



24-25 October 2017, OECD, Paris Provisional Summary¹

Statements in this summary are based on comments made by participants at the Forum on Green Finance and Investment on 24-25 October 2017, and therefore do not necessarily represent the views of the OECD Secretariat.

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Key takeway points

- Although mobilised green finance has increased recently, much more financing is needed. Global state and non-state actors have a key role to play to enhance the policy environment to improve the efficiency of financing and to support the devolution of responsibility (e.g. at local level) to enable additional green finance.
- International development institutions need to look holistically at the Sustainable Development Goals (SDGs), a set of interrelated objectives.
- Energy production, distribution and consumption in the power sector are undergoing a paradigm shift that domestic policies and domestic frameworks need to account for to enable a low-carbon transition.
- The lack of a holistic policy framework, geographical constraints and the intermittency of renewable energy sources pose significant challenges for energy security in emerging markets.
- Operating at a local or sub-national level, providing direct expertise, and focusing on bringing specific markets to scale, green banks can help build a much needed pipeline of bankable projects for the private sector to invest in and build.
- While most green banks have been established in developed countries to date, their role in emerging markets could be significant.
- Green bonds have become an increasingly attractive way to mobilise finance for the low-carbon transition.

^{1.} This is an unofficial summary produced on the responsibility of the Forum team. Please refer to the live webcast for the full account of speeches and discussions made at the Forum available at: http://www.oecd.org/cgfi/forum.

- Standardisation and transparency can help to support the development of the green bond market, but rules and regulations need to be well designed.
- If societies are to transition to low-carbon economies, there is a need to reform financial systems so that they encompass longer-term perspectives. This can be done by reinjecting a sense of purpose into financial systems, including with regards to sustainable development.
- Mainstreaming climate change and other ESG factors in institutional investment is important, as these factors can
 inform investment decisions and investees' business strategies Regulation can help reduce information barriers for
 investors and asset managers to consider ESG and specifically climate risks, but the private sector should not remain
 passive.
- Project pipelines are a tool to link top-down policy making to bottom-up action, as they communicate opportunities to investors and foster market creation. They are most valuable when they reflect the long-term vision of a country.
- Cities are a major source of emissions and are therefore central to tackling climate change.
- Cities could source finance for low-carbon urban infrastructure from new models of land value capture, from additional private sector stakeholders and through a combination of novel and traditional financing mechanisms.
- Coherent finance planning for city infrastructure projects would require co-ordination between all levels of government and a sufficient degree of fiscal autonomy of cities.
- Blended finance can contribute to closing the financing gap for green projects in low-income countries, but needs to offer a range of solutions fitting individual country circumstances.
- Blended finance would be a useful financial vehicle in low-income countries, but needs to be coupled with policy frameworks enabling green finance.

Opening remarks from high-level speakers

This opening session was set up to discuss progress made since Paris (action), and what to expect in the next 5-15 years (ambition). It also intended to highlight short and long-term actions needed to meet the Paris Agreement, such as the Nationally Determined Contributions (NDCs), as well as the Sustainable Development Goals (SDGs). It was animated by Hugh Wheelan, Co-founder and Managing Editor of Responsible Investor.

In her greeting remarks, Gabriela Ramos, Chief of Staff and Sherpa to the G20 of the OECD, emphasised the intersection and compatibility of economic growth and climate considerations. The OECD was proud to publish in May 2017 the report *Investing in Climate, Investing in Growth* for the German G20 Presidency – a report which highlights that "sustainable growth" is not an oxymoron. This Forum aims to address how the OECD can help governments accelerate green investments by building a framework for institutional investors to support the transition. She also highlighted the growth in the Forum since it began in 2014, and its re-branding as the Forum on Green Finance and Investment this year, under the aegis of the OECD Centre on Green Finance and Investment. Gabriela Ramos ended her remarks by emphasising the urgency of the topic at hand. Decisions taken now will bind us to technologies and investments for years to come. This is not a purely academic exercise; we need to act, and now.

In her keynote, Brune Poirson, Secrétaire d'État auprès du ministre d'État, ministre de la Transition écologique et solidaire (Minister of State, attached to the Ministre d'État, Minister for the Ecological and Inclusive Transition), France, emphasised that France is committed to push the transition agenda, both at the European and international level, and that the OECD is instrumental in helping this shift. Despite encouraging developments such as strong national climate commitments, more affordable renewable energy and wider use of carbon pricing, our efforts need to be heightened. France is aiming for carbon neutrality by 2050, and for no greenhouse gas-emitting cars by 2040. Other countries such as Sweden and Costa Rica are showing similarly strong climate commitments. However, public funds alone are not sufficient to ensure the transition. Public money should be used to take risks to mobilise private finance – a topic that was discussed at the 12 December One Planet Summit ²

In her keynote on 'Making Tokyo the Capital of Green Finance', Yuriko Koike, Governor of Tokyo, made two major announcements. First, she announced the Tokyo Financial Big Bang Initiative, to be launched in November 2017 with a mandate to make the city more attractive for international businesses. Second, EUR 150 million worth of green bonds will be issued by Tokyo to support sustainability and ESG in the hope that this will set a precedent for other governments to follow. Koike ended her keynote looking to the Olympic games in 2020 as an opportunity for Tokyo to present itself as a model of sustainability.

Finally, a pre-recorded video speech by The Hon. Al Gore, Former Vice President of the United States of America, addressed three questions: do we really have to change; can we change; and will we change? He went on to explain why the answer to all three questions is yes. He also suggested that the participants of the Forum would be integral in reshaping economic growth to be climate-compatible, by enhancing returns, unlocking economic opportunities and managing risk.

Unlocking global green finance and investment: The role of key global actors and international institutions

Although mobilised green finance has increased recently, global state and non-state actors have a key role to play to enhance the policy environment to improve the efficiency of financing and to support the devolution of responsibility (e.g. at local level) to enable additional green finance. While multilateral institutions and development banks are deploying capital towards climate mitigation, investing in climate adaptation is also necessary. While overall low-carbon investment has increased, attention and finance towards resilience efforts is insufficient to achieve the SDGs and the Paris Agreement. Panellists pointed out that goals are set at national and international levels, but delivery is local. Therefore sub-national local authorities need to be empowered and their capabilities maximised. A policy environment enabling this devolution of responsibility is key to align short term actions with long term goals. Bringing all stakeholders along the supply chain under a unifying policy umbrella can scale up green finance.

International development institutions need to look holistically at the Sustainable Development Goals (SDGs), a set of interrelated objectives. International development institutions must acknowledge this interconnectivity and avoid working in silos to prevent fragmentation and duplication of efforts. Participants emphasised that countries need to be afforded the flexibility of setting their own strategies suited to their individual contexts to combat climate change.

^{2.} See the One Planet commitments at: https://www.oneplanetsummit.fr/en/the-12-oneplanet-commitments.

Developing investment-grade domestic policy framwork to mobilise green infrastructure investment

Energy production, distribution and consumption in the electricity sector are undergoing a paradigm shift that domestic policies and domestic frameworks need to account for to enable a low-carbon transition. A great challenge to policy making is that present day policies are based on the energy sector of the 1970s. To accelerate deployment of capital towards a green economy, policy makers must understand new transmission systems and a decentralised approach to electricity consumption. The significant reduction in the cost of solar photovoltaic (PV) in recent years is a testament to the continued growth of renewable energy, regardless of fossil-fuel prices. There is huge potential to scale up investment in renewable energy in emerging markets, where auctions are encouraging electricity cost reductions. An OECD report entitled "The Empirics of Enabling Investment and Innovation in Renewable Energy" shows how incentive schemes can encourage investment. Feed-in-tariffs have played a critical role to create renewable-energy markets across OECD and emerging economies, while public tenders accelerate cost reduction. For both types of incentive policies, power purchase agreements are essential to building fully merchant offers. A panellist summarised that distributed generation, especially from renewable energy sources, will play an increasingly important role in future energy markets, and that this implies the need to consider generation profiles alongside and to support electricity storage to fill the gaps between the two.

The lack of a holistic policy framework, geographical constraints and the intermittency of renewable energy sources pose significant challenges for energy security in emerging markets. Additional investment in transmission systems and energy efficiency is needed to address these challenges. For innovative start-ups in this sector and generally in the green sector to thrive, holistic policy frameworks are necessary to address market failures in a predictable, credible and flexible way. In that regard, Asger Garnak announced that the Danish Ministry of Energy, Utilities and Climate will support OECD work to help establish such policy frameworks in emerging economies.

Institutions and interventions to create green markets

Green investment banks, which operate at a local or sub-national level, provide direct expertise, and focus on bringing specific markets to scale, can help build a much needed pipeline of bankable projects for the private sector to invest in and build.

While most green banks have been established in developed countries to date, their role in emerging markets could be significant. These countries are where the investment gaps are greatest and where the biggest business investment opportunities lie. The panel asserted that green banks can help unlock these opportunities by working with local institutions to deploy local resources, address gaps in markets, and crowd-in domestic and foreign investment.

The panellists discussed their activities to set up green banks as new, stand-alone entities or within existing institutions in Southern Africa, Latin America and India. For instance, K.S. Popli (Chairman and Managing Director of Indian Renewable Energy Development Agency (IREDA)) explained that they initially targeted renewable energy because it was disadvantaged by the comparatively low risk premium on high-carbon products. However, now, after thirty years of engagement by IREDA, commercial banks have become willing to support renewable energy projects directly. Jonathan First (Head of Syndication Finance, Development Bank of Southern Africa (DBSA)) announced that the DBSA plans to

establish a self-contained green bank in November 2017. The DBSA hopes this green bank will establish a precedent for other developing countries. Jonathan described three important areas in which the green bank will be active: first, products and instruments, which are to be developed by an innovation lab in South Africa; second, funding, for which they hope to launch a new climate finance facility in June 2018; and third, deal flow, which they envisage coming from a number of sources including commercial banks and an in-DBSA Project Preparation Unit with a focus on taking projects from feasibility to bankability.

Green bonds: Mobilising bond markets for a low-carbon transition

Green bonds have become an increasingly attractive way to mobilise finance for the low-carbon transition. As climate risks threaten to become financial risks, demand for green bonds has been increasing and now seems to outpace supply. Public financial institutions have been playing a major role in developing the market in advanced as well as emerging markets. The European Investment Bank (EIB) has been a pioneer in green bond issuance in Europe, while the IFC has recently launched the world's largest (USD 2bn) green-bond fund dedicated to emerging markets. The fund incorporates a first loss mechanism and uses local banks as "gatekeepers" to perform otherwise costly due diligence. Such initiatives should allow institutional investors with risk exposure restrictions to participate in the green and EME investment space and help redirect capital to green investment more generally.

Standardisation and transparency can help to support the development of the green bond market, but rules and regulations need to be well designed. The Green Bond Principles, the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and Article 173-VI of the French Energy Transition Law are seen as useful in this respect. Determining what is green and what is not presents a challenge for issuers as well as investors. Guidance in these areas would therefore be welcomed by some market participants. But others are wary of overregulation and are calling for flexibility, as being too strict would inhibit the growth of the green bond market. Standards and rules should be aligned with private sector risk practices. Participants concluded that signalling provided by regulations such as Article 173 and through the mainstreaming of green investment will help the green bond market to grow and shift financial resources towards environmentally friendly investments.

A financial system for the low-carbon transition and sustainable development

Christian Thimann, AXA, Co-Chair of the TCFD and Chairman of the EU High Level Expert Group (HLEG) on Sustainable Finance, delivered keynote remarks to present the work of the HLEG, which aims to integrate sustainability in EU's financial framework. Drawing on the draft recommendations of the HLEG interim report, and on-going work, he presented five areas of focus of the HLEG: taxonomy; green bond standards and labels; fiduciary duty and disclosures; infrastructure and upstream integration of ESG and sustainability. **Changes are needed across the whole of the financial system, including but not limited to the banking sector, insurance companies, rating agencies and accounting.** Also it is necessary to define green as extending beyond climate issues. There is three "broken systems" which need to be addressed: (i) energy, (ii) transport, and (iii) the food system.

The panel discussion highlighted that financial systems are by nature geared towards short-termism and achieving quick and profitable returns on investments. If societies are to transition to low-carbon economies, there is a need to reform financial systems so that they encompass longer-term perspectives. This can be done by reinjecting a sense of purpose into financial systems, including with regards to sustainable development. There are positive signs that this is already happening; for example, issues of sustainability are now being discussed in companies' executive boards. Yet a lot more needs to be done. Governments have a key role to play to further incentivise financial actors to make sustainable choices as well as to mainstream climate risk pricing and disclosure into their investments.

Panellists discussed how the OECD can contribute to a more sustainable financial system, including by:

- providing a platform for public, private and civil society actors to identify win-win opportunities;
- **providing clarity on technical issues** associated with the low-carbon transition in the context of financial systems: by developing a common language around this topic (e.g. refining definitions of what are "green" vs "brown" investments) as well as internationally-recognised standards and tools to track progress towards achieving more sustainable finance markets;
- providing good practice guidance, e.g. to integrate climate factors in institutional investment;
- clarifying the economic viability of the low-carbon transition;
- **identifying** policy reforms that go beyond climate (including in the area of the agri-food sector) as well as champions and actors lagging behind in this field; and
- undertaking country-specific reviews, including to assess domestic financial regulations and how to align them with climate goals.

Dialogue with asset managers and owners on climate disclosure

To mainstream climate change and other ESG factors in institutional investment is important, as these factors can inform investment decisions and investees' business strategies. The report on "Investment Governance and the Integration of ESG Factors" (OECD, 2017) concluded that regulatory frameworks allow scope for institutional investors to integrate ESG factors into their investment governance. However, panellists discussed that ESG concerns are often ignored by investors and asset managers. Speakers emphasised that to involve ESG factors in investment decisions, it would be important to know what a "good" new investment is, so investors can shift investments away from e.g. high-carbon investments. Climate disclosure would help identify other investment opportunities by reducing the burden of comparing companies, e.g. through indexing carbon and other environmental risks. Interviews, surveys and dialogue could help make beneficiary interests understood, which would be a first step to integrating these interests in investment portfolios. Investors also have a key role to play in influencing corporate investees' business strategies, whether through engagement for corporate climate disclosure or shareholders' voting resolutions. More involvement of beneficiaries would also challenge asset managers to find more environmentally friendly investments. However, information search costs and costs of involving beneficiaries are high.

Regulation can help reduce information barriers for investors and asset managers to consider ESG and specifically climate risks, but the private sector should not remain passive. Regulatory frameworks currently do not prevent ESG inclusion, but do not encourage it either. With the exception of the French Article 173, existing investment codes are "soft" on ESG and climate issues. France's Article 173-VI was highlighted by several panellists as an example of emerging good practice,

and encouraged legislators to consider it as possible blueprint for other national regulations, e.g. at EU level, while taking into account national circumstances in terms of financial regulatory contexts. Other examples of good practice include the Swiss Federal Office for the Environment (FOEN)'s "Climate compatibility pilot project", an evaluation of voluntary disclosure of assets by pension funds and insurance companies. Under this pilot, FOEN provides guidance but does not prescribe any particular approach to disclosure. Participants noted that while some industries already have leaders with regards to climate change and broader ESG disclosure, such as Elon Musk's Tesla in the car industry, other industries can evolve more gradually. Industry leaders could demonstrate and push for broader adoption of their standard, which would then enable the regulator to take that standard into account when adapting codes. This, in turn, could help develop a comprehensive vision of sectors as seen by industry leaders and by regulators, a vision which asset managers could help develop by initiating co-operation to develop standards and share best practices. Panellists mentioned the OECD Centre on Green Finance and Investment as a hub for advancing these efforts. The European Climate Foundation (ECF) is also providing support to the next Round Table on Sustainable Development, a high-level event chaired by Connie Hedegaard, which will discuss the integration of climate factors in institutional investment in February 2018. SWEN Capital Partners also announced its intention to support new OECD work on these issues.

Building green infrastructure project pipelines

This panel highlighted themes being examined in a forthcoming OECD working paper on project pipelines: what they mean to the various actors involved, what characteristics can be used to evaluate them, what emerging good practices can be taken from existing approaches, and what action is needed now to build pipelines in support of the Paris Agreement.

Project pipelines are a tool to link top-down policy making to bottom-up action, as they communicate opportunities to investors and foster market creation. They can also serve as a sequencing mechanism to deploy the most optimal infrastructure choices and accelerate green infrastructure deployment.

Pipelines are most valuable when they reflect the long-term vision of a country. In the case of the UK, a strong policy enabling environment and the use of public finance (via the Green Investment Bank) convinced markets that the government was serious about its vision. Some governments however lack the in-house capacity to deliver their long-term vision, others may lack policy tools, and many lack a consensus on how best to communicate their plans and objectives to the investment community.

Where pipelines of projects derive and how to align multiple pipelines are questions policy makers need to consider. It is important to acknowledge and analyse for example the contexts in which pipelines are developed: project pipelines can be created and administered by inter-alia national governments, local authorities, and private developers. Citing the example of Brazil, a panellist emphasised the importance of having a single authority to co-ordinate and sequence infrastructure development within a country, as misalignments due to improper co-ordination could otherwise arise.

The procurement approach taken by governments must be considered in the development of pipelines and analysis of their effectiveness. The four key approaches to deliver infrastructure are: direct procurement (central or sub-national), regulated utility, tendering of specific assets (concession, PPP) and competitive market.

Keynote on cities

This session covered the topic of cities at the centre of climate mitigation, resilience and green finance. It included a speech by the OECD Deputy Secretary-General, Masamichi Kono, on behalf of the Secretary-General, Angel Gurría, and a speech by Carl Pope, Senior Adviser to UN Envoy for Cities and Climate, Michael Bloomberg, and former Executive Director of Sierra Club.

The central message of Masamichi Kono's speech was that "cities are central to tackling climate change". They account for more than half of the world's population, consume 70% of the world's energy, and contribute an equivalent share of global greenhouse gas emissions. Choices about long-lived urban infrastructure will determine the carbon footprints of cities for years to come. To ensure these choices are compatible with climate and inclusive growth objectives, national and sub-national policies must work hand-in-hand. Kono highlighted a couple of OECD initiatives that support cities and national governments in their strategies for climate change and inclusive growth: the OECD Champion Mayors initiative, and the National Urban Policy Programme.

Mr Kono highlighted that cities are also notable centres of green finance. Subnational governments accounted for USD 10.7 billion of green bonds issued last year. However there is a need to develop capacity in the vast majority of subnational governments to make innovative financing tools work, especially in developing countries where less than one in five cities have access to local capital markets, and less than one in 20 is deemed creditworthy enough to access international capital markets. Looking ahead, green investment banks could be a part of the solution.

Carl Pope began by addressing the question of why cities are critical in the battle against climate change. He gave two reasons. First, cities hold the majority of the global population and generate the majority of GDP, which in turn drive emissions. Second, cities are the 'hotbeds' of innovation and change. In short, they have both the capacity and culture for change. However, Pope sees "the problem" as being that cities lack autonomy relative to the nation state. He quoted Bloomberg, "If the 19th century belongs to empires, the 20th century belonged to the nation state, then the 21st century will belong to cities". Mr Pope sees urban autonomy as pivotal to solving the climate problem, and used as an example the potential to empower cities to ban combustion engine cars, as has been happening in London. Pope then turned to the question of whether rural areas would be left behind or included in this transition. He argued that in order for this increase in autonomy to cities to be accepted politically, there should be a 'grand new bargain' between urban and rural. In such a scenario, national governments have an important role to play in transferring wealth generated by the increase in cities' autonomy to rural areas, and that these transfers of wealth should be used to simultaneously meet sustainable growth ambitions, e.g. through targeted subsidies to incentivise carbon recovery and renewable energy generation in rural areas.

Green finance and investment in cities

Cities are a major source of emissions, and therefore are central to tackling climate change. In addition to consuming 70% of the world's energy and producing 70% of global carbon emissions, cities also are the drivers of the transition to a low-carbon economy, as they must invest in sustainable infrastructure. The Cities Climate Finance Leadership Alliance suggests that additional investments of between 9% and 27% would be needed for new urban infrastructure to be low-carbon. This will require new ways to finance urban infrastructure and coherent financial planning at all levels of government.

Cities could source finance for low-carbon urban infrastructure from new models of land-value capture, from additional private sector stakeholders and through a combination of novel and traditional financing mechanisms. Several panellists pointed out that currently most cities cannot capture land-value. Urban infrastructure that provides additional benefits (e.g. increased land value for the surrounding area) could be financed by capturing this additional value through payments or levies. Further finances could be attracted by promoting public-private partnerships and creating a stable investment environment to attract private finance. In addition to using traditional financing models for low-carbon infrastructure, like debt, grants and subsidies, novel financing models could be utilised, such as green bonds or innovative approaches delivered by green banks.

Coherent finance planning for city infrastructure projects would require co-ordination between all levels of government and a sufficient degree of fiscal autonomy of cities. Vertical involvement of stakeholders is fundamental to ensure sufficient resources, from local governments up to the ministerial level. Co-ordination would also include horizontal co-ordination among ministries to address climate change, as well as the possibility to tap into the expertise of development banks in emerging and low-income countries.

Blended finance: Mobilising green investment in emerging economies

Blended finance can contribute to closing the financing gap for green projects in low-income countries, but needs to offer a range of solutions fitting individual country circumstances. To mobilise the trillions needed, green finance must move past individualised, small-scale initiatives and funds with high transaction costs to large-scale, standardised, commoditised, securitised instruments. However, speakers pointed out that a one size fits all financing approach does not work in low-income countries; a range of solutions is needed. Elements to consider when adapting blended finance to each country's needs include: pipeline building, knowledge (policies) and skills (capacity development of agencies), progress measurement, partnerships, as well as different ways of 'blending' projects on the ground. A tailored approach could help shift blended finance from middle to low-income countries and least developed countries.

Blended finance would be a useful financial vehicle in low-income countries, but needs to be coupled with policy frameworks enabling green finance. Multilateral development banks can promote blended finance in the context of the build-up of a domestic policy framework by providing technical assistance and engaging in pilot projects. A promising new initiative is being led by the Asian Development Bank, which recently started a Green Finance Catalysing Facility as a new mechanism to bring blended finance to projects on the ground by working together with the Chinese government.

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