Under the patronage of the French Minister of Finance and Public Accounts

PARIS 2015 CLIMATE FINANCE DAY

#climatefinanceday

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Opening Session

Benoît LEGUET, Event Moderator, Head of CDC Climat Research

Welcome to the Paris 2015 Climate Finance Day. With only 200 days until COP21 Paris, I would like to welcome on stage Gérard MESTRALLET for his introductory speech.

Welcome Speech

Gérard MESTRALLET

Chairman, Paris EUROPLACE, Chairman & CEO, ENGIE, Coordinator of the Business dialogue

Mr Minister, Chairman and President, Ladies and Gentlemen, good morning. I am very honoured and very pleased as the Chairman of Paris Europlace, the organisation promoting the Paris Financial Centre to open this first international Climate Finance Day in Paris, in partnership with Caisse des Dépôts, the European Investment Bank and the support of major United Nations organisations.

This forum is being held in the lead-up to the Paris United Nations Climate Conference at the end of this year. It will aim to build a major international agreement on how to tackle climate change. Let me thank very warmly Michel SAPIN, Minister of Finance and Public Accounts for having agreed to open this forum, as well as Pierre-René LEMAS, CEO of Caisse des Dépôts, whose team was the main contributor to designing this meeting, Jonathan TAYLOR, for the strong involvement of the European Investment Bank. My thanks also to all of our sponsors for their support and to UNESCO for hosting our event in this prestigious setting.

We are also very honoured by the strong recognition from the United Nations. Janos PASZTOR, High Representative of Secretary General Ban-Ki MOON for the climate has agreed to conclude this meeting and for that I thank him. This event is just a step forward from what last September. Christiana FIGUERES, Executive Secretary of the UNFCCC, Everybody here is eager to hear your opening speech.

We all – including Laurent FABIUS, Ségolène ROYAL – attended all of the meetings of the Business Climate Summit. Global warming is a huge challenge today for countries and businesses across the world. I am personally convinced that it could lead to disaster and severely disrupt the world's equilibrium.

The financial industry also deems that climate change will significantly impact global stability as well as international economies and the ecosystems. It is for this reason that it supports the target of maintaining global warming below 2° by 2050. Although the financial sector is not directly involved in climate negotiations, it can play a major part in combating global warming, by steering markets and the economy toward a low-carbon intensive model. This involvement is key to attracting capital on a large scale. It is for this reason that we have already seen a whirlwind of climate-related innovations developed by the financial sector in the past few years.

Some large international investors have already announced new asset allocations to reduce their involvement in sectors or companies with high emissions, or to anchor companies engaged in climate strategies. Another recent innovation has been the launch of green bonds to finance environmental products. The international market has increased ten-fold in one year and Paris is well-engaged in his new direction. For instance, my company, the ex-GDF SUEZ, has issued its first €2.5 billion green bond last May, to finance renewable energies strategies, in the largest green-bond issue yet made by a private company.

Paris Europlace has published a special guide today, on the occasion of this conference. It offers an overview of the characteristics and perspective of this market, as well as France's expertise in the area of climate finance. In addition to this, many young innovative companies are developing new activities relating to climate issues, in risk measurement, cloud-computing, as well as dedicated rating agencies and crowd-funding activities.

The first objective of this International Climate Finance Day is to introduce international practices and guidelines, already developed in the United Nations Climate Summit last Autumn in New York. However, the issue of financing a swift transition to a local economy is key. Additional investment needed in a 2° green growth scenario is estimated at $0.7 trillion by 2030. We know that public finance will be insufficient, both in developed and emerging countries.

This means that the involvement of the private sector will be crucial. Today, private financing is not sufficiently focused on carbon assets. That is why this financing shift requires a more appropriate regulatory environment and drivers. Once again, I would like to express my concern about the negative impacts of certain European Directives, such as those that place strong restrictions on European investors so that they invest in long-term projects as well as the introduction of European financial transaction funds.

Another key priority is the implementation of the carbon price, which is a real climate indicator – a real compass. Carbon pricing needs to be developed so that there is a way of measuring the cost effectiveness of climate-related measures. This is the most urgent task, in our view. Clearly, the call for carbon pricing has been massive over the last two days, during the Climate Summit. I am sure the same will be true today.

At the same time, the financial sector can play a significant role in providing technological solutions, investments and financial resources to tackle climate change. Some institutions are already acting in this manner. Today's event is aimed:

- First, at promoting multiple financial initiatives currently available and discussing their appropriateness with respect to climate goals. I would underline that the financial institutions that have chosen to sponsor this event also account for the socially-responsible investment policies for climate-related initiatives.
- Secondly, the event will be encouraging the financial sector as a whole to use their experiments as an example and to extend those that have the most effect, so that the sector develops appropriate tools and standards.
- Thirdly, we will be fostering cooperation between public and financial players to facilitate investment into the green economy. It is essential that the major international institutions and investors take into account long-term criteria and sustainability.

Our programme will address four concrete issues:

- How can institutional investors focus their portfolio management in a way that prevent climate change?
- How can finance and insurance take into account finance risk in order to be more resilient and capable of adapting to them?
- What kind of banking and financial tools will allow the financing of green projects?
- What are the innovative financial policies currently in place across the world, creating a financial system open to climate investment?

May I conclude by announcing the launch today of a new collective engagement by Paris Europlace and the major professional organisations representing the Paris financial sector to increase their contribution to the international climate change initiative. The Paris financial community is proud of this collective commitment on which I will not elaborate now. You can learn about it on the screen.

Mr Minister, I give you the floor.

Opening Speeches

Michel SAPIN

French Minister of Finance and Public Accounts

Ladies and Gentlemen, I would first like to address greetings to those with whom I had the honour of having lunch yesterday, those with whom I had the pleasure of having dinner yesterday, and those with I am now sharing a breakfast of shorts. We are all extremely mobilised together and, in my address, I will endeavour to sum up the perspective of a Minister of Finance on a day like this and at a meeting such as this.

We all share an aspiration and it is up to each and every one of us, from the nation-states to the local authorities, NGOs and enterprises, to build an alliance in Paris for the climate: an alliance that will make it possible for us to rein in the temperature rise, setting out the transition pathway for the world and providing the tools needed to adapt our societies.

For it is indeed an alliance which our world now needs, in order to take up the challenges in climate change. The question of financing will be fundamental as we work toward our agreement in December, and thereafter, ensure that it is implemented world-wide, effectively and massively. We must, first, bring credence to our past agreements and, in particular, achieve the target set in Copenhagen: that public and private finance dedicate $100 billion per year to climate. As you know, the members of the International Climate Finance Club have moved forward in harmonising their rules. An agreement was reached following discussions hosted by the French Ministry of Finance last 31 March regarding risk mitigation and leverage effects.

The second challenge relative to the first pillar will lie in making the Green Fund for the Climate fully operational. Capitalised with $10 billion in late-2015, it is important that this fund now be able to swiftly initiate projects, help developing countries fund their fight against greenhouse gases, and support their climate change adaptation policies.

Furthermore and more broadly speaking, we must release the financial flows needed to indeed “shift the trillions”. At the Climate Summit held in New York last autumn, many players came forward with their first ambitious commitments in favour of the climate. We have now entered a second stage, during which the financial system as a whole – and not only the pioneering players whom you embody and who have shown us the way forward. This must come through in strategic planning, operational decision-making, as the consequences of climate change are duly taken into account. This assumes a number of measures, which I will describe from various angles.

Institutional investors, for instance, will be most interested in understanding portfolio exposure to carbon risks and implementing a strategy that effectively keeps that risk under control. “De-carbonising” the portfolio, adopting and applying a carbon index, engaging in dialogue with the companies in which they invest, etc. are well-known responses.

Bankers will want to take into account risks that are sometimes neglected, and logically so, in that they are based on outdated scenarios. By better understanding of the effects of carbon emissions and demand for fossil fuel energies, and better grasping the impacts of the emissions reductions policies, bankers will be able to more astutely decide whether to grant a loan for a project or for the purchase of a home. This applies more broadly to all decision-main on the part of economic players, which must pay close attention to climate issues.

The commitments you made in New York and are amplifying today are to be lauded. Commitment now needs to extend to a broader circle of players, across more sectors and geographic regions. I would like to pay tribute in particular to the presence of emerging countries at this event: Brazil, India and China. As to sectorial participation, I call not only on institutional investors, but also all financial players to mobilise with the same energy and join in this movement. Lastly, these commitments need to be clarified and made more transparent, to enable dialogue with civil society. More than words, we need action; the term "greening" should not lose its impact and become nothing more than a buzzword.

Recently, a number of major green bonds were reinforced. The development banks are already working in this direction, as evidenced in the Green Bond Principles. Our next step should be ensuring greater transparency on these new instruments, in particular by ensuring that they are all subject to the same harmonised registration requirements. On this note, I would like to express the hope that further platforms like the Global Investment Platform come into being and are extended to all sectors. They will be the ground for dialogue with civil society and the financial sector.

As we move into a new phase of taking into account climate concerns, the public authorities obviously have a major part to play. We must take the action necessary to enable an orderly transition. The Paris Agreement is considered a major stage on this respect. I will obviously do everything in my power, along with my counterparts, to take this further, asking that the G20 require financial sector to take climate risk into account at the operational level as well. Your talks today will further feed into our efforts, so that there is true understanding of climate-related realities by the financial sector. Wishing to speed up green growth, France has made it a legal requirement that all institutional investors disclose the action they take to protect against climate risk.

Moreover, as we are all aware, carbon has a cost, both societal and environmental. We thus also understand that we must cut that cost. The public authorities must send out the right signals in this respect, and they are not the same everywhere. They can include setting up carbon markets, instituting carbon taxes, removing subsidies to fossil fuel companies, adopting pollution standards applicable to cars, etc. In this respect, I would call attention to the issue of carbon pricing, on which France has already made significant proposals.

It is my hope that this important event will give you the opportunity to discuss innovative solutions and mobilise new financing for the fight against climate change and fossil fuels. I look forward to seeing you again in Lima, where we will be able to take stock of the progress made on the road to the Paris Conference. Be assured that you can count on the public authorities and the Ministers of Finance, just as I am counting on you to build positive peer pressure toward the creation of a new low-carbon economic model. All financial flows must come together to build the model for which we will all be responsible in the future.

Thank you for your attention.

Christiana FIGUERES

Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC)

Minister SAPIN, thank you very much for that very inspiring call to action. I must say that you glossed over, in a humbling manner, an amazing announcement: that all institutional investors in France will henceforth disclose their carbon footprint. That is a game-changer. The more countries decide to that, the closer we will be to our desired goal. Thank you very much for that leadership, which I feel deserves special applause.

[*Applause*]

This is a very exciting day. Those of us who had lunch with President HOLLANDE and Minister SAPIN yesterday were given a one-hour sneak peek at everything that will happen today. It holds many announcements that will delight you. Let me now step back and present some of the context, however; we sometimes become so engrossed in our daily task that we lose the sense of the amazing transformation to which we are all contributing.

Our undertaking today can be likened to building a new home. Indeed, the home in which we live having turned out to be unsafe, unreliable and unprofitable. We are building a new home for the 9 billion people soon to be joining us, specifically on four pillars:

Policy

For at least twenty years, and most prominently in the last five years, governments have come together to bring increasing clarity both to the global international policy that will come to a head in COP21, with a definite agreement in Paris, but also made efforts to put in place national policies consistent with the long-term goal and aspiration of keeping the temperature increase under 2°. Those national policies have been evident over many years, with 800 legislative texts adopted around the world, but most recently with a collection of INDCs, nationally-determined contributions by carbon management clients, which all countries are already or will soon be submitting. Policy is indeed a very important pillar in this new home.

Technology

Solar technology has raced to the top, enabling drastic cost decreases, improving efficiencies and enabling major strides in storage.

Business Commitment

In the past two days, we have seen an extraordinary display of exponentially increasing commitment on the part of businesses, to undertake transformations internally, not only for operational efficiency, but beyond, into true corporate strategy aligned with science-based targets. These two days have exceeded all my expectations.

Finance

Just five years ago, I witnessed “climate finance” (a misnomer, I might add) previously focused on individual small-scale projects – wind projects, hydro plants, a solar array, energy efficiency, bond management – incipient, isolated endeavours, without any transformational power for the national and indeed global economies. This began to change when the multi-lateral development banks, under the leadership of the World Bank, formed a powerful alliance which, for the first time, saw them working in a coordinated fashion, to align their lending policy to the same goal. We then saw private capital begin to move in the same direction. We begin to reach the turning point when we see – as you will hear today – regulators and systemically important investors take this on board. Minister SAPIN has already presented what I see as the first sign of transformation: indeed, something must be afoot when the G20 asks the Financial Sustainability Board to look into climate risk. That is a clear signal that we have reached the deserved level and scale of importance in the financial system – the ultimate goal being a new status for a sound financial system.

These four pillars have been developing almost independently from one another. It is so exciting to understand that the firm foundations established in all four will enable a quantum leap, as they are intertwined and interlinked. They will very soon work together, bringing us over the hump and into a new low-carbon economic system.

Many pieces need to be put into this puzzle. We are all inventing as we go – “creating the path as we walk”. That is exactly what we are doing in addressing in climate change from all four pillars. It is a daunting and complex task, but also one that is very simple. It consists of two steps:

- To identify and quantify risks
- To build the instruments needed to manage the risks, and do so in a timely fashion. It will do no good to manage risk when it has already become too late. We must accompany the transition in a thoughtful, orderly planned manner. No one benefits from abrupt changes.

Ultimately, we want to “green” the world’s financial system. This effort cannot be limited to China, which has already taken the lead. We are still trying to understand and quantify the risk involved. The highest risk, in any case, is that resulting from inaction. I am very grateful to Swiss RE which, during a conference call with the industry, summed up the situation in a single sentence: “A world that stays under 2° is insurable – beyond that, we just don’t know”.

Moderator

Thank them for their enlightening opening speeches. My role today is two-fold, involving an easy part – introducing speakers – and a more difficult challenge, namely keeping time.

We will be hearing from some 40 speakers today, from all walks of life: the finance industry, NGOs, regulatory authorities, developed and developing countries, etc. We do not wish to muzzle anyone but rather enable an active, diverse discussion on climate change and financial initiatives relating to that. I believe that the two are fundamentally related regardless.

Although there will be no question and answer session as such, Twitter is available and can be used to submit your comments and questions. They will be relayed to the speakers and answered. Note also that this conference is being broadcasted live on the Internet; in other words the approximately 1,000 of you present today will be joined by remote audiences, also welcome to contribute their questions.

Round Table 1

How Can Institutional Investors Bring their Portfolios In Line with 2°C?

Moderated by Izabella KAMINSKA, Financial Times

Speakers included:

- *Mats ANDERSSON, CEO, AP4*
- *Miriam BELCHIOR, President, Caixa Econômical Federal*
- *Anthony HOBLEY, CEO, Carbon Tracker*
- *Felix LANTERS, Head of Long-Term Equity Strategy, PGGM Investments*
- *Priya Sara MATHUR, Member of the Board, Calpers*
- *Martin SKANCKE, Chair, PRI Board*
- *Philippe ZAOUATI, CEO, Mirova*

Izabella KAMINSKA

It is a real pleasure to have been invited to moderate this panel. We will be discussing how institutional Interviewers can bring their portfolios in line with the 2° goal. I am all the more delighted as I am somewhat of an outsider, focusing on mainstream capital markets in my day-to-day role. It was only in preparing from this panel that I realised how far-removed I am from this world and the extent to which we are not cognizant of these issues and the degree to which we are still obsessed with a lowly world. Yet it may not necessarily be possible to achieve both sustainability and high returns. I am excited to hear your views on how we can "have our cake and eat it too".

Anthony, as CEO of Carbon Tracker, you have made a strong case for wide-spread awareness of carbon emissions in our daily lives.

Anthony HOBLEY

We stand at a turning point; the world around us is changing, though many of those involved in business and finance day by day have, in many cases, not noticed this.

One of my favourite quotes comes from the Chairman of Baldwin. Those familiar with the financial markets in the late-19th or 20th century know that it was one of the leading US companies for thirty or forty years, listed on the Dow Jones, and the second-largest manufacturer of steam and locomotives and railway materials in general. In 1930, when it came time for the firm to defend a massive construction programme, the Chairman made a major speech on Wall Street, staying that General Motors, Ford, etc. were but toys for the rich and a fad that was sure to pass. "Mark my words", he said, "steam locomotion will be the dominant form of transport well into the 1980s and beyond".

We hear a similar tone today from the carbon-intensive industries. At a CEO discussion yesterday involving the heads of Pullman, Unilever, RWE and Total, this out-of-date proposition that fossil-fuel based energies are the foundation for the future could be heard. According to my firm's financial analysis, however, renewable energies will soon be the cheapest option overall. It also reveals that the momentum systemic laziness in financial markets is allowing many companies to pour trillions of dollars into high-carbon projects that make no sense presently and will make even less sense as we move forward.

Should that funding actually be poured into the projects, we will not only destroy value but need to find further value elsewhere to repair the situation. We need to make sure that investors truly understand the fossil fuel risk premium. In this effort to raise awareness about the risks inherent fossil fuel investments, financial regulators have a crucial part to play. It is clean energy and not fossil fuels that will solve poverty. While the climate-secure option costs money, clean technologies are increasingly cheaper than historic high-carbon options.

Izabella KAMINSKA

Martin, in your role as Chairman of PRI, you have important insights to offer, but also gained unique perspective in your work at the Norwegian Government Fund.

Martin SKANCKE

Thank you for the invitation to come here today. Let us make the distinction between two different questions:

- How can individual investors bring their portfolios in line with their target?
- How can investors collectively do so?

The answers are also very different.

At the individual portfolio level, it is possible to divest, or invest in low-carbon intensive sectors, bringing the individual portfolio in-line with the 2° target. This means selling to another investor, however; while one de-carbonises another re-carbonises. I very much agree with the claim that carbon risk is created by the investment decisions of fossil-fuel companies. When they invest in a way not compatible with the 2° target, they build up carbon in the system. This is a very real risk factor.

As investors, we need to address that risk by engaging with fossil fuel companies on their future investments plans. We have seen some very promising developments, including shareholder resolutions passed by BP and Shell, for instance, requiring fossil-fuel companies to stress-test their portfolios against 2° scenarios and report back on the results.

Next, if their investment opportunities are not compatible, investors should demand that their stakes be paid out in the form of dividends so that they can invest in something more.. sustainable and compatible with long-term objectives.

We cannot engage with a coal company and make it a wind-power company. An important part of engagement for investors is to engage on capital structures and dividend policies, which will directly impact their investment policies.

That being said, there is room for a range of different tools for investors. These fall into four broad categories, which we will be addressing with partners through the Investors and Climate Change Platform:

Measurement

We need to measure the carbon footprint to enable a better understanding of portfolios. This will be facilitated by the drive around the Montreal Pledge launched in September 2014. We are still hopeful that we will reach our $3 trillion dollar collection goal by COP21. If any of you have not yet signed, this is the time to do so.

Engagement

PRI runs an engagement platform at which investors are invited to sign commitments in areas relating to the climate, fossil fuels, fracking, lobbying, etc. This last point is particularly important in ensuring that shareholder money is not used to lobby against the long-term interests of shareholders themselves.

Mitigation

The aim is to mitigate impacts by applying low-carbon strategies and working to re-establish balances.

Investment

We will encourage investment in low-carbon energy sources.

While divestment may be the most media-friendly and visible of the paths available, there is once again range of tools available, and it is important to refrain from advocating one over the other. We should share experiences, lessons learned and ensure that investors have a good understanding of the tool.

Izabella KAMINSKA

Mats ANDERSSON, you represent the perspective of a pension fund. You stated that it is important for pension funds today to address sustainability. How are you going about that?

Mats ANDERSSON

I would distinguish three distinct steps:

Disclosure

I have been surprised to see for many years that institutional pension funds can escape the requirement to declare their climate risks. I am thus a great supporter of the Montreal Pledge, the first step being declaration of risk of exposure to climate risk. I admire the French Government for having taken the step to make this mandatory.

Decarbonisation

It is our duty to address this risk and to shrink the carbon footprint. We have been doing this for the last four years, and have not only achieved a 30% reduction in carbon emissions but also enhanced our returns. Contrary to a widespread misconception, sustainability is an economic driver.

Experience-Sharing

AP4, working together with Amundi, CBP and Unify have founded a coalition announced at the Climate Summit in New York last year. Our aim was to have $100 billion channelled toward low-carbon strategies. We are now halfway to that target and it is my hope that we will deliver on the goal by COP21.

Being in Paris, I am pleased to announce that FRR and EROP have both joined this coalition.

Izabella KAMINSKA

Felix, you represent PGGM Investments, which takes a positive-impact approach. Could you share more about your view and how your strategy compares to that of others?

Felix LANTERS

We manage investments for a number of large Dutch venture funds. The largest by far is the Dutch Care Sector Pension funds, being worth €180 billion euros. It has committed to halving its CO2 footprint by 2020 and increasing impact investments four-fold, to 12%.

We have a new mandate and are starting to build a listed equities portfolio of companies with enough impact on some of the issues on which the world is focusing. This being a new field, we have spent some time looking at the outer world and striving to gain an understanding of the external issues. It has become clear that very players have actual experience in mainstream listed equities. It is important that we build that trail in the coming years.

It will be a challenge to find enough impact investments for our requirements.

Izabella KAMINSKA

Priya, you represent one of the most famous pension funds in the world. What are the key areas you are studying?

Priya Sara MATHUR

[in French] It is a great privilege for me to be with you today to discuss the issue of climate change. Paris has long been a central place for discussion and debate on the public issues at the heart of society's concerns.

[in English] I am thrilled to be here with you today. Calpers has long been very committed to this space. We are a founding signatory of both the PRI and CERES. However, we are not quite as far along as Mats where decarbonisation is concerned. Through the Montreal Pledge, we have committed to producing a full carbon footprint across our portfolio, as opposed to only the public equities. We expect to wrap this up by the end of the calendar year. In addition, we have adopted a three-channel approach to climate change and climate risk:

- We first focus on public policy, strongly advocating for carbon pricing and cessation of subsidies for fossil fuels in the United States.

- In the business area, we have partnered with 70 different asset owners around the world and 46 different fossil fuel companies, pushing them to do better in risk analysis and incorporating climate risk into that analysis and their long-term business planning. We have made a great deal of progress, but have more to do.

- Lastly, we are incorporating climate risk into our own investment decision-making, currently finalizing a set of "manager expectations", which includes a questionnaire and requirements for external and internal management communities. We have defined governance factors, requiring disclosure and analysis, both on long-term risk-facing pension funds, as well as opportunities. We believe there is a growing body of opportunities in this space.

Izabella KAMINSKA

Philippe, could you tell us about your perspective on the targets and how they can be achieved, as a player in asset management?

Philippe ZAOUATI

Mirova is a subsidiary of Natixis Management, dedicated to responsible investments. We offer our clients and investors conviction-based products, including equities, bonds, infrastructure, impact investing, voting and engagement. Across this range, we apply high environmental and social criteria in the way we invest. I feel that this is an important and good way to climate change and energy transition.

Much has been said about risk since the beginning of this morning's session. I wonder whether we are all referring to the same type of risk, however. What is risk, in essence? In the finance industry, we often see our own issues as firms, and not the impact we have on the economy and on society at large. The risk from the perspective of financial industry players comes from regulatory developments. Christiana FIGUERES, in contrast, was probably referring to climate, large-scale risk.

Izabella KAMINSKA

Miriam, your mandate is very different, being focused on deforestation and sustainability and renewable energies. What are you doing in this area?

Miriam BELCHIOR

Caixa Econômica Federal is the third-largest bank in Brazil. It is a public institution with over 100,000 direct employees. Given that it is a public bank, it is also a strategic partner to the federal government of Brazil in implementing public policies, meaning social policies and the Borso Familial, but also more general investment in the country's infrastructure.

Caixa works along two different channels: social investment analysis, investing in companies and projects; and developing solutions and strategies that are sustainable. We work with pilot project teams, preparing and supporting them so that they can be selected by the government for broader implementation for Brazil as a whole.

The Caixa has signed the Montreal Pledge, as well as the Global UN Compact, Brazilian Banks Protocol of Intentions for Social Environmental Responsibility and the Business and Biodiversity Initiative, and the United Nations PRI.

We have been working in environmental and social analysis since 2008. Caixa was the first bank to require that specific conditions be met in building investor portfolios, and holds itself to high environmental standards as well. It has invested more than 100 billion in environmental assets and carries out careful social and environmental analysis of the companies it believes have an impact on the environment, including some of the largest mining companies in Brazil, as a pre-condition for any investment.

It runs a joint initiative in the financial sector and is directly involved in pilot projects serving 200 million inhabitants and a huge territory. The very large-scale project "My Home, My Life", for instance, which enables the solar heating for water that has become compulsory for all homes in Brazil has already reduced energy consumption by 24% in the homes served. In another project, a solar plant has been built for a group of homes, and is expected to enable $500 000 in cost-savings for the residents. Lastly, we have granted loans so that a major waste treatment plant can come into being in Rio de Janeiro.

Izabella KAMINSKA

Thank you for your contributions. I suggest we embark on an open discussion about the tools which investors should be using.

Martin, why is it so important to look at the aggregate picture?

Martin SKANCKE

When discussing risks to the financial system, there is often reference to the "carbon bubble", or the building up of carbon risk in the financial system. This is due to the fact that carbon-intensive companies are investing much more in fossil fuels than is economically sustainable. While we know that the planned climate policies can take us to the 2° target, they will also cause many of these assets to lose their economic value. The result will obviously be economic losses. Capital is being diverted to investments that will probably not yield any returns to investors.

It is important to understand the reasons behind this:

- First of all, CO2 emissions have been mis-priced and do not adequately reflect social costs.
- This is amplified by the skewed relationship between company owners and company managers, including at fossil fuel companies. Managers may be incentivised to re-invest much of the money being made in sustaining that business, even if this is not in line with the long-term interests of shareholders. It is for this reason that the latter need to be extremely vigilant. Looking back over the 400 years, in all countries, the issue of dividend policy and capital structure has been reserved for shareholders. It has been understood that this cannot be delegated to companies themselves; shareholders decide on dividend policy, capital structure and on whether companies should and will receive new equity in the form of public offering.

This is not a new tool. We are simply using an old tool to address a new problem, namely, the building up of carbon risk. Divestment can be useful at the individual portfolio level. However, not all investors can divest simultaneously; there must be a party buying the assets at the other end. Collective action will need to translate into a greater focus on dividend policy capital structure.

Anthony HOBLEY

Representing Carbon Tracker, I would like to comment on this and explain further what the carbon bubble means and how engagement and divestment fit into this. For many years, we saw business and finance as a single entity. Yet finance is in many ways very different from the former, and finance effectively owns companies, through shares, assets management, etc. Companies can only go so far without the acquiescence and support of those who own them, namely the shareholders. That is why shareholder engagement and cognizance are so critical.

The carbon bubble represents huge risk to their investments and to value itself, not necessarily today; no carbon bubble will be bursting in the immediate future, causing a financial crisis. Rather, there is a carbon overhang that will only grow with every day, week, month or year of inaction, and increase risk.

The “orderly” versus “disorderly” transition mentioned by Christiana FIGUERES and Michel SAPIN, have been discussing for years. We have a choice in this. We can choose an orderly transition, not aiming for overnight change and scaling our actions back instead. Or we can choose inaction and kick the can down the road, dramatically raising the risk of disaster as we do so. Then, at some moment in the future, we will realise the stakes and react out of panic. That is what will create stranded assets and financial disengagement and forms a threat to the system itself.

The engagement must lie in the business model. Otherwise, it will be like a criminal law statute without a criminal justice system to enforce it.

Izabella KAMINSKA

Would a “lightbulb moment” be more likely to encourage a disorderly transition? If so, would it be best to adopt a more open-minded approach to fossil fuel companies, seeing them as also in a position where they can facilitate transition? Priya, can we do something to involve and encourage the incumbent companies, and bring about the tools to innovate and change skills?

Priya Sara MATHUR

The Climate Asset Risk Initiative is a coalition of 70 asset owners engaging with fossil fuel companies globally. We are, indeed, advocating for more risk analysis in the long-term and asking that the results of that be included in the annually-disclosed financial reporting.

Our top-two priorities are climate change and proxy access. We have gained a great deal of traction this year on the latter aspect, and see this as a way to influence and ensure that our viewpoint is represented on corporate boards, including the thinking about climate risk and climate opportunity.

As you are all probably very aware, there has been a huge push to divestment in the United States, particularly in public pension funds and endowments. We, at Calpers, have stood strong in our position that we can add value. I believe that there is a role for different approaches nonetheless. The whole divestment approach and push for that helps bolster our focus on engagement and generates a more collaborative atmosphere with some of these.

Mats ANDERSSON

There is no single strategy for engagement or exclusion. Where an investor engages, there is already commitment and I feel that this should be taken one step further, so that there is some influence on Board membership as well. The Nordic model already allows for a vote on that; the further away from that region, however, the more companies can be seen to be high-jacked by the Management. This is regrettable; we need to ensure that people on the Board take climate issues seriously. Risk is defined by the financial industry as volatility, yet it is not volatility that will kill us, while climate risk will.

Izabella KAMINSKA

We are, in a sense, calling for capital from one area to be poured into a new fledgling alternative area. Will there be enough clean assets to absorb that?

Philippe ZAOUATI

The debate about divestment and decarbonisation is somewhat theoretical. The title of today's event is "shifting the millions". We need not decarbonise our portfolios, but to use our portfolios to decarbonise the economy; this is a fundamental distinction. We need to create a shift in asset allocation. We know how to tackle climate change. It is time to convince investors, ensure that they invest in innovative companies that will find new products, new services and technologies that are helpful in mitigating or adapting to climate change. Consequently, we probably need to make great deal of change in how we manage our portfolios. Clean energy is probably one area in which we need d a great deal of investment. Measuring the carbon footprint is a good start.

Yesterday's National Assembly vote means not only that companies will be required to measure their carbon footprint, but also that they will be expected to explain to investors how they make their decisions, on the basis of what criteria, how much they invest in positive assets, i.e., those enabling the energy transition and the fight against climate change fight.

It could also be argued that the tools already used to measure the carbon footprint are problematic, in that they cover only Scope 1 and Scope II emissions, in other words, direct emissions. We need to measure not only those but also those averted by companies and their projects. The ratio between carbon emissions and carbon deterred is probably a powerful tool in diverting investments.

Izabella KAMINSKA

Where do we go wrong in assuming some companies are green when in fact they are not? Could you give us some examples?

Philippe ZAOUATI

Using direct emissions alone, it is very easy to decarbonise a portfolio. A portfolio dedicated mainly to media companies or even banks will appear to have a very low carbon level. The aim should instead be to redirect investments into "positive" projects and companies.

Izabella KAMINSKA

What constitutes clean energy investments? What are the measurement tools needed?

Mats ANDERSSON

To ensure that funding is reallocated into renewable energy and carbon investments, the best way is to put the right price tag on it, while maintaining emphasis on the moral argument as well. We cannot pass the costs connected with the announced €5.3 billion subsidy to the next generation. If that price is placed on carbon, massive investments in renewables and an entirely different focus will follow. We should take action immediately.

I agree with this. The issue remains nonetheless. There is no way to divert the trillions invested in carbon industries to new projects, even under the current circumstances. There are simply no projects large enough for this without compromising standards on returns and risks to fulfil the requirements. Much needs to happen before we can see a real transition into opportunities. A wealth of opportunities nonetheless lies ahead and it will be very exciting to discuss them.

Anthony HOBLEY

It is true that many projects do not make financial sense now and thus constitute a financial risk. Under current policies alone, assuming no further climate change policy and no further technological evolution, fossil fuel companies still plan to pour $6 to 7 trillion into the same types of investments over the next 10 years, when one-third of the fossil fuel reserves can be burned.

Analysts from Barclay's, Citibank, Deutsche Bank, etc. have shown that many projects would require an oil price between 90 and 200 dollars per barrel before they could ever yield profits. Yet the major oil and possibly gas companies are allowing them to do so. This is, in effect, suppressing share value and the ability to pay dividends.

Thus, we need to call for more engagement, but also for engagement specifically aimed at stirring investments in high-cost areas. Why is there no engagement at that level? The risk is not that the value be destroyed. It needs to be found regardless, in order to fund the energy transition. This brings me back to the issue that the financial markets are not correctly pricing the fossil fuel risk premium. Portfolios are thus being packed more easily and quickly than they should. The investment playing field is unfairly tilted to climate finance. We must ensure that the premium be correctly priced, that the playing field is indeed level and that we create more impact.

Mats ANDERSSON

To increase investments, owners need to be made accountable for the company. This implies having building governance models that allow owners them to shape the membership of their Boards. For this, I am willing to fight any day of the week.

Anthony HOBLEY

I agree. The Board is indeed important. The governance structure is as well. Our Blueprint Report, which I recommend to everyone here, includes recommendations on how to hardwire changes into the governance structure of oil and gas companies. We must ensure that companies not only factor climate change in terms into their risk matrix, but can also explain the action they are taking in response to this.

Martin SKANCKE

There is an obvious mis-alignment in economic incentives but also a more general issue of governance. One problem is amplified by another, such that the money owned by investors is going to projects of little economic value in the future and near-zero value presently.

Anthony HOBLEY

The financial performance of large energy companies over the past five or six years is minimal, because they are selecting projects at the top-end of the cost curve.

Martin SKANCKE

This reflects mis-alignment between the companies' aims and the long-term interests of shareholders. The much broader issue has to do with corporate governance in general.

Izabella KAMINSKA

Pooling capital is a fantastic idea in principle, yet you are saying that we do not necessarily have the capacity to absorb that capital, including through mutual cooperation. What would be the consequences of moving too quickly? Would we risk squandering that capital by putting it into risk companies that do not have the appropriate governance structures?

Mats ANDERSSON

There is no easy answer. Change is vitally necessary, and we hope that it will take place gradually. A shock and crash sequence in carbon-intensive companies would cause major problems across society. Yet at the same time, the natural process would probably take far too long. Change thus needs to be orchestrated in some way, though I could not say which.

Philippe ZAOUATI

The so-called "market failure" has been said to result from the way carbon risk has been priced by oil companies. Is that truly the only part of the market not well-priced?

Martin SKANCKE

I agree. We need to distinguish between the obvious mis-pricing of CO2 emissions, and that of fossil fuel companies. They are two different factors. The mis-priced CO2 emissions have led to a lack of appropriate incentives to allocate capital property. However at least in theory, this does not automatically mean that fossil fuel companies are mis-priced. While they may be so, the coal industry has been massively re-pricing. To say that there is necessarily mis-pricing today is to potentially err. We will know only in retrospect.

Izabella KAMINSKA

I invite the audience to ask questions by Twitter; we will watch for them here. One has just come in about the lack of assets to meet capital needs.

Priya Sara MATHUR

This highlights the importance of action not only at individual corporate level, but also at the market level, hence our deep involvement with the UN PRI's inquiry, which we see as a very important effort.

In this discussion, we have focused mainly on public markets, not delving much into the private markets. Yet the latter offer a great deal of opportunity for reducing the carbon footprint, as well as for investing in the future. In our real estate, infrastructure and private equity portfolios, we are thus looking for opportunities that will obviously deliver strong returns for the fund but also make an impact over the long term.

Izabella KAMINSKA

Would you recommend that we approach this as a growth opportunity story?

Anthony HOBLEY

Our financial analysts see a "perfect storm" of factors raising the risk connected with demand for fossil fuel. First of all, the avenues for emissions efficiency are multiplying, not only in the automotive sector, but also in emerging technologies. Secondly, the capex required by fossil fuels is rising, while the cost of renewable energies is decreasing. Together, these factors have put the existing business model at risk.

We have already reached the point at which many clean technologies are cheaper than fossil fuel solutions. The market and the business community have simply been slow to understand this.

Priya Sara MATHUR

I would point out, nonetheless, that there are not limitless good ideas in this space. Having experienced a clean tech bubble in 2000s, we need to remain all the more disciplined in our approach and not give in to our exuberance around this crucial and compelling issue.

Philippe ZAOUATI

I agree that we need to see both risk and opportunity at the same time.

There are many opportunities available; it is not merely a question of trade-off between performance, carbon risk and climate change. There are also many opportunities in renewable energies: over the course of this Climate Week, we have seen a tremendous range of asset classes and industrial sectors represented.

We now also have very powerful tools for redirecting money into these projects. One prime example is green bonds, a market about which we are very positive, as it is a clear way of identifying positive projects and thus guiding private investors in the right direction.

Mats ANDERSSON

Investing climate risk and sustainability is not charity; it is a way of enhancing returns in the long term. Similarly, when managers are evaluated on a yearly basis, they are more likely to think only on that horizon, when they should also be assessed on the more distant future for which they are laying the foundations.

Izabella KAMINSKA

Could we be asking too much of the private sector, given that IMF Report has just revealed that fuel subsidies amount to trillions of euros. How can we ask investors to contribute to industries already benefiting from such hefty subsidies?

Anthony HOBLEY

The IMF Report and OECD both produce outstanding work. Were I an investor in fossil fuel companies, I would be very concerned, seeing how dependent these companies are on subsides. I would want to run in-depth analysis and find out how those companies would fare without the subsidies, over a period of many years. Governments are desperate to replenish their treasuries and cash flow, in order to make the healthcare and education expenditures which society needs. Here is the ideal opportunity: they could pare down on those fossil fuel subsides, build up education and health, and level the playing field all at once.

[*Applause*]

We use a seesaw to portray the current ratio between spending required by fossil-fuel based business as usual and climate finance: the former requires anywhere from 20 to 50 times more than the latter. Despite all of the work underway to make clean energy and climate finance more attractive, the unfair competition created by huge government subsidies is making actual progress very difficult to achieve.

We need to advocate for the subsidies to be removed and for financial markets to correctly price the fossil fuel risk premium today.

Martin SKANCKE

You are absolutely right: government policy must be a part of the picture. Investors can only take responsibility for those listed companies in which they invest. In addition to the issue of subsidies, it is important to understand that much of fossil fuel production is the work of State-owned companies not subject to the disciplinary mechanisms of markets, PRI and engagement movements.

Governments thus have a role not only in subsidy policy, but also as direct owners as some of the largest producers or oil and coal in the world. Unless the Governments are on board in addressing this issue, we will not solve it.

Izabella KAMINSKA

Unless you have further comments on subsides, I will turn to the audience's questions.

One person asks: "What does the panel think about Scope III emissions? Are they being included in current decarbonisation initiatives?" I would confess at this point that I do not know what Scope III emissions are.

Anthony HOBLEY

Emissions are broken down into different scopes: Scope I refers to immediate emissions from a given entity's facilities, while Scope III denotes the emissions from end-products.

For instance, fossil fuel companies have been asserting for years that they apply a carbon price to their business. This appears a helpful policy. In fact, however, the price is applied only to the Scope I emissions of their own facilities, rather than to total product emissions. When Exxon, Shell or BP applies a 60 dollar carbon price, this does not encompass the gas. I applaud the French Government's Energy Transition Law, which require asset managers to consider the entirety of emissions from all companies invested in, when determining their carbon footprint. It is critical that the Scope III emissions be factored into a company's total impact on climate change.

Felix LANTERS

I agree with Anthony. Consideration for the entire life cycle is the crux of the transition from traditional investing to impact investing. It is vital to consider the carbon issue from that perspective.

Mats ANDERSSON

This needs to be done, furthermore, in a transparent manner, so that companies can be required to take respond.

Izabella KAMINSKA

"How can prevent investors from rushing to the exit at the same time and wreaking havoc on the markets?"

Martin SKANCKE

As long as the companies exist, someone will own them. The average investor thus holds the market portfolio, by definition. If many companies tried to divest simultaneously, the equilibrium price would be lower. The price paid today for expected future cash flows will be lower and expected returns thus higher. The fewer the investors wishing to hold these assets, the higher the expected returns must be to achieve equilibrium.

This brings us back to the governance challenge: who do we want to see owning these assets? I agree with Priya and Mats about the effect of the divestment movement and the way in which it has concentrated in the minds of many people.

I am also concerned, however, that we are about to place ownership of these companies in the hands of investors who do not care, and who will not address governance issues as much as Mats, Priya or others would. The additional spending on capital expenditure would also be lower. Those laggards at the heads of these companies will be rewarded, furthermore, by higher returns.

For these reasons, we need to take a nuanced approach, with many instruments. A low-carbon economy creates the market for this risk, offers a visual picture of it and concentrates the minds of investors and companies. It thus a part of the picture; it cannot be our only answer, however.

I am very concerned about the lack of proper governance and mis-aligned interests; we will not solve this problem until we have active, engaged investors who shape the management of fossil fuel companies.

Priya Sara MATHUR

Martin has very eloquently expressed the argument for engagement. An orderly transition will come not through divestment from companies, but to encourage and influence companies through their Boards and shareholder proposals to shift their resources and investments toward more sustainable ways. This implies a move from offshore drilling to purchasing clean technology opportunities. That is how we will collectively divest from carbon risk.

Anthony HOBLEY

I would preclude my remarks at this point with a disclaimer: Carbon Tracker does not advocate for blanket divestment.

The divestment movement is as important as the civil rights, anti-slavery or anti-tobacco movements were. It is engaging young students at a level not seen in climate change until this point. It has given something which they can understand and in which they can become involved. It is truly sweeping across university campuses in the UK and the US: the passion is akin to that seen in films from the civil rights ear. It is not to be underestimated. It will have a huge impact on oil and gas companies, as they will feel stigmatised. The divestment movement must make this real.

There is a case for divestment under certain circumstances. Those companies that cannot or will not change – we should recall that Rothschild is divesting today, only after ten years of engaging with Exxon to no avail – must find some way to continue to exist. Project-level divestment would force them to divest from high-cost carbon projects, and win financially. We are working form the benchmark and developing a picture of the transition over the next 20 to 30 years, from the perspective of the oil and gas companies. Without that benchmark, it is not possible to judge on a collective, cumulative basis whether engagement is having any impact. That transition roadmap is critical.

Izabella KAMINSKA

I would specify at this point that I am not ignoring Miriam. However, as her contributions require translation, I plan to ask her for a summary overview to conclude the session.

I appreciate your point about how students, previously uninterested in politics, are now feeling the momentum to become involved. Is there not also a dark side to this, however? Haphazard calls to divest will cause companies that employ hundreds of thousands of individuals to put themselves as a substantial disadvantage in the short term and risk the jobs and livelihoods of those whom they employ at the same time.

Anthony HOBLEY

As I already stated, the transition we are discussing today will need to happen over a twenty- to thirty-year timeframe. The industry is not being shut down over night. The process needs to take place in an economically rational manner, for instance by looking for low-cost low-carbon fossil fields.

Those assets at the top of the cost curve are also the most costly. Thus, it is beneficial to both the climate and the financial value of those companies and their investments if they are removed.

I take your point, however; you correctly identified the “orderly” tradition. It would be disastrous if those companies were to keep their heads in the sand. They have found our work and that of others such as PRI extremely valuable. The disorderly transition would be disastrous for employees: with their backs against the wall, governments and decision-makers would have no opportunity to pay heed to numbers. People would be thrown out of their jobs by the thousands.

Izabella KAMINSKA

Priya, representing an active shareholder, could you share your insight about how companies are preparing for the transition and possibly equipping their employees?

Priya Sara MATHUR

I am not sure can offer such insight...

Izabella KAMINSKA

Active engagement is one thing; that which goes on beyond closed doors is another. You have pledges from these companies about transparency. Are they telling us enough?

Priya Sara MATHUR

We have been advocating for ongoing operational missions management, low-carbon energy R&D, investment strategies, strategic KPIs that align Executive Team incentives with this agenda, etc. We have also been engaging on the positive side for public intervention and the end of fossil fuel subsidies.

I cannot say that the risk analysis and business planning seen to date have gone far enough. Very few fossil fuel companies with which we have engaged have even pledged to do this or demonstrated the required degree of disclosure and reporting.

We will not let up our efforts, however, and are aware that this will be a long-term endeavour.

Izabella KAMINSKA

What is your position on how individuals will vote? Do you have a view on the upcoming Chevron AGM, or on BP and Shell?

Priya Sara MATHUR

Shell and BP have shown that Management is supporting shareholder proposals. This is a very good sign, and we hope to see other fossil fuel companies following in that vein. Though I have no crystal ball, I do expect to see success.

Martin SKANCKE

There has been a significant change in attitudes over the past few months at fossil fuel companies. It remains to be seen how much substance lies behind their statements.

A number of shareholder resolutions that would have been controversial in the past have now been adopted, with the support of management. The next bridge will be crossed when the stress tests reports requested by shareholders in their resolutions are scrutinised for substance and when sustainability reports are used as the basis for discussing capital structure and dividend policy. We need to look critically at these companies' financing capacity, as well as at the types of projects for which they seek funds.

One of the major risks over the next few years lies in the fact that fossil fuel companies will be using revenues from existing operations to finance new investments in new capacity, which will in turn increase supply in the future. The price of renewable energies has indeed dropped significantly, as Anthony and others have mentioned. However, the new renewable sources will have to compete with marginal cost of reducing fossil fuels from existing investments.

A comparison of average cost over life cycles would show renewables to be quite competitive intrinsically. The sad fact is that, for many years into the future, they will have to compete with fossil fuels from existing operations. It would be a tragedy if investments were made, building a large supply of fossil fuels at low marginal costs, marring the transition into low carbon economy.

Anthony HOBLEY

In 2008-2009, the average capital cost per barrel of oil was half the current level.

Izabella KAMINSKA

Miriam, in conclusion, could you offer your perspective on the role you and emerging markets play? The challenge to the latter is much more significant than to the former.

Miriam BELCHIOR

The developing or emerging countries have a major responsibility, without a doubt, compared to developed countries. Our specificity lies in the schedule or pace at which our economies are developing. Reference was made earlier to renewable clean energy. Brazil already uses it to provide for 73% of its energy needs, three more times than world average. Our aim is to maintain that high percentage.

It is as though we had already built our house; now we have to keep it up so that it works properly. This has to be done in an orderly manner, with measures that are suited to each of our realities.

Izabella KAMINSKA

As we have come to end of our time, I will ask each speaker for some summary remarks.

The world has indeed changed hand, and it is important that this be communicated to the wider capital markets. I, working in mainstream press, am hearing these eye-opening arguments for the first time today.

Anthony HOBLEY

There are many signs that the change is underway, from the comments recently voiced by the Bank of England's Mark Carney, to the legislation passed by the French government requiring disclosure by portfolio managers. At the G20, the French Treasury deployed incredible efforts in pushing for the same to be included in the G20 statements. The G20 has further asked the Financial Stability Board to investigate. This is an entirely new paradigm, one conducive to a level playing field and the divestment of fossil fuel investments to climate finance, with the involvement of regulators. Let us start now and sidestep the disorderly transition.

[*Applause*]

Mats ANDERSSON

The PRI has gained 1,400 signatories across the world, representing $50 trillion in funds under management. We see enormous growth in the attention paid by institutional investors to this issue. We have also seen the growth in demand from our signatories for analysis and support from us in their work looking these issues.

The Montreal Pledge, which was designed so to encourage carbon intensity management in portfolios, was boosted by the French Government's announcement. We are doing a great deal of work on engagement, most particularly, our effort on lobbying. It is unacceptable that companies use shareholders' money to lobby against their interests. They are best served when carbon is correctly priced.

Moderator

Please be time-conscious and be as concise as possible, as another speaker is to follow immediately.

Mats ANDERSSON

I had finished. Moreover, I got the message.

We have passed the tipping point and there will now be turning back. We are moving into a sustainable world, of which the financial sector will definitely be part. The speed will be determined by policy makers and politicians, as well as owners of companies.

Martin SKANCKE

It is essential to understand the time horizon. This is a long-term issue, in an area structured and accustomed to immediate rewards. Much like those wishing to quit smoking, investors will need to see the greater benefit rather than give in to the pull of the immediate future, if they this is to be successful.

Priya Sara MATHUR

An optimistic person by nature, I find the controversy and debate around this issue to be very energising. I am enthusiastic that governments, investors and businesses will come to a solution that brings us to a 2° economy together.

Philippe ZAOUATI

We all need to understand that finance is not neutral. Government should use it as a powerful tool for redirecting investment toward the positive sector, in able to build the infrastructures that we need.

[*Applause*]

Miriam BELCHIOR

I am very optimistic about this agenda, as well. Though our specific challenges are different from those described here, I am also convinced that we will be able to take up the challenge. The Brazilian government has embarked on extensive action. We are a major player in this field and are leaders in emerging countries.

Moderator

Those of you who were in New York on 23 September for the Climate Summit, the Bank of America-Merrill Lynch made a number of announcements. It is my pleasure to introduce Purna SAGGURTI, who agreed to join us to look back on the past few months together.

Keynote Speech

Purna SAGGURTI

Global Chairman of Corporate and Investment Banking, Bank of America Merrill Lynch

Good morning. It is a great opportunity for me to address the climate finance community today as part of the input to Paris COP21 this year. The previous panel put the challenges and opportunities in perspective. As Philippe stated: “decarbonise the portfolio or decarbonise the economy” – that is the major dichotomy.

Like most of you, I, like the Bank of America as a whole, am very concerned about climate change. It is vital not only to find the right ideas to fight climate change, but also to find or build the resources needed to bring these ideas to life. We are focused on closing the financial gap, which some experts have estimated to be excess of $1 trillion, while others foresee significantly more. In 2007, the Bank of America already decided to scale up our efforts on low-carbon investment, lending money, raising capital and offering strategic advice and expertise. Over the past eight years, the financial risks involved have faded to a great extent.

While this offers many opportunities, it also holds multiple challenges. Thus, we are engaging each and every part of our business to help accelerate the transition into a low-carbon economy. First, we decided to dedicate substantial financial resources to this area, setting a target of $270 billion for environmental investment. We have found $30 billion to this point and are posting more every year. We are working to make low-carbon opportunities more accessible and profitable for all of our clients. The bank has initiated a $1 billion capital finance initiative, as our CEO announced at the United Nations Climate Summit last year. This initiative brings together partners from diverse backgrounds to mitigate risks inherent in climate finance. Today, our credit exposure to renewables is three times as high as our experience to coal mining.

Secondly, we are committing intellectual capital. While financial capital is the lifeblood of the innovative projects ahead, perhaps even more important is the intellectual capital being created in the major financial systems to broaden the investment base and accelerate capital flows. As an example, the $2.4 trillion in assets applied, we have developed what we refer to as a Green Shelf, to make it easier for our 15,000 financial advisors to provide green investment products that respond to clients’ interest in value-based investments. We have seen 40% growth in ESG-related assets. Our investment banks has been leading the market in innovative products, such as corporate green bonds. We released the first-ever Green Bond for the European Investment Bank, involving a coalition of investors and intermediaries, and in 2013, issued our own Green Bond, the first-ever by a US corporation. Since then, we have put Green Bonds to work in many ways, creating the first Green Project Bond for Latin America, then creating investment exposure across the United States, Europe and Latin America.

The third of our themes is public-private partnerships. In all of this work, we are committed to public-private partnerships. The climate challenge will require capital, as we know. We will furthermore need to pool our resources and our best thinking, to create and deliver real solutions. We will not solve this with only businesses, governments, academia or non-profit organisations. We must all work together.

Last month in New York, we hosted a meeting of the Global Innovation Lab for Private Finance, which gave rise to valuable ideas for creating financial infrastructures and mobilising financing in emerging markets emerging markets. We hope that these are picked up by the Green Fund, which we support in an advisory capacity. Lastly, we are committed to reducing our own operational environmental impact, reducing the final impact of our operations and 200,000 employees around the world. We have some of the most aggressive goals in industry, including low-electricity vehicles and solar panels.

All of us present today know that we must quicken the pace if we are to successfully address the threat posed by climate change. A deal in Paris by policy-makers will provide a catalyst for low-carbon investment rules. Our financial services industry plays a unique role in designing and enabling the innovations that will send us in a new direction in the energy sector.

Some of you may know that I was co-chair of the Sustainable Energy for Oil Initiative, the Finance Committee of the World Bank and United Nations. We estimated that, to achieve the three lofty goals – energy access for all, doubling the share of renewables from 18 to 36%, and doubling energy efficiency by 2030 – we will need $750 billion dollars per year. We will derive $335 billion from MDVs and $325 billion from other sources. To bridge the gap and make projects more financeable, we have produced a few recommendations, which I would like to share today.

NDBs should consider not only lending to opportunities, but de-risking the products – removing the sovereign risk, minimising impact and delaying the return risk. The private sector would then step up to invest in those products. NDBs can co-learn with the private sector and make these investments more financeable. We need all of these alternatives, to level the capacity of NDBs and the private sector.

The asset management opportunities from which we just heard represent many trillions of dollars in funding. They are keen on investing in sustainable opportunities. Their clients are pushing them to invest in sustainable opportunities. Yet we hear from time and again time that they do not have enough supply, that there is not enough opportunity to invest, due to the risk and inaccurate pricing about which we just heard. However, if the asset managers and funds are willing to accept risk that is one basis or even five basis points lower, broad lower return, the floodgates of opportunity will open up and supply will not be a problem.

Green Bonds today are priced in the same way as regular bonds. Issuers often say that, while they would very much like to issue green bonds, the related costs are too daunting to them. Our responsibility as investors is to bridge that gap. If we make this a more affordable, appealing endeavour for them, they will make the transition. All of us in commercial and investment banking can help emerging projects. I encourage all of you to join in the Climate Finance Initiative of the United Nations. Let us assign capital, support more projects, accept more risks, accept lower returns and support the industry. Philanthropic funds have stated that they are ready to take first loss.

The Sustainable Energy Initiative is an important piece of the overall climate solution. A similar role exists for larger solutions. We heard about the challenges ahead today and in the past few days. We sense the urgency and embrace the need. Our task will be to bridge the gap between fund sources and needs. That is the path to success.

Moderator

Thank you for inspirational speech and showing that and expressing that the financial holds the key.

Round Table II

Assessing, Financing and Insuring Against Climate Risk

Moderated by Aron CRAMER, President and CEO, Business for Social Responsibility (BSR)

Speakers included:

- *Philippe DERIEUX, Deputy CEO, AXA Global P&C*
- *Peter ELLSWORTH, Senior Manager, Investor Programmes, CERES*
- *Fatima KASSAM, Chief of Staff, African Risk Capacity, AU Specialised Agency*
- *Rachel KYTE, Vice President and Special Envoy for Climate Change, World Bank Group*
- *Dr Jim ROTH, Co-Founder and Partner, LeapFrog*
- *Andreas SCHRAFT, Managing Director, Head Cat Perils, Swiss RE*

Aron CRAMER

Welcome to what promises to be a very interesting discussion. Christiana FIGUERES very effectively summed up the current outlook when she quoted the following prognosis: a world in which there is only 2° of warming is insurable, one in which warming reaches 4° may well not be. This illustrates how the insurance sector lies at the centre of the dilemma presented by the climate: new risks that we are just starting to understand on the one hand, and opportunity and innovation on the other. The insurance sector is facing a much more volatile and uncertain world, yet brings to bear some of the core skills and competences which we all need and which all industry sector needs, to navigate the new era we are now entering. This discussion offers the opportunity to dig into this issue with six marvellous speakers.

Rachel, from your perspective at the World Bank, what role should and can the insurance sector play? How are you working with it? What would you like to see happen next?

Rachel KYTE

The insurance industry is poised to and, in some cases, is already playing a burgeoning role as we try to determine the best response to adapt to climate change. Much of the focus will be on the financial tools that will speed up mitigation efforts. If we, as a financial community, are not able to bolster support to the most vulnerable and help them become resilient in a world of greater volatility and uncertainty, then we will have failed. We will be perceived as having failed by negotiators. Thus, the role of the insurance industry is becoming more and more central. The first Insurance Development Forum was the first to bring all of the players together around the issues.

Insurance is so important for many reasons:

- insurers know how to and actually do price risks, via planning and tools, where most of us continue only to ask how pricing would best be done;
- developing countries are continually calling for mechanisms so that they can be resilient, including financial protection, as well as for regulation of insurance markets, so that they can play a much broader and very important part;
- today, there is much more dialogue about the prominence and importance of developing insurance markets.

The “real and present danger” lies in extreme weather events. The industry’s role, working together with the public sector, is to help government understand the need for mechanisms that will allow them to build and bounce back more resiliently in the immediate wake of events. We work with insurance industry on catastrophe risks, catastrophe bonds, etc., so that they can access funds immediately and have an extraordinary early track record in Africa as well.

We are beginning to see markets on which the trajectory of extreme weather events and climate impact is such that the market goes beyond the point of potentially insurable risk. The Philippines may have to sustain three or four category-five tropical cyclones in a given year. Were one to strike metropolitan Manila, which accounts for 25% of GDP, the impacts would be extreme. We are starting to consider “wholesale” approaches to resilience, but on their own will not be enough.

Lastly, we say a great deal about insured risk. In the vast majority of developing countries, 70% of risk is uninsured. The first line of defence will thus consist of deepening and broadening insurance, for both government and individuals. This needs to be a revolution, involving more services and more partnerships to meet that demand.

Aron CRAMER

In short, you see the sector not only in its traditional role as provider of products and services, but also as an advisor to governments and communities.

Peter, CERES works with insurers and analyses the sector’s activities. What is your perspective on the sector today and the changes underway in it?

Peter ELLSWORTH

Good morning, everyone. We, at CERES, see the insurance sector as being of strategic importance to our climate and clean energy agenda. Insurers will play a significant role in shaping the perspective and response of companies and investors to climate risk and climate change. We are focusing on how insurers may help define the vocabulary on climate-related risk and better price that risk. When insurers underwrite policy on business interruption, errors, revisions or liability for officers, they increasingly need to better understand and factor in climate-related risks and how those will impact their own pricing.

Property contracts are a prime example of this. As part of core business practices, insurers build data which they then use to understand and quantify risk and, thereafter, price polices. Some insurers in the United States are supplementing their own data by collaborating with our own national oceanic and atmospheric organisation to identify high-impact areas of extreme weather, sea-level rise, storm search and other phenomenon related to climate change. In addition, the information from catastrophe models used throughout the industry, to mitigate the loss impact of extreme weather events, such as Atlantic hurricanes, is useful not only for underwriting and pricing, but also for understanding investment risks. That data will not only help coal underwriting price risk, but also will be valuable to an insurer’s own investment arm in assessing whether to invest in real estate, bonds, equities or other properties. As such data and analysis enters the public the public domain, it will help many other investors understand and measure climate-related risk of which they may not appreciate the gravity.

My second example lies in liability policies protecting directors and executives from shareholder losses, including fiduciary negligence. The Board or Senior Management of a company dependent on access to plentiful and affordable water may fail to anticipate the consequences of water becoming scarce or more expensive. An energy company may doggedly or, some may say, recklessly invest capital to assess new reserves at untenable rate deviance. To conclude, insurers need to understand these and many other climate-related risks, as well as if not better than many policy-holders. As insurers improve in this, refining the tools that help price risks, that knowledge could lead to better decision-making around investment as well as underwriting, as well as reduce the entire insurance company's exposure to the climate.

Aron CRAMER

Indeed, this sector holds something which the world direly needs, not only for the benefit of clients, but also much broader understanding of how we manage through this area.

Let us now hear from representatives of two of the most active and respected insurance companies across the world. How is AXA approaching climate risk and evolving accordingly?

Philippe DERIEUX

I could not agree more with Peter and Rachel, drawing a global picture of the climate.

As insurers, our duty is to serve customers, all of which are extraordinarily sensitive to the climate. This is thus central to our business. The foremost trend today is toward improving our ability to assess risk through better models, in greater variety and develop themes which we have not yet developed, not-known or not well-known in all territories.

Thanks to technologies such as Big Data, we can make real strides in better assessing risk, not only for our own purposes, but also to the extent that we can help society through more awareness, prevention.

We also wish to use technologies to develop parametric, index-based insurance in territories where the local capacity to gather data or infrastructure is not yet in place for traditional insurance. Thus, while it is very important to use our technologies and develop, we also need to provide advice to society, trying to mitigate risk and protect. Also, insofar as we protect only part of existing risk today, we must expand as soon as we have the capacity to do so.

Aron CRAMER

As these new models develop, is AXA creating new business models in step with market?

Philippe DERIEUX

Though we are progressing, this is not an easy journey. We need to keep on-track in our activities. Developing a model over a certain period of time requires endurance, gathering the relevant information, providing the right advice, etc. We are on the verge of finalising a model specific to French flooding. Indeed, despite the fact that France is a mature country, it took us three years to develop that model, due precisely to climate change.

Aron CRAMER

California, my home state, is a prime example of how mature markets can better withstand extreme climate conditions, in our case drought, where others may not have done so. This is just as intensely global an issue as it is truly local.

Andreas, can you tell us about how Swiss RE sees this situation? When the UN Global Compact was launched in 2000, yours was one of the few CEOs in the world truly familiar with this issue. How are you evolving in the business?

Andreas SCHRAFT

Climate change has been a current issue to me for approximately twenty years. I happened to be at the first Climate Convention, as one of the few discussing climate risks.

All the others, my colleagues from the business world, were carbon-economy folks, looking to mitigate the effects of negotiations on them.

We realised that climate change increases uncertainty in our business. As insurers, we look at the past to predict the future; however, where the present is unstable, the past no longer provides a reliable picture of the future. We want to quantify risk in a world of climate change, but must understand that it is not yet well-defined.

The second challenge lies in what I will refer to as the protection gap: two-thirds of risk today are not insured, even for major natural disasters, such as an earthquake in Nepal, but also a hypothetical flood in the Netherlands. The protection gap is global and broadening.

Our study on various regions around the world showed that total climate risk will increase by 70 to more than 100%, half as a result of climate change and half as the result of economic development. In one sense, the latter is good news: economic development is our doing, and can be influenced more easily than climate change. Almost all of the increase in countries' risk can be mitigated by intelligent construction and taking risk factors duly into account. The effort must be made on the part of individuals, businesses and governments.

Aron CRAMER

Do you speak with governments?

Andreas SCHRAFT

The governments are one potential player likely to buy insurance and mitigate risk. We are, furthermore, interested in engaging with parties who have never heard of climate risk. How can we persuade them to buy insurance?

Aron CRAMER

Fatima, could you pick up on that?

Fatima KASSAM

Hello, everyone. I am Chief of Staff of the African Risk Capacity, a specialised agency of the African Union, with 25 member countries. It offers sovereign-level risk insurance to African governments, specifically to fulfil the growing need and demand for contingency financing options to close the protection gap. Similarly, we are cultivating demand at the same time as we are selling products. For this reason, we are structured as a two-tiered organisation: the African Risk Capacity Agency, with its own Conference of the Parties and a Board chaired by Dr Ngozi OKONJO-IWEALA; and a financial affiliate, capitalised at $200 million, which became operational last year, ARC Insurance Company Limited, chaired by Lars THUNELL, Head of the IFC. One of our directors, Hans PETER, who used to be CEO of AXA Re. When he was President, he ensured the first drought-related transaction in an emerging market, Ethiopia.

It is critical to return to Rachel's point: when does insurance become an option that is not necessarily the most suitable for a given country? We have addressed this question using our own databank, which extends back to 1930. It shows a drought trend in Niger from the 1960s to the 1980s, peaking in 1983-84. The 1973-74 and 1984-85 Sahel droughts were some of the worst tragedies in our recent history.

The one-in-ten-year standard event in 1960 became a one-in-five-year event after that. It is only now, thirty to forty years later, that rates have increased significantly to counter this. In response to this, the ARC has designed the Extreme Climate Facility (EXCF), to serve as an Extreme Climate Index structured in a manner similar to the catastrophe bond system, in which donors are paid a capacity bond. We have a solid track record of using public finance from donor countries to attract public capital. Those countries already managing their risk would be able to access pay-outs every five years for climate risk adaptation programmes, such that we will hopefully be using insurance not only to manage current weather risk, but also helping build resilience models in line with development and population growth.

Aron CRAMER

You mentioned Niger, one of the least-developed countries in the world. Who pays for its access to insurance?

Fatima KASSAM

Niger, Martinia, Senegal and Kenya were insured last year, for the 2014 season, which also saw one of the most significant droughts in the Sahel. The first three received a total $25 million pay-out for pre-approved, peer-reviewed projects in response to vulnerable communities.

In fact, what we believed was only political rhetoric translated into premium payments. Niger, indeed one of the poorest countries in the world, paid $3 million for $30 million in coverage and is budgeted to do so this month again. We have doubled the size of the pool, to include Burkina Faso, Gambia, Mali and Malawi will all join this year. We expect to have 16 to 20 countries next year. By 2020, we should cover $0.5 billion in agricultural risk in Africa, including drought, flood and tropical cyclone. This is interesting not only in terms of opening up the African market for reinsurance and aggregating that risk effectively, but also with respect to the Annual General Members Meeting, during which members come together to decide how they will manage disasters that year and therefore changing the way disaster management has worked for the past five to six years.

Aron CRAMER

Jim, how is Leapfrog approaching insurance, also in emerging economies?

Dr Jim ROTH

We are a social investment fund investing in Africa and Asia, with a focus on insurance and related financial services for the “emerging consumer” – the consumer who has exited poverty, has a toe-hold in the middle class, and is starting to buy houses, cars, refrigerators, etc. Purchases of this kind naturally entail financial services: houses imply mortgages, which imply insurance; cars require insurance, etc. We back businesses that are focused on the emerging consumer in Africa and Asia. I wanted to discuss our experience with emerging consumers, to present a somewhat more optimistic story on climate change, where most descriptions, in particular around emerging consumers in Africa, Asia, China and India, are negative in tone (e.g., were all consumers in these areas to consume at the same levels as America, climate change would dramatically accelerate).

Indeed, on the ground, we are seeing a more optimistic story emerge, in two different ways:

Preventing further climate change

Micro-finance and other financial service institutions are supporting the promotion of green technologies, such as panels, solar lights, etc. In Bangladesh, $2.7 billion has been channelled at low-income communities so that they can be equipped with clean technologies. We thus see them potentially “leapfrogging” the grid, just as in Africa and Asia, communities were able to leapfrog the landline telephones and by cell phones from the outset.

Mitigation

One of the major challenges in climate change lies in the related natural disaster. When natural disaster strikes in developed countries, it is dealt with through insurance. This is an effective way of dealing with natural disaster. In developing countries, disaster is followed by a request for aid, aid application lag, and only later, the arrival of actual aid. This is both a poor and destructive way of addressing weather-related catastrophes, because it is during the lag time that match of the real damage occurs. With insurance, the negative consequences following natural disaster are much more effectively addressed. Leapfrog works with businesses that focus on the emerging consumer and providing a range of insurance tools (health, property and casualty) so that people can cope when natural disaster strikes.

LeapFrog has been growing for eight years. During that time, we have backed portfolio companies that have sold insurance products to 40 million individuals in Africa and Asia, 33 million of whom are low-income consumers. In many of the tests we carried out showed the vast majority of these never to have held insurance in the past.

There is indeed a groundswell of insurance companies reaching out to individuals and selling products to them so that they can mitigate climate change.

Aron CRAMER

How do the deep needs of the 40 million mentioned differ from those of the people in, for instance, central Paris?

Dr Jim ROTH

They are, quite simply, poorer people. The insurance which they can afford thus carries a much lower premium and benefits. The consequences of this lie primarily in distribution. The much cheaper products are dependent on high volumes and low distribution costs. This has resulted in very innovative distribution techniques, including: the use of mobile phones, partnerships with micro-finance institutions that sell insurance products.

Aron CRAMER

40 million is a high figure. How large is the addressable market?

Dr Jim ROTH

It is vast. Only 3 to 4% of the Indian population has health insurance. Thus, in just one country, a further 96% of the population remains to be served. In the past year, health insurance in India alone has posted 30% compound annual growth. This gives you some sense of the opportunities.

Aron CRAMER

I will ask some questions now, as well as relay the Twitter questions received.

One prominent theme has been the protection gap for people with very basic needs, governments of countries experiencing catastrophic events.

Rachel, public budgets are stretched to the extreme today. With a country such as the Philippines, as the Bank works with its clients, how do you advocate for this as a priority?

Rachel KYTE

Catastrophe risk originated in the Caribbean and is now replicated in the Pacific as well as other countries. There is an education effect on governments, which now see that they should use some of their budget to provide for a premium. As we work with them in such a model, they begin to better understand how insurance can serve them and, consequently, how regulatory change with respect to the financial sector may enable greater natural resilience through the economy, for business, communities and local government.

The division of responsibilities and accountability between central and local governments differ from country to country, as do disaster response management mechanisms themselves. In the Pacific Region only a few years ago, there was little understanding of the need to mitigate risk, hence very small budgets. Donors thus offered to subsidise the premiums until the countries grew accustomed to the situation. When new made the first necessary pay-out within two weeks of the disaster, this was seen as a very important signal across. When the Vanuatu region was hit, we delivered $1.9 million within ten days. In contrast, the lack of pay-out when the Solomon Islands were affected last year was experienced negatively, and questions emerged again as to the value of risk mitigation. We, consequently, must all continue refining our models and educating.

In response to Dr Jim ROTH from Leapfrog, I would like to call attention to one major misconception: the financial industry often assumes that poor people are not sophisticated managers of their funds, when in fact they are as sophisticated, if not more so, than the rest of us. It is extremely difficult to live on two dollars per day; moreover, the income does not come regularly. Thus, while the products may need to be offered at a lower price and distributed differently, they do not need to be dumbed down. That market will be essential to our ability to be resilient to climate change.

Aron CRAMER

That was very well-stated.

Peter ELLSWORTH

There is a different but equally important protection gap. Priya MATHUR, in the previous panel, discussed Calper's approach to investment risk. It is part of the fiduciary obligation. This is not being adequately communicated, though more effectively so in Europe than in the United States. Both AXA and Swiss RE discussed how they are communicating about what they perceive as real and material risks to their clients. More effort is need on this in the United States, if I may momentarily take a US-centric viewpoint before such a global audience. Successful insurers do ultimately know how to price risk. As we have heard, the pricing of climate-related risk is increasingly important to underwriting.

Many investors, particularly institutional, continue to take a discursive or even anecdotal approach to climate risk that does not link materiality in terms of any kind of metric. Institutional investors historically see risk as volatility. While generalisations are dangerous, it is fair to say that many institutional investors believe that the capital markets will provide the best reliable real-time pricing.

I thus leave you with the following question: what if the capital markets are missing something, which the insurers are able to see and quantify, using a better or different lens?

Aron CRAMER

How do you feel about the question just raised by Peter, considering the very substantial financial assets which you manage?

Andreas SCHRAFT

One of the important functions of insurance is providing information about risks. Premiums must be different for houses exposed to risk as opposed to those not exposed. The risk signal sent through the insurance premium quote is probably as important as that which we do to reduce volatility or provide liquidity. In effect, we are providing information about risk, which people can use to make smart decisions.

Philippe DERIEUX

We, as insurers, are major investors in markets. It is important to always remember that our primary duty is to secure investments in order to pay claims to customers. We are very keen on helping green investment. We also need to be helped to have the capacity to invest more, within the broader framework of regulation: I would ask that regulators “help us help them”.

Fatima KASSAM

The insurance industry’s assistance has been helpful to us, but is not sufficient for pricing the product in a manner that is contextually-appropriate. The ARC came about in order to fill the lag that comes immediately after weather disasters, so that vital public services can indeed resume.

Secondly, as regards to sovereign risk, there is not enough data to make reliable assumptions. For countries such as Niger or Senegal, a premium would probably be instituted. We are working to develop a sovereign disaster risk finance rating, measuring three aspects: the country’s reserves versus quantifiable risk; the ability to deploy funds in the form of programmatic capacity; and the government’s willingness and ability to pay a premium. In an exciting trend, 80 to 90% of our premium income results from internally-generated revenues, rather than subsidies.

Aron CRAMER

We have started to receive good questions. Ian Cochrane asks how to raise awareness on future risk without scaring away other reinvestment. Does the “law of unintended consequences” come into play in this respect?

Rachel KYTE

Data have a very important role to play. A major effort is underway to extend major services and data to all countries and it is very important to further build those services. Many countries are working in the dark, so to speak. The French have recently committed $100 million to building an early warning system. Russia, Saudi Arabia, the US, Britain and Germany have been moving in the same direction. The World Meteorological Organisation, which is to meet for its annual event in the next few days, will have a great deal to do.

Peter ELLSWORTH

I find that what one knows is less frightening than what one does not know.

Aron CRAMER

We could almost end on those Zen-like words.

Philippe and André, could you tell us about big data and what we are able to know, see and understand at this point as compared to ten years ago. Where will the Big Data Revolution will take us in climate impact management.

Andreas SCHRAFT

The difference between what we know today about natural catastrophe risks compared to what we knew ten or twenty years ago is tremendous. We are now able to find information at a much more granular level, down to buildings in cities. The Internet of Things will help us greatly in this respect.

We are further lacking knowledge about new risks in connection with land, just as important as buildings.

Philippe DERIEUX

The major difference lies in the fact that we are attempting to develop much more granularity in risk. Today, our crop insurance teams are able to access satellite images representing 250 square-metre plots; in the future, these will be only a few metres wide. Only ten years ago, we offered only a very raw view of the situation. We must develop the ability to tell an individual about a property's risk profile based on its history. With Big Data and some information mining efforts, this will be possible. We must try to anticipate what could happen and develop scenarios so that we are less and less frequently caught by surprise.

Aron CRAMER

As information becomes more granular, will pricing be "spikier"? What would the implications of this be?

Philippe DERIEUX

Pricing will definitely becoming more granular as well, in step with the narratives to which they relate.

Aron CRAMER

That could create incentives, on the one hand, to stay out of harm's way and, on the other, widen the protection gap as policy-holders decide that higher premiums are not worth paying.

Philippe DERIEUX

The protection gap is clearly an issue, which information will help address. In addition to this, we need to step up prevention, in close coordination with the public domain. We work a great deal with the World Bank, the United Nations and with the broader public sector. There is a great deal of progress to be made in coordination.

Dr Jim ROTH

My comment is about Big Data, which the "nerd" in me loves, but which I do realise is an exciting, "sexy" solution, when traction will come from basic "bread and butter" processes: better understanding which solutions customers want and rolling them out. I would caution about throwing the spotlight on the exciting and the sexy at the expense of the more mundane.

Fatima KASSAM

Both are needed. To achieve the scale and crowd in the meta- and market-level products, hedging is needed at both the national and regional levels. ARC has also taken steps to allow the private sector to speak with the public sector and the most vulnerable populations. That should not be needed in the future, ultimately.

We have developed two very specific goods which we are ready to share. The first is the world's first parametric flood insurance model, for very specific high-value models in the United States. It is offered at 90 square-metre resolution, a significant improvement over the previous 250 square metres and has enabled robust initial results. This opens up many opportunities, where ARC offers specific products for sovereign risks, in particular in ensuring commercial agriculture in Africa.

Secondly, the EXCF is the extreme climate facility offers a way for private markets to price both the uncertainty and probability of climate change. It is a data-driven approach that takes it possible for us to not simply request a figure per year, but to channel needed money as is most effective.

Aron CRAMER

A Twitter user asks, "Should these data not be mutualised, as a public good?"

Rachel KYTE

The field is evolving very quickly and also includes bottom-up crowd-sourced data. We have worked with Google Maps, Google Earth, experimenting in the 9th District of New Orleans, where the most vulnerable members of the community crowd-sourced data around different property lines, houses, etc.

In so doing, they formed a community opinion about where they wished to build their own resilience. Those data are still available and will serve as roadmaps in the recovery process. We are also seeing open data initiatives and first attempts to build resilience into public buildings that are open to geophysical disaster.

Peter DERIEUX

In my opening remarks, I referred to the fact that data and analysis will be more part of the public domain. I do feel that this will happen selectively as we move into the future. This is an important direction, which will further give rise to a common language.

Philippe DERIEUX

Open Data is already a reality. Open Source access is available to everyone, in all fields. Furthermore, the industry is organizing; we have created a sharing network with our peers, in Europe, not necessarily covering all data, but a great deal of it.

Andreas SCHRAFT

I believe that data sharing is crucial to understanding risk. I am thus fully in favour of sharing and using data so that we can assess it.

I also believe that this is a double-edged sword, however. If I own health data and am asked to share it, the price will rise. This is a major danger which we, as the insurance industry, must face. We must make sensible, responsible use of the data. Having every individual pay the exact price of the risk they represent is not the only response. Insurance also means creating pools of individuals with common risk and sharing that risk with others, as well as cities, governments, etc. This is, in fact, the art of insurance.

Dr Jim ROTH

While some data are shared in the mutual interest of insurance companies, I would caution against certain situations. Data costs money to generate. Insurance companies have to invest very heavily to generate data and I would caution against solutions that compel insurance companies to hand over the resulting data. That could be an absolute disaster.

Peter ELLSWORTH

We have become accustomed to the term “tipping point”, of awareness or consciousness. How important is it for companies, municipalities and investors to experience their “lightbulb” moment, when they realise, based on the data and analysis from insurance companies, that the latter’s approach to the situation is very different from their own.

Aron CRAMER

The turnout – 1,100 people registered today and 1,700 people for the prior two days’ events – has been wonderful. Does this represent the mainstream of the investment community? Are we “preaching to the choir”, so to speak?

Peter ELLSWORTH

As this is a captive audience, I would like to contribute an advertisement. Next January, CERES will convene 600 to 700 investors to the UN, as we have done every two years, to keep these issues alive. We hope that you will all attend. The investors at UN meetings are, by and large, the mainstream investors. They believe that policy is important but cannot be the only path to change.

Aron CRAMER

Are those individuals operating within pockets of large institutions, or do they reflect broader change within those institutions?

Peter ELLSWORTH

I believe that both are taking place.

Dr Jim ROTH

The insurance industry has long been concerned about climate change, in my experience. It introduces all kinds of risks into modelling and they are as concerned as people and parts of communities. I do not see a significant shift.

Rather, at the major climate change conferences, there will less of an adversarial stance between the NGO community and the business community. That is the real change. I do not see a significant change in the insurance industry's attitudes to climate change.

Rachel KYTE

While I cannot judge the health of the insurance industry per se, in particular based on this week's high-profile events; nonetheless, there is a direction of travel and we are on that journey.

Two questions yet not answered by the industry are:

- where, in investment and asset management by insurance companies, is the risk located?
- if the insurance does understand climate risk to the extent it claims to, why is it offering such blunt insurance products? Where are the multi-year products and support to clients?

Within the insurance industry, this will be a very interesting development to watch.

Philippe DERIEUX

That is a very interesting point. It is a matter of adapting to needs. Whatever our targets, we must make sure that there is a good correlation between needs and responses. We have started the journey, but it is one that, by definition, takes time and implies a number of steps. We need to be more effective in adapting to real needs. I fully agree on this. Emerging markets, too, will teach us lessons. We need to gain speed and perform better.

Andreas SCHRAFT

The balance sheet of insurance companies, at least Swiss RE, most investment comes from fixed-income bond investments. Our room for manoeuvre is limited by the purpose of our investments and by regulations. It would be a positive development if we could invest in capital market infrastructure. If insurance companies, banks and other investors were involved together, this would be of great help in assessing risk more effectively and possibly bringing out a new asset class.

Dr Jim ROTH

If insurers invested their assets in carbon-neutral technologies and assets, the effect could be very transformative. Echoing the words of my colleagues from Swiss RE and

AXA, it is important to match assets and liabilities, pay claims from the investments made, etc. Regulators also compel insurers to invest in particular asset classes. There is a long road ahead and the solution is not the simple one it is made out to be.

Aron CRAMER

Indeed, it is not as simple as it is made out to be. The end-goal is clear. We are all here to better understand how we will reach it and improve.

Please join me in thanking this excellent panel for sharing its thoughts.

[*Applause*]

I would like to welcome to the stage Henri DE CASTRIES, Chairman and Chief Executive of AXA. Having had the chance to work with him over the past several months, I have been very impressed by his thinking and am delighted to welcome him today.

Conclusion of Round Table 2

Henri DE CASTRIES

Chairman and CEO, AXA

I would like to elaborate on two aspects: the facts and the actions. I speak from the perspective of a large insurance company, operating in both mature and emerging countries. It has been the leader in its industry world-wide for the last six years, with a balance sheet of approximately €800 billion euros and manages €600 billion on behalf of third parties.

How do we, as AXA, see the world? We very much concur with the statements heard. If we think that we would be able to live in a world where the temperature increases by more than 2°, we are only fooling ourselves and leaving some very unpleasant responsibilities and high risk to the next generation. The facts are undeniable, but are not widely shared enough. One goal on the part of insurers should be to spread the word. Let us move to action.

I will use a very simple metaphor to describe my perspective: insurance companies are like pianos. The music they play must be pleasant and there are many keys available to us to achieve this: asset and liabilities, P&L, corporate social responsibility, action in mature countries and emerging countries, etc. None of these tools should be neglected.

On the asset side, AXA has committed to divesting all of its remaining call exposure in its portfolio between now and the end of the year. [*Applause*] We have committed to tripling our green investments between now and 2020, to raise that to €3 billion. [*Applause*] Thirdly, we have committed to including in all general accounts portfolios an ESG approach as part of the process until the end of this year. [*Applause*] Fourthly, we and the Caisse des Dépôts will be joining the Montreal Pledge and thus disclose our carbon footprint in our portfolios at year-end. [*Applause*] We are of the belief that the large, recognised players create momentum: if they see this as an important factor in their brand attractiveness, it will incentivise other players to join the process. We are thus pleased to do this.

On the liabilities side, we must increase our clients' awareness about their risks and, rather than help our clients face claims, we must help our clients not to be faced by those claims. When I refer to "spreading the word", then, it means conveying the understanding that risks exist not only for the next year or next quarter, but indeed risks that could kill a business model in the long term future.

From that standpoint, I heard some interesting suggestions over the past two days, including the idea that prospective clients should be asked, "Are you sure that your new investments are compatible with reasonable scenarios?" and advised to avoid them should the answer be negative. One key factor in this game will be the ability to bring the emerging countries on-board in this effort. This will require very specially-designed solutions and, in this respect, we are very pleased to have joined forces with some of the institutions represented on the panel here, such as the World Bank (environmental insurance) or LeapFrog (new creative saleable solutions).

One important element which we are now announcing is our decision to join the African Risk Capacity, for one simple reason. When we look at the resilience of societies, we see that following disasters, they face a very significant cash flow issue. By joining the ARC, we will increase prevention efforts, and thus reduce the consequences of disasters and improve resilience overall.

These five decisions are, of course, not the end point in our journey. As insurers, we know that the sustainability of society is the most important long-term aim. While the threat has never been so high as today, the solutions have never been so convincing. The panellists have discussed what new technologies can bring. I am convinced that we are at a turning point, just as the world was in the second half of the 19th century, when electricity came into wide-spread use. This situation will require that we re-invent many of the solutions we have developed thus far.

One point needs to be considered very seriously: the world has a very significant savings capacity. However, these savings are very poorly allocated, not only because there are too many inequalities in the world, but also because well-meant regulations sometimes lead to undesirable consequences. As insurers, we have seen, since the financial crisis, how well-meant financial regulation has led to very significant mis-allocation of long term savings. We would love to be able to invest more in infrastructures to finance the development of more environmentally-friendly business models. These investments carry a risk, however. Our business model, in that we are long-term risk-takers should enable us to take these risks; the risk premium is a necessity for growth and sustainability.

Part of the regulation has proven far too short-sighted, resulting in mis-allocated savings and making the climate finance challenge even greater. If we want to increase the leverage we can put in place and put financial institutions' balance sheet to better use, we should educate them to take more educated risks and risks that would foster better allocation of savings to foster better long-term investments.

If we do not do so, we will only compound our issues. In the end, being an entrepreneur, I am optimistic: while we do have risks, we have demonstrated our ability to overcome them multiple times in the past. I am sure that we will be able to prove Woody Allen wrong when he says, “Life is hard, and then you die”.

ANNOUNCEMENT OF GLOBAL INVESTMENT PLATFORM

Fiona REYNOLDS

Managing Director, Principles for Responsible Investment (PRI)

It is great to see so many signatories to the Principles for Responsible Investment (PRI) in the audience. We are here because we are committed to taking action on climate change, through the use of new energy, infrastructure and technologies. Investors have a responsibility to invest with companies; this is an important and fundamental part of an investor's basic duty. As the divestment debate continues to be the focus of headlines around the world, we must get on with the serious task of mobilising finance and working together to tackle the definitive issue of our era. It is our pleasure to be able to showcase the principles today.

The platform is a collaboration of institutional investors around the world, born from the need to address policy makers and the investment industry about climate action and climate-related risks. The platform clearly shows that investors are engaged in the low-carbon transition and can manifest this in wide range of ways, from measuring their exposure to emissions under the Montreal Pledge, seeking listing on the low carbon investment directory, or taking part in initiatives to support clean energy or remove subsidies to fossil fuels.

All of the commitments and actions taking place throughout the planet can be found at our website investorsonclimate change.org, as well as in the exhibition hall here today. Over 400 investors are involved, hailing from 30 countries and representing $25 trillion in participating assets under management. 17 initiatives are showcased on the registry and throughout the platform. By participating, investors signal their intention to be part of the low-carbon economy and address climate risk.

While the platform presents an impressive story about investor activity, we do not claim that we are able to solve these problems on our own. Investors cannot act against the grain of government policy. Transparent long-term predictable policy signals are still needed to reinforce activities and encourage markets to go further. On behalf of the platform, I encourage you to read the letters and statements released, to encourage your governments to take action on these issues. The divestment campaign has raised many important questions and has been a good way to highlight that people are concerned about climate action.

However, it has not provided all of the answers. A broader range of action is both imminent and necessary in addressing problems in energy supply and growing energy demand in emerging companies. The platform and the initiatives it showcases demonstrates how investors are contributing to addressing these issues. We expect that, by establishing this platform, we will encourage investors more public about their climate-risk activities and, in turn, show the way for others.

There have been outstanding examples of this today. I hope that all investors in the room will view the panels. We need many more of you taking action. If nothing else, you can join in the initiatives already underway. To the policy makers and companies present, please make note of the momentum in the investment community on climate action and incorporate it into your own thinking about your activities. Investors want to see the companies they invest in taking the right steps to address climate risks. We are taking action and hope that everyone else will do so as well.

ANNOUNCEMENT OF INSURANCE INDUSTRY COMMITMENTS PLATFORM

Remco FISCHER

Programme Officer, Climate Change, UNEP

It is a pleasure to be here and to be part of the very vibrant ecosystem of organisations and initiatives present, at the interface between financial markets and climate change, especially in 2015.

I coordinate the climate change work at the UNEP Finance Initiative. UNEP is a public-private partnership between the United Nations' Environment Programme and the financial services industry, spanning over 250 financial institutions, largely from the private sector. Our membership spans three different industries: insurance, banking and investment. Fiona REYNOLDS told us about the wealth of action on climate change already delivered by investors and documented. In addition, we felt that we should be expanding our attention and focus into another financial industry of already-primordial importance in this respect: the insurance industry. To that effect, we are launching a platform which we hope will mobilise commercial insurers world-wide to make climate change and sustainable development part of their commitments, in analogy to what we have seen from the community of institutional investors, such as pension funds.

As we are in the initial phases, you will not be able to see any concrete commitments today. Nonetheless, after the very inspiring commitment heard from AXA, we hope to see other insurance companies world-wide make the relevant commitments.

Before we move to the commitment platform itself, it is important to understand the different roles of the insurance industry, in particular as they pertain to climate change and sustainable development. Indeed, the leadership will materialise also through these different roles and prove of great importance in each of them. The core role will be that of financial risk managers, carrying risk and being able to transfer it. The insurance sector provides an absorbing capacity for shocks, such as catastrophe management from extreme weather events, which we all know that climate change will exacerbate.

Through this role, insurance companies will improve the financial resilience of individuals, communities, corporate players and even sovereign players. However, before they can actually engage in risk transfer and risk carriage, insurance players are also risk managers: they create an enabling environment for physical risk management in a real economy. For instance, insurance companies work in different places around the world with stakeholders such as governments, toward risk management processes such as building codes, land planning, zoning and coastal management. All of these risk management measures will be essential in society's efforts to tackle climate change. Lastly, institutional investors can play the corresponding roles.

The platform launched today will not be materialising in an empty space, nor is it an ad hoc effort; it is part of a set of comprehensive and long-term principles which the UN has developed in partnership with the insurance industry. It was launched in 2012, at the Rio Conference on Sustainable Development and has been endorsed by the UN Secretary General and by all CEOs of all PSI signatories. In only three years, the PSIs have been adopted by insurers world-wide, accounting for 50% of the world's insurance premiums and $9 trillion in assets under management. We hope to catalyse and use the traction visible since the start of this event on the principles of sustainable development and climate change.

The core principles each relate to a different sphere of influence which insurance companies have at their disposal:

- Core risk management,
- Clients and business partners,
- Governments,
- Disclosure and accounting mechanisms.

From as early as March 2015, the PRI issued a paper entitled United for Disaster Resilience, backed by 40 insurance companies already and presented at the Third UN World Conference on Disaster Risk Reduction in Japan. This was a collective industry-wide commitment to help support implementation of the framework agreed on in Sendai by UN Member States, regarding man-made, biological and other disasters, including extreme weather events.

Beyond the collective industry-wide commitments about which I just spoke, the PSI sees the need to unlock and catalyse concrete commitments on the part of industry, such as those seen this morning. This year offers an historical opportunity for the insurance industry to show investment leadership across a number of UN agendas; outstanding is COP21 and the road to that conference in Paris, including today's event. The types of commitment made by each insurance company will be specific, measurable and time-bound.

They implement risk management processes and insurance underwriting diagrams to promote disaster risk reduction and climate change adaptation factors, and implement literacy programmes toward better social and financial implementation and more wide-spread insurance coverage.

Insurers will be able to make commitments in the role of risk managers and risk carriers. The UNEP PSI website offers examples of these and of the framework itself. The commitment categories run along four or five lines. As risk carriers, insurers will be able to use this platform to support commitments to develop new products and increase the capacity of existing products: for low-income vulnerable and under-served user communities; for climate-related disasters; and for renewables and more efficient transportation and energy.

As investors, insurers will be able to refer to this platform to the investor platform which Fiona just presented. Lastly, as an industry working in partnership with governments, regulators and other key stakeholders, insurers will be able to commit to supporting prudential policies and frameworks that promote disaster risk reduction, post-disaster adaptation and improve access to insurance. Today has offered us a glimpse of the determined commitments and leadership which individual insurance players can show. We trust that our insurance companies will follow the example of AXA and hope that this platform, open for submissions until the end of September, will provide a ready-made vehicle for this.

Moderator

It is my pleasure to announce that this event is now in the Top 10 most-Twitted in France. Please continue sending messages so that we can stay there! Similarly, the Insurance Industry Commitments Platform can welcome commitments at any time of the day, as well as before and after COP21. The screen shows commitments received thus far, including some more made this very day.

Round Table 3
Finance for Climate Action – Tackling the Investment Challenge

Moderated by Christopher KNOWLES, Head of Climate Change & Environment Division, European Investment Bank (EIB)

Speakers included:
- *Vikas DAWRA, Managing Director, Sustainable Investment Banking, YES BANK*
- *Abyd KARMALI, Managing Director, Climate Finance, Bank of America Merrill Lynch*
- *Andreas NEUKIRCH, CFO, GLS Bank*
- *Thomas VELLACOTT, CEO, WWF Switzerland*
- *Michael WILKINS, Managing Director, Environmental Finance, Standard & Poor's*

I) Introduction

Christopher KNOWLES

The Minister got us off to a wonderful start this morning when he emphasised the fundamental role of climate finance. He meant certainly that we need to do more and do some differently, in all of the usual areas as well as in some that are less familiar to us. We know that funding problems continue to exist, probably most frequently in countries faced with development challenges. However, tools are beginning to emerge, both in traditional banking and more innovative sources. We will hear more about that today. We will discuss green bonds, credit analysts now changing their assessments to embody climate risks, credit ratings as a tool, the extent to which public funding can be useful and the opportunities for blending the latter two.

This session follow an earlier meeting in Paris in March for multilateral and public bilateral institutions. We made good progress at that time on some more complex issues, including mitigation, carbon tracking and other issues. Today, we bring together stakeholders from a variety of parts of the financing chain, public or private banks, mutual banks, Southern and Northern banks, and representatives of civil society.

Before embarking on the Round Table, it is my pleasure to introduce our keynote speaker, Jonathan TAYLOR. In addition to being my boss, he is a Member of the EIB's Management Committee, the previous Director General of Financial Services at the UK Treasury and prior to that, worked in a number of private and public positions.

II) Keynote Speech

Jonathan TAYLOR, Round Table Keynote Speaker, Vice-President, European Investment Bank

I would like to thank the partners to this event for their excellent efforts in preparing this event. It is a great privilege to be able to address you on this topic, which is crucial to us and the world.

I speak on behalf of the European Investment Bank, which is owned directly by the 28 EU Member States. It is the world's largest multi-lateral funding provider by volume. In 2014, we provided €77 billion for nearly 500 projects. Around 5% of that goes outside the European Union each year. We are also the world's largest financer of climate-related investment in renewable energy. Today, would like to invite everyone to join us in meeting the climate finance challenge. Climate risks are real: they undermine our efforts to improve welfare, in particular in the world's poorest regions and threaten economic growth across the globe. The decision made in the next seven months will shape the future climate for decades to come. Both the Sustainable Development Goals and the new Climate Agreement will depend heavily on the ability mobilise finance at scale. The scale of finance needed for a low-carbon climate-resilient planet lies in trillions, as suggested by the title of today's conference.

At the spring meeting in Washington, we heard that we need "anyway" to undertake global investment of $89 trillion in infrastructure, energy, land use systems and urban development, and to permanently transition to a low-carbon economic future. While these numbers are challenging, the bulk of the investment needs to be found "anyway": we need to renew transport, housing, etc. The "trick" will be to make the investment which we need regardless, but to do so intelligently. It is a question of *shifting* the billions, a challenging target, but one far easier than *finding* the billions.

The report of the Standing Committee on Finance produced by the Conference of the Parties estimates finance flows from developed to developing countries at anywhere from $40 to 175 billion per year. Public institutions such as the EIB play a critical part in channelling between $35 and 50 billion to climate finance, as well as for mitigating risks in developing countries. These are large numbers, but still fall far short of what is needed. In 2009, it was determined that the international community would need to mobilise an additional $100 billion per year by 2020 for climate mitigation and adaptation measures in developing countries, through various channels. One of the new channels is the Green Climate Fund, which has received over $10 billion in pledges thus far. In order to tackle the finance challenge, however, public finance is plainly insufficient. We thus need to find ways to encourage and maintain private sector flows. Public finance institutions have a key catalytic role in providing products and structures so that private investors and other financers can invest their money in climate-friendly projects.

We need a clear agreed idea of our action. To gain a better understanding of how much climate financing is spent and for what purposes, the NDBs and national financing institutions have been working closely together to produce a harmonised methodology for tracking climate finance spending. In March 2015, in Paris, the development finance community made key steps toward this, when a total of 24 development banks, including the NDBs and national development agencies such as KfW and AFD, agreed on common principles for climate-mitigating finance tracking. This community also agreed on common principles to track contributions from others, and financially leverage their climate action. We agreed to consistently build climate considerations – the so-called "mainstream" of climate change – into all of the projects we finance.

More work is needed, however, to agree on concept guidelines and track adaptation finance. We are working on this, particularly with a view toward the conference in December. Mobilising more finance and adaptation measures is a major challenge to both the public and private sectors. Very often, there is no immediate visible financial return, other than avoiding the cost of damage. Financing adaptation is also, by definition, linked to risks that, while plainly real, are difficult to assess with the precision sometimes necessary for national intervention. At the same time, stepping up adaptation measures is crucial, in particular for the least-developed countries and small island states, where development efforts are too often undermined by severe weather events.

In the panel, we will shortly discuss the main challenges to finding solutions on how to scale up climate finance. I would like to take this opportunity, however, to outline some of the areas in which institutions such as mine can make their contribution. The EIB is one of the world's largest sources of financing for climate action. We can thus target our own funding in a way that helps achieve our common goals. On the green bond market, we issue successful products that allow capital market investors such as pension funds and insurance companies to directly engage with low-carbon products. The Bank is a large issuer of green bonds to date, having raised €9 billion raised in 10 different currencies.

Working with several other NDBs, we have also developed a harmonised framework for green bond impact reporting. We will use it for project allocations for our climate awareness bonds in 2014. Our practice is aligned with green bond principles, which set up voluntary process guidelines that recommend transparency and disclosure in the green bond market. We are taking this important work forward by engaging with other issuers, working toward joint reporting on the expected impact of projects associated with green bonds.

We are also working to develop smaller innovative products, geared in particular at private investors. They are economically viable but do not receive sufficient funding, due to specific resource barriers and market failures. One example is the Global Energy Efficiency and Renewable Energy Funds, GREF. A fund of funds set up with the support of the EU, Germany and Norway provides equity capital to unlock private investments in renewable energy and energy efficiency projects in developing countries. Building on the experience with these kinds of products, we know that scaling up finance is key to the success of common endeavours, such as the GCF.

We need also to set some longer-term, more ambitious targets. The EIB was the first multi-lateral development bank to dedicate 25% of its total lending to such projects, a target achieved for six consecutive years. In other words, since 2009, €28 billion in projects relating to water and waste water services and other water resources, such as flood protection, €14 billion in projects in wind energy manufacturing and solar power and approximately €11 billion to energy efficiency measures in a large number of energy efficiency funds. These projects have saved approximately 15 million tons of carbon dioxide per year, or the equivalent of six million cars.

We need to go further, however, first of all by developing and concentrating our support on smart, sustainable cities. While they cover less than 2% of the Earth's service, they consume 78% of the world's energy and produce more than 60% of all carbon dioxide. It is self-evident that the fight against climate change will be largely determined there. We must thus ensure that there is financing for sustainable transport, social and digital infrastructure, energy efficiency and urban regeneration.

We have furthermore sought to integrate climate considerations into all of our interactions and practices. By doing this throughout the investment cycle, we can help ensure that all countries and all sectors benefit from financial and technological innovation associated with climate finance.

Secondly, we provide our support to projects aimed at energy efficiency and have set formal lending criteria that screen power-generation projects on the basis of their carbon dioxide emissions, effectively closing the door on our financing un-innovative coal-powered plants. In order to guide our work in the years ahead, the EIB has recently concluded a public consultation on its climate action. We will integrate the views of external stakeholders in our future strategic orientations, to be presented at the Paris Conference in December.

Without anticipating any results from this consultation, we must and will address both adaptation to climate change and mitigation, and can certainly further improve delivery across all of our services, including lending of funds and our advisory services. The key remains the need to bring private investors on Board, for without them the global community will not be able to meet the challenges we face.

Climate change is a global risk not only to our economies, but to our societies themselves. That is why success in docking our sustainable development goals and an agreement on the new climate approach by many different States and stakeholders is possible and, perhaps, even crucial. To deliver those agreements will require the mobilisation of financial flows on a huge scale. This can only be achieved through effective cooperation between the public and private sectors. I can assure you that we are already actively committed to this objective, running successful models, large and small, in a range of climate-related sectors. However, we will need to do more to meet the challenging by achievable objectives of achieving the trillions. I look forward to working with you all in making this a reality.

III) Round Table

Christopher KNOWLES

Our Round Table will address three subjects: green bonds; leveraging private resources using public money; the relationship and role of climate and ratings. Each topic will be introduced by two of the panel members, for twenty minutes each, after which we will all discuss together.

Our first speaker will be Vikas DAWRA of YES BANK, most definitely one of the major players in climate finance in India. He has personally led some 25 transactions worth $6 billion in this space in recent years. Could you tell us more about the rationale used by the Bank? To what extent do you expect to see green bonds becoming a useful tool in accelerating the transition.

1) Green Bonds

Vikas DAWRA

YES BANK did complete a green bond issue recently, for a very modest $160 million. Coal India, in contrast, is dedicating $26 billion in the next two years to double coal production. Ours is thus a small but significant issue, in that it is India's first green bond and is already listed on the bond and stock exchange. We have heard that NTBC, which owns 50% coal-fired plants, is planning to issue its own corporate Green Bond to finance 50 GW of solar power.

We have made four main accomplishments:

- We brought Green Bonds into the scope of discussion in India,
- We have stimulated regular investors to take an interest in renewable energies for the first time,
- We bonds into tools that are not only for re-financing, but rather the first port of call for project financing,
- And we have contributed to green energy, a form of energy in which we greatly believe.

We hope that some of the larger banks will now make the effort to label some of their bonds, devote expertise to the issue, look at climate mitigation and channel funds to areas that truly matter.

As to whether green bonds will help the transition, I can only speak from the Indian perspective, in the hopes that it is relevant given the size of the economy, population and unfortunately-growing carbon footprint. We have 260 GW of installed capacity, 165 GW of which is coal-fired. Nearly 60 GW are off-grid, and enabled by all diesel-fired operators. Our demand is expected to amount to three times the current levels in the next ten years. 25% of the population, or 300 million people, have no access to the grid. Consequently, it is essential that we ramp up installed capacity in India. We hope that we have learned our lessons from other countries and will supply this in large part by renewable energy.

I highly recommend that those unfamiliar with our plans in renewable energy read our report. The target is to bring renewable energy to 160 GW by 2022, a very significant level. This will require financing. In India, renewable energy is usually financed by banks. Green bonds with a fixed rate are a much more suitable instrument, given the longer tenure and, also help in that renewable energy in India competes with conventional energy.

Lastly, while this was a rupee instrument, we hope to produce something similar in dollars so that American investors can participate in the Indian renewal story.

Christopher KNOWLES

You touched on a number of very important issues for India: greenfield, awareness, the suppression effect, the need for scale and currency.

Our next speaker will be Thomas VELLACOTT, head of the World Wildlife Fund in Switzerland, after having worked at Citibank and McKinsey. The Swiss WWF has just produced a landmark report on green bonds, entitled “To Be Green or not to be Green – That is the Question”. It is almost as good as the punchline I heard from a person describing green bonds earlier this week: 50 Shades of Green.

Thomas, where are the opportunities for green bonds? Where does the market stand currently? What changes might be needed?

Thomas VELLACOTT

Decarbonisation and the transition which it will require for our economies represents such a tremendous opportunity that McKinsey once compared it with the introduction of electricity in the 19^{th} century. This is a helpful parallel, in that it not only shows the scale of the transition to which we referred, but also the magnitude of the financing which we can expect.

While it is exciting to see green bonds emerge, this also comes with three types of risk. First of all, not everything bearing a green label is actually green inside and, where quality is not assured, all participants in the market end up tainted. This raises the need for credible standards and criteria. Based on our experience in numerous round tables working on standards, we define “credible” as: representative of multiple stakeholders; carrying independent third-party verification. The green bond principles are an excellent step forward, but are not criteria – beyond the basic principles, it is essential to set out very specific criteria.

The second challenge relates to the scale. While I am very enthusiastic about the concept of “shifting the trillions” set out for this conference, I am not sure that the green bond market alone will achieve this. The climate challenge must be mainstreamed, so that there are environmental and social criteria applied across the board, well beyond the niche. This principle can be seen for instance in those companies that started with a small portfolio of green products, and mainstreamed those principles into supply chains. IKEA has adopted a goal of using only sustainably-sourced forest products, cotton, fish, etc. in its supply chain and in effect transforming the entire business model.

The third challenge (or risk, or opportunity, depending on the standpoint adopted) lies in identifying the source of investment for decarbonisation. In the 18^{th}- and 19^{th}-century Industrial Revolution, the banks were not the institutions providing finance for the infrastructure investments. Very often, entrepreneurs had to set up their own institutions, the incumbents being either unwilling or unable to finance the needs resulting from industrialisation. The financial sector came out of this period transformed: banks that were very large at the outset had become niche players, while others such as Swiss RE emerged into global players. Will today's incumbents be able to transform their models quickly enough to provide the financing needed for this transition, or will new players emerge to do this?

The three risks also show the way forward: ensuring that there are credible standards for financing the transition to clean infrastructure; moving beyond the niche and ensure that the institutions bring these out of the niche product segment into the broad market; ensuring that incumbents and newcomers join forces for this generational project that calls for the participation of all willing parties.

Christopher KNOWLES

You provided an interesting historical perspective, about integrity, credibility, the need for mainstreaming and the role of incumbents versus new players.

Abyd, do you think that green bonds will lead to new carbon investments? Is that what your boss implied this morning? Could you say a bit about the performance of green bonds today?

Abyd KARMALI

I would first address an issue touched upon by Thomas, specifically about the Green Bond's principles. From a financial market participant's perspective, I would say that when our bankers helped develop the principles, there was no unanimity around what "green" means. There were perhaps 1 000 shades of green. This is not unimportant, but there is a great deal of capital waiting to be shifted and quickly so. As imperfect as the situation may be today, let us nonetheless engage with investments and our hundreds of debt capital markets.

As to whether this is genuinely leading to new investment, I would offer some data.

- The largest green bond this year was for the yieldco subsidiary of SunEdison, known as TerraFund: $800 million, a 5.8% coupon and an eight-year turnover. A yieldco is a listed equity vehicle for bundling cash-flows from existing and new renewable energy assets. A commitment to a yieldco implies recognition of the need to provide investors with a steady coupon over an extended period of time.
- We also know that the longer the tenure, the more investment can generally be assumed to be new. Interestingly, 18% of the tenures of issued green bonds now exceed ten years. That is a significant step change.
- Thirdly, it is possible to specify allocation intentions between new and existing investments. We did this, deeming it essential to deploy capital to new energy, and investors responded in kind. The Treasury was very pleased as we diversified the investor base further.

As to performance, in order to help develop the market further, my colleagues launched a Green Bond Index in 2014. It is outstanding in that average total return, divided by volatility of those returns, that Green Bond Index is outperforming every other bond index on the market: from the corporate bond index, to the high-yield corporate index, investment rate government index and broader bond indices.

Christopher KNOWLES

Thank you for that message about pragmatism and performance. You are truly "walking the talk". You touched on an important topic at the end of your introduction: how did you see the challenge of currency and internationalising flows? How is that challenge being addressed?

Abyd KARMALI

The largest risk for an Indian bond is the currency risk. While the Indian rupee may have depreciated over the last 25 years, there are still spikes. Hedging is very expensive and thus removes the buffer which many investors require to consider an option viable. In the past, when we spoke to international investors, the currency risk was consistently cited as a barrier, even if they are comfortable with the investment grade.

The Government of India has been discussing two options: running panel solar projects using dollar-denominated assets, though they expect to import fossil fuels over the long run; a concessional grade window, in which developers would be able to enjoy a concessional exchange rate, as was the case for some of the oil companies in India, importing crude oil.

This is one challenge which we face. The returns are not very different from international returns.

Christopher KNOWLES

Mike WILKINS, you are manager of Rates and Bonds. What is your prognosis? Do you see growth to the same exponential extent as in past years?

Michael WILKINS

We have been tracking the Green Bond market, especially in the past two years, and have seen it grow phenomenally. This year, we expect issuance of corporate green bonds to reach some $30 billion dollars. This is but a drop in the ocean nonetheless when compared with the total number of fixed-income instruments, amounting to $90 to 100 trillion. We are, in other words, far from the scale needed to tackle climate change.

The necessary scaling-up that will happen once the market evolves further. We have gotten off to an excellent start. However, as the credit quality backing those bonds is that of the issuing equity, growth is ultimately hampered, as only a finite number of assets can be refinanced. Investors, however, want to see additionality in the low-carbon economy. We believe this will happen once we evolve the market away from green labelling to risk transfer. The cash-flow of the assets being financed back, the credit quality of the bond, etc. will lead to increased risk for the investors, but also to increased yields, a much sought benefit in the current low-yield environment.

I would also like to touch on the question of additionality. We need to see not only assets financed for investment, but also green bonds that are growing away from mitigation and into adaptation. Would a bond issued for flood events be classified as green? As much money is needed for adaptation as is needed for mitigation.

2) Using Public Resources to Leverage Private Resources

Christopher KNOWLES

Let us move to the second topic, with Andreas NEUKIRCH, a social entrepreneur, on the main Board of GLS Bank and its CFO. GLS is a small German mutual bank based in Bochum, a beautiful town on the Rhine. It specialises in socially- and ecologically-oriented, also describable as impact-financing. I came across him because his bank placed him in a fund which EIB has sponsored. By any other name, this would be a green bond, albeit on a small scale. Could you describe the fund's layered structure, which takes private capital and leverages it?

Andreas NEUKIRCH

This is a very interesting meeting for me. As someone coming from the niche and starting with social and ecological investments at a time when social banking was not very well-known, it is very important to have the feeling that everything we did in the past is able to scale up now and find investment.

As we offered Green Funds to customers, we expected on the one hand that they would be very interested in the investment, but were also surprised by the huge demand voiced by our customers. We are a bank founded in by civil society in the early 1970s. They were very engaged to deal with their needs, finding their own solutions without waiting for the public sector's support.

This fund enables investments on the part of the private sector and public sector. On the other hand, we immediately saw that many of the goals are totally in line with those of the GLS bank, in particular, combining customer empowerment with a concrete new focus. This is what attracted and kept our customers with us.

The structure of green growth fund is interesting for private investors in that we have four different types of investment: notes for private investors, shares for public institutions, a mezzanine capital B share, and C share for economic cooperation. This combination was always interesting to customers, which not only have the need to invest in their city in Germany, but were able to invest in Southern and Eastern Europe. We very happy to offer this combination of public and private investments.

Christopher KNOWLES

That is a fine living example of public-private cooperation, generating around 6 to 8 dollars of investment on the ground for every dollar of taxpayer's money from the German Government and the European Commission.

Abyd, as a private-sector representative, how do you see this?

Abyd KARMALI

Green Climate Fund is the perfect example of the need to take blending public and private finance to a new level. It will be a key part to our achieving a satisfactory outcome in the UN negotiations and we need to demonstrate that the Green Climate Fund, particularly the private-sector utility fund can blend risk mitigation of public capital with the scale of private capital. This will make it possible for us to secure the leveraging you just mentioned. A 6:1 or 8:1 outcome would be a tremendous achievement.

The Green Climate Fund needs to reduce risk, lower the cost of capital, or in cases of energy-access, provide seed capital upfront. All of the types of intervention being discussed should demonstrate that they are accomplishing one of those three objectives. The performance metrics are also important: enabling clear CO2 performance, mobilising private capital, and contributing to other sustainable development goals.

Christopher KNOWLES

That was a clear answer and one that voiced high expectations.

Thomas, you have called for rules and climate finance definitions to be tightened. What should governments look for when using their own scarce resources to incentivise?

Thomas VELLACOTT

First of all, I most certainly did not want my previous statements to be perceived as criticism of the Green Bond principles. We are engaging with this tremendous initiative as well. I meant only that, moving forward, we need to involve multiple stakeholders and a broader platform. The idea of moving forward without waiting is exactly that for which I would advocate.

The Government's role lies in ensuring that there is real impact. It goes much beyond providing capital, as it should. In regulation, too, government action is called for. We know that infrastructure investments are a long-term undertaking. As a result, the capital charges levied on them are, in essence, penalties and inhibit investment in sustainable infrastructure. On this, at least, governments could play an active part, in addition to teaming-up with private capital providers.

Christopher KNOWLES

Vikas, you referred to the enormous financing gap in the Indian programme. Has the Indian Government plans to use public resources to with a view to leveraging more at the private sector?

Vikas DAWRA

To achieve the planned 170 GW in renewable energy by 2022 we need 200 billion dollars, including upgrading the grid, making it smarter, more modern, more resilient and more efficient.

The Government is certainly taking steps to create the right atmosphere for private sector funding. For instance, for the first time in India, the Minister for Conventional Energies is also the person responsible for renewable energies. For the first time, there is no conflict and one individual can balance the needs of both sides. This has enabled much swifter action. Secondly, the government is nudging public-sector enterprises, also the largest producers of fossil fuels, coal, gas and energy, to invest in green energy -- in gigawatts, all given a target to achieve. This brings public sector into renewable energy. Under the Domestic Contained Requirement, these companies must buy their solar panels from Indian manufacturers.

The Government has also set up a solar park thus making it easier for investors to virtually "plug and play". It is taking care of basic infrastructure, evacuation, transmission, etc. A player with 1 GW capacity can come, plug in, and enjoy 100 MW. Software also comes into play.

Christopher KNOWLES

The Indian Government is thus walking the public-private partnership as well.

Mike, you have a good sense of the public sector and budget willingness to support expenditure of this kind. How would you describe the appetite of public-sector players for channelling funds to leveraged structures?

Michael WILKINS

The main difference between green finance and infrastructure finance lies in the fact that there is a funding deficit as opposed to a funding surplus. Consequently, governments, whether national or local, are not willing to put their funds toward procurement, because they cannot afford it, or do not buy into the benefits which that investment will create. This perennial problem has been exacerbated over the past few years.

We have conducted studies to better understand the financing gap in infrastructure world, which we estimate at approximately $500 billion dollars per annum between now and 2030. It is, in essence, the result of a diminishing proportion of GDP spent in infrastructure by governments, and in relation to the infrastructure requirement which amounts to approximately $57 trillion between now and 2030.

We have stated that the funding gap could be filled, thanks to banks, multilateral institutions and institutional investors, which have decided to increase their investment to around 4%. In other words, while there is a solution to this problem, it cannot be applied unless the institutional investors are incentivised. The capital adequacy rules, instead, are a dis-incentive.

Concurrently, the Commission and EIB have come up with such initiatives as the European Investment Plan, which provides risk or seed capital, multiplying it a factor of 15. Such incentivisation initiatives, though very ambitious, will help, mobilising €315 billion euros in ten years. Lastly, we have seen the multiplier effect very clearly shaping infrastructure investment. For every 1% of GDP spent on infrastructure, there is a return of approximately 2% in the form of job creation and GDP growth.

Though we know that the green multiplier effect is related to GDP growth, we need to determine whether it benefits the environment as well.

Christopher KNOWLES

You kindly mentioned the EIB; thank you for that.

John, do you have any additional comments on the EIB's efforts?

Jonathan TAYLOR

I will instead make the more general point that the mission of multilateral and regional institutions consists of providing financing. The EIB never provides more than 50% of a given project's budget, and usually around 30%. In addition to the extensive due diligence which we conduct, we also engage in engineering studies, environmental studies, etc., to ensure that we will be able to achieve our targets. The private-sector financing players take comfort from that, hence leveraging the money.

3) Stranded Assets

Christopher KNOWLES

Michael WILKINS, a regular speaker at such events, is Managing Director of Environmental Finance for Standard & Poor's. He is responsible for infrastructure and utilities and has pioneered research on the impact of climate change on the ratings industry.

What is the impact of stranded assets on ratings and valuation? How will climate event risk and climate compliance risk play into this?

Michael WILKINS

Standard & Poor's takes finance risk and climate finance very seriously. If anyone has doubt about this, they should refer to our recent publication assessing the potential long-term impact of climate change on credit. We have been studying the topic of climate and its impact on ratings for the past ten years. We have considered risk of carbon liabilities, stranded assets, and most recently, extreme weather events and their impact on corporate resilience. How does that research inform us and how does this inform investors, when reviewing climate interests with respect to bonds and loans?

Our first step when initiating such research is to consider policy impact as part of the compliance regime and the direct liabilities which a country may face as a result. From 2009 to 2012, the cost of carbon was expected to reach €30-35/tonne had a considerable impact, leading to downgrades for some companies exposed to fossil fuel. That is an example of a direct correlation between credit and climate risks.

More recently, we looked at the issue of carbons constraints, under a 2° scenario, and the possible impact on fossil fuel companies. In 2013, collaborating with Carbon Tracker, we forecasted that a 2° policy shift, would lead to a decline in demand for fossil fuels and gas, and a precipitous fall in oil price, to approximately $65 per barrel.

We identified the companies most exposed to be the non-conventional, un-diversified companies, already highly indebted. In such situations, under the dual pressure of fossil-fuel carbon constraint and high leverage, credit default automatically increases.

As to climate resilience, we study it primarily through stress-testing, a tool previously specific to the insurance sector and now being transferred to the corporate sector. We try to determine how companies cope with "one-in-100 year" extreme weather events, trying to understand whether they have the balance strength needed to withstand this and, if so, how. This needs to be disclosed and transparent to investors to that they can make informed decisions.

Lastly, we have been focusing on the materiality of climate risks: the cost to companies, the impact on cash flow, etc. Now that we better understand that factor, we have more recently been focused on the time horizon. We look primarily at the 3-5 year horizon, which our research on stranded assets has shown to be the most appropriate one. We need to take this into account and are looking for the best way to incorporate this risk and materiality, so that credit risk assessments properly factor in climate change.

Christopher KNOWLES

Abyd, could you talk us through the mathematics of carbon bubbles?

Abyd KARMALI

I can explain why this is becoming an important issue. There are four individuals doing marvellous work in this area: Anthony HOBLEY (think tanks) Mark CARNIE (regulators), Bill MCKIPPIN (divestment) and Henri DE CASTRIES (investment). This very interesting cocktail suggests that this is becoming very topical.

As to the mathematics, the key figures are 2°, 550 ppm, 500 gigatonnes of carbon, hence some quantity of coal, oil and gas that cannot be burned.

Translating those into key issues at stake, the question has to do whether there is some form of reserve to be taken if those fossil fuels cannot be burned. Do we need to focus on the high-cost reserves (sub-critical coal, oil science, etc.) given the changes in the markets and policy, given changes in technology? Multiple factors could cause stranded assets. Is some quantum of capital not being deployed in optimal fashion? Should there be a focus on high-cost energy projects that may no longer be profitable? Will every equity analyst proceed with his own sense of risk premiums? How will regulatory authorities shape the markets?

Christopher KNOWLES

Andreas, does your bank still actively take into consideration the fact that some economic assets may become obsolete or stranded?

Andreas NEUKIRCH

In Germany, our business model relates to only 200 000 customers. On the other hand, a 2010 study showed that in Germany, 15 million people are interested in giving their money to socially- and ecologically-oriented projects. This makes us very optimistic for two reasons. On the one hand, this is good for our growth rate, because customers are increasingly joining our business model. At the same time, many competitors are interested in promoting such projects and investments. This will take us to an entirely new level of markets and acceptance of such issues.

The basic foundations are very good and individuals are more and more aware of these possibilities. We see the partners on the markets only strengthening their offers and support for these investments. I hope that more and more financial instruments will be based on values and significant goals, rather than on business considerations.

Christopher KNOWLES

Jonathan, you already discussed the due diligence processes. Are they, in your view, sufficient? Does the EIB sufficiently address carbon-stranding, or is a bank with $600 billion in its portfolio be doing more?

Jonathan TAYLOR

Should anyone want to use the standards we did, they are available on our website, are thorough and comprehensive, and I am both pleased and proud to be able to offer them.

Thomas VELLACOTT

It is important to see that standards are now being developed and applied across the Board. This strong and exciting dynamic has yet to reach much of the private sector, however. The issue of stranded assets has stirred many individuals from their slumber, and they now understand that carbon risk as also a business risk, although this has not yet been translated into standards. It is interesting to see how different regulators play on this. Three years ago, the Chinese banking regulator published Green Lending Criteria and Guidelines for the Chinese banking sector. These did not pertain to a small niche, but were aimed at ensuring that such risks are taken to account in any decision made by Chinese banks. This will take time to implement, but it is interesting nonetheless that China moved forward in this area. As you stated, this can impact us more quickly than we thought. Coal use has declined in China for the first time. These types of developments show that shifts can take place much more quickly than expected and some people were caught unawares.

Christopher KNOWLES

As we have come to our last few minutes, I will ask you to make your final comments. Vikas, how much are Indian investors looking at stranded assets?

Vikas DAWRA

There is certainly a conscious effort to look at various options and the types of end-usage to which funds are being dedicated. It is essential to understand that India is faced by tremendous issues. We have infrastructures up and ready, but no call for them. There is also intensive effort to start up coal and other fossil fuels. It is somewhat contradictory, but also balanced.

Christopher KNOWLES

That is an ambiguous, yet probably realistic, note on which to finish.

Jonathan TAYLOR

I am optimistic by nature and am confident that we will reach the desired agreement at the end of the year.

Michael WILKINS

I, too, see this as a pivotal year, because of COP21 as well as other initiatives being spurred by the COP. We are, after all, looking at the re-design of the entire financial system.

Thomas VELLACOTT

We stand at a very interesting turning point. Mainstream institutions are starting to become interested in these topics in a serious way and not only as a small niche. We are starting to understand the implications of the scale of transformation needed in the financial sector so that this can spread to all of society. We are also seeing a divide between those starting to explore the issues and those stuck in 20th century business models. I am convinced that we can make the transition to a 2° future. The only question remaining has to do with whether we can do so quickly enough.

Andreas NEUKIRCH

The use of changing business models, this year and in the next two years, will enable us to take the green focus to a higher level and bring about good investments in the future.

Abyd KARMALI

We must be realistic about how quickly change can actually take place. 75% of the local power sector is run on fossil fuels; 90% of the transport sector comes from fossil fuels. Secondly, in order to send a real signal to investors, a quantified target on net zero decarbonisation. The draft text points to 2015, at present.

Vikas DAWRA

We have a tremendous social responsibility to our own people. However, as global citizens, we also have the duty to be part of mitigation. Hopefully, the policy-makers in India can come together with the private sector to strike the right balance, without sacrificing basic principles.

Christopher KNOWLES

I cannot summarise the issues better than the panel members have done. I invite you to thank them.

Moderator

The fourth and final Round Table will be moderated by Nick ROBINS, Co-Director of the Inquiry into the Design of a Sustainable Financial System, UNEP, a global project that helps forward best practices. It also shows that financial innovation is occurring today, not necessarily in the distant future, and in developing and developed countries both.

Round Table IV
Innovations for a Sustainable Financial System: Policies, Regulations, Standards

Moderated by Nick ROBINS, Co-Director, Inquiry into the Design of a Sustainable Financial System, UNEP

Speakers included:

- *Dr Rathin ROY, Director and Chief Executive, National Institute of Public Finance and Policy*
- *Frédéric SAMAMA, Deputy Global Head of Institutional and Sovereign Clients, Amundi*
- *Richard SAMANS, Managing Director and Member of the Managing Board, World Economic Forum (WEF), Chairman, Climate Disclosure Standards Board*
- *Michael SHEREN, Senior Bank Adviser, Bank of England*
- *Rintaro TAMAKI, Deputy Secretary General, OECD*
- *Dr WANG Wen, Executive Dean of the Chongyang Institute for Financial Studies, Renmin University of China*

Nick ROBINS

During this session, we will look at how the $300 trillion in the global financial system can be aligned with the objectives of an effective low-carbon and resilient economy. We have heard a great deal about leadership in the financial sector, from bankers, investors and insurers. Without policy reform, however, this impulse for action will be insufficient: we need a carbon price, effective environmental regulation, incentives to break through technology and public finance to pioneer new models of development.

One area is gaining increasing attention today: financial policy, financial regulation and financial standards. As one of the co-Directors of UNEP Inquiry, one of my tasks consists of identifying in advance financial policy options in order to better the financial system with the principles of sustainable development. We work at the level of the countries, from Bangladesh, to China, Indonesia, South Africa, Switzerland, the UK, France, and the United States, looking at the government's financial system compatibility with the rules of sustainability and how that can be deepened.

Today, we are launching a report, "The Coming Financial Climate", or "*Le climat financier à venir*". We are focusing on the challenges specific to a low-carbon, resilient economy. We have heard about the billions and the trillions. This afternoon will be dedicated to the 300 trillion, with panel members who have all been active in building this agenda.

As an introduction, I would like to comment on three key messages from the report:

- This financial reform process is already underway.
- Four priority areas have been identified for financial reform, linking climate security and sustainable development.

- 2015 presents a major opportunity to promote international cooperation on the road to Paris and beyond.

Action is underway, driven by governments, finance ministers, central banks, regulators, and is fuelled by an entire series of different factors, such as: appreciation of new risks, evolution, water stress and climate change, recognition of the need to update our capital markets to align them with challenges and opportunities, and the key question of coherence between financial regulation and long-term capital. As Henri DE CASTRIES pointed out, current regulation may impair far more than it facilitates.

We have outlined four main areas in which financial rule-makers can take action as a priority.

Risk

We need to ensure that sustainability and social climate factors are made part of the risk management and prudential standards in banking, just as Brazil (with its new resolution on incorporating social and environmental risks in banking), South Africa (by requiring information on pensions), and state regulators in California (with regard to the insurance industry) have done. We identify the need for a new set of tools, call environmental stress-testing, where we will bring future challenges and climate scenarios into today's decision-making.

Orderly re-allocation of capital

We can ensure this through upgrades on debt markets, and working with the World Bank, the OECD, and climate bonds issues, to identify a set of policy proposals, principles, incentives, regulatory frameworks, etc. that can help expand green bonds from the small exciting area to a transformative area of the market, introducing new green banks, as is being done in the UK and looking seriously at the strategic role of central banks, as Bangladesh is doing with its green re-financing programme. We have been working with the People's Central Bank in China to establish a comprehensive financial system in this respect, and I hope that Dr WANG Wen will give us some insight on the very exciting work going on in Green Finance.

Transparency

Without useful consistent information, markets cannot operate. We need greater disclosure from the corporate world, as well as from financial institutions themselves on their green finance flows, their carbon footprint, and climate risk.

Financial culture

This area has emerged from the work being done in Switzerland, and refers to the need for capabilities, skills and incentives, which align the core processes in financial institutions with long-term sustainable planning.

This is a long-term transformational process. In addition to the White Paper produced by France, one recent example of outstanding innovation has been the ten-year plan to take the financial plan of Indonesia to stability.

The potential for international cooperation this year and beyond is tremendous. There is a great deal of action underway, whether at the national level, with large-scale UN processes that will lead to the new agreement in Paris (on financing for development process, sustainable development goals, etc.) as well as from other parts of the international system.

The G20 Finance Ministers have requested the Financial Stability Report to look at climate change. I hope that our panel will have the chance to consider the specific climate issues which the Financial Stability Board should consider this year. We see this as a moment when policymakers, financial practitioners and civil society can consider how sustainability and climate change can be part of the routine architecture of the global financial system.

Rintaro TAMAKI

I would like to offer some perspective about the nature of the broader policy challenges that need to be tackled. The idea of policies for the low-carbon transition is most commonly associated with coal-power climate policies, such as pricing carbon and fossil fuels in a way that provides incentive or internalises costs. While such solutions remain fundamental, the impact of these coal-power responses can be undermined by policy mis-alignments in other policy areas, such as investment, taxation, trade, innovation or land use. Those existing policies and related systems are hard-wired to a fossil fuel world in many areas.

This wider perspective has been made the focus of a new report, from the OECD Joint Research Institutions (IEA, NEA and ITF), Aligning Policy for the Transition to a Low-Carbon Economy. This is a first diagnosis of mis-alignments in the area of policies, between pre-existing regulatory frameworks and sectors essential to a low-carbon economy and climate course. In ten days, this report will be presented to the OECD Ministers, for their appreciation. It raises questions on such topics as financial system regulations conducive to low-carbon investments. Financial stability is certainly a pre-requisite to any kind of investment. However, some regulations such as Basel III could unintentionally undermine this, in that they reward short-term investment. The same is true of some fiscal measures and performance appraisal requirements. Greater transparency and harmonisation of corporate disclosure on climate risks could, in contrast, encourage climate-friendly investment.

These and other financial regulation and re-investment topics were also addressed at another event, the OECD's Second Green Investment and Financing Forum. Discussions there between governments, institutional investors, private financial institutions, re-investment banks and green bond experts yielded some key takeaways that are particularly relevant to today's event.

- Debt markets and green bonds have the potential to channel much more capital into low-carbon energy transport and infrastructure,
- Other investment channels for institutional investors in clean energies show promise,
- Climate and climate-related policies must be brought into the sphere of negotiations and discuss policy alignment.

I have discussed the role of policy-makers in addressing mis-alignments with many bankers in the audience and in the panel. We also need to focus on what the financial community can do. I challenge you to deepen your thinking on how the financial sector can use its innovative capability to further: align markets with low-carbon thinking; reduce short-term investments; step up disclosure and decrease risk to investors; create incentives for a much greater shift to low-carbon energy.

Nick ROBINS

Thank you. You addressed a challenge to the population and I hope that it will be reflected in the Twitter responses. Have you seen the private sector develop positive interaction? Much is said about the negative effects of lobbying.

Rintaro TAMAKI

Yes and no. I would first like to say, before we embark on this, we have to mobilise the attention of financial regulators, finance ministers and central banks to this issue. We must mainstream green infrastructure investment and climate change issues overall. Taking a holistic government approach, we can ask the financial community to follow us. The role of the financial community today is to push regulators and administrators to shift their attention to green issues. This is very important and in many countries.

Nick ROBINS

Michael SHEREN, from a prudential perspective, why has the Bank of England been focusing on climate change?

Michael SHEREN

It is pleasure to speak to an audience that understands in advance that a central and prudential banker might discuss climate change. The Bank of England has been very active in investigating the effects of climate change on financial stability, the safety and soundness of our banks and banking systems, and of policy holders and insurance companies. That is the perspective from which we are looking at climate change. We were then asked to look into a piece of the financial system and determine how well or how poorly it had adapted: the insurance industry. We conducted primary research, not only using questionnaires, but also through granular 1-2 hour interviews to understand their views, approach and responses' to the situation.

Climate change affects life and general insurance players differently, the former more impacted by asset management, and the latter by physical manifestations. Some of the companies we studied were extraordinarily well-prepared: their scientists had been following these practices since the 1970s and gave us valuable insight as to possible prudential risks. Others, however, were less engaged. The report, currently being finalised, will be submitted to the Government in July. We hope it will be available to the public in September. From that first piece of work, we have started work on issues mentioned today: stranded assets or the mis-pricing of assets; the “tragedy of horizons”, i.e., investing only in the short term and failing to use fiduciary assets appropriately; and disclosure.

Building from our findings, we set up the One-Bank Research Programme, under which we will research three to five of the most fundamental issues. Many of you as stakeholders have helped us. We will continue, with you and academics, to understand the threats to financial stability, identify the secondary effects and grasp the potential risks embedded in this. we are looking at this not just from the physical point of view, but also the transitional risks, from disruption through technology, policy changes, stranded assets, investor preferences, etc. We are very proud to be doing this.

In addition to this, we have also been fortunate enough to work with China, Brazil, India and many others. We look forward to seeing this continue in the future.

[*Applause*]

Nick ROBINS

The “tragedy of horizons” is a wonderful poetic phrase. How can we overcome this? Is environmental stress-testing one possible avenue?

Michael SHEREN

Environmental stress-testing is definitely one of the several avenues open. It is also beneficial to understand the business models of asset managers, banks and insurance companies and knowing where exposures lie. Many asset managers are held to benchmarking, standard deviations away from other competitors, etc. This may the right path, or it may be conducive to distortion. We do not know the answer.

Nick ROBINS

We invite you to send in your questions for individuals and to the panel as a whole.

Rathin, our joint work in India has been very fruitful. This is a very exciting time, with many opportunities for investment. In your view, where is policy reform most needed?

Dr Rathin ROY

I have been puzzled by two points that seemed to re-emerge across several presentations this morning.

The first is the idea that climate finance consists of essentially addressing risk, when from my perspective, climate finance is an opportunity. Like many other developing countries, India's main problem today is gaining access to sustainable finance from long-term finance infrastructures; we do not have any trouble attracting funding for single projects. Sustainable finance is thus a way for us to engage with the global financial system, increasing appetite for investment in areas in which we need funding. The world view of India is thus different from the risk view.

As a result of the "wrong regulation for the right reasons", to which Mr DE CASTRIES referred, we face many obstacles. Banks in India have money to lend. However, because of Basel II, they cannot do this, in particular for infrastructure. Should Basel III be adopted, this problem would be even more acute. This places constraints on the ability of developing countries to build climate infrastructure and impacts climate finance itself, when a 300% increase in energy demand is imminent.

We are, in effect, being asked to become the first major country in the world to complete its industrial transformation without substantial recourse to fossil fuels. We would like to do this, not only for the sake of the global economy, but also for production and energy security. In order for this to happen, however, an entirely different financial system would be needed – one that enables the combined use of technology, resources and incentives.

Many banks have announced that they would exit the coal business. In my country, coal mining and use is incredibly inefficient, and thus incredibly expensive. One major line of our industrial policy is thus dedicated to effective coal mining, which will in turn inevitably lead to more sustainable and lower-carbon means of power generation.

Infrastructure financing in India comes from banks. In addition to the Basel barrier, we must thus meet the banking industry's requirements for sustainable and green projects. Frameworks and guidelines have thus been issued on environmental standards, as well as on budget management.

With the help of Japan and Germany, we are working to create 5 million jobs in the SME sector, providing subsidised lines of credit to industries and increasing employment by becoming energy-efficient. Most exciting is the fact that, as we are working from a blank slate, we are able to incorporate sustainable concerns into the process. For instance, we have included one provision stating that any measure for market infrastructure or lending must quantify the cost of that activity to society. Automatically, capital will thus move to sustainable finance.

These are capacity projects designed with the aim of transforming the lives of 300 to 400 million individuals. The foremost impediment has proven to be the cost of big business and the fact that our productivity is five times that of China, though the costs are twice as high. We have thus simply been unable to capitalise. To take down that barrier, we would need the benefit of sound regulation, as described by the Chairman of AXA.

Nick ROBINS

Thank you for that characteristically provocative statement. Where do you see the issues, if not from a risk perspective? Many Tweeters would like to know.

Dr Rathin ROY

We definitely recognise the existence of risk and have frameworks in place to address it. The distinction lies in the fact that Indians are very accustomed to risk in their everyday lives and thus do not perceive it as a barrier at the outset.

Nick ROBINS

Rick, you have a wonderful world view, from the World Economic Forum. Many of the partnerships that have been driving progress have come from your organisation. Where do you see the priorities today?

Richard SAMANS

This session deals with the financial system. I salute you for asking the big questions in your inquiry and everyone looks forward to the results of your work. I would like to focus on the systemic questions of change, anchoring them in the context of Paris and COP21.

For many years, it has been commonly held that the key to making capital allocation decisions more sustainable lies in internalising external risks. The most straight-forward and effective way to do this has been to put a price on carbon, explicitly or implicitly and, in effect, remove much of the uncertainty from capital allocation.

However, this requires action on the part of political authorities. Structurally slow in their processes, they furthermore take decisive steps only when faced with the urgent need for action. Unfortunately, it does not appear that such a sense of urgency will build by December or even in the next year.

I would like to ask that in the absence of a broad frontal approach, is there any form of systemic and meaningful action available to us today? My answer is a resounding yes. The first step lies in recognising that capital allocation decisions are, by nature, guess-work, albeit based on careful analysis of the best-available information. Secondly, we must ensure that the decisions made are anchored in the right frame of reference. We have seen significant market failures in this respect, but can work on them to improve the situation and approach this area more effectively as COP21 approaches.

Our first stumbling block is a lack of comparable, comprehensive, high-quality information, the life-blood for solid decision-making. There has been no framework for a common metric, whether on risk or opportunities, where environmental externalities are concerned. While there has been a great deal of reporting and disclosure, the data provided have been notoriously motley. No major political crisis should be needed to address this situation. It should be a matter of form to put together the framework for disclosing physical, technological, social, etc. risks and strategies set out in response to them.

The second small market failure lies in fiduciary culture. Due to a combination of behavioural factors, the fiduciary outlook has become unusually short-term in nature, hence underweighted ESG (environmental-social-governance) factors, which tend to manifest only over the medium-term and including with respect to clients. The “tragedy of horizons” is clearly on display here, when the issue itself could be easily addressed, without putting any government at risk. These are technical issues. The culture of financial and regulatory accounting and behavioural norms in investment have come from best practices turning into customary practice, on the markets and within the market participants themselves.

These two factors impede the efficiency of capital allocation, even of existing signals. While financial regulators have been absent, substantive initiatives already enjoying good momentum do exist and are only waiting to transform from best practices into customer practice.

Where information is concerned, the Climate Disclosure Standards Board Framework has been set up. A global reporting model developed jointly by the consortium of the same name (including CDP, CERES, The Climate Group, The Climate Registry, The International Emissions Trading Association, the World Council for Business and Sustainable Development, the World Economic Forum and the World Resources Institute), it is gradually being adopted by the world’s 50 leading multi-nationals. A range of institutionalised investor networks representing $45 trillion have stated that, if companies report in this fashion, they will also take the resulting data into account. Stress-testing could fit neatly into this framework; the first step is a common framework.

Secondly, at the top of the investment value chain are the large institutional investors. They, as owners of the assets must decide to give carbon performance risk and opportunity a special place within their portfolios, insist on the same from asset management companies and make this their interpretation of financial responsibility, under a medium-term view. if they do so, I am confident that the highly-competitive asset management industry will orient itself in such a way that this becomes possible and even influences the behaviour of other fiduciary agencies. One example of this today is the Portfolio Decarbonisation Coalition, a group of 11 initial major institutional investors. We can build on this momentum up to December, moreover taking advantage of the tremendous opportunity created by the French Government so that this COP event is different from all previous ones. It must become not only the conclusion of a political process, but indeed a broader process of which business-led and private initiatives are an integral part.

[*Applause*]

Nick ROBINS

The PRI is doing outstanding work.

You and your fellow panel members have referred to a number of items that could beneficially be incorporated into the G20's discussions. As Rintaro stated, the FSB had not heard of the term "green" previously, and is uncertain as to how an issue as complex and uncertain as climate change should be approached.

How can we help them focus their jobs? What are your key recommendations so that this process delivers timely results by December?

Dr WANG Wen, it is a great pleasure to have you with us and to have worked with you in China. I am very impressed by this systemic approach to green finance. We would love to hear your perspective on this.

Dr WANG Wen

Thank you. As the sole participant from China, the world's most populous country, I feel very alone! Why not invite more Chinese to such conferences? It would certainly help us along a road about which we know relatively little.

China did establish a Green Finance Committee, of which I am Secretary General, one month ago. The first environmental exchange market came about in 2008, and the first emissions reductions were achieved in 2010. We remain relatively inexperienced nonetheless.

You may have all seen Chinese tourists in Paris, spending freely and without care. Yet they are not representative of the Chinese overall; such purchasing power is available to perhaps 1% of the population. All the while building toward greater development, the country must also meet sustainable development needs. One central target has been to cut emissions by unit of GDP by 40 to 50%, by 2020 as compared to 2005 levels. I would ask, in conclusion, that rather than criticising China, you encourage it in its greening process.

Nick ROBINS

China is a country with a long tradition of Five-Year Plans. What does the next plan include with regard to Green Finance?

Dr WANG Wen

Green Finance will be written into the documents of the 13th Five Year Plan. Though very new to Chinese society, it is becoming one of the defining issues.

Nick ROBINS

We can look forward to that after the December conference, then.

Frederic SAMAMA, Where do you see policy support helping your asset management process? Richard gave us a very interesting suggestion on how the dynamic market innovation and public innovation can come together.

Frédéric SAMAMA

Long-term investors are increasingly taking on climate change risks, for three reasons:

- they believe that the market has failed when it comes to climate change risk;
- they benefit from innovation;
- they benefit from the examples of their peers.

The markets, however, have shown that there is relatively little chance of companies with stranded assets' being penalised. Long-term investors, meanwhile, have responded that, if probability is around 15 to 20%, their risk is not correctly awarded. It then becomes their responsibility to identify that risk and reduce it in their portfolios. Climate change has thus come to mean risks that are not correctly rewarded and the need to reduce exposure.

As pertains to innovation, these risks are not so easy to address. Many new players are developing innovative solutions to address this risk over the long run, without impacting market experience in the short-run: engagement, investment, initiatives around green bonds, etc. In other words, a new series of innovative aspects has come into being.

Thirdly, the asset owners exploring this new field are benefiting from the example of their peers. President HOLLANDE and Minister SAPIN today were kind enough to mention the Portfolio Decarbonation Initiative, created under the United Nations' umbrella, to gather all donors around the world already decarbonising portfolios and agreeing to share best practices with their peers and other long-term investors.

If we can gather them and if they agree to share this knowledge, it will accelerate the transfer of technology to the long-term investor community. We are pleased to report that we have already received commitments amounting in terms of $45 billion. To all other asset owners, it is stating that this is already both feasible and scaleable. Whether on responsibility, risk management or innovation, the message is clear and action is underway. It is less and less admissible for players to sit back and take no action; indeed, we see increasing numbers of players opening up to the issue and starting to discuss it.

As a simple and low-cost first step, governments can demand that firms abide by carbon transparency rules. It is simple in that, if risk is widely-recognised and fund managers are disclosing all types of risks, it is only normal that all asset owners should explain how they are responding, particularly for public funds. Ultimately, owners or beneficiaries of public funds are governments and citizens. It makes sense to try to understand whether public money is invested in a way that will ultimately impact the lives of citizens. France is also passing a law on this, asking all asset owners to disclose their climate change risk. This entails no cost and will speed up the process already seen around the world. Other countries would be able to very easily replicate this policy-making innovation from France.

[*Applause*]

Nick ROBINS

Wonderful. Thank you. How do you expect the disclosure requirements to impact innovation?

Frédéric SAMAMA

Markets are very effective in allocating resources where demand exists. The French Government's new requirement will push asset owners to build tools, create acceptance for transparency, stimulate ideas, etc. Those asset-owners already interested in climate change represent $95 trillion which have remained very quiet up to this point. In other words, we are creating a transfer or shift from interest to action.

Nick ROBINS

Civil society organisations are often an important force in setting new expectations for finance, yet we have not heard much from them today.

Dr WANG Wen

Most people in China today, as I stated, are not aware of what climate finance is. We must inform, influence and mobilise, first of all by understanding the concerns of public opinion and addressing issues adequately. When I travel in Berlin, France or England, I increasingly hear people say how much they despise driving. In China, however, consumers are buying more and more cars.

Richard SAMANS

Dr ROY was just telling me that asset owners and civil society need each other; they are symbiotic. It is civil society that took the lead in demanding the transparency which will be so helpful to asset owners in their decision-making. NGOs have been engaged in awareness-raising for the past five years.

This initiative is so welcome. Asset investment owners are in fact nothing more than intermediaries representing civil society – people saving money, whether for retirement, their children's college education, etc. They own those funds, in essence. Their role thus consists of taking note of some of the more progressive steps being taken. Not every government has taken the forward-looking steps to provide guidance and encourage funds to exercise better governance, as is being required in France. I view their role as critical. While there are other strategies which they can pursue, this is an emerging and new one, which could have a crucial cascading effect.

Nick ROBINS

In Davos, one Indian representative memorably stated, "We do not want your aid; we want your pension funds."

How do we ensure that those partnerships work between the large pools of funds in industrialised countries?

Dr Rathin ROY

We need both long-term commitment and secure financing. The traditionally-inefficient businesses of India have to be shown that they will be rewarded by using energy more efficiently. A financial system that recognises this, rather than using prudential instruments or Basel regulations, would achieve its aims more quickly. Governments would, for instance, do much better to require an energy audit on every business proposal made. We take this as part of the game.

OECD countries should also refrain from applying metrics, and instead looking at situations from the inside: there could be ways, for instance, to use more judiciously, resourcefully and more transparently when it comes to costs. India is currently in the same position as France and England were in the 1970s, when 80% of children under 15 had the lungs of thirty-year smokers. How will we address this situation? The path we will follow will not be the theory-based path of the OECD. We need to ask how these countries can use their resources efficiently. If there is a solution entirely free of fossil fuels, I would be pleased to use it.

Rintaro TAMAKI

I would point out three key ingredients:

- the financial support of OECD countries;
- emission pricing, which makes coal power generation very expensive;
- a clear demonstration of the low cost of renewable energies in future costs, particularly solar power, on a thirty-forty year horizon.

To mobilise institutional investors in developing countries, we will need an appropriate regulatory framework for these countries, but also must provide assistance to European countries so as to prepare a favourable investment climate. This could attract short-term investment and make a very economically rational investment in developing countries.

Nick ROBINS

You made a very powerful statement at the beginning, saying that many economies are, in a sense, hard-wired. As a long-term financial policy-maker, what reforms do you see as most necessary?

Rintaro TAMAKI

The reason is quite clear. Financial regulators and Finance ministries have been focusing, for twenty years, only on not repeating the financial crisis. The change in mind-set, to a positive, constructive outlook is very important and this type of forum is very helpful.

We also need to stir pressure from the private financial community on policy-makers and regulators, seeking promising investment returns, and action reflecting this type of concern.

Nick ROBINS

I will ask for your closing comments at this point.

Frédéric SAMAMA

For many years, governments and NGOs have attempted to adapt to climate change. We have observed, over the past days, that not only corporate players have come on board, but also institutional investors. This combination sends signals from different directions to companies. Any decision made by the policy-makers reinforcing this will be helpful. Rather than exercising pressure in a single direction, but rather focusing on multiple companies, we will secure an easier path.

Dr WANG Wen

Next year offers some excellent opportunities. China will host the G20 Conference in 2016. We need the help of UNESCO, the OECD, countries, to successfully push climate finance onto the agenda of leaders in G20 community. This is a very exciting mission, which we will try our best to fulfil.

Richard SAMANS

We must take full advantage of this tremendous opportunity presented by COP21 and the solutions which the agenda offers. Two very concrete factors interact dynamically and could make 2015 the year on which the transformation enters the capital markets: we should not miss that opportunity, encouraging companies and funds to get on board.

Secondly, with regard to developing countries, which I failed to address in my comments, we must more seriously apply a bridging strategy, using the assets available in terms of public money, to more effectively blend with private capital and mitigate risk. We – international institutions and development banks – do not optimise the use of capital. We are working on a risk mitigation initiative with the OECD Development Assistance Committee, to be announced at the Development in Addis.

Dr Rathin ROY

Iif climate finance and global finance are joined, COP21 will be successful;

Michael WILKINS

We must continue our research to better inform our objectives about climate change, and effectively work with Central Banks to find solutions to Green Finance.

Rintaro TAMAKI

I would stress the importance of political leadership and a holistic government approach. My institution would like to make a push to support the G20 under the Chinese presidency, as well.

Nick ROBINS

I am very optimistic that we are heading in the right direction. Thank you very much.

Moderator

We have now been together for nine hours, generating an impressive number of Tweets, listening to 35 speakers, moderators, etc. We will hear from three more experts during our concluding session.

Closing Speeches

Pierre-René LEMAS

CEO, Caisse des Dépôts Group

As this day comes to a close, I am very pleased that Caisse des Dépôts took the initiative to organise this event. I would like to pay tribute to my friend Jonathan TAYLOR, a fantastic partner in this venture, and express our utmost satisfaction with Paris Europlace, for its excellent work in organising it. Special thanks, as well, to Gérard MESTRALLET, who opened the event this morning. This has been a major milestone in the mobilisation of the financial sector for the client on the way to COP21, to be hosted by France in December of this year. It has been said again and again, but I will make the assertion as well: this is truly a turning point.

I would like to thank the speakers and moderators for their timely and astute comments. Thank you all as well for coming, in far greater numbers, I might add, than we had imagined. Lastly, I would like to thank all of the sponsors, financial networks and media who were alongside us, supported us and contributed to this event's success.

We talked a great deal about commitment – a commitment to fight climate change. In the international financial sector, there had never been such a clear and powerful commitment heard and so widely shared. Caisse des Dépôts, specifically, has made three types of commitments:

- as a Group, with our banking and insurance affiliates, we have signed the Montreal Pledge and thus committed to disclosing publicly and reducing the carbon footprint of our portfolio;
- as investors, we will be initiating a more active and driven shareholder policy on climate issues with all of the companies in our portfolios, in a move to join those leading this movement, as the list of our commitments made public on the platform will show;
- lastly, as a financial institution, we have committed to facilitating the private financial sector's action in favour of the climate and will put our resources and engineering skills to work to the create green tools which investors need.

We hope to mobilise 15 billion euros by 2017. More broadly speaking, it is our hope that the pioneering actions announced today become the norm for the financing sector as a whole. The financial partners designed this Climate Finance Day to cover all aspects of private financing's positive agenda: investment strategies and asset portfolios, insurance, greening debt insurance and regulations.

In each of these four major thematic areas, today's event showed the extent of the stakeholders' commitment. This is a real groundswell real, though only just beginning, the challenge being in terms to change the entire system. This movement is also universal, tapping as much the emerging countries as the developed economies. In many cases, the movement or winds that appear likely to shift the billions are coming from the South. Together, we have done what was expected from all of us and perhaps even more. It is up to us to remain mobilised up to COP21 and to make our commitments more specific, convincing, lasting and – above all – that we turn them into reality. I will say no more at this point, giving the floor to those whose voices most need to be heard at this point. I thank them for doing us the honour of closing this event.

Janos PASZTOR
Assistant Secretary-General on Climate Change, United Nations

I would like to thank the organisers for giving me the opportunity to say a few words at the end of this outstanding day and, indeed, week. Last night, at the working dinner held to close the Business Summit, I stated that the UN Secretary General would have bene very pleased had he been able to attend, as many of the pillars of his Climate Change strategy are being implemented. Today, he would be even more pleased. Thank you for that.

I. A Tectonic Shift

Today, and in the last few days, we have seen a tectonic shift in the way business and the private finance community are addressing the issue of climate change. There is consensus about the low-carbon goal, on the need for a real carbon price, and financial institutions are coming forward with announcements of concrete actions. Today's announcement by AXA of a number of actions taking toward decarbonisation is part of this. These developments, which no one would have predicted just one year ago, are only the beginning. By the end of the year, when we meet again in Paris for the action day, I expect to see even more happen.

I would for the time being like to focus on what the UN Secretary General believes is necessary to build a climate resilient future and how we can work together to do this. I am encouraged to see the breadth of financial players, both corporate and public, at this meeting. Cooperation between the public and private sector is essential. We need all of you working together to make this transformation possible and profitable. We need your leadership to move this conversation from the margins to the mainstream. There is no question that we can make this low-carbon transformation without economic growth. Indeed it can be a catalyst for growth that is cleaner, more sustainable and more equitable.

The recent announcements from Bank of America, AXA, Caisse des Dépôts, and others on carbon footprinting and reducing investment exposure to fossil fuels all strongly attest to this fact. Investors and other financial players are moving in this direction because they realise that it is a smart business strategy and one that positions them very strongly for the future. That is why many of you participated in the Secretary General's Climate Summit last September and are present today.

II. The Calendar Ahead

We are meeting at a pivotal moment. This year, three global meetings will set the growth and development agenda for the next 15 years. The discussions during the past two days underscore that the outcomes of the Paris Climate Conference in December must provide policy-makers, investors and the private sector with a clear sense of Direction on the necessary direction of the global economy, without compromising the health of our planet or ourselves, to make sure that governments, business and the financial communities are fully aligned in the direction of low-carbon development. The world's three largest economies, the US, China and the EU, have already placed their bets on a lower-carbon future. For many, and not least the Secretary General, it is clear which way the world is turning.

The task before us is to ensure that all countries are part of the solution and that the benefits of low-carbon growth are realised by all. For that, we need a strong agreement in Paris later this year, that provides predictability, certainty and clear signals that the markets need in order to allocate capital where it most needs to go for sustained long-term growth.

For Paris COP21 to be successful, there must be a strong, credible and coherent finance package that addresses the political, economic, policy and solidarity aspects of financing. On the political dimension, there must be a politically credible trajectory for mobilising $100 billion per year by 2020. On this, we must salute the announcement made by Chancellor Merkel just last weekend, in Berlin: Germany will double its climate financing by 2020. This is a very strong leadership position and we hope that other OECD countries will follow.

III. Public and Private Players, Together

In addition to that, the Green Climate Fund must be up and running, with projects that can be improved and funds that can be disbursed as soon as possible. To do so, we need at least half of the pledge contributions to enable the fund to begin allocations. This goal was achieved this week, as Japan finalised its agreement, and the fund can begin operation.

The private sector has a role to play in attaining these objectives, both for the $100-billion trajectory and in the private sector facility of the Green Climate Fund, which can leverage public resources for greater impact. The political significance of these two elements cannot be underestimated. Both the $100 billion and the fund are seen as the powerful litmus test of trust by developing countries, and are crucial for brokering a universal agreement in Paris. There must also be a comprehensive finance package for the least-developed countries and the low-income small island developing states. Public funding needs to be scaled up, but private sector support is also needed, especially for renewable energy and resilience measures. We need to demonstrate a sense of solidarity to the most vulnerable countries.

On the policy side, credit enhancement is needed so that these countries can tap into capital markets. Risk insurance mechanisms, like the African Risk Capacity and the Caribbean Catastrophe Risk Insurance Facility, need to be bolstered and incentives provided to boost private investments in risk mitigation. We learned today that a world under 2°C is insurable, but a world above that mark is not.

Beyond the political elements, clear policy elements are also needed in the finance package for Paris COP21. At the Climate Summit last year, the private sector announced some $200 billion in commitments. I heard today from a number of players in this area that there is good progress in fulfilling these and even beyond. Once implemented, these elements can help blaze a trail for the trillions in low-carbon investment needed in the next fifteen years for cities, energy and agriculture.

This brings me to the policy dimensions of the finance package. We need a suite of fiscal incentives and other policy reforms that can drive low-carbon transformation. This would include carbon pricing, a phase-out of fossil fuel subsidies, and climate-proofing financial regulation. In this connection, we should welcome President HOLLANDE's announcement that France is preparing to a law that will require institutional investors to disclose their carbon footprint.

Taken in sum, this financial package should help build the political capital needed for an agreement in Paris, and unlock the additional trillions needed to build financing and a climate resilient world. The Secretary General will continue to play a role on climate change and climate financing in particular. Over the next six months, he will draw on his global convening power to mobilise support from leaders in the private sector, with a focus on the finance industry. Many of you participated in the Climate Summit last year, showing what is possible when business, finance, government and civil society join hands in a common endeavour, for the common good.

IV. Going Beyond Business as Usual

We need your leadership, your courage and your commitment to go beyond business as usual and accomplish something truly historical this year. You have an opportunity to meet the climate challenge by investing in smart, low-carbon solutions that benefit your shareholders today as well as your grandchildren tomorrow. You have the opportunity to lead by example and show your elected officials how to take the reins of one of the greatest economic transformations in history.

A climate change agreement will not be the endpoint, but it must be the turning point in how the world collectively responds to the defining challenge of our time. This meeting has contributed to that turning point already. The Secretary General thanks you for your leadership and looks forward to continuing with you.

Laurent FABIUS
French Minister of Foreign Affairs and International Development

I. Looking Together, In the Same Direction

I, too, would describe this as a turning point – a pivotal week indeed. We have seen a whole series of events have taken place and all have pointed in the same direction. We are very fortunate to have experience them.

1. In the Political Arena

At the beginning of the week, we were with some of you in Berlin, six years ago, following what some have termed the "Copenhagen Filature". Our German counterparts determined that it was important that, every year, we bring together a number of representatives from all over the world. Thus, 40 ministers representing different countries across the planet met in an attempt to bring forward ideas that had failed in Copenhagen. The meeting was very fruitful. While not everything was able to be settled, India, the Maldives, Norway or United States of America, to name only those, bearing very little resemblance to one another, I found many very encouraging instances of convergence.

In particular, everyone wants to reach an agreement at COP21 in Paris. As Chairman to that event, I will not say the opposite. This comes from the fact, first, that we have a much better understanding of the situation. The observations of scientists are no longer challenged by anyone. Some of the countries previously reluctant have made strong commitment, including the Presidents of China and the United States, the two countries leading emitters world-wide. Through their commitment, they send a clear signal to the rest of the world on the need to join the movement.

2. In Business

Business leaders have shown that they are increasingly sensitive to this issue, not only because it is an environmental necessity, but because green growth is also good business. Those who remain on the side-lines will end up experiencing great difficulties.

Concluding the Berlin conference, we also held a preparatory meeting for the G7, set to take place in early June. The determination has been very strong and there is a sense that on the climate financing issue itself, those countries that had shown reluctance now understand the needed to forge ahead on this. Further announcements from countries have also shown that there is now commitment substantial enough for the Green Funds to get off to a good start. I am certain that, at the future Board Meetings, the necessary decisions will be made, ensuring not only that the Green Fund will operate, but that action will start even before COP21. The same is true regarding the "intended nationally-determined contributions".

The business forum over the past two days has also been extremely encouraging, including particularly strong demand to set a carbon price. This came thanks to everyone's support: this forum's organising committee, President LEMAS, Gerard MESTRALLET, Vice-President of the European Investment Bank, in short, all of you. I am like Saint Thomas; I judge based on results, first and foremost. However, none of you will disagree with the assertion just one year ago, such meetings would have been unthinkable. Something is thus afoot.

II. COP21, A New Conception

Something is indeed definitely changing, for instance in the decisions made by governments. With the assistance of my Peruvian predecessor, this COP21 will bring together the regions, major cities and civil society, in addition to the traditional participation. It will be something new, including one action day and one innovation day. The final text, which for the time being, is far too long at 80 pages covered in brackets, will require the approval of 196 different parties and stakeholders. This is a vastly-complicated matter; you can imagine how difficult and complex it will be. Nonetheless, considering the initiatives we have seen from so many corners, we have reason to believe that it will turn out as we hope, provided that we all mobilise together, in the right direction.

I looked at the list of national contributions published to date, in a very unusual move. The prime target at the Paris Conference is to secure a universal differentiated agreement, a legally-binding instrument that ensures we do not exceed 2° temperature rise compared to the pre-industrial era, attributable to greenhouse gas emissions.

III. Impacts Just Around the Corner

If we take no action whatsoever, not only will the frequency of typhoons, droughts, sea level rises become greater, but epidemics will become more intense and common. Ebola, AIDS and other scourges of our times were pre-existent in forests; it was due to deforestation and human interaction that they exploded. Similarly, the migratory flows triggered by droughts or floods could have disastrous economic and financial consequences, and impact on war and peace. The matter is thus not only environmental or ecological, but touches upon the very chance for us to live viably on the planet together.

It is also the immediate future that stands to be impacted. Governments have responded by making the universal agreement an objective. 38 countries accounting for one-third of all greenhouse gas emissions have disclosed their carbon profiles. Three G20 countries – Australia, China and Japan – and other countries outside the G20 group could publish here publications by the end of the June. More than 70 countries are preparing to do so by the end of the second quarter, as the UN Secretary General has announced in a letter.

Consequently, by COP21, we should know where at least 90% of all emissions occur and understand exactly where countries lie on the map. COP21 must trigger mechanisms that will make it possible not to exceed 2%, not only via technology, which is changing and becoming more affordable, but also through public and private financing.

We discussed the $100 billion goal, to be derived from public and private sources in developed countries to be provided to developing countries. We already have a large leverage effect and will continue this drive so that those countries, which agree on the goals but do not have the means to serve them, can receive the necessary resources. Yesterday, in the Business Forum, we focused as well on need to set carbon pricing and remove subsidies for fossil fuels. This will be a complicated process, requiring several steps. It will not be a COP21 decision either, but must economically integrate the de-carbonisation of our economy.

This brings back to mind decisions made by public institutions, also previously unthinkable. For instance, last April, the Ministers of Finance and central governments of the G20 took action to ensure that we bring on board climate risks and issues. The Bank of England, the Chinese Central Bank and others have decided to move in a similar direction. Lastly, at the Lima Meeting in October, it was decided in conjunction with the Secretary General of the United Nations that a Summit would be dedicated entirely to Climate issues.

No effective action will be possible, however, if we do not engage very strongly our private stakeholders from the financial community, both private and public. We will have to mobilise and engage further colleagues. We must develop what I call the “climate reflex” so that it is sustainable and becomes the long-term benchmark for you as business leaders and financial leaders. I warmly welcome the announcements made today by Caisse des Dépôts, Credit Agricole, AXA, Bank of America and others. These decisions are very important, because they will inspire and pave the way for further decisions on the part of your colleagues.

IV. Building Diligently, from Solid Foundations

It is also a very positive sign that there are now platforms to record all of the commitments made, so that they can be visible and counted. This too appeared impossible just one year ago. Reporting requirements will need to apply to developing and developed countries both, investment banks and stock markets, and initiatives involving all stakeholders and all players. We also need commitment to the very specific issue of financing for adaptation to climate disruption, above and beyond mitigation, so that we can enjoy increasingly resilient structures, in particular in the more vulnerable countries. Some solutions are emerging, and promise to be beneficial to all involved: insurance schemes are being developed in Germany, we have made another proposal to our partners in Japan for advance warning of imminent disasters, etc.

Less than 200 days remain on the way to ensuring that COP211 is a success, to convince of the essence that action is urgently needed and magnify the role which we can play. You have shown the financial sector's mobilisation and for this I congratulate you. COP21 will be both an accomplishment and a starting point toward a major change to a low-carbon economy and society. This is significant, historic and exceedingly good news. To anyone still doubting, I would like to remind you that there is no alternative, because there is no alternative planet.