PART 1

The New Growth Agenda

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The Purpose of this Report

We are on the cusp of a new economic era: One that is driven by the interaction between rapid technological change, sustainable infrastructure investment and increased resource productivity. This new growth story draws direction from the ambitious landmark international agreements of 2015 and 2016,[50] embodied particularly in the Sustainable Development Goals (SDGs) and the Paris Agreement, each signed by over 190 countries. These agreements aim to deliver strong, sustainable, balanced and inclusive growth, to reduce global poverty and to secure a better and more sustainable future for people and the planet for decades to come.

The new growth agenda recognizes that the objectives of growth, climate action and development are interrelated and complementary. This complementarity resonates not only with the goals of the agreements themselves but also the policies and investments that can deliver on them. Its main drivers are investment at scale in sustainable infrastructure, innovation and discoveries that push at the frontiers of what is possible, and resource productivity with a particular emphasis on conserving natural capital. This is an agenda which will boost shorter-run growth from increased investment in the low-carbon transition; spur innovation, creativity and growth in the medium term; and in the longer-term, provides the only feasible growth path on offer.

The pioneering 2014 Global Commission report, *Better Growth, Better Climate*, made the seminal case that there was no trade-off between growth and strong climate action. Following this, the 2016 Global Commission report, *The Sustainable Infrastructure Imperative*, highlighted the central role of sustainable infrastructure in this new global agenda, in driving strong and inclusive growth, delivering on the SDGs and providing a pathway to meet the ambition of the Paris Agreement to limit global warming to well below 2°C and foster climate resilience. The US$90 trillion investment in infrastructure that is needed by 2030 would not cost much more if it was sustainable and, in fact, because of the falling costs of clean solutions it could deliver savings instead.

The opportunities offered in this new growth agenda are even greater than they appeared four years ago. Technological advances and falling costs of renewable energy have made sustainable investments even more attractive, to the point that many are now more cost competitive than traditional fossil fuel-based technologies. The world now adds more renewable power capacity annually than from all fossil fuels combined.[51] The co-benefits of investing in sustainable infrastructure are increasingly evident: cities where we can move, breathe and be productive; resilient power and water systems and housing that withstand increasingly frequent and severe climate extremes; and ecosystems that are more productive, robust, and resilient. Discourse has shifted from the costs of inaction to how to exploit emerging opportunities in this new economy. Also increasingly evident is that such a path avoids the costs of high-carbon development, including remedial measures that become progressively costlier over time. The new climate economy is the new growth story.

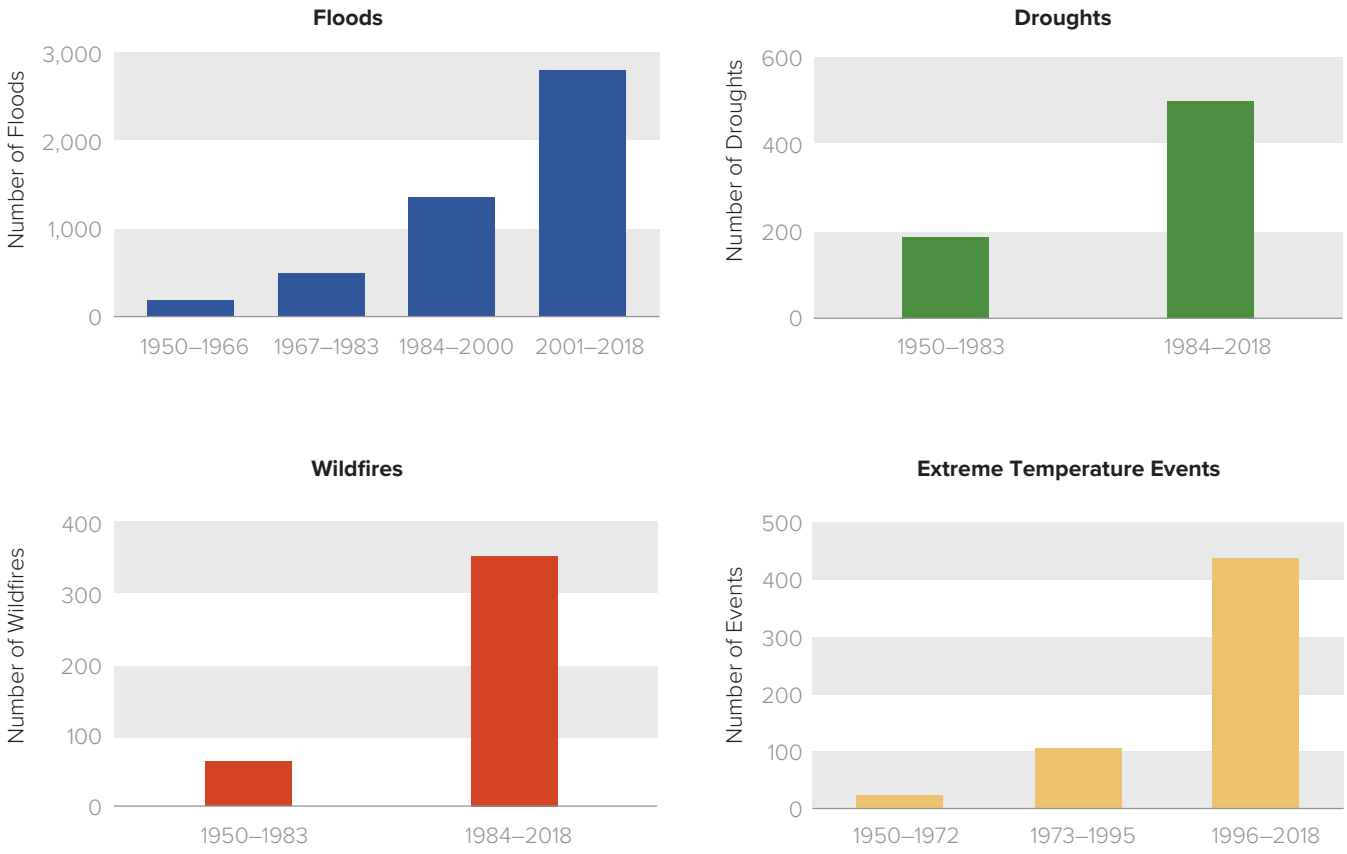
Risks and costs of inaction are mounting faster and are greater than previously recognised. 2017 was the second hottest year globally since 1880 when modern record-keeping began,[52] reflecting a broader trend with 18 of the 19 warmest years occurring since 2000.[53] Concentrations of GHGs continue to reach new records and are now at the highest level in millennia.[54] More frequent and more intense extreme weather events are becoming the 'new normal' (see Figure 1). Globally, disasters triggered by weather-related hazards caused as much as US$320 billion in losses in 2017, significantly higher than average, as well as thousands of deaths.[55] Forecasts from climate scientists are now observed or even exceeded, including accelerating sea-level rise, Arctic summer melt, ocean circulation disruption, and increasing extreme weather events, such as floods, droughts and heatwaves. Planetary boundaries are under severe threat not just from carbon emissions, but from polluted air, threats to fresh water and oceans, degradation of agricultural land and natural landscapes, and loss of biodiversity and ecosystems.[56]

A changing climate will also particularly impact the poorest and most vulnerable. Business-as-usual growth could mean over 140 million climate migrants by 2050, according to the World Bank.[57] While much of the movement may be internal, this is still more than

double the total number of all refugees today and will further exacerbate the likelihood of conflict. Adverse health outcomes could also increase under unabated climate change, due to more intense heatwaves, floods, droughts, a greater risk of food and water-borne diseases, and more rapid spread of pathogens.[58] Outdoor air pollution, largely from fossil fuel combustion, is estimated to result in over 4.2 million premature deaths annually.[59]

If we are to limit the worst effects of a changing climate by keeping to a path consistent with the goals of the Paris Agreement, global GHG emissions will need to get to net-zero emissions in the second half of this century.[60] As the forthcoming report of the Intergovernmental Panel on Climate Change (IPCC) will show, urgent action is needed now to keep global average temperature rise to well below 2°C and pursue efforts to limit it to 1.5°C, as countries committed to do through the Paris Agreement. It is also already clear that there is a significant gap between the national commitments (Nationally Determined Contributions or NDCs) made and the emissions reductions needed.[61] Three years on from the Paris Agreement, very few countries have adopted plans to sufficiently reduce emissions.

Figure 1
Global Occurrences of Extreme Weather Events.



Source: The International Disaster Database. Author calculations.[62]

The scale and urgency of the challenge ahead cannot be underestimated. Over the next 15 years, the stock of infrastructure is expected to more than double;[63] the world economy will likely double over the next 20 years;[64] and urban population will nearly double over the next 30 years.[65] These transformations will primarily happen in emerging markets and developing countries but there is also a pressing need to replace aging and polluting capital stock in developed economies. With the scale of investment that will have to be made in the next two decades, we cannot afford to lock-in polluting technologies and inefficient capital. The window for making the right choices is uncomfortably narrow because of a shrinking carbon budget and because remedial measures will become progressively costlier.

At the same time, we must achieve important social objectives: by mid-century, we will need to feed a global population of almost 10 billion people; provide billions with clean and affordable electricity and water and sanitation services; upgrade skills, including through education; secure better health for all; and close the gender gap. We must also remain cognizant of the social disruptions that this transition will entail, requiring all actors to manage the transition justly and ensure that this growth path leaves no one behind.

The transition to a low-carbon, resilient economy is also just one part of major structural changes already underway in the world today, including rapid urbanisation, increasing globalisation, a shift to service-based economies, and increasing automation. If managed well, this transition has the potential to deliver a safer, more prosperous future.

Momentum is building on the shift towards a new growth trajectory. First, countries are recognising the need to articulate and align growth and development strategies with sustainability, with efforts already underway as, for example, in China's upcoming 5-year plan (see Box 1) and the UK's long-term strategy. Second, broad-based efforts are now underway to align behind and support the global agenda, encompassing major intergovernmental processes and institutions, including the G20, the United Nations (UN) system, the multilateral development banks (MDBs), the IMF and the OECD. Third, there are welcome shifts underway in the private sector and particularly, private finance, to align with and deliver a sustainable and prosperous future. Encouragingly, the private sector is poised to play a much greater role as a driver of investment and innovation. And fourth, technology and innovation are already pushing the frontiers of what is possible, ranging from improving energy efficiency, particularly for heavy industry, to radically improving the monitoring of supply chains such as for deforestation-free commodities.

Despite this momentum, and the emerging coalitions driving this agenda forward, too much progress today is incremental, piecemeal, and falls short of the pace and scale needed. A number of worrying economic trends—from increasing international trade tensions, to volatile oil and gas prices, and to stressed public balance sheets and mounting debt ratios in many developing countries—are further reasons to ensure a decisive transition now to this new growth path. Predictable, coherent, long-term policy signals are essential to spur innovation, open markets, lower financing costs and attract private investment. The decisions that we take over the next 2—3 years are crucial because of the mathematics of climate change and the fundamental structural changes that will shape the future of people and planet for this century and beyond.

The choice we face today, therefore, is not whether or how to act, but how quickly we will do so: we can either make a gradual shift locking us into an unsustainable future or a decisive change of direction towards this new growth agenda.

If countries move tentatively: there will be no breakthrough on carbon pricing and innovation; some, but not all, cities will be built in a sustainable, resilient, and inclusive way; rainforests will continue to be slashed, albeit at a slower rate; power grids will be decarbonised but only where it's easy to do so. Although this is progress, it is nowhere near close to enough and will lock us into an unsustainable growth path, with global warming of potentially more than 3°C, severely disrupting the lives and livelihoods of billions, from residents of coastal Asian megacities to farming communities in America. Within our lifetime and those of our children we are already seeing harmful impacts of imperfect development and a changing climate which are placing significant and a possibly fatal strain on the global economic system.

If countries, businesses and the global community act decisively, however, we will instead see change that is transformative and at scale: new projects will transition to a climate sensitive pathway; ageing and polluting infrastructure will be phased-out rapidly and existing fossil projects will be revaluated and many shelved; governments—in partnership with investors and the private sector—will steer the economy to a

new path in record time. The transition of millions of workers and communities affected by the transition away from high-carbon sectors will be managed sensitively, responsibly, and in a way that promotes upskilling and the transfer of labour to new growing sectors necessary for the transition. We will unlock the multiple benefits of fixing our broken food system, thanks to better forest and farm practices, including large scale reforestation. We will deliver on multiple development goals, keep global warming to under 2°C and avoid the most catastrophic consequences of climate change.

Now is the time to accelerate actions to deliver on the great promise of the new growth agenda and radically reduce the dangers of the old.

The New Growth Agenda in Action

This report highlights opportunities in five key economic systems—energy, cities, food and land use, water, and industry - chosen because of their transformative importance in driving growth, meeting development objectives and supporting climate action.[66] These are the economic systems where transformative change is needed now, in the critical 2-3-year window ahead of us, to ensure 'strong, sustainable, balanced and inclusive growth', as laid out in the G20 Hamburg Action Plan.[67]

This new growth agenda will deliver higher productivity, more resilient economies and greater social inclusion. The poorest do not benefit from the current low-productivity agriculture nor from landslides resulting from deforestation. They do not benefit from inefficient cities where daily commutes often take over four hours a day, exposed to highly-polluted air. The poor are those most exposed to the impacts of climate change, with just one bad weather season having the potential to push low-income families below the poverty line.

Therefore, at the heart of the new growth story, are liveable, inclusive and compact cities which have an economic dynamism that can attract creative talent, companies, and capital while higher densities and affordable housing enable cheaper service delivery and avoid costly urban sprawl. Powering this new story will be affordable, clean, energy systems that deliver much more economic activity for each unit of energy and expand energy access for the first time to more than a billion people in rural and urban areas, replicating and amplifying the impact of mobile telephony to enable equitable growth. Agriculture and forests can become a third engine of economic growth, delivering greater food security, more nutritious food, greater rural prosperity and resilience, and valuable ecosystem services, including water management, soil fertility, pollination and carbon sequestration. Better land use as part of sustainable infrastructure investment is also key to resilient growth and sustainable water resource management to secure clean water for all. Industrial sectors—construction, heavy-duty transportation, consumer goods, metals and chemicals - waking up to the potential of the circular economy can radically reduce the demand for energy-intensive primary materials, driving up both material productivity and cutting waste.

These five economic systems are where we must prioritise efforts to reorient policy and institutions, scale up and push investment, foster technology and innovations and manage the transition in a just and inclusive way. Across each we must harness key elements, such as the structural changes underway and the international division of labour, along with the potential of new and innovative technologies, and the dynamics of economic returns to scale. And a better understanding of the synergies between actions in different sectors can support more informed decision-making. In each system, the right infrastructure can reduce other costs over time and lead to real benefits: for example, more compact and connected cities could reduce infrastructure capital requirements by over US$3 trillion to 2030;[68] for every US$1 spent restoring degraded forests, as much as US$30 can be earned in economic benefits;[69] and climate-resilient water supply and sanitation services for all could save the lives of more than 360,000 children under five every single year.

For each of these economic systems, this Report identifies specific opportunities that can accelerate the shift to the new growth story. These opportunities are not exhaustive nor mutually exclusive. They offer, instead, striking complementarities that can reinforce, support, and accelerate virtuous cycles across sectors.

The intention of this Report is to help both policy makers and private investors chart their own paths in the context of the great new opportunities that lie in implementing this new global agenda. It is also intended to provide inspiration to those who are preparing, country by country, their revised NDCs and their long-term strategies in the next two years, building to COP26 in 2020.

For this Report, the potential benefits of scaling-up some of the exciting proof-points of successes were assessed through an economic model (see Box 4).[70] Such modelling exercises have many limitations, and their results need to be interpreted with care. This is because traditional economic models do not adequately capture the risks of climate change, which can have wide variations in scale and nature with drastic potential impacts, for instance, the submergence of coastal megacities, desertification, migration, or conflict. On the damage side, marginal change applied to growth models misses the scale and nature of risks; on the policy side, marginal models can miss the benefits of disruptive change to a new sustainable growth path, the dynamic public economics of systemic change and gains from innovation.

Given this, it is likely that the economic, employment, and health benefits of the low-carbon transition would be even greater than the models can capture, while the costs of continuing down a business-as-usual pathway instead would be even more stark.[71] Even with these caveats in mind, a global climate action scenario prepared for this Report using the E3ME model that combines a range of opportunities including the widescale use of appropriate carbon prices and phasing-out fossil fuel subsidies, seizing energy and industrial energy and resource efficiency gains, halting deforestation and restoring degraded lands, accelerating the penetration of electric vehicles, and integrating intermittent renewables into the power system—was found to deliver significant benefits. Transitioning to this low-carbon, sustainable growth path could deliver a direct economic gain of US$26 trillion through to 2030 compared to business-as-usual, according to analysis for this Report. Taking ambitious climate action could also generate over 65 million new low-carbon jobs in 2030, equivalent to today's entire workforces of the UK and Egypt combined, as well as avoid over 700,000 premature deaths from air pollution compared with business-as-usual (see Figure 2). Subsidy reform and carbon pricing alone could generate an estimated US$2.8 trillion in government revenues per year in 2030—equivalent to the total GDP of India today—much needed funds that can be used to invest in public priorities. While all economic modelling exercises have limitations, these results echo and reinforce recent analyses by leading economic institutions, such as the OECD.[72]

Figure 2

The Global Benefits of a Decisive Shift to a Low-carbon Economy when Compared with Business-as-usual.

Source: The results cited for the US$26 trillion in direct economic benefits are cumulative for the 2018–2030 period, whereas the other data points reported are for the year 2030. Source: Garrido, L., et al., 2018.[73]

Decisive Acceleration at Scale: What will it Take?

Decisive acceleration in the critical window ahead requires a shared understanding of this new growth agenda—the opportunities it offers, the risks of inaction—and strong leadership from world leaders and economic decision-makers at national, municipal, sectoral, and business levels. These efforts will need strong leadership and persistent follow-up by national and global economic decision-makers—national leaders, Finance and Economic Ministers, and business leaders. The role of Finance Ministers globally, and especially of the G20, will be central given their stewardship of economies and to ensure that global collective action buttresses national efforts.

Their efforts can be substantially boosted by global cooperation and collective action, not only driving positive action forward but helping to tackle and contain global spill-overs. International processes and meetings that take stock of progress and drive implementation on different facets of this new growth agenda can be used relentlessly to drive ambition and set out concrete actions linked to measurable goals and performance benchmarks. A global partnership on sustainable infrastructure, now underway, can ensure collaboration within the international community to lock in support at regional, national and local levels and across sectors.[74]

In particular, efforts are needed on four fronts:

Driving Change Through Markets

Governments and the private sector should accelerate the adoption of carbon pricing supplemented by other incentives and move towards mandatory climate risk disclosure. The establishment of a meaningful carbon price is one of the clearest signals that policy-makers can provide to market participants to show their commitment to the new growth story. While there are already carbon pricing mechanisms implemented or scheduled for implementation on every continent except Antarctica,[75] in most places, they are still too low to have meaningful impact. The High-Level Commission on Carbon Pricing has estimated that a carbon price of US$40-US$80 per tonne of carbon dioxide equivalent by 2020 is needed, rising to US$50-US$100 by 2030, and supported by other policies.[76] Fossil fuel subsidies and tax breaks, estimated at around US$373 billion per year in in 2015,[77] act as "negative" carbon prices, and must also be phased out as soon as possible, with the savings used to tackle energy poverty and more sustainable food and land use systems, among other priorities.

Governments have a leading role to play in setting credible policies and the price direction within their own jurisdictions, and in acting coherently across jurisdictions. As they do, implementation trajectories will vary to account for specific national conditions, including distributional and transitional impacts. Private firms and financial institutions also have an important role to play in anticipating and leading change. Already, almost 1,400 major companies and some large development banks have committed to applying a shadow internal carbon price to "future-proof" their investment decisions.[78] And multilateral institutions can lead change through their own practices, and by supporting and fostering implementation and global collective actions.

Carbon pricing alone cannot induce a transition at the pace and scale required to keep to a well below 2°C target and needs to be complemented by other well-designed policies. These could include city design and land use management; performance standards such as fuel efficiency standards and building codes; and the new methods and technologies. A large proportion of investment in sustainable infrastructure will be driven by government policy, and the planning, selection, and design of investments in infrastructure—where government policy and direction plays a key role—can also be a powerful means to accelerate the transition to a better growth path.

Alongside a meaningful push on carbon pricing and these other incentives, radical transparency on disclosure of climate-related financial risks can be a game-changer to shift investments and spur ambitious action. Climate risk disclosure is fundamental, and countries should now work with stakeholders to implement the (currently voluntary) recommendations of the Task Force on Climate-related Financial Disclosure (TCFD) and define pathways to move, as quickly as possible, to appropriate mandatory disclosure, as France has already done.[79] Strong policy reforms in China and the European Commission's High-Level Expert Group on Sustainable Finance (HLEG) and resultant Commission action plan are recent examples of building momentum on this front. Urgent work includes requiring institutional investors and asset managers to integrate sustainability considerations in the investment decision-making process and integrating sustainability into national financial supervisory body mandates. Central banks and prudential regulators can use their newly-established Network for Greening the Financial System

to develop and deploy clear methodologies to assess climate risks on their balance sheets and to govern the collateral they accept.[80] They should also look into the potential to develop a new risk weighting for climate risks, a so-called "brown penalising factor", into banks' capital requirements.

Investors and shareholders can also push to ensure that investments are sustainable, and we are seeing important signs of change. Already, individuals are making more informed decisions, joining shareholder movements and citizen groups to learn more about where their money goes and seeking to influence the direction of public and private investments alike. Institutional investors, insurers and banks, recognising the risks from high carbon investments and the opportunities in transitioning to their alternatives, have been pulling away from coal and tar-sands. For instance, in 2018, the New York City pension fund announced plans to divest its US$189 billion fund from fossil fuel companies.[81] Over the last two years, over 15 insurance companies, including Axa, Swiss Re, and Zurich, pledged to stop underwriting coal-related companies.[82] The Climate Action 100+ is a five-year global initiative that commits participating investors to active engagement with the 100 largest emitting companies worldwide to call on them to improve climate change governance, curb emissions and strengthen climate-related financial risk disclosure and management.[83] This initiative could have impact at scale in global financial markets if it is expanded as experience is gained by ramping up ambition, membership and the scope of action (see Box 7 on energy finance).[84]

Unlocking and Financing Sustainable Infrastructure at Scale

We need to substantially accelerate and shift investment towards more sustainable infrastructure, including natural infrastructure, to meet the ambitions of the new growth agenda.[85] Despite the recognized importance of sustainable infrastructure, we are falling behind on the scale and quality of investments because of two persistent gaps. On the one hand, we are unable to transform the huge needs and opportunities to realized investments, and too much of what is being invested is not as sustainable due to policy gaps and institutional weaknesses. On the other hand, while there are large available pools of savings,[86] we are unable to transform these into the right kind of finance at scale because of lack of proven and standardized financing models to mitigate risks and crowd in private capital.

National and sub-national governments are the driving force behind the development of integrated, well-articulated growth and infrastructure strategies and investment plans. These are a critical first step towards building ambition, political commitment, coherent and decisive policy actions across the different systems, and attracting private investment. However, most countries do not have coherent growth strategies or well-articulated investment plans that recognize the imperative for greater sustainability and resilience. Instead, there is a fragmentation of efforts with Finance Ministers often focused on the growth agenda, Development and line Ministers on the SDGs or on specific sectors, and Environment Ministers on climate. A whole-of-government approach is called for with integrated and coherent strategies and frameworks of action. NDCs need to be embedded in these strategies and made more ambitious.

Building robust policy and institutional foundations that can deliver on the scale and quality of sustainable infrastructure needed to anchor the new growth agenda is work in progress in most countries and requires sustained commitment with the support of international financial institutions. The policy and institutional underpinnings necessary for the sound design of programmes and selection of infrastructure projects is complex, encompassing upstream planning and project prioritisation, regulations and legislation, sound frameworks for procurement and public-private partnerships, and effective institutional capacities and governance. These requirements have become more challenging as an increasing proportion of investments are now undertaken at the local and municipal levels. The capacity of local governments and municipalities, especially in the planning and implementation of infrastructure, will need to be bolstered to successfully manage rapid urbanisation.

A focus on sustainability at the outset will bolster quality and avoid subsequent costs and the risk of stranded assets. Sustainability criteria need to be more explicitly incorporated into decision making, starting from initial planning to project prioritisation, to procurement and public-private frameworks, to the design of individual projects. Key to the delivery of sustainability goals will be adhering to good practice in use of public private partnerships,[87] including by ensuring that climate change and other sustainability objectives are integrated into public procurement at all levels of government.[88] Though such procedures take time to develop and need to build on local expertise and engagement, the Netherlands Public Infrastructure Authority (Rijkswaterstaat) offers an example of good practice in procurement

for infrastructure aiming to trigger sustainability innovations, demonstrating that procurement can be a powerful tool for shifting infrastructure investment to achieve sustainability outcomes.[89]

Additionally, beyond national development strategies, there is a need for more systematic focus on cross-border and regional connectivity infrastructure to generate sustainable growth and employment and create common markets and new value chains. The most important of these is the multi-trillion-dollar Belt and Road Initiative (see also Box 1 on China), spanning over 70 countries in Asia, Africa and Europe. Thee future growth paths of these countries will be significantly impacted by whether these investments flow towards infrastructure that is sustainable and delivers quality services and jobs in the host countries.

Better institutional structures are needed at the national and global levels to scale up and enhance the quality of projects. SOURCE, a global platform for advanced project preparation launched by the MDBs, can catalyse better project preparation at scale and provide a platform for engagement with all stakeholders including the private sector (see Box 2 on partnerships and platforms). While it is moving ahead, it needs to be taken to scale quickly. There is also a need to improve and streamline the multitude of project preparation facilities. Most importantly, platforms are needed at the country level for specific sectors/systems and sub-sectors that can bring together all relevant stakeholders based on clearly articulated objectives, policy commitments, common structures for project selection and preparation, and joint financing structures including for risk mitigation and crowding in private capital.

With government buy-in, platforms can be catalytic agents of change helping move beyond project-by-project approaches and really take efforts to scale. Country platforms need to be backed by effective cooperation and platforms at the regional and global levels to support country level actions as well as regional and global collective actions. Recent years have seen a range of standards and tools to quantify and assess the sustainability of infrastructure for instance, through high-level principles, safeguards and good practices, reporting guidelines, database and benchmarking, and infrastructure sustainability rating systems.[99] These can also reduce the transaction costs of investing in sustainable infrastructure as well as promote replicability and take investments to scale. DFIs and the policy research community can also help assess lessons and accelerate the spread of good practice.

Box 1

China: World's Highest Emitter and a Leader on Domestic Climate Action

China will, by virtue of its size and footprint, play a key role in shaping and driving the new global agenda.[90] It has already come so far so fast that many people are unaware of how much progress it has made at home, from investing in renewable energy to tackling air pollution. The growth of China's emissions decelerated during the time of their 12th Five Year Plan (2011–2015) after Copenhagen/Cancun (COP15/16), plateaued during the 13th Five Year Plan (2016-2020) and are expected to fall further during the 14th Five Year Plan. It has implemented a new urban agenda to address the deadly smog in its cities, home to more than 750 million people with actions from short term measures (switching to natural gas from coal and reducing production from heavy-emitting sectors such as steel) to longer term measures (such as investing in new public transport and targets to get 5 million electric cars on its roads by 2020).91 Trends have indicated that these efforts have paid off with air quality in 338 cities across China seeing a 6.5% improvement from 2016.[92]

In clean energy, China is home to five of the top six solar panel manufacturers and five of the top 10 wind turbine makers.[93] In 2017, it invested US$126.6 billion in renewable energy, the highest in the world.[94] It is building capacity at an astonishing speed, installing on average more than one new wind turbine every hour. There is now also evidence that China's coal consumption likely peaked in 2014.[95] Its emissions trading scheme, which was formally announced in late 2017, means that globally over 20% of emissions will now be covered by some form of carbon price.[96]

China's emerging green bonds market is expected to deliver about US$230 billion for renewable energy investment in the next five years.[97] Those parts of the financial sector that are not explicitly green are also making changes. The People's Bank of China has proposed mandatory disclosure of climate-related financial risks as part of reforms to make its banking system sustainable. A consortium of UK and Chinese financial institutions are piloting reporting in 2018 according to the recommendations of the TCFD to inform the direction of China's environmental disclosure guidelines.[98]

Box 2

Platforms: The Case for Enhanced International Cooperation

At the global level, platforms can ensure a shared understanding of what we mean by sustainable infrastructure; on how to tackle policy and institutional impediments with shared tools and benchmarks in key areas of action; and on setting up common platforms to scale up project preparation with adherence to high quality standards.

For instance, the new advanced project preparation platform launched by the MDBs, SOURCE, offers a great example of pooling expertise across institutions to aid in sustainable infrastructure project preparation.[100] At the national level, similarly there is a case to establish platforms rather than take a project-by-project approach, for example in renewable energy, power distribution, road networks or urban development. Such platforms can help to scale up and enhance the sustainability of investments while crowding in private investment and finance. Colombia's Financiera de Desarrollo Nacional, for instance, is a positive example for multilateral collaboration and coherence coupled with country-oriented platforms leading to large investment programming with private participation.[101] Replicating such platforms, tailored to national and local circumstances, can be a powerful means for acceleration.

Other examples of vital global partnerships to advance cooperation between public and private actors in key sectors include, for example:

- The **Powering Past Coal Alliance**, led by the UK and Canada, unites countries, businesses and civil society organizations to phase out existing traditional coal power, place a moratorium on any new traditional coal power stations without operational carbon capture and storage (CCUS) and committed to powering operations without coal.[102] At its launch, 27 national, provincial, state, and city governments endorsed its declaration to support the rapid phase-out of traditional coal power. As of July 2018, the number of alliance members had already grown to over 60.
- The **NDC Partnership (NDCP)**, a coalition of countries and international institutions working together to achieve ambitious climate goals and enhance sustainable development.[103] By mid- 2018, less than two years since it was launched, NDCP already counted 105 members, comprising nearly 80 countries and 19 international organisations, and efforts were underway in over 30 countries. Members of NDCP work to ensure countries have access to the support they need to implement their NDCs and related sustainable development goals by facilitating access to technical assistance and to financial support, as well as knowledge exchange. It aims to 'bridge the gap' between climate-environment and development-finance actors by uniting them in joint planning and coordination processes.
- The **Tropical Forest Alliance 2020** is a global partnership of over 120 businesses, governments, and civil society organisations committed to reducing tropical deforestation related to key global commodities by 2020, starting with soy, beef, palm oil, and paper and pulp.[104] TFA2020 makes the case for sustainable supply chains as an essential aspect of achieving the development and growth objectives.
- The **Global Platform for Sustainable Cities**, is a knowledge sharing platform supported by the Global Environmental Facility, led by the World Bank working with major city networks, like C40 Cities, ICLEI, and almost 20 other partners, to deliver sustainable and inclusive urban development.[105] Covering around 30 cities in 11 countries, the platform promotes an integrated approach to urban development, focusing on urban sustainability indicators, planning, and financing.
- The **Partnering for Green Growth and the Global Goals (P4G)** brings together hundreds of governments, businesses and civil society organisations in innovative and incubate public-private partnerships to advance solutions in food and agriculture, water, energy, cities and the circular economy.[106] P4G's public-private partnerships pursue specific global development goals in eight target countries through market-based actions with support provided in terms of funding, facilitation or recognition.

Concerted efforts are needed to develop the institutional architecture to mobilise finance at scale and align it strongly with sustainability. Robust multi-level public finance foundations are critical for infrastructure development especially as more investments are decentralised. This calls for strengthening capacity for revenue mobilisation and more effective spending. New tools and approaches that take advantage of advances in technology and best practices can help accelerate reforms and institutional capacity.[107]

The biggest opportunity and challenge is to mobilise the large pools of private capital especially those held by institutional investors. This requires both better mechanisms to tackle early stage risks and crowd in long-term finance once revenue streams and underlying cost structures are clearer. The work now underway in the G20 to develop infrastructure as an asset class can give an important impetus to the mobilisation of private finance, but sustainability needs to be a central focus of this effort.[108] These efforts need to be joined up with other innovations, including blended finance solutions. Indeed, as the work of the Blended Finance Task Force shows, scaling up and crowding in private investment and finance will require efforts on multiple fronts.[109] These include setting well-designed mobilisation targets for MDBs and across the whole value chain of development finance institutions (also see Box 3); revamping and standardising institutional structures, products and instruments; improving data and benchmarks for investors; and tackling regulatory impediments. Institutional investors—banks, insurance companies, pension funds, hedge funds, sovereign wealth funds and endowments—are also potential sources of substantial new capital to fund sustainable infrastructure.

International public finance is essential to crowd in private finance at scale, meet concessional financing requirements in poor and vulnerable countries, back more risky investments and mobilise finance for adaptation and natural capital where private returns may not be sufficient. A substantial scaling up of international public finance, both market-based and concessional, is needed to meet the scale of financing requirements. Developed countries should fulfil their commitments to mobilise US$100 billion annually of public and private finance to support developing countries act on climate change and the climate finance architecture must be strengthened so that these resources can be used for maximum impact and leverage. A significantly stepped up role of DFIs and the MDBs, in particular, is called for given the unique role they can play in in realising the ambitions of the new global agenda (see Box 3).[110] MDB finance for infrastructure today amounts to around US$50 billion per year.[111] It will be essential to ensure continued strong capital for MDBs if they are to double their infrastructure investments coupled with much larger private sector multipliers. World leaders and finance ministers need to break through the long-standing impasse on the reform of international financial institutions (IFIs). The forthcoming report of the Eminent Persons Group set up by G20 Finance Ministers provides an important opportunity to consider and push for decisive reforms.

Photo credit: SolarSister

Box 3

Strengthening the Multilateral Development Bank (MDB) System

A significantly stepped up role of international financial institutions and the MDBs, in particular, is called for given the unique role they can play in realising the ambitions of the new global agenda.[112] As countries implement efforts to support the SDGs as well as the Paris Agreement, the MDBs can support policy and institutional reforms in partner countries and build institutional capacity, enhance the quality of projects and programmes, and scale them up for transformative change. They are uniquely positioned to support the new growth agenda working with partner countries and by building multipliers with the private sector, creating and testing new approaches and methods, and bringing good ideas to scale.

In 2017, the MDBs with International Development Finance Club committed to align their full portfolios with the Paris Agreement. In addition, the MDBs' financial structure allows them to leverage contributions from their shareholders and multiply them into financing at low cost and use this financial capacity in turn to crowd in financing from other sources. For example, in 2017, the MDBs report that they committed US$35 billion in climate finance in developing and emerging economies, which was used to leverage an additional US$50 billion in climate-co-financing in that year.[113] With effective investments and implementation, MDBs have the potential to drive catalytic change, however they need to put in place a common approach to ensure transparency and progress over time, including to monitor and ratchet up mainstreaming of climate change across their full portfolios (see also Box 23 on MDBs accelerating clean energy access). Despite their inherent strengths, MDBs are constrained by their financial and institutional capacities, effectiveness of instruments, unclear mandates and governance shortcomings.

Unleashing their full potential will require greater coherence and political commitment across shareholders.[114] The Eminent Persons Group established by G20 Finance Ministers will make their recommendations by October 2018, providing an important opportunity to shape the future of the MDB system and could be particularly catalytic on three fronts: where they act, how they act, and how they expand collaboration. First, they should look to expand efforts in underserved client groups: fragile states, which need significant policy and institutional support; high-debt countries, where their efforts can help break the vicious cycle of higher debt hampering sustainable infrastructure investment and much-needed growth; and in upper middle-income countries, where not only are profits more reliably made, boosting the portfolios of the MDBs themselves, but also in expanding regional influence, such as by expanding sustainability standards and improving connectivity. Second, they need to become much more effective at unlocking private financing, ensuring that the right kind of capital is brought in at the right time in the project lifecycle. Importantly, this includes improving instruments and platforms for risk sharing and for mobilising private investment and where these prove effective, rapidly scaling these up to cover a significant share of their operations. And finally, there needs to be more effective collaboration across the multilateral system, speaking to and drawing from the strengths of each.

Harnessing the Private Sector and Innovation

The full power of the private sector and innovation needs to be harnessed. Many companies and investors are already demonstrating leadership, and others are ready to align with this agenda with the right policy signals. As private capital has started to shift towards sustainable investments, a recent wave of business action shows front-runners stepping up to enhanced ambition. One hundred and forty of the world's most influential companies already committed to 100% renewable energy (RE100),[115] 20 major multinationals committed to 100% electric vehicle fleets (EV100),[116] and over 450 have committed to develop Science-Based Targets (SBTs) to manage their emissions in line with ambitions to keep global temperature rise well below 2°C.[117] Government policy in many areas now needs to catch-up to these front-runner leaders.

Implementing the best technologies and practices available today could significantly reduce industrial energy demand, as is clear from leading companies in the cement, steel, maritime and other sectors. At the same time, efforts to scale up approaches to carbon capture, utilisation and storage (CCUS) will be essential for some hard-to-abate sectors.[118]

Especially for consumer-facing companies, shifting their brand and marketing to products that are climate positive can also engage consumers as active agents of the solution. For instance, shifting the diets of populations who consume a lot of animal-based foods towards plant-based foods—and especially away from beef—could result in global health-related

savings of almost US$1 trillion per year by 2050 as well as significant reductions in GHG emissions.[119] The challenge remains to extend and implement commitments and to scale efforts to other countries and business models, turning these successes into a wider shift in corporate action.

Innovation is already rapidly pushing the frontiers of what is possible, ranging from energy efficiency improvements, particularly for heavy industry, to radical process improvements using new digital technologies and to circular economy models that are drastically opening up opportunities to reduce, recycle, and reuse resources. Advancing innovation, meanwhile, can provide a major boost to our collective efforts (see for instance, Section 5).

The exciting landscape of cheaper renewables, better storage capacities, and electrification of the economy including the rapid rise of EVs has been as a result of supportive policies and investments by governments, universities, and foundations in mission-driven innovation combined with the enterprise and abilities of the private sector. In many other sectors, including food and land use, water and waste management, construction and heavy industry, the innovation gap is much greater and, as a result, the private sector further away from investing.

For those innovations that are at earlier stages, greater direct public investment in research and development (R&D) and targeted, time-bound industrial policies to encourage private R&D spending will be required. These can help get industries to the stage where scale is achievable, enabling cost reductions and learning curve effects.

For innovations that are closer to market readiness and could be deployed at scale in the next 5–10 years, the right public-private-philanthropic models with adequate finance and effective delivery mechanisms to fill these gaps at both the national and global levels will be key across sectors.

In particular, a big push on innovation beyond the energy sector will be critical to addressing the wider climate challenge. Tailored solutions, private-public partnerships, and financing modalities need to be developed or expanded for the global commons under threat including forests and natural landscapes, wetlands, biodiversity preserves, water bodies and oceans. These can strengthen cooperation on technology development and wide-spread adoption helping deploy the best available technologies and business models today and investing in next-generation technologies. These efforts can learn from the innovative partnership approach of the International Solar Alliance, for instance, an alliance of over 121 'sunshine countries' coming together to make solar power, technology, and financing more accessible to different countries.[120]

Ensuring an Inclusive Agenda that Puts People First

A people-centred approach is needed to ensure lasting, equitable growth and a just transition. Disruptions in the global economy—wrought by rapid technological change including digitisation, globalisation and the shifting international division of labor, and structural changes within economies—are all contributing to a changing employment landscape and social transitions in developed and developing economies alike. Accounting for these wider structural elements and proactively managing this transition well for those who are and will be most adversely affected is essential to build support and enable the shift for the new growth story and to avoid climate action becoming a scapegoat for wider structural disruptions. Managing for a just transition is good economics and good politics.

Successfully diversifying local economies away from coal and eventually other fossil fuels will require multi-stakeholder dialogue, strategic assistance, re-training and targeted social protection (see also Box 5). For example, in Australia's Port Augusta, workers and their unions at a dying coal-fired power station successfully lobbied for a solar thermal plant to be built in its stead. The plan was to allow local energy workers to transfer their skills to cleaner, more viable employment and the community to remain an energy hub.[121] As China has delayed or stopped work on 151 coal power plants, it has also created a US$15 billion fund for retraining, reallocating and early retirement of the estimated 5-6 million people who would be laid off due to coal or steel sector overcapacity.[122] Germany, Canada, Scotland, Uruguay and some Australian states have established dialogues amongst industry, workers, and government to identify approaches to ensure a just transition for affected workers and communities, while fossil fuel rich countries like Norway are exploring opportunities to diversify their economies. In developing and emerging economies, the low-carbon transition provides an opportunity to leap-frog the inefficient and polluting approach of the past. Alongside national governments, city governments, businesses, and universities can help revitalise and deliver prosperous communities. Training and

education will be key, as will moving—not just people to jobs, but vice versa as well—to help capitalise on the transition.

Empowered women and women in leadership are critical for the environment and for the global economy. Ensuring women's participation in the economy could, by some estimates, boost global GDP by US$28 trillion per year by 2025.[123] Women are playing a key role in delivering clean energy access solutions (see Box 20). They are also often the primary providers of energy, water, food and other resources for their families, placing them at the frontlines of a changing climate. Almost half the economically active women in the world work in agriculture, a sector already feeling significant climate impacts.[124] In cities, urban infrastructure has not always accounted for the needs of women. For instance, women face harassment and physical abuse on public transit,[125] which hampers their ability to move freely. That means women who can afford to, switch to private vehicle use, increasing traffic and congestion burdens. Poorer women, however, are often forced to change routes, often for less convenient or costlier options, or drop out of jobs or education entirely. Policies cannot be gender-blind. In countries where women participate more fully in political life parliaments are more likely to set aside protected land areas and ratify international environmental treaties.[126] In India and Nepal, for instance, forest conservation improved as a result of women's participation at community level in forest management.[127]

A greater focus on resilience and adaptation across policies and efforts are critical as climate impacts continue to hammer lives and livelihoods. The devastating floods in South Asia in 2017 not only took over 1,200 lives but also left over 20 million affected including 6.8 million children.[128] We can no longer choose between actions for today and those for tomorrow, adaptation to extreme weather events is already an essential feature of our collective response to a just transition as occurrences of climate-related disasters grow.

Conclusion

This is our 'use it or lose it' moment. Investing the expected US$90 trillion to 2030 to build the right infrastructure now will deliver a new era of economic growth. Investing it wisely will help drive innovation, deliver public health benefits and inclusive growth, create a host of new jobs and go a long way to tackling the risks of runaway climate change. Getting it wrong, on the other hand, will lock us into a high-polluting, low productivity, and deeply unequal future.

Decisive action now will clearly yield a far more attractive and less dangerous future, and it will require strong and concerted leadership. The purpose of this Report is to lay out what it will take and to demonstrate how acceleration can be achieved. It is to inform and give impetus to economic decision-makers—finance and economic ministers, business leaders, and investors—equipping them with the arguments and the evidence to drive the transformation.

It should be read as more than just a Report. It is a manifesto for how we can turn better growth and a better climate into reality, for how we can carry this call to action into board rooms, through the halls of government and over the airwaves. We must consciously and conscientiously legislate, innovate, govern, and invest our way to a fairer, safer, more sustainable world.