DECEMBER 2015 SUMMARY

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ASSESSMENT: THE PARIS AGREEMENT

The Paris agreement represents a historic moment as previous conferences including Copenhagen and Kyoto failed to deliver a legally binding agreement.

'WHAT WAS ONCE UNTHINKABLE HAS NOW BECOME UNSTOPPABLE' – BAN KI MOON, UN SECRETARY GENERAL

The two week, highly anticipated deliberation of COP 21 came to an emotional close on December 12, with 196 countries committing to a universal pledge to reduce their carbon footprint by reducing emissions of greenhouse gases. The deal represents a particularly historical moment as previous conferences including the Copenhagen and Kyoto summits were not able to deliver a *legally binding* agreement.

COP 21's success lies in the major improvements made to the structure of the COP and the overwhelming demand for climate change reform made from asset owners, governments and investors alike. Previous conferences were criticized for building pressure and infringing on national sovereignty by creating policies that individual countries were not ready to initiate. In order to avoid geopolitical tensions and ease negotiations, the Paris agreement allows countries to independently create a nationally determined contribution to reduce greenhouse gas emissions while also requiring participating countries to provide a detailed plan of action to ensure success.

The agreement highlights three key points:[1]

- "Climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions"
- "Deep reductions in global emissions will be required in order to achieve the ultimate objective of the Convention and emphasizing the need for urgency in addressing climate change"
- "Climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity"

[1] *United Nations FCCC/CP/2015/L.9 Distr.: Limited 12 December 2015 Original: English FCCC/CP/2015/L.9 2*

The Paris agreement requires countries to communicate a plan of action by 2020 and provide five year updates beginning in 2018. The agreement focuses on a carbon reduction to keep the global temperature increase limited to 1.5 to 2 degrees Celsius. The agreement also calls for a transparency system requiring countries to candidly disclose their regulatory progress and carbon footprint reduction. While the overall agreement is legally binding, the individual country targets that are set forth by each country respectively are not. The *non-legally binding targets* allow the agreement to be immediately accepted by countries like the US (emitter of 14.4% of global emissions[2]) that have had difficulty passing national limits on climate change in the past. In particular, the U.S. administration failed to ratify the Kyoto protocol through the U.S. Senate fearing it would not be passed. Furthermore, the proactive 2020 carbon reduction announcements made by China and the US prior to the conference, ensured that the larger, more carbon emitting countries were committed to aggressively pursuing climate change and sent a strong signal to other participating countries.

While the agreement is being hailed as historic and transformative, there are some key challenges which still need to be met. First, and most importantly for the agreement to take effect, at least 55 countries have to ratify the agreement by passing it through their respective government systems. Furthermore, these 55 countries must account for at least 55% of the total global greenhouse emissions. Additionally, developed countries have been asked to raise USD 100 billion to help developing countries also meet their goals using sustainable technology. Countries have till the next UN Summit in April, 2016 to ratify the bill.

Secretary General Ban Ki-Moon ended the conference with his remarks stating, "With these elements in place, markets now have the clear signal they need to unleash the full force of human ingenuity and scale up investments that will generate low-emissions, resilient growth,"[3]

Risk and opportunities for asset owners

The Paris agreement presents both risks and opportunities for asset owners, as energy-intensive industries could be disproportionately affected by new regulations on carbon emissions and reserves. In fact, the University of Cambridge Institute for Sustainable Leadership has suggested that portfolios could lose up to 45% due to global warming.[4]

The biggest risk to investors is at the industry level, in sectors such as coal, oil and utilities. Companies from these sectors could suffer from stranded assets (assets suffering unanticipated write-downs) due to future regulation devaluing current assets that are heavily carbon reliant and the steadily decreasing costs of renewable energy.

We also note the growing issues of reputational risk and activism – we have seen recent examples in North America of students lobbying at universities and demanding changes to investment policies. These risks are particularly relevant in the public sector where there is a high level of public scrutiny.

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[2] *World Resources Institute- US climate commitment should spur other Countries to act*
[3] *http://www.npr.org/sections/thetwo-way/2015/12/12/459464621/final-draft-of-world-climate-agreement-goes-to-a-vote-in-paris-saturday*
[4] *University of Cambridge Institute for Sustainability Leadership (CISL) - The report, "Unhedgeable Risk: How climate change sentiment impacts investment*

Preparing for change

In response to this risk, many asset owners made changes to their portfolios prior to COP 21. Pensioenfonds Zorg en Welzijn, the second-largest pension fund in the Netherlands, has committed to increasing its sustainable investment to EUR16bn by 2020 and reducing the carbon footprint of its portfolio by 50%. AP4, the Swedish National Pension Fund, has committed to decarbonizing its entire equity portfolio by US$20 billion by 2020. There are a number of investment tools that could be used to reconfigure portfolios in response to climate change. Divestment is an option, although this effectively removes the investor's engagement with the firm, which is another potential tool. Decarbonizing portfolios and focusing on renewables and green alternatives are other possibilities.

If you are interested in learning more, *watch our Global Head of ESG, Mamadou-Abou Sarr on Asset TV's recent institutional investors master class* providing insights on low carbon investing.

CARBON PRICING: CHALLENGES AND SOLUTIONS

Effectively pricing carbon will be key in order to accurately account for the cost of negative externalities

COP 21 focused primarily on climate change reform resulting in a legally binding commitment to reduce the global carbon footprint by allowing each country to set its own respective climate change laws. One method that has long been debated is the ability to price carbon so as to allow the market to effectively take into account the cost of negative externalities on portfolios.

In the past, the discussion around carbon pricing has proven futile with delegates arguing the legitimacy of estimates, data, and the feasibility of a monetary solution to climate change. The fact is, carbon pricing is seen as a popular option that must be discussed if we are to keep below the 2°C threshold to prevent catastrophic climate change. The question remains, how does one price a negative externality whose affects are not 100% certain?

Can we price thin air?

Experts have widely acknowledged a need for carbon regulation and carbon pricing as one way the market can understand the true negative externality of carbon. However, quantifying a carbon price has proved to be a tricky task complicated with multiple assumptions that can cause confusion even among the most committed. The IMF suggests a carbon price of $25/ton but market estimates range anywhere from $5/ton to $100/ton. According to Bob Litterman, one of the key thought leaders in the ESG and carbon space, the true problem lies within the underling fact that we are unclear of the extent to which climate change will cause environmental damage. As such, it is hard define monetary value based on a wide range of climate change extremities. One solution he suggests is to consider all pricing based on catastrophic climate change. By implementing this, the market is pricing carbon to the worst possible outcome thereby making only one ultimate assumption. This argument again begs the question, how can investors quantify this and how can they put a value on the discount rate and timeframe of this strategy?

Carbon Tracker, specialists in carbon investment risk, maintains a similar argument whereby forward looking carbon analysis is needed to understand whether long-term systemic risk exists. With greater integrated reporting of financials and sustainability, there may be a better chance that both are considered together. An integrated approach may not be a distant idea. Much of this work is currently being done by the Sustainable Accounting Standards Board (SASB). SASB is a nonprofit organization that is developing sustainability accounting standards by dividing disclosure topics industry-by-industry. SASB defines and analyzes material impacts for 30 sustainability issues across all industries. With greater transparency, the correct regulation can be passed with quantitative evidence used to support the analysis.

Overall, to increase regulation and determine pricing, key metrics need to be defined and placed prior to carbon taxation or it could disrupt market flows and reduce overall market growth. Litterman points to a trade-off that can occur between carbon limits and economic growth. Typically greater economic growth leads to an uptick in carbon output. Regulatory bodies will need to find a price that will make investors think about the social cost of carbon, without deterring the market from achieving its growth potential. Greater taxation would lead to a decrease in market productivity, whereas underpricing carbon wouldn't change the current environment enough to move the needle toward a low carbon economy.

HOW CAN INVESTORS RESPOND TO CARBON CHANGES?

QLC provides exposure to high-quality companies while reducing the carbon footprint of the portfolio along two carbon dimensions – carbon emissions and potential carbon emissions (from fossil fuels reserves)

With much unknown and an overwhelming pressure to keep global temperatures from rising, the question still remains, how might this climate change agreement impact investment portfolios?

At Northern Trust Asset Management, we believe this can be done in two ways: either through seeking opportunities or by managing risk. While investors may look to invest in other opportunities that give them exposure to low carbon options including renewable energy or green initiatives, this may be a very difficult task. You may choose a profitable overall energy project but choose the incorrect technology to invest in. For the risk sensitive investor, this may not be the best overall option.

Risk management may be more apt for investors who view carbon risk as one of many investment related risks. Managing carbon risk in an equity portfolio can be accomplished through a reduction on the carbon footprint of the portfolio vis-à-vis a reference point such as a cap weighted index. When taking such an approach, one needs to be aware of unintended risks and the steps that can be taken to manage it.

To provide a broad-based diversified strategy focused on carbon risk reduction *and* risk-adjusted returns, we have developed the Northern Trust Quality Low Carbon (QLC) strategy. This solution combines the virtues of factor-based investing within a low-carbon framework while controlling for other risks. By introducing a compensated risk factor such as the Northern Trust Quality Score (NTQS) in a low carbon framework, it allows strategies to achieve multiple objectives including carbon reduction and performance.

A high-quality company is more profitable, managed more prudently, and generates more cash flow than its peers.

We define quality using a multi-dimensional philosophy that measures financial factors including management efficiency signals, profitability ratios, and cash flow generation... Our analysis shows that high-quality companies have outperformed low-quality companies when measured over a full business cycle. In other words, high-quality companies have the financial strength to meet the coming challenges and costs of a movement toward a low-carbon economy. We believe these features are necessary for success in a low-carbon economy.

The overall solution aims to reduce the carbon content of the portfolio by 80%. By marrying the financial credibility and analysis of our quality score with companies that have lower carbon risk, we are able to mitigate more than just climate change risk but also achieve investment performance goals.

*More information can be found in our paper *Preparing for a Low Carbon Economy*.

CASE STUDIES: REFLECTIONS ON POOR GOVERNANCE

The link between governance and valuation risk has best been realized over the past few months, with multiple companies facing legal fines and litigation. To name but two examples, Volkswagen recently admitted to tampering with their emissions software so as to bypass the nitrogen oxide standards and Toshiba admitted to inflation of earnings, causing shareholder lawsuits and financial penalties. These cases are highlighted below:

Volkswagen: The continuing impacts of emissions test evasion

Volkswagen continues to deal with the EPA's issuance of a notice of violation against the company for evading emissions tests and building cars with pollution levels at up to 40 times legal limits, with up to 11 million cars affected worldwide. Potential fines have reached USD 18 million and are almost certain to increase. Volkswagen has taken some strong actions, including entirely ceasing the production of diesel cars, recalling 500,000 vehicles, and it continues to address governance concerns.

From an environmental perspective, the fallout continues. In November, the company stopped having its environmental record assessed by the Carbon Disclosure Project and also cancelled its membership in the United Nations Global Compact, the UN's corporate sustainability initiative of which it had been a member since 2002. The Compact consists of 10 principles, including protecting the environment and rooting out corruption.

This case also draws attention to weaknesses in the ability of the firm's governance- namely its supervisory board-and the potential need for outside leadership. Even before the scandal, the board was engaged in a succession dispute between Chairman Ferdinand Piech, who resigned in April; and CEO Martin Winterkorn, whose contract has now been extended through 2018. CFO Hans Dieter Pötsch, who has ties to Volkswagen's controlling families, has been nominated to serve as Chairman. The board has only one member who is not a major shareholder, and no members bring outside industry experience. The majority of the firm's stock is still controlled by the founding family's heirs. Concerns also exist about the independence of the firm's financial reporting.

Toshiba

Hopes are dimming that the investigation of Toshiba's admitted inflation of earnings by at least US$1.2 billion will be resolved quickly. New losses were revealed in November at the U.S. nuclear unit Westinghouse. The broader scandal led to eight out of 16 board executives resigning in July, and the firm continues to address its admitted accounting controversy through changes in governance. The company posted a US$310 million loss and will pay no dividend for the 2014 financial year. The stock has also showed a steady decline since the incident.

To address governance, nominees of outside directors were announced for the audit, nominating and compensation committees. The audit committee will be comprised of outsiders and two accountants.

The firm also filed a damages lawsuit against several former top executives, including former presidents Hisao Tanaka, Norio Sasaki and Atsutoshi Nishida, over their role in the company's accounting scandal. The lawsuit has been criticized as not going far enough, with only five executives named.

Both of these examples demonstrate how poor governance structure and lack of checks and balances can truly be a valuation risk. This describes the rising importance of monitoring governance as a part of the ESG integration process. This topic has to stretch beyond executive pay, but analysts must take into account the level of transparency and accountability that exists at a company. Corporate governance should be about creating long-term value between shareholders and the company. Shareholders should aim to be more engaged using their stewardship rights to hold corporations accountable to the standard that they claim.

An argument can be made that stakeholders should not divest from companies that have undergone controversies like Toshiba and Volkswagen. The process of engagement allows shareholders to help shape and restructure the conversation around governance. Engagement also allows shareholders to maintain a long-term, active dialogue to influence company behavior in relation to their social, ethical and environmental practices. By holding shares in these companies, stakeholders have a seat at the table to help form the conversation and hold management accountable for the decisions they make.

SHARED PROSPERITY: IMPACT OF NEW REGULATORY CHANGES BY THE US DOL ON RESPONSIBLE INVESTORS

RECENT INTERPRETATIVE BULLETIN RELEASE COULD UNLOCK CAPITAL WITHIN ERISA-GOVERNED PLANS

The new guidance acknowledges that in some cases ESG factors may have a direct relationship to the economic and financial value of the plan's investment. Thus ESG risk factors are not merely collateral considerations, but rather they properly round out the fiduciary's investment analysis.

Under the Employee Retirement Income Security Act (ERISA) of 1974 – which governs trillions in U.S. retirement fund investments – pension plan sponsors must act in a prudent manner when it comes to investment decisions for the exclusive benefit of plan beneficiaries. Over time, the US Department of Labor (DOL), which enforces these rules, has provided guidance on its interpretation of the law. The topic of ESG* considerations and its fit into the DOL's guidance has been reviewed before, in 1994, and the latest was in a 2008 Interpretative Bulletin (IB 2008-01).

More recently, some investors have been critical of the current 2008 guidance stating that it discourages investors from making commitments to responsible investment. In fact, very specific recommendations have been made to the DOL by a U.S. National Advisory Board that was formed to focus on the domestic policy agenda in the key area of impact investing after a 2013 G8 meeting[1]. Just recently, the United Nations-supported Principles for Responsible Investment (PRI) and the United Nations Environment Programme Finance Initiative (UNEP FI) published a report, "Fiduciary Duty in the 21st Century", where they also made specific suggestions to the DOL to clarify several items and to reissue their 2008 guidance – again – the authors felt that the current guidance has unduly discouraged fiduciaries from considering ESG factors or investments.

In 2014, the DOL started to research investor and stakeholders' views on the 2008 Interpretative Bulletin to better understand what was needed in terms of regulatory guidance and determine whether changes are needed. Northern Trust Asset Management was invited to contribute to the "Investing for the Future" roundtable conversation on this topic in late 2014 with members of the DOL and the Honorable Thomas Perez, Secretary of Labor. Other roundtable participants included representatives from the Forum for

Sustainable Investment (US SIF), Pension Rights Center, B Lab, Harvard Kennedy School, large corporations, and many others. Our role in the discussion was to share our global perspective on ESG investing and to provide commentary on portfolio implementation. Several topics were discussed including the types of asset owners currently incorporating ESG factors in their portfolios. For example, some very large public pension plans are notably doing so, but there is a lack of ESG usage by private pension plans. The fiduciary standards put in place that govern public plans are rooted from ERISA, which begs the question of why are we seeing fewer ESG factors incorporated in private plans.

As a result of the DOL's research the department released its new Interpretative Bulletin (IB 2015-01) on October 22, to provide guidance on the investment duties of plan fiduciaries under ERISA regarding ESG investments. This new guidance came into effect on October 26, 2015. In an effort to correct the misperceptions of IB-2008-01, the department withdrew the bulletin and is replacing it with the new IB 2015-01. The new guidance reinstates a lot of the language from the original 1994 bulletin that confirms the department's longstanding view that plan's fiduciaries may invest in ESG strategies based, in part, on their collateral or non-financial benefits so long as the investment is appropriate for the plan based on its financial attributes.

The new guidance does not compromise the financial obligations of retirement plan sponsors to their participants. Fiduciary duty is and will always be paramount; therefore we do not believe this new bulletin will place improper pressure on plan fiduciaries that choose to incorporate ESG considerations. The new guidance returns to the basic principles of the 1994 bulletin in which the DOL outwardly states that it does not prevent plan fiduciaries from investing plan assets in investments that have collateral benefits in addition to investment returns.

In addition, the new guidance acknowledges that in some cases ESG factors may have a direct relationship to the economic and financial value of the plan's investment. Thus ESG risk factors are not merely collateral considerations, but rather they properly round out the fiduciary's investment analysis. As a result, no special documentation is needed for such investments that integrate ESG factors. In our opinion, this is a very important claim by the DOL and is aligned with a very modern view on ESG integration within a portfolio. This is also consistent with Northern Trust's ESG philosophy that investors should not be forced to choose between investment performance and responding to their principles or beliefs.

Responsible investors have welcomed this regulatory change to the evolving ESG investing marketplace. Ultimately we move closer to allowing more private capital to meet this investment opportunity, which shall result in shared prosperity amongst all of us investors and stakeholders.

*Note: Economically Targeted Investments (ETIs) is the formal DOL term for ESG or SRI investing that they primarily use in their Interpretative Bulletins.

1 – US National Advisory Board, Private Capital Public Good Report, 2013-14

ESG INDEX RETURNS

ENVIRONMENTAL SOCIAL GOVERNANCE (ESG) BENCHMARK PERFORMANCE

	RETURN		
	1 Year	3 Years	5 Year
ESG Benchmark			
MSCI World ESG	(0.44%)	11.81%	9.88%
MSCI World SRI	(0.90%)	11.27%	9.23%
MSCI World	(0.17%)	11.58%	10.13%
FTSE 4Good Global	(0.90%)	11.60%	10.20%
FTSE 4Good Global 100	(1.80%)	10.60%	10.00%
FTSE All-World Developed	(0.20%)	11.30%	9.90%
Dow Jones Sustainability World Index	(6.19%)	7.39%	6.56%
Dow Jones World Index	(0.19%)	11.36%	9.77%
Dow Jones Sustainability Europe Index	(4.92%)	6.61%	6.20%
Dow Jones Europe Index	(3.32%)	7.43%	6.79%
MSCI Pacific ESG	2.55%	8.73%	5.59%
MSCI Pacific SRI	2.63%	8.86%	5.22%
MSCI Pacific	0.40%	7.13%	4.70%
Dow Jones Sustainability Pacific Index	(3.49%)	4.44%	3.57%
Dow Jones Pacific Index	(2.53%)	5.24%	3.42%
MSCI North America ESG	(0.85%)	14.13%	11.91%
MSCI North America SRI	(2.73%)	12.74%	10.48%
MSCI North America	(1.30%)	14.68%	13.13%
Dow Jones Sustainability North America Index	(1.74%)	12.50%	10.77%
Dow Jones Americas Index	(0.34%)	13.10%	11.59%

Index performance data contain backtested returns. All data as of November 2015.
Source: Northern Trust, FactSet, MSCI, S&P Dow Jones, FTSE. Data as of November 17, 2015. All returns are gross of dividend withholding taxes.

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