

WHITE PAPER

Climate change and carbon: an emerging CCC risk?

February 2016

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Introduction

2015 was definitely the year of Climate Change.

Not only because of the 22°C in New-York or the heavy rains and subsequent floods in Northern England around Christmas, or the very severe pollution in Beijing, or because of other extraordinary extreme weather events.

Not only because of an unparalleled media focus on climate change and a raising awareness across the globe.

Not only because the UN Conference on climate change - COP 21- that was held in Paris in December resulted in an historic agreement.

Not only because eventually the two majors emitters of CO₂, USA and China, have acknowledged the urgency of climate action and committed to act upon it in 2016.

The number 1 reason why climate change has never been closer to galvanizing concrete action, and is at a turning point, is the fact that the private sector has been a key component of the climate talks in December and will be a key player in implementing the agreement going forward.

More precisely, the financial sector and investors are now a central part of the global climate conversation. For the first time in the history of the UN climate conferences, central bankers from all over the world attended, discussed, felt concerned and committed to act at their level through the announcement by the Financial Stability Board's (FSB) chairman, Mark Carney, of the creation of a Climate Disclosure Task Force to be headed by Michael Bloomberg.

Investors have a key role to play addressing climate change, after all, we are the primary purveyors (or withholders) of the 'financial oxygen supply' upon which most corporates are dependent. By allocating or withholding investment capital, investors can send a very sharp message to company boards and CEOs about their perception of the adequacy of the companies' preparedness for the low-carbon world which is already in evidence. Our power to alter corporate priorities and behavior is enormous.

But a key question for investors is why and how should this power be exercised? Why should we, as investors, be concerned by the rapid emergence of new risks: the climate change and carbon risks, and how can we deal with it?

The purpose of this White Paper is to examine these important questions in order to provide guidance for investors as we grapple with a rapidly changing environment.

I • What is carbon risk?

Why would a CCC – Climate Change & Carbon – be a risk?

In credit language, a “CCC” rating for a corporate or government bond signifies a high level of risk to the borrower’s ability to repay a loan over the term of the debt. The carbon-linked CCC (Climate Change & Carbon) acts in a similar way by putting additional pressure on companies’ business models and profit margins.

The debate on whether climate change will impact the environment is now settled, reflected in the unanimity at COP21 around the science of climate change. In this environment companies are already subject to increasing pressure to adapt to and mitigate the effects of climate change. Companies urgently need to adapt to the physical consequences of climate change, for instance, water availability — drought or floods — or severe storms that can impair the ability of production sites and threaten supply chains.

In addition to adapting to the physical impacts of climate change, companies must also deal with the rapidly evolving regulatory environment. Corporations are now certain to face constraints on their ability to emit CO₂ — either through cap and trade systems, carbon price or carbon taxes — and their ability to sell products that are not consistent with a low carbon economy. The severity of these constraints and their precise timing will vary significantly from country to country, but the overall ‘direction of travel’ is now abundantly clear. Companies must respond to what is in effect an industrial revolution in which the global economy transitions to lower carbon emissions. The Paris agreement virtually guarantees that this transition will happen. As countries see the competitive opportunities in transitioning quickly, it is likely that change will happen sooner, rather than later.

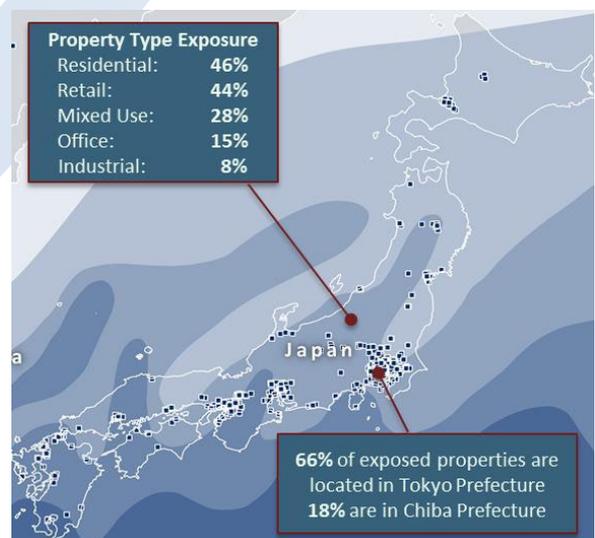
Why should investors care?

Companies need to adapt and mitigate, which means investors need to select and allocate capital to those companies that are playing ahead of the curve, anticipating the changes in order not to be constrained when regulation is in place, and able to benefit from the opportunities emerging from such an industrial restructuring.

As long term investors, institutional investors are themselves particularly exposed to carbon risk, which can materialize in four distinct ways:

Physical risk

Investing in companies that are not prepared for the physical consequences of climate change. Industrial companies are obviously highly exposed, but so is the real estate sector, potentially exposed to holdings in areas threatened by floods, sea level surges and storm damage. Agriculture is another significantly exposed sector, but the list also includes tourism, telecommunications, and many others.



SOURCE: MSCI ESG RESEARCH, CLIMATE RISK, DECEMBER 2014

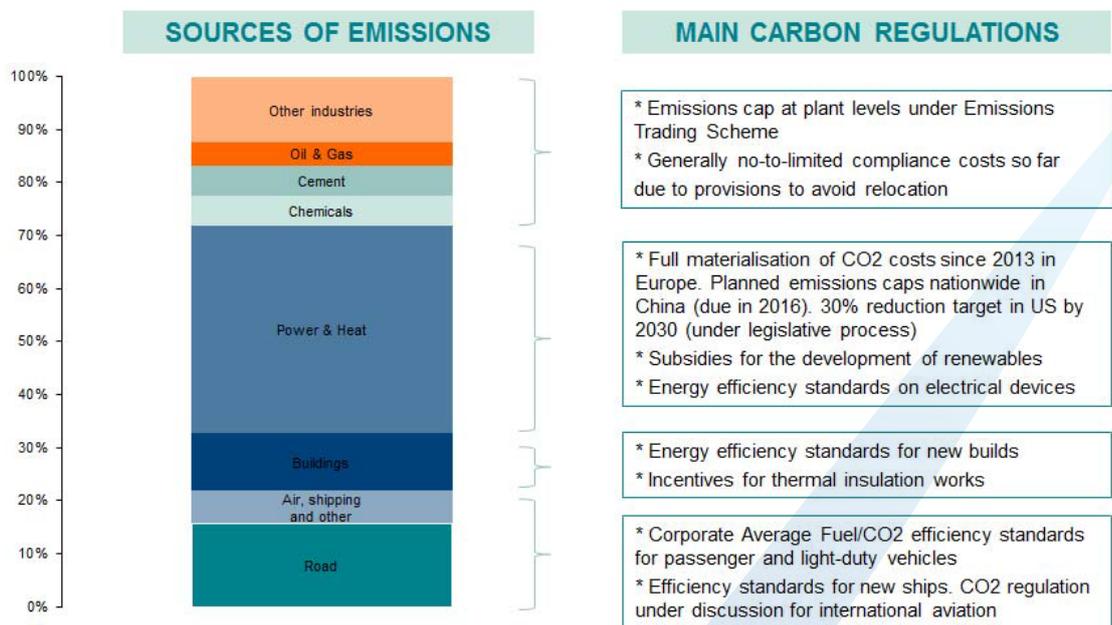
Regulatory risk

Investors are likely to be affected — indirectly through their investments — by any regulation on carbon going forward, whatever form it takes (tax, price, etc.). Companies in which they invest have to be ready for these scenarios, which are not an if but a when question. Some companies already have internal carbon prices, which they use to evaluate any projected investment. It will be increasingly critical for investors to distinguish between those companies that are preparing for the inevitable and those that are not. This is a question that fundamentally relates to the management quality of the different companies.

More directly, investors are themselves being asked for increased transparency; for example the French Energy Transition law (article 173) will require them to explain how their investments deal with carbon risk and more generally with international targets to limit global warming to 2°. It is also fair to anticipate that the Climate Disclosure Task Force of the Financial Stability Board will also lead to increased transparency on climate-related risks going forward.

Many emission reduction regulations aimed at cutting carbon emissions from the largest emitting sectors have already been passed or planned

SOURCE: WRI, EXANE
BNP PARIBAS ESTIMATES
(SRI - CLIMATE CHANGE,
APRIL 2015), P. 66



Market risk

Stranded assets and locked-in emissions may have a negative impact on company valuations going forward. Stranded assets encompass assets that might become stranded in a 2° scenario, because they will simply not be able to be used. A significant percentage of the fossil fuel reserves of the oil and gas companies, for example, are particularly exposed. Locked-in emissions are emissions that can't be easily discontinued, for instance power plants that have been recently built and will last for decades with CO₂ emissions that do not match a 2° scenario (coal-fired power plants, for example). Market risks can also apply to business models that would not fit into a low carbon economy, e.g. coal mines.

Reputational risk

Politicians, as well as civil society, have come to realize that investors can and should play a big role in any transition to a low carbon economy, and they are gradually asking for more transparency on how they intend to play that role. If unable to answer this request for transparency, institutional investors will be exposed to reputational risk and therefore have difficulty recruiting, retaining, and motivating top talent. Some might even be sued for breaches of fiduciary responsibility. Also, because a number of investors are already engaged in that transition and eager to disseminate the

word and good practices, a number of voluntary collective initiatives have been launched — e.g. the Montreal Carbon Pledge and the Portfolio Decarbonization Coalition — and are gradually putting pressure on the rest of the investors to join that move.

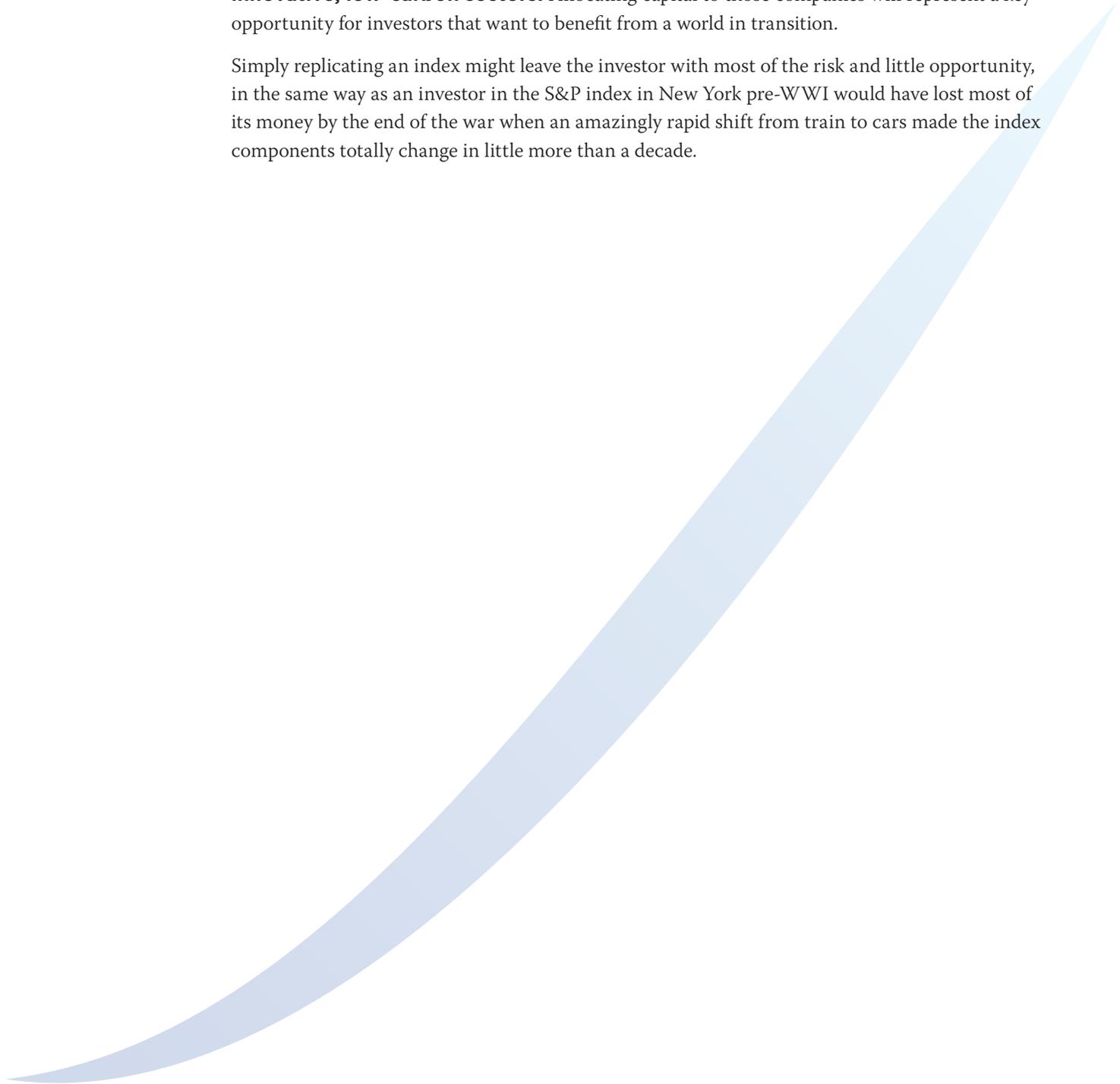
Already, a number of leading individual institutions have already taken strong action unilaterally. Sweden's AP 4; France's FRR, ERAFP, and CDC, and the UK's Environment Agency Pension Fund are only a few of the early examples.

Carbon opportunities

As with every risk, there are — major — opportunities attached to the industrial restructuring being driven by climate change concerns. Being in a position to benefit from the myriad of low carbon opportunities will be at least as important as managing the downside risk, if not more so.

In the same way that many of the large cap companies of today did not exist 20 years ago (e.g. the so called FANG – Facebook, Amazon, Netflix and Google), **many of the large caps of tomorrow are still obscure small caps companies in the cleantech or other innovative, low-carbon sectors.** Allocating capital to those companies will represent a key opportunity for investors that want to benefit from a world in transition.

Simply replicating an index might leave the investor with most of the risk and little opportunity, in the same way as an investor in the S&P index in New York pre-WWI would have lost most of its money by the end of the war when an amazingly rapid shift from train to cars made the index components totally change in little more than a decade.



II • What can be done to handle carbon risk?

Handling carbon risk first means understanding it and how it can affect you as an investor.

We have described how investors can be affected by carbon risk in general terms. More specifically carbon risk is likely to affect all asset classes. While the focus has so far been largely upon investors' equity portfolios, carbon/climate risk is equally relevant to fixed-income, real estate, infrastructure, and real assets. Perhaps even more important is the fact that, even within the very same industry sector, variations in net carbon risk/opportunity exposures can vary by thirty times or more from company to company. It therefore behooves investors to take the time to understand which companies are which.

The next step after understanding is measuring: how much carbon risk are you confronting?

Unfortunately, there is currently no single satisfactory measure of that risk; hence the creation by the FSB of a specific taskforce. We have part of the data through selected carbon emissions — called Scope 1 and 2 — that represent the emissions of the company while manufacturing, but do not include the suppliers' emissions nor the product use emissions (which are called Scope 3). In some cases, product use emissions can represent over 80% of total CO₂ emissions; consider for example car use versus car manufacturing.

However, until there is a perfect metric to measure carbon risk, investors can still get a rough idea of their carbon exposure by analyzing the 'CO₂ footprint' of their portfolios. Indeed, there is a strong surge of both interest and activity by investors in examining the carbon footprints of their current portfolios. We would caution, however, against an excessive reliance on the results: as currently practiced, carbon foot-printing has three cardinal limitations for investors:

- a) The gross footprint is much less telling than the *location* of those emissions: the financial consequences will vary dramatically depending on the regulatory/tax framework;
- b) Foot-printing tells the investor nothing about the *risk management* capabilities of individual companies, which can vary dramatically, even within the same industry sector; and
- c) It similarly completely ignores both the level of upside carbon *opportunity* available to individual companies and their strategic and operational capabilities to exploit that potential.

As long as these limitations are borne in mind, a carbon foot-printing exercise can, however, provide a rough first indication.

Having developed an understanding of climate change, which is then enhanced through portfolio measurement of carbon, the next step for investors is to act. To act upon carbon risk and to 'decarbonize' a portfolio, an investor has previously had little choice:

Divest from fossil fuels

Fossil fuels are the primary source of CO₂ emissions, and divesting results in a significantly reduced carbon footprint; but investors are still exposed to the sectors that use fossil fuels. The divestment approach sends a strong message to part of the industry, but it does not provide solutions. Moreover, by divesting, the investor loses all opportunity to engage proactively with a company and press for transition.

Investor Carbon Pathway

The three simple steps for investors are:

1. Understand
2. Measure
3. Act

Low carbon indices

On the face of it, low carbon indices allow an investor to decrease its carbon footprint, but they actually change very little; even with the companies one 'owns.' There is generally zero interaction or opportunity for a dialogue with companies to promote improvements. Investors that adopt this approach would not be protected from the type of total shift in the index that happened to the S&P at the beginning of the 20th century. Nor would investors be able to benefit from emerging new companies. Finally, by definition, a passive index can never achieve financial outperformance.

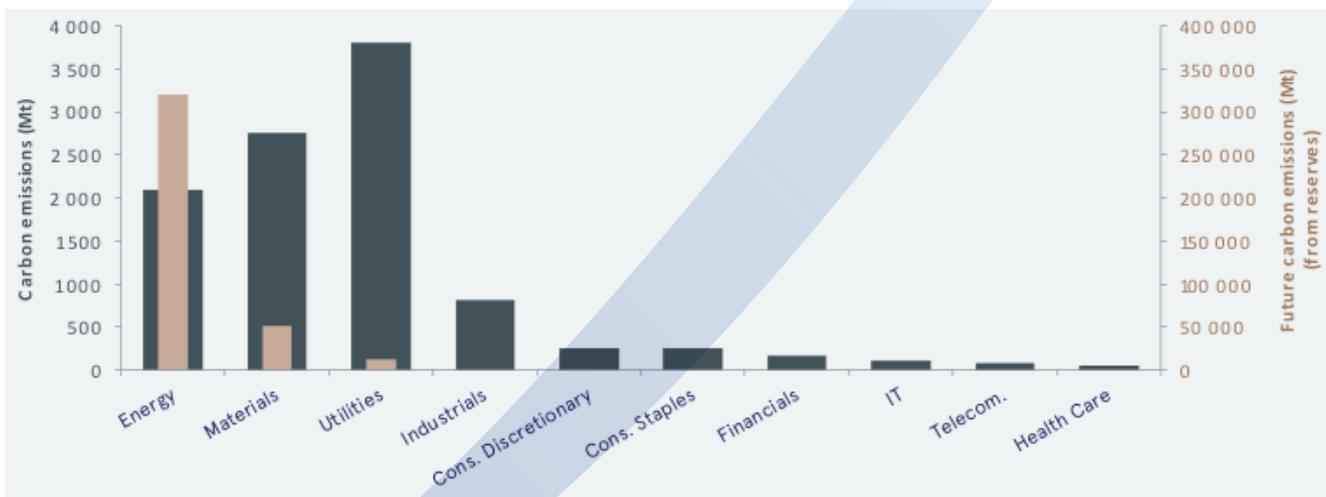
Renewable Energy

Investors can start to decarbonize by investing in companies that provide solutions for a low-carbon economy. One of the limitations however is that renewable energy and cleantech companies are still largely unlisted. Where they are listed, they tend to be relatively volatile. They are particularly susceptible to factors such as macro-economics, oil prices, and policy risk as governments change their levels of support for renewables, to cite just a few of the associated investment risks. As a general matter, the renewable energy and cleantech sector is, at the moment, simply too volatile to represent more than a very tiny part of a typical institutional investor's total asset allocation, although we may see that change.

Underweight the carbon-intensive sectors

An easy way to decarbonize portfolios is by underweighting the carbon-intensive sectors. Four sectors have been identified as emitting more than 80% of the MSCI World CO₂ emission: energy, utilities, materials and industry. By underweighting these sectors investors would automatically reduce their carbon footprint, but at the cost of exposing themselves to huge sector risks and a loss of diversification and risk control. If underweighting became a mainstream practice, it would have implications for the economy. For instance, it would be extremely difficult to manufacture bicycles, never mind 21st century mass transit, self-driving cars, and other mobility solutions let alone feeding a growing world population, providing modern health care, and so on.

In sum, while each of these four approaches has some merit, we believe that they all have significant limitations which will make them problematic for mainstream investors. For that reason, we have spent over nine months crafting an investment solution which we believe overcomes all of the most significant limitations of current approaches.



SOURCE: MSCI ESG RESEARCH, MSCI ESG CARBON METRICS PRESENTATION, P. 6

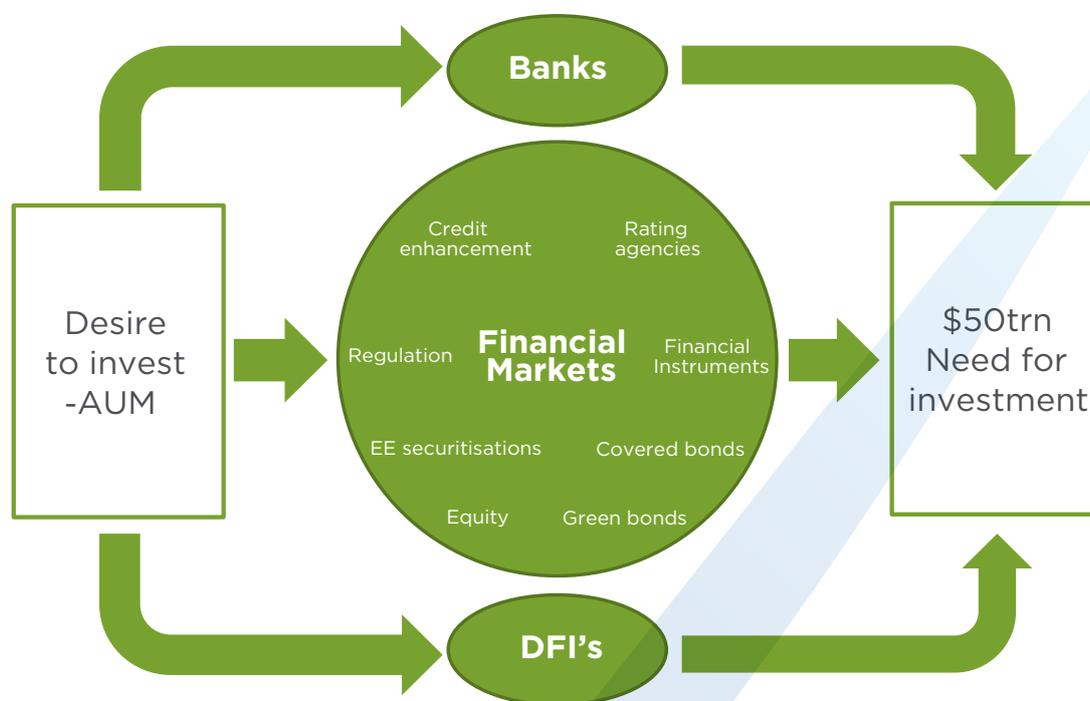
III • What solution does the Zero Carbon strategy bring?

We believe that the solutions offered to investors so far, have been limited in their scope and ambitions, and that there should be more innovative approaches to climate change and energy transition risks and opportunities. We believe the emergence of a low-carbon economy is creating asset management opportunities, especially at a time when competitive renewable energies are making it possible to consider investments that are both vital to contain climate change and offer the potential for better financial performance.

Our Zero Carbon strategy is one of the most well-thought-out and innovative solutions available. It broadens the choices offered to investors and combines the ability to take into account the world's reality and transitioning process as well as the financial constraints of diversification. Being carbon neutral, it fits into the decarbonisation efforts of investors.

While DFIs and banks have historically provided much of financing, capital markets must now innovate to facilitate investment

SOURCE: CITI RESEARCH (CITI GPS: GLOBAL PERSPECTIVES & SOLUTIONS, AUGUST 2015)



Our investment thesis is simple: companies able to manage the risk and rewards of climate change are more responsive and more agile; in other words better managed and therefore, in our opinion, more likely to outperform their competitors.

With a view to creating a net “carbon-free” portfolio, companies with the lowest — current or future — carbon footprint within each carbon-intensive sector should be selected. On top of this best-in-class approach, we also consider the major evolutions among the existing big players, and look closely at “companies in transition.” When a major electricity producer starts to shift its production model to alternative sources, it obviously has a massive impact on its carbon footprint, even more so than the emergence of a brand new technology which will take time to deploy on a large scale. Or, when a company like Schneider Electric, with annual revenues of €24.9 billion, generates 40% of its revenues from clean-tech, the influence on energy transition can be significant. This “best in class” approach is supplemented by investments in pure-play solution providers, whose business model is based precisely on the reduction or prevention of carbon emissions, and which will act as negative carbon contributors in the portfolio.

The combination of these three business types (best within carbon intensive sectors, companies in transition and solution providers) in a single portfolio can therefore meet three objectives simultaneously: superior financial performance, accelerated transition to a lower-carbon economy and a zero-carbon profile.

We are cognizant of the need investors have to report to their constituents and stakeholders, and we make sure that both the financial performance and the positive climate impact can be understood and reported in a clear and meaningful way. The methodology used to calculate a carbon budget for the Zero Carbon strategy incorporates the US Environmental Protection Agency calculator and it is verified twice a year by MSCI ESG. Right now, the companies in transition and what they offset, is not taken into account, which means that the budget is conservative.

We believe the Zero Carbon strategy is an important innovative step forward which helps broaden investors' tool box when considering how to manage climate change and energy transition risks and opportunities, and that it is a means of robustly and effectively influencing the world's future carbon budget.

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is a new, sustainability-driven investment advisory boutique. A research-driven organization, IPCM builds directly on the knowledge base and experience of its predecessor company, which had been ranked by the Thomson Extel survey of institutional investors as the #1 research firm in the world in the sustainability space. IPCM has offices in London and representation, or representatives, in New York, Toronto & Melbourne..

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