June
2015

Hot Topics in Corporate Responsibility

The Role of Finance Leaders in Managing Climate Change by Aya Ghaleb

Foreword by Professor David Grayson CBE, Director of the Doughty Centre for Corporate Responsibility

"Follow the money" was the famous advice of Deep Throat – the whistle-blower who helped the journalists Bernstein and Woodward to unravel the Watergate scandal and end the Nixon presidency. "Follow the money", or at least "engage the money", would also be good advice for advocates of corporate sustainability and sustainable development. Thanks to the efforts of NGOs such as CDP, Carbon Tracker and ShareAction, there is greater awareness of how environmental pressures will impact global finance. Mark Carney, the governor of the Bank of England, has ordered environmental stress tests for UK financial institutions.

Writing in the Wall Street Journal, the veteran Wall Street banker and former US Treasury Secretary, Hank Paulson declared: "When the credit bubble burst in 2008, the damage was devastating. Millions of people suffered. Many still do…..We're making the same mistake today with climate change. We're staring down a climate bubble that poses enormous risks to both our environment and economy. The warning signs are clear and growing more urgent as the risks go unchecked."

Aviva Investors has produced a "Roadmap" to more sustainable financial markets. The UN Economic Programme Finance Initiative is almost three-quarters of the way through a 2-year inquiry into a more sustainable financial system. Movement is happening. This brief Hot Topic from a full-time MBA student examines some of the issues involved.

About the Author

Aya Ghaleb, currently studying for an MBA at Cranfield School of Management, is an experienced business analyst with diversified experience in a leading bank in Egypt, mainly in Corporate Banking, Business Analysis and Management Reporting and Planning. She has a proven track-record of academic excellence and high job performance, hence, was handpicked by the bank's C-suite to join an accelerated career path programme and to be mentored by the bank's Vice-CEO. She worked with C-suite on various strategic projects due to proven analytical, presentation and communication skills. She is passionate about making a positive impact through developing people.

1. Executive Summary

Climate Change has become an unequivocal threat facing all businesses. It is no longer a matter of environmental advocates; leaders across the entire business spectrum are becoming more concerned day by day about the impact of climate-related hazards on their investments. The financial sector, as well, can no longer insulate itself from climate events regardless of the level of sophistication of their hedging products and/or risk mitigation techniques. Unfortunately though, the current measures in place are neither adequate to price risk nor to mitigate it.

Financial institutions have started showing interest in the possible adversarial impacts of climate change on their assets, financial investments and their valuation of companies' creditworthiness. There is a belief that accounting for current and future climatic changes might lead to impaired profitability and even possible insolvency in some situations Given the ultimate notion that the financial sector is the backbone of any economy, it is of paramount importance to adjust the current governing policies and regulatory frameworks to avoid possible snowball effects or compounded risks in case of facing a catastrophic climate event.

This report sheds some light on the impact of climate changes on the financial sector in the U.K. It briefly discusses the implications of extreme events on insurance companies, banks and asset management funds. It also touches upon the role of finance professionals in managing climate change and finally concludes by a personal reflection (based on extensive readings), which applies Kotter's eight stages of leading change, to understand where the sector currently stands and what other actions that could be taken to stimulate the change process.

2. Background: Climate Change at a Glance

Climate Change has become unequivocal and well observed in different parts of the world. The volume of snow has significantly subdued, the weather has become much warmer and rise in sea levels is accelerating. Research points out that global average temperature is projected to surpass the current level by 2.6-4.8 °C if emissions of greenhouse gases (GHG) continue growing at this pace[1]. As described by the Department for Environment Food and Rural Affairs (Defra) in the U.K, "climate change represents an unprecedented and highly complex threat to long-term economic interests" [2].Officials realised that substantial amount of effort is required on the all levels in order to curb the rise in temperature even if GHG emissions stop immediately[3]. Global consensus was reached to set a target for the average temperature not to increase by more than 2 degrees Celsius. This necessitated a cut of 60%-80% in global GHG emissions by the year 2050. In light of this decision, the U.K government announced its goal to reduce emissions by 60% by 2050[4].

3. Climate Change and the Financial Sector

It has become inevitable for financial institutions to ignore the threats imposed by climate change on their businesses[5]. Such risks imply that policy makers will have to adjust regulatory frameworks to ensure that financial services institutions are taking part and actively engaging in addressing the climate change issue. These changes, however, suggest that financial institutions should be able to adequately identify and price climate risk and account for it in their reporting requirements. Financial institutions will also have to adapt their products and services and their internal procedures to meet the new challenges facing their clients on the one hand and protect their own viability on the other hand[6].

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[1] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)

[2] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)

[3] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)

[4] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

[5] Steiner, A. Energy and Climate Change. United Nations Environment Programme.

[6] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

Several initiatives were launched by the United Nations Environmental Programme (UNEP) during the last couple of years to generate financial policies that promote reduction in GHG emissions. Collective efforts were paid to amend the regulations and policies governing financial systems, chief amongst which were[7]:

- A call for the Bank of International Settlements to amend Basel III banking requirements to account for environmental impacts.
- Encouraging the performance of environmental stress testing to financial markets.

4. The Implications of Climate Change on Financial Institutions

It is no longer plausible for the financial sector to insulate itself from the risks of climate-related hazards. Financial institutions have started showing interest in the possible adversarial impacts of climate change on their assets, financial investments and their valuation of companies' creditworthiness. There is a belief that accounting for current and future climatic changes might lead to impaired profitability and even possible insolvency in some situations. Attempts to set a cap for the use of fossil fuels, for instance, is expected to have severe implications on the creditworthiness hence the market capitalization of companies operating in the energy sector[8]. In this respect, some financial institutions have realised the need to factor in the risk of climate change in their financial models[9]. In the next section, a brief discussion is provided about the possible implications of climate change on insurance companies, banks and asset management activities.

4.1. Insurance Companies

Opposite to the widely accepted notion that threats represent business opportunities for insurers, climate experts predict that the world will be facing extreme weather events that will result in catastrophic losses to insurance companies. The rate of property damage is increasing and it is expected that insurance pricing will soon become under-priced by approximately 30% particularly because it highly relies on historical prices. The Association of British Insurers projected losses to reach 3.3 billion euros by 2050[10].

4.2. Banks

Bank loans are a key source of external financing for most companies. This means that banks' holding portfolios in the fossil fuel sector will be subject to deterioration in their credit risks if the policies to reduce emissions of GHG generate costs for the energy companies. This will also cause volatility in the prices of all climate related commodities and will create a lot of uncertainties around bank's financial projections[11].

4.3. Asset Management Funds

Both investors and fund managers are interested in knowing which of their assets are at risk and what the value of that risk is. This means that they must comprehend the extent to which the assets are prone to climate change[12]. The logic suggests that the increase in greenhouse emissions every

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[7] Steiner, A. (2014). *Climate Change and Financial Stability.* G20 Australia Summit: Brisbane. Available at: http://g20.newsdeskmedia.com/Images/Upload/micro_sites/G20_Australia/PDFs/Climate-change-and-financial-stability.pdf (Accessed at : 18/03/2015)

[8] Miltner, S. (2013). *Would you drive a motorcycle without a helmet?*. Deutsche Bank Available at: http://www.frankfurt-main-finance.de/en/toolbox/news/news/11971/ (Accessed: 18/03/2015)

[9] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)

[10] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

[11] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

[12] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

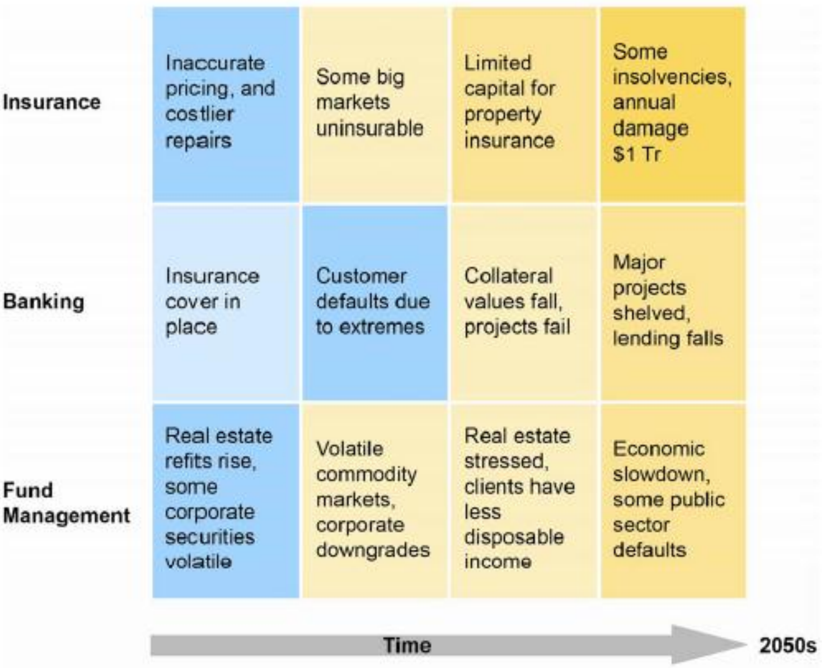
year entails a higher risk for their long lived assets[13]. However, the effect of the climate change varies widely depending on several factors including[14]:

- ***The geographic location of the assets/investment:*** whether they are located in areas prone to climate change risks. Needless to mention, cross-border investments impose a further risk due to the interconnectedness between the financial markets. The 2005 Hurricane Katrina is a big proof of that, worthy to note though that expectations for the impact of climate hazards in emerging markets on the U.K financial system are much more severe.
- ***The nature of the asset/investment:*** whether the investment is dependent on natural resources to operate.
- ***The duration of the asset/investment:*** longer term investments are believed to be more prone to climate change.

A 2013 survey targeted at asset managers, who are managing a portfolio of $14 trillion, highlighted that 53% of them base their decisions to invest or divest on climate change data. 69% of the asset owners further reinforced the results by claiming that their fund managers did change their decisions based on climate factors[15].

Figure 1 summarizes the above discussion highlighting the long term impact of climate changes on the three different financial institutions.

Figure 1: The Impact of Climate Change on Financial Institutions



Source: Baglee, A., Haworth, A. and Anastasi, S. (2012)[16].

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[13] Fabian, N.(2012). 'The Politics of Climate Change and its Impact on Financial Markets: a rebuttal'. *InFinance-The Magazine for Finisia Members,* 126(2), pp. 40-41

[14] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)

[15] Miltner, S. (2013). *Would you drive a motorcycle without a helmet?*. Deutsche Bank Available at: http://www.frankfurt-main-finance.de/en/toolbox/news/news/11971/ (Accessed: 18/03/2015)

[16] Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.g

One of the paramount outcomes of climate changes was the evolution of the "green bond" market. Green bonds are securities with proceeds allocated to green projects that promote environmental sustainability. A very specific example of which are "Climate Bonds" which are instruments financing projects that tackle climate change and contribute to achieving a low carbon economy[17].

5. The Role of Finance Leaders in Managing Climate Change

In her October 2013's article, Sabine Miltner, Deutsche Bank's Group Sustainability Officer highlighted several important aspects that are worth mentioning. Miltner suggested that companies deploying policies to manage climate change have a lower cost of debt, higher bottom line profits and more stable cash flows. She also noted out that a lot of question marks have arisen about the role of the banks in exacerbating GHG emissions through their investments. In her view "over the next two years, the financial sector will develop new tools to measure the emissions that arise from bank business activities"[18]. Measures as such will encourage banks' to promote investments in longer term "greener" investments and environmental technology[19]; green investments are expected to be a huge business opportunity for all financial institutions in the future reaching a rough estimate of $790 billion per annum by the year 2020 and almost $2.3 trillion by 2035[20].

On a similar note, finance leaders (both policy makers and industry professionals) need to be aware of their role in reducing GHG emissions. As suggested by the UNEP, there are a wide array of actions that they can take to manage climate change risks. While some of them address strategic issues related to the governing policies of the financial sector, others are focusing on decisions taken by finance professionals. These actions include[21]:

a. ***Encouraging new industry practices:*** through financing low carbon projects and energy efficient companies. As previously mentioned, financing green investments represents a huge opportunity for financial institutions. There is a huge gap though that financial leaders don't seem to be exploiting yet.

b. Reducing the financing of fossil fuel companies: loans from banks are the key source of financing for most companies and can hence be amended to drive longer term sustainability. This, however, entails that policy makers consider changes in regulatory requirements that have reduced the risk appetite of banks and promoted shorter term investments. Most of the green investments require long term capital.

c. Actively Engaging with Companies: leaders of financial institutions can also influence how companies address climate issues whether as debt issuers or equity holders through exercising their ownership rights.

It is worthy to highlight that policy makers and finance professionals should continue coordinating their efforts to come up with integrated financial strategies and clear regulatory frameworks to avoid the possible snowball effects and compounded risks of climate changes. To further illustrate, if an insurance company face property losses due to an extreme event so will the property investors and the banks that financed the building of the property[22]. Leaders of the financial sector should also

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[17] UNEP Finance Initiative. (2014).*Climate Change: Implications for Investors and Financial Institutions.* Available at : http://europeanclimate.org/climate-change-implications-for-investors-and-financial-institutions/ (Accessed: 18/03/2015)

[18] Miltner, S. (2013). *Would you drive a motorcycle without a helmet?*. Deutsche Bank Available at: http://www.frankfurt-main-finance.de/en/toolbox/news/news/11971/ (Accessed: 18/03/2015)

[19] Miltner, S. (2013). *Would you drive a motorcycle without a helmet?*. Deutsche Bank Available at: http://www.frankfurt-main-finance.de/en/toolbox/news/news/11971/ (Accessed: 18/03/2015)

[20] UNEP (2014). *Financial Institutions Taking Action on Climate Change.* Available at: http://www.unepfi.org/fileadmin/documents/FinancialInstitutionsTakingActionOnClimateChange.pdf (Accessed at: 18/03/2015)

[21] UNEP (2014). *Financial Institutions Taking Action on Climate Change.* Available at: http://www.unepfi.org/fileadmin/documents/FinancialInstitutionsTakingActionOnClimateChange.pdf (Accessed at: 18/03/2015)

[22] Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)

make sure that climate change risk is properly priced, continuously managed by financial institutions and that all the initiatives described above become mainstream[23].

6. A Personal Reflection

Even though almost 90% of business leaders know that their companies should have a role towards societies, only 20% of them do have a clear idea of what their role could be[24]. Similarly, most of the leaders in the financial sector are still so much engrossed in generating profits and creating shareholder value believing that their social purpose is restricted to what their organizations do through their Corporate Social Responsibility division. This is no longer the case. Taking an active role in building a sustainable economy is a must if leaders are to succeed in growing their businesses in the future as demonstrated in figure 2.

Figure 2: Current and Future Leaders

(Source: "Combining profit and purpose", The Doughty Centre for Corporate Responsibility for Coca-Cola Enterprises, October 2014)

Research suggests that initiatives undertaken by the financial sector in the UK to combat GHG emissions is still at a very early stage. By applying Kotter's model of leading change[25], it seems that "the sense of urgency" was only created at a strategic level (particularly policy makers) but was not properly cascaded to the lower leadership levels of financial institutions who are the daily decision makers. One can even argue that the sense of urgency was not entirely effective because so far there are no clear guiding policies or regulatory framework that stimulate change in the way the financial sector is currently operating. Since finance professionals are mostly driven by numbers, they will not attempt to change their current practices so long as their bottom line profits are not affected.
In light of the above, leaders of the financial sector should exert more effort to bring those taking financial decisions on board. This can be achieved through:
Clearly communicating the risks as well as the opportunities of climate changes on financial institutions. Finance professionals are "opportunity-maximisers" [26]at the same time. Hence, a very

[23] UNEP (2014). *Financial Institutions Taking Action on Climate Change.* Available at: http://www.unepfi.org/fileadmin/documents/FinancialInstitutionsTakingActionOnClimateChange.pdf (Accessed at: 18/03/2015)
[24] "Combining profit and purpose", The Doughty Centre for Corporate Responsibility for Coca-Cola Enterprises, October 2014
[25] Kotter, J. (2014). Leading Change – Why transformation efforts fail, Harvard Business Review, Reprint R0701J
[26] Grayson, D. (2015). 'The Responsibility Challenge'. [Lecture], *Challenges of Leadership II.* Cranfield University. 25 February

effective driver of change could be explaining the volume of business opportunity available in transforming into a sustainable economy.

Engaging with the lower leadership levels in the financial sector by forming "powerful coalitions" of institutions CEOs that will drive the change. These teams will focus on four key strategic priorities:

- Develop financial models that aid in pricing climate change.
- Consult with policy makers to adjust the current regulatory frameworks to be aligned with the longer term future goal of having a sustainable economy. These adjustments should have clear guidelines related to the lending practices of banks and investments undertaken by asset management companies.
- Consider the possible amendments required in the existing financial products and services to be aligned with the policy changes.
- Partner with industry professionals, particularly those who will be highly affected by the changes (ex. energy companies) to evaluate the challenges they might face and come up with matching solutions.

These coalitions will also be responsible for cascading the change within their organizations.

7. References

- Allianz Group and WWF. (2005). *Climate Change and the Financial Sector: AN Agenda for Action.* Available at: http://www.wwf.org.uk/filelibrary/pdf/allianz_rep_0605.pdf (Accessed: 18/03/2015)
- Baglee, A., Haworth, A. and Anastasi, S. (2012). *Climate Change Risk Assessment for the Business, Industry and Service Sector.* Department for Environment, Food and Rural Affairs. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3DCCRAfortheBusiness%2CIndustryandServicesSector.pdf&ei=jREKVaHCOoTdUYDzgKgB&usg=AFQjCNFpmYLXvZdrncBbAnCZO6Kzcay26A&sig2=XWkTyL0JT1Y3e3_Oh5U3FA (Accessed at: 18/03/2015)
- Fabian, N.(2012). 'The Politics of Climate Change and its Impact on Financial Markets: a rebuttal'*. InFinance-The Magazine for Finisia Members,* 126(2), pp. 40-41
- Grayson, D. (2015). 'The Responsibility Challenge'. [Lecture], *Challenges of Leadership II.* Cranfield University. 25 February
- Kotter, J. (2014). Leading Change – Why transformation efforts fail, Harvard Business Review, Reprint R0701J
- Miltner, S. (2013). *Would you drive a motorcycle without a helmet?*. Deutsche Bank Available at: http://www.frankfurt-main-finance.de/en/toolbox/news/news/11971/ (Accessed: 18/03/2015)
- Steiner, A. (2014). *Climate Change and Financial Stability.* G20 Australia Summit: Brisbane. Available at: http://g20.newsdeskmedia.com/Images/Upload/micro_sites/G20_Australia/PDFs/Climate-change-and-financial-stability.pdf (Accessed at: 18/03/2015)
- UNEP (2014). *Financial Institutions Taking Action on Climate Change.* Available at: http://www.unepfi.org/fileadmin/documents/FinancialInstitutionsTakingActionOnClimateChange.pdf (Accessed at: 18/03/2015)
- UNEP Finance Initiative. (2014).*Climate Change: Implications for Investors and Financial Institutions.* Available at : http://europeanclimate.org/climate-change-implications-for-investors-and-financial-institutions/ (Accessed: 18/03/2015)

Other Background Sources:

- Townsend, M. and Zarnett, B. (2013). *A Journey in Search of CAP2: Capitalism 2.0 a Clear State?.* Toronto Sustainability. Available at : http://ecoopportunity.net/a-journey-in-search-of-capitalism-2-0/ (Accessed: 18/03/2015)

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Cranfield UNIVERSITY
School of Management

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