, sustainable cities and peace. A number of Sweden's pension funds have become leaders in decarbonizing their portfolios and given the size of the country, its banks are among the leading arrangers of green bonds. Recently, the city of Stockholm announced its intention to establish a government-funded sustainable finance initiative.

Stockholm: In Stockholm – one of the world's leading hubs for financial innovation – several institutions are finding creative ways to advance green and sustainable finance. One area of focus is the growing green bond market. The Stockholm School of Economics is currently developing a new executive education programme on green finance topics, with a focus on green bond issuance and investment. This programme will deliver a certificate or diploma in green finance, aiming to attract practitioners from both developed and emerging economies. From a policy perspective, the Swedish government has launched an inquiry on how to scale the green bond market, with results expected in December 2017.

Another key focus in Stockholm is the application of fintech solutions to address sustainable finance challenges – building off the lively tech start-up ecosystem in the city. To drive green financial innovation, Stockholm Green Digital Finance (SGDF) was launched in May 2017 in collaboration with the Stockholm Fintech Hub. SGDF serves as an independent platform tasked to accelerate green finance and investment through the application of fintech innovations. SGDF works through constructive partnerships that bridge established players and new entrants to address how green fintech solutions can help channel financing to innovative green start-ups, lower the threshold for consumer action, value natural assets, and help drive change in sustainable lifestyles (Box 3).[69,70]

BOX 3: BLOCKCHAIN SOLUTIONS FOR SUSTAINABLE FINANCE

Stockholm Green Digital Finance is leading a consortium to build a unique blockchain-based technology for validating green investment claims.[71,72] The blockchain technology is intended to deliver efficiency and transparency to the green debt market by immutable verification of green impacts. The objective is to stimulate the market for green investment by supporting the growth of trusted green investments, both in terms of supply and demand, in order to support delivery on the SDGs and the Paris Agreement on Climate Change through the operations of financial markets. The key deliverable of this project is the Green Assets Wallet (GAW), an open-source technology tailored for capital market actors for validation and reporting on green investments. The GAW will help to effectively channel private institutional capital to green projects globally, specifically supporting green emerging markets investments.

In addition, a number of large research collaborations have been established to explore how financial markets can support sustainable development – including the Mistra Financial Systems programme financed by Mistra and led by the Stockholm School of Economics,[73] as well as the practical "market lab" financed by Vinnova to link academia and financial sector players around new green finance solutions.[74]

Switzerland

Switzerland has a large financial industry for its size with both Geneva and Zurich recognized as leading global centres for private banking, impact investment and trade finance. Sustainable finance has been taken up as a national strategy to promote the competitiveness of the Swiss financial sector in the wake of the financial crisis and was named as one of two innovation areas for future growth in the financial market policy of the Federal Council.[75] Swiss market leadership and government engagement has been strengthened by multi-stakeholder coalitions, such as Swiss Sustainable Finance (SSF).

Geneva: In Geneva, Sustainable Finance Geneva (SFG) has been supported by both the Geneva financial centre and the canton of Geneva since its founding in 2008. SFG acts as the local sustainable finance expert network, launching the Geneva Summit on Sustainable Finance with the city university. In its Economic Strategy for 2030, the Canton set the strategic goal to foster sustainable finance as an area of growth and has just issued its first green bond.

Zurich: Both the canton and the city of Zurich are a founding network partner of SSF. The canton of Zurich is also a supporter of social entrepreneurship and impact investing by contributing to the Social Entrepreneurship and Impact Finance (seif) Congress[76] and to Viaduct Ventures, an impact entrepreneurship incubator.[77] The pension fund of the city of Zurich was a first mover in the adoption of a sustainable investment policy by adopting an engagement strategy as early as 1997.

UK

The UK government's new Clean Growth Strategy[78] positions green finance as one of the key tools to deliver both climate and economic objectives, establishing a new Green Finance Task Force to provide recommendations for delivery of the public and private investments necessary to meet climate goals, and options to maximize the UK's share of the global green finance market. The UK's leadership on green and sustainable finance is concentrated in the City of London. The UK is also home to other centres active in green finance, notably Edinburgh.

London: London's engagement with sustainable finance has grown out of an initial focus on ethical investment, moving through the mainstreaming of ESG factors into banking, insurance and capital markets and on to the current focus on both climate risk and green finance. This has emerged out of a dynamic of social activism, market leadership and policy signalling. London is also host to a range of international sustainable finance institutions and initiatives, including banking (Equator Principles), investment (International Corporate Governance Network, Principles for Responsible Investment), green bonds (Climate Bonds Initiative) and disclosure (CDP, International Integrated Reporting Council). The evolution of sustainable finance entered a new phase in 2015 with the Bank of England's decision to examine the implications of climate change for insurance sector and the establishment of the G20 Green Finance Study Group, which the UK co-chairs with China.

The City of London Corporation, which champions the UK's financial services sector, took an early role in establishing London's place as the leading marketplace for carbon trading. In January 2016, it launched its Green Finance Initiative (GFI), which aims to provide public and market leadership on green finance, advocate for specific proposals that might enhance the green finance sector and promote London and the UK as a leading global centre for green financial and professional services. A core activity has been raising awareness of the market opportunity presented by green finance through research reports and conferences.[79] This has revealed a number of priority areas for further work including shaping government policies to support green finance, promoting the convergence of green finance and fintech, mobilizing the banking sector (for example, through the tagging of loans) and improving the skills base (for example through a green finance certificate for bankers). International outreach has also been central, including through a partnership between the GFI and China's Green Finance Council as well as with Brazil and India.

US

In the US, action on green and sustainable finance has tended to emerge from the private sector and state-level initiatives. As a large federal nation, the US has a diversity of financial centres, including Boston, Chicago, Los Angeles, New York, San Francisco and Washington, D.C.

New York: New York is the world's largest financial centre – with two major stock exchanges listing firms with over US$27 trillion in market capitalization.[80] Policy momentum on green finance in New York stems from institutional leadership from city- and state-level public pension funds, along with a state-level Green Bank.[81] Wall Street's concentration of major global banks, investors, insurers and intermediaries generated market leadership on a number of sustainability issues. All three of the New York-headquartered credit rating agencies (Fitch, Moody's and Standard & Poor's) are issuing research on environmental risk factors, notably on climate change and green bonds.[82] Several major banks – including Citi[83] – have set out commitments to scale up capital allocation to sustainability priorities, and are now reporting on their efforts.

San Francisco: San Francisco and the Bay Area is a financial capital of California and a hub for cleantech finance.[84] San Francisco benefits from California's long-standing leadership on both climate change and clean energy, as well as the state's active promotion of green finance. The City of San Francisco launched a GreenFinanceSF programme to help building owners finance energy efficiency, renewable energy and water conservation improvements. The capital cost is repaid through an addition to their property tax bill over an extended term (also known as Property Assessed Clean Energy, PACE). Public authorities in the City and Bay Area have also been active in the green bond market, issuing over US$1 billion to date.[85] The local private sector is also participating, with Apple making US$2.5 billion in issuances.

2.3 Identifying the Value Added of Financial Centre Initiatives

This review shows that financial centre engagement on sustainability is still at an early stage of evolution. A number of centres have now established or are planning dedicated initiatives for sustainable finance, notably Astana, Casablanca, Dublin, Frankfurt, Geneva, London, Luxembourg, Milan, Paris, Shanghai, Shenzhen, Stockholm, Toronto and Zurich. These are often less than a few years old. Nevertheless, it is already becoming clear that specific initiatives for sustainability can add value in four areas.

1. Demonstrate cross-sectoral connections: The physical proximity of professionals from different sectors enable financial centre initiatives to make the connections, for example, between the rise in green bonds and need for similar expansion in green loans.

2. Act to fill market gaps: Financial centre initiatives can also help to identify market gaps and then help to channel efforts to fill them. For example, two centres have established climate finance accelerators (Dublin and Luxembourg) and many are focusing on fintech.

3 Move from awareness to expertise: Financial centre initiatives can also work to move from simple awareness-raising to building the skills and expertise needed for sustainable financial markets, including the development of training courses and qualifications.

4 Bridge the public and the private: The hosts for these green finance initiatives are invariably public-private partnerships and thus can play a role in bridging market interests and the priorities of policy institutions. Here, the Paris Agreement and the SDGs provide a framework to focus financial attention.

3 LAUNCHING THE INTERNATIONAL NETWORK OF FINANCIAL CENTRES FOR SUSTAINABILITY

3.1 Beyond Competition: The Role for International Cooperation between Financial Centres

Financial centres clearly compete to attract and generate business in their cities. This is the same for sustainable finance as it is for other areas of financial practice. But sustainable finance is not a zero-sum game and the potential for dialogue and knowledge-sharing is considerable, not least to grow the overall global market.

As part of its 2017 G7 Presidency, Italy explored the potential of financial centres to accelerate sustainable finance. In February 2017, Italy's Ministry of the Environment hosted a first meeting of representatives from the G7's leading financial centres at Borsa Italiana in Milan. A key conclusion of the meeting was that international cooperation was critical at this stage. To take this forward, G7 Environment Ministers recognized in their June communiqué "the commitments to sustainability made by an increasing number of financial centres and the potential of these initiatives to be furthered through international cooperation."[86] The mechanism to do this would be a network of centres committed to green and sustainable finance.

Inspired by this positive momentum, the first global meeting of financial centres was hosted in Casablanca on 28 September by the Casablanca Finance City Authority and UN Environment, in association with Italy's Ministry of the Environment and Morocco's Presidency of the COP22 climate conference. At the meeting, 11 financial centres supported the Casablanca Statement on Financial Centres for Sustainability, including Astana, Casablanca, Dublin, Hong Kong, Milan, London, Luxembourg, Paris, Qatar, Shanghai and Stockholm.[87] Signatories to the statement agreed to:

- Promote strategic action in their financial centres on green and sustainable finance;
- Share knowledge to build human capacity, including on measuring the financial centre contribution to climate action and sustainable development;
- Cooperate on expanding the pipeline of green assets and products;
- Work with city, regional, national and international policymakers to build positive conditions for green and sustainable finance; and
- Launch the International Network of Financial Centres for Sustainability and help in its operationalization.

In December 2017, Frankfurt, Geneva, Shenzhen, Toronto and Zurich also joined the Network.

"The leadership and commitment displayed by financial centres gathered in Casablanca gives me confidence that we can increase capital flows to vital areas on the African continent, in sustainable agriculture and clean energy notably. Our vision is to establish Casablanca as a hub for green finance dedicated to Africa."

Said Ibrahimi, CEO, Casablanca Finance City Authority

3.2 Network Objective and Activities

The new network will be open to all financial centres and will be a leadership group. Its objective is to "exchange experience and take common action on shared priorities to accelerate the expansion of green and sustainable finance". Just like initiatives at the country level, the network will seek to add value through a mix of activities across seven strategic areas

1 Raising awareness in the world's financial centres of the strategic imperative of climate change and sustainable development;

2 Strengthening market practices by helping to bring clarity and convergence on key definitions, taxonomies and standards and supporting their implementation in order to build a 'level playing field';

3 Promoting market expansion through cooperation between financial centres across the range of sustainable financial services, including a focus on cross-border financial flows;

4 Stimulating financial innovation through collaboration on initiatives to fill market gaps and develop breakthrough approaches;

5 Building capacity among financial centre professionals through sharing and delivering materials for training, professional education and peer exchange;

6 Providing an authoritative voice to policymakers at the city and regional as well as national and international levels on effective ways to harness financial centres; and

7 Enabling performance measurement by supporting data collection and analysis that communicates financial centre contributions to sustainable development.

Box 4: Tracking the Sustainability Performance of Financial Centres

During 2017, two new initiatives have been launched to better understand how financial centres are engaging with the climate change and sustainable development. The first has been launched by I4CE and aims to benchmark the green finance progress made by different centres.[88] The second is led by FinanceWatch with Z/Yen and aims to produce a single index of financial centres.[89] Critical success factors for these will be a clear and trusted methodology, the availability of data and a commitment to use the lessons learned to support market development.

3.3 Emerging Priorities

At the Casablanca meeting, participants identified a range of possible priorities for early action by the Network including:

- Providing 'how to guidance…' on the design of financial centre initiatives and their critical success factors;
- Helping bring clarity and convergence on definitions, taxonomies and classifications to build liquid and trusted markets;
- Sharing experience on critical issues such as green loans and green fintech;[90]
- Working together to promote, endorse and implement key standards such as the TCFD;
- Raising skills and build capacity in sustainable finance through peer exchange, web portals and a possible sustainable finance summer schools;
- Developing models to connect financial centres with real economy needs, for example, building on China's Green Finance Zone model;
- Cooperating to expand international flows by identifying homogenous projects, assets and structures across borders for aggregation at scale in sustainable vehicles; and
- Working with city-based climate initiatives (such as the C40 Climate Leadership Group and the Covenant of Mayors) to build up the pipeline of green urban assets and then work together to mobilize capital.

By joining forces, the world's leading financial centres can make a real difference – making the transition to sustainable finance cheaper, smoother and faster. The Network is now finalising its operations and work programme ahead of its inaugural meeting, which will take place on 12-13 April 2018 in Milan.

> *"London is committed to working with other financial centres to grow the global market for green finance. This new network can help leverage the world's capital markets in pursuit of climate change mitigation by sharing best practice and agreeing on common principles."*
>
> *Sir Roger Gifford, Chairman, City of London Corporation Green Finance Initiative*

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