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Climate Change and the Fortune 500: Assessing Voluntary Efforts

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Among the strategies available for corporations to reduce their contributions to climate change, an option receiving attention is the purchase of voluntary carbon offsets. This discussion explores the climate mitigation strategies of 100 companies on the 2007 Fortune 500 list, scrutinizing the role that voluntary offset purchasing plays in those strategies. While only half of the companies' websites report having a climate change strategy in place, half of those are engaged in the voluntary carbon offset market. Given the enormity of many large corporations' carbon footprints, actions reported by most companies are best characterized as business-as-usual. Few companies offer evidence of strategies shifting to a more sustainable way of doing business.

Climate Change and Risk to Companies

Speaking in 2007, Rupert Murdoch, chairman and CEO of News Corp., said, "Climate change poses clear, catastrophic threats. We may not agree on the extent, but we certainly can't afford the risk of inaction" (Cable News Network, 2007). Murdoch is not alone. According to the *Carbon Disclosure Project* (CDP) Forth Report, 87% of the Financial Times Global 500 companies responding to the CDP see climate change as posing some kind of risk to their company (Carbon Disclosure Project, 2006).

Labatt and White identify three main categories of risk posed to businesses by climate change—physical, regulatory, and business (Labatt and White, 2007). Physical risks result from the direct impacts of climate change and include extreme weather events, droughts, floods, and population changes. The physical risks vary for business by sector and industry, but according to Ceres, an environmental investor network, every industry sector faces some type of physical risk, including risks associated with changes in consumer habits due to weather changes (Ceres, 2006).

Regulatory risks, extremely significant for U.S. companies given the current vacuum of regulations and climate change policy, are a threat to businesses at three levels of their operations: their own facilities' emissions; indirect emissions from their supply chain; and emissions associated with their products or services (Labatt and White, 2007). Corporations will need to respond to climate change to avoid the risks associated with the introduction of regulations on their operations, which may introduce higher costs than if the company takes pre-emptive action. Sectors with the greatest risk for regulation are those dependent on fossil fuels such as oil and gas, electric power, transportation, and manufacturing (Ceres, 2006, p.5).

Finally, business risks as identified by Labatt and White include legal, reputational, and competitive risks. Legal risks include the possibility of litigation being brought against a company for its impact on climate change. Reputational risks include those associated with the perceptions of customers and shareholders towards a company's response (or lack thereof) to climate change and the potential financial repercussions associated with damaged reputation. Competitive risks refer to changes in investments and expenditures due to climate change and possible future carbon constraints (Labatt and White, 2007).

Climate change is a pressing issue and businesses have much at stake in mitigating the effects of climate change, so it makes sense that climate change mitigation strategies are now being incorporated into corporate environmental management practices. Mitigation measures decrease greenhouse gas emissions and fall into four broad categories: increasing efficiency; using less carbon intensive energy (especially renewable); changing processes and products; and changing expectations and behaviors. Alternatively, a company can offset its carbon emissions through paying someone else to reduce emissions.

Offsetting—Strengths and Weaknesses

Voluntary carbon offsetting allows individuals, business, and government entities to pay an organization or company to offset their greenhouse gas emissions by investing in projects that "avoid, reduce or absorb greenhouse gases through renewable energy, energy efficiency, or forest and other bio-sequestration projects" (Kollmuss and Bowell 2007, p.3). These projects include developing wind farms, improving the energy efficiency of buildings, planting forests or setting up a methane conversion system. Some projects take place in the home country of the offset company while others are established in developing nations. The legitimizing concept underlying offsets is that greenhouse gas emissions have a global impact, so it does not matter where the reduction takes place.

Carbon offsets offer many potential benefits. Not only do they provide for investment in projects that reduce, avoid, or absorb carbon emissions, they also drive investment trends in renewable energy and energy efficiency technology. Kollmuss also notes that "observers from both industrialized and poor nations claim that offset projects can be an amazingly effective tool to lower carbon emissions and at the same time alleviate poverty by spurring development in poor countries" (Kollmuss, 2007, p.11). From a business perspective, the purchase of carbon offsets can also be beneficial. It offers the company an opportunity to mitigate its impact on climate change, demonstrate a commitment to the environment that its customers and shareholders can recognize and do so in a way that is cost effective for the company. "The purchase of greenhouse gas offsets is economically rational in cases where reducing emissions attributable to one's own activities is more costly. Paying someone else to pollute less may be wiser—both for the purchaser and for society as a whole…because more emissions can be reduced for a given expenditure of resources" (Gillenwater, et al. 2007).

However, it is important to consider that within a voluntary free market structure, there is no mandate for companies to mitigate their contribution to climate change. While

offsets may offer an economically rational approach to mitigating climate change, it cannot operate in a void of regulation and government oversight. Real and significant reductions need to be made within current business operations before offsets can contribute substantially to climate change mitigation. Offsets alone cannot ensure that climate change will be mitigated enough to protect vulnerable populations from its harmful impacts.

There are also concerns about the extent to which offset projects are sustainable and effectively mitigate climate change. First, offsets that *avoid* the emission of greenhouse gas are typically renewable energy projects. This includes creating wind farms, developing energy from biomass, or installing photovoltaics for solar power. Both domestically and internationally, renewable energy offset projects encourage development of a much-needed infrastructure and market for renewable energy technology. Two concerns about these projects, especially within an unregulated carbon market, are i) potential socio-political opposition to energy facility siting and ii) the need to ensure, especially in developing countries, that project developers are not introducing a new technology and then leaving, without providing the appropriate training and infrastructure for the local community to use the project over the longer-term.

The second type of offset project, offsets that *reduce*, refers to energy efficiency. This may include replacing old light bulbs or appliances with more efficient ones, making buildings or homes more energy efficient, replacing old motors with more efficient ones, and—common in offset projects in developing nations—the introduction of more efficient cooking stoves. These projects can be beneficial, not only in terms of reducing the greenhouse gasses produced in the operation of appliances, stoves, etc., but also in providing additional health benefits. Energy efficiency projects are hard to evaluate as it is difficult to establish *how much* carbon is actually being reduced and, therefore, offset. While efficiency is important, these projects are still relying on carbon emitting technologies, and not making the necessary shift *away* from fossil fuels, leaving it questionable to what extent efficiency projects can actually mitigate climate change.

Finally, the third type of offset project, those that *absorb*, refers to biological sequestration projects. These projects are the most questionable and problematic. In most cases, these projects rely on vegetation to absorb carbon through natural processes. There are a number of factors, however, that determine the ability of an ecosystem to absorb carbon, including its age, speciation and the climate in which it is located. Kollmuss and Bowell note that it is very complex to measure carbon cycles in forests and to know how much carbon is really being offset. The final problem with bio-sequestration projects is that they do not promote a shift away from fossil fuels, but instead rely on forests to absorb their emissions. For this reason, sequestration projects can be seen as the least effective and sustainable of the offset projects.

Methods and Limitations

A sample of 100 of the 2007 Fortune 500 companies was selected using a random number table. Fortune 500 companies receive extensive media attention and the products and services they provide are often well-known. As such, these businesses are

in a position to respond to consumer and shareholder pressure. They are also large in scale and, therefore, have potential to be huge contributors to climate change, from facilities themselves, from the products they make, from the supply chain, or from manufacturing and transport along the supply chain. These companies are also in a position to influence government climate change strategies.

A survey of the 100 company websites and their documentation was conducted from December 2007 to February 2008. The assessment focused on what companies say they are doing to address climate change. The analysis does not attempt to measure or verify the actions taken by companies, and it is possible that companies may have misrepresented information. This method is limited also because it is a snapshot in time.

Findings

Companies with no environmental or sustainability program

In the sample of 100 Fortune 500 companies, 43 companies had no environmental or sustainability program or statement (see Figure 1). This is not to say that they had no corporate social responsibility program or report, but programs in place were not focused on environmental responsibility or sustainability issues. The largest number of these companies, 12 in total, came from the banking or financial sector.

In the overall sample 27 companies were from the banking/financial sector and this may account for the large number of companies with no sustainability program. Out of 27 finance companies, only 7 are responding in any way to climate change.

The sample contained 15 food and miscellaneous retail companies, of which 7 had no program. This sector has, in theory, ample opportunity to address environmental and sustainability issues, particularly with regard to carbon footprint reduction. The companies in this industry employ a great deal of transportation, have many distribution and retail facilities, and potentially have a long supply chain where energy and resources could be reduced. An explanation for absence of environmental emphasis is that companies in the industry are not under the same reputational and regulatory pressure that the power, automotive, or manufacturing sectors are. And given that physical risks may seem further into the future, these companies may not have the risk motivation to take action on climate change.

Finally, there were six companies whose business involves ownership or construction of homes or multiple large buildings that had no environmental or sustainability program. According to information on their websites, these companies are not going beyond building code compliance to find ways to create more energy efficient buildings with smaller environmental impacts. This is a missed opportunity for the owners of multiple hotels, casinos, or homes with regards to cost savings and environmental impacts. If there is future regulation of carbon emissions, these companies may have missed an opportunity to be in the position to meet those regulations in a cost-effective way.

Have an environmental program but don't address climate change

In addition to the above companies, 6 companies that *do* have an environmental or sustainability program are not addressing the issue of climate change. This is an interesting finding, because this means that of the 57 companies that have some type of environmental/sustainability program, 51 of them *are* addressing climate change in some form, even if it is not articulated as such.

Have an environmental program and address climate change

There are 10 companies that are taking actions to mitigate climate change as part of environmental programs, but have not articulated those actions as related to the issue of climate change.

Fifty-one companies are directly responding to climate change. Nineteen of those 51 companies are taking actions to reduce their companies' impact on climate change without engaging in the voluntary carbon offset market. Of these, most of the companies whose business involves some type of product development or production are focused on improving the energy efficiency of their products (see Figure 2).

Out of the sample of 100 companies, 22 are trading in the voluntary carbon offset market. Only one, International Paper was found to be a supplier, i.e. seller, of carbon offsets. IP is able to provide emissions reduction credits due to their biomass and biorenewable fuel generation. The remaining 21 companies are all purchasing carbon offsets or plan to do so.

The expectation was that several companies would be entirely dependent on offsets for reducing their carbon footprint. This was not the case. Only two companies in the sample are currently dependent on offsets for carbon reductions, and those were power companies. Patterns regarding purchase of offsets and overall reduction strategies were expected among industry types, however this was not the case. The only major pattern among the companies purchasing offsets, is that there is an emphasis on alternative fuels and renewable energy (see Figure 2).

Collaborating with others on climate strategies

Many companies have collaborated with outside partners and coalitions on climate change. Thirty-five companies examined are engaged with one or more of over forty coalitions or networks, such as the EPA's Climate Leaders program or the Green Power Partners program. A common benefit worth noting with regard to network/coalition membership is that, in addition to providing guidance and resources that a company might need to advance their green agenda, the company also receives public recognition for their participation, or a branding of sorts. A potential drawback of coalitions, is that the companies may only be setting goals and strategies that are as aggressive as the program to which they have aligned themselves. There was no evidence from this research that collaboration influenced companies' decision to purchase offsets.

Conclusions

In the absence of broad and aggressive government policy on climate change, the fact that half of the companies surveyed are taking action is promising. However, this is still only half. There are 49 companies in this sample of 100 that are not taking any

voluntary action on climate change as identified using web research. Of companies taking action, it is concerning that almost half of them are engaged in an inconsistent voluntary carbon market that has had minimal impact in reducing emissions on a global scale. In sum, the research suggests that many companies are relying on others to reduce emissions. Large U.S. companies make some of the greatest contributions to climate change. They also have the greatest means (high revenues and large influence) to make changes to minimize those contributions. While many companies may be responding to climate change simply in the interest of managing risks to their own business, the impacts of business-as-usual corporate behavior will have severe consequences for many people around the globe without means to adapt to climate change. In a global commons framework, emissions reductions in one area will not ensure protection on a larger scale from the harms associated with high-emitting business-as-usual corporate behavior.

Figure 1 Status of company programs (n=100)

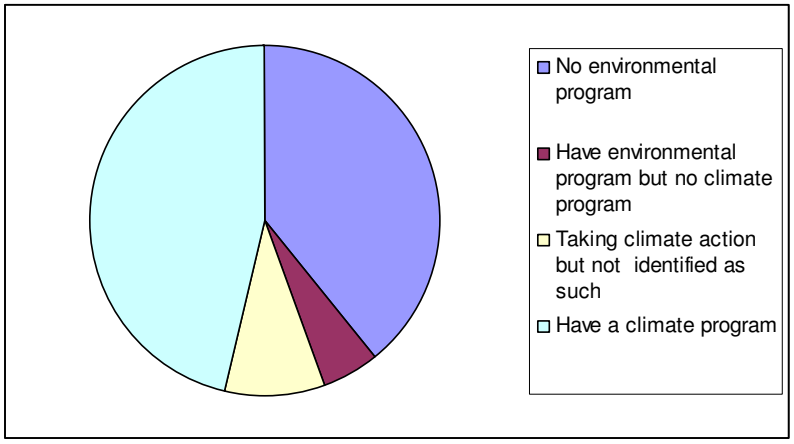
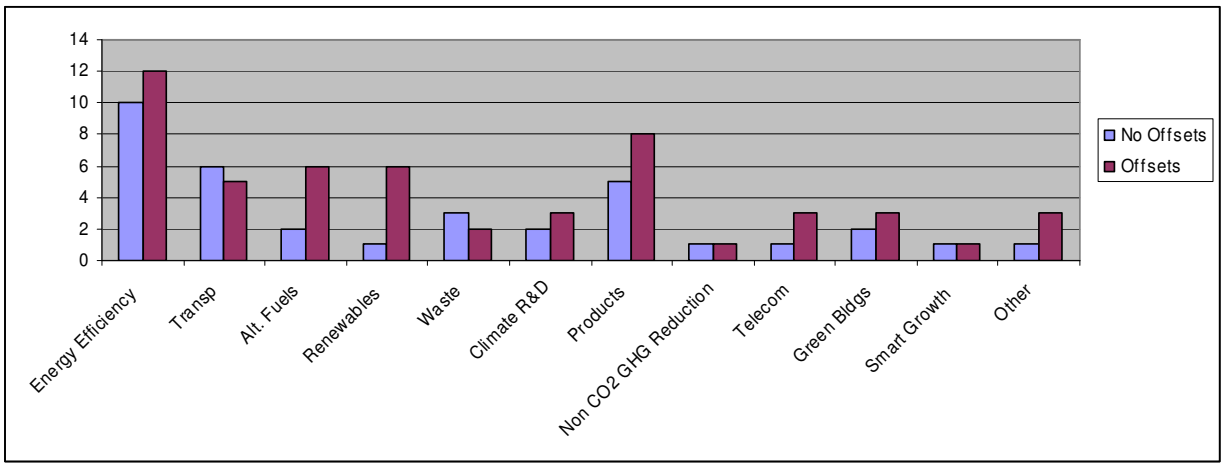


Figure 2 Emission reduction actions being taken by companies (n=51)



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