

Rating Cool Companies

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## **Abstract**

A new wave of companies showing concerned for environmental issues have come about as a result of current corporate market trends. Of these new environmentally friendly companies, a subcategory known as Cool Companies has received little public attention. This paper was designed to reveal more information on cool companies through discussing their definition, their impact, and through the creation of a scale which allows for easy grading of companies coolness and an affirmation of the definition of cool.

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## 1.0 Introduction

Societies, governments, and businesses have reacted in various ways to reports that in the last decade of the twentieth century the earth has experienced seven of its warmest years ever documented (McKibben, 1998). International concern about the record breaking heat along with evidence from satellites, weather balloons, and cloud studies led to the creation of the UN's Intergovernmental Panel on Climate Change. This group of 2,000 scientists from all over the planet summed up their findings in a 1995 convention stating that there was evidence of a discernable human influence on global climates (McKibben, 1998).

One effect the awareness of global warming has had on the general populace is an increased awareness of environmental issues of all kinds. This has been reflected in the green marketing trends that have transited from the company to the consumer, and vice versa (Ray, 2000). A study was recently completed by the Institute for Noetic Sciences and the Fetzer Institute to understand the social impulses that have led current market trends towards corporate "greening" (Ray, 2000). The study described the largest group of consumers as "Cultural Creatives". Cultural Creatives are people who have an awareness of cultural issues, and generally display strong emotions towards environmental protection (Ray, 2000). The growth of the Cultural Creative group became one of the main motivations for companies to pursue environmentally friendly practices.

Companies who have tried to make a difference in environmental issues have come to be described as "green". Green companies attempt to protect the environment through the promotion and manufacture of environmentally responsible consumer

products. Green companies meet regulations for environmentally responsible products, help reduce air and water pollution, cut the waste of energy and natural resources, slow ozone depletion and the risk of global warming, prevent toxic contamination, and protect fish, wildlife, and their habitats (C&G, 2001). Redesigned packaging and the development of new products in a more environmentally responsible way can result in environmental gains through a reduction in waste. An increase in social awareness can also be achieved if advertisement of these new products is carried out by the company.

All management that focuses its attention on product characteristics and product markets as areas that need improvement are said to make use of best practices in terms of being green. These product-focused best practices include all the previously mentioned reactions towards packaging and product advertisement (Christmann, 2000).

Rating systems have been designed to evaluate the environmental performance of companies in action. Ranks reported by these systems can be used extensively by consumers and competitors to determine a company's level of green. Companies can also make use of their own rank as an internal measurement tool which can help in the development of internal improvement practices. Companies have learned a lot from measurement scales and have learned to improve their practices in order to rank higher on subsequent evaluations (OKM, 2002). This practice allows companies to remain competitive within their industry by preserving their "green" title and appearing to be conscious of their environmental impact.

Of the many rating systems currently in use, two common ones are the Co-Op America rating system and one that is produced by the Council on Economic Priorities (CEP). Co-Op America rates social and environmental performance of small and private

companies while the CEP focuses on corporations and only takes into account a business's overall environmental performance record. In formulating their ranking scales, both systems use information released by the company they are evaluating. A green company whose performance would be ranked high would exceed legislative standards, effectively reduce pollution, make use of "best practices", be profitable, and lead in innovations for environmental stewardship.

A sub-category of "green companies", which also take responsibility for the environmental situation, is a class of companies commonly referred to as "cool". The purpose of cool companies is to reduce the green house gas emissions that cause global warming while also reducing energy consumption and waste output (EC, 2001). While there is copious information used to rank and classify green companies, there are relatively few resources that deal with the ranking of cool companies.

Cool companies are important in terms of managing the impact industries have on earth's conditions and climates. Rating systems allowed green companies to judge how well they have done in realization of their goals. It allowed them to judge whether or not they ran an effective business, reduced their negative impact on the world, and had been competitive with the other companies within their industry to the level which they had wished to achieve. A cool scale would allow for cool companies to perform similar self-assessments, while also allowing for consumers to understand the impact companies have on the environment.

Media coverage relating to global warming has caused an increase in the interest of cool companies and consumers for more accurate information reflecting how harmful the practices of companies are. The intention of this project was to devise a set of

characteristics that defined an ideal cool company. This gave us the ability to create a scale that measured a company's cool factor, and by relating what we found in the green ranking scales, we were able to determine the importance of a cool factor. This coolness factor in correlation with the green scale has allowed us evaluate the intended greenness of a company in a more discerning way, and it has also allowed us to give form to the definition of 'cool' by seeing which companies seemed to be working to ameliorate the accepted causes of global warming – namely emissions, pollutants, and energy consumption – as part of their corporate philosophy (McKibben, 1998). Improvements were also considered for future development of this project including its relevancy to real world economic issues and the effectiveness of scaling systems.

## **2.0 Background**

In a supply and demand economy, businesses are forced to comply with the demands of the consumer population. One of the more recent examples of this consumer/proprietor relationship is the creation of a “green” market. This green market has grown complex by involving every sector of business and by diversifying into specialized markets dealing with more specific environmental issues. Due to the fact that the environmental market has come about recently and with such popularity its definition has been vague. The purpose of this section is to present the current trends that have paved the way for the formation of environmentally friendly markets and to discuss the scaling systems that have given form to the previously undefined green and cool markets.

## 2.1 Market Trends

Apart from selecting a product based on its price, performance and other attributes, many consumers have also begun to weight its impact on the environment. Consumers have the power to choose and purchase products that are less harmful to the environment in their manufacturing, use or disposal. By choosing to make these decisions consumers change the voice of their demand and in the process change the supply businesses deal out.

This change in the business world not only directly improves the environment through the use of a specific product, but it also sends a clear message to industries that they need to be green to be competitive. In January of 1999 Middendorf said in *Conscious Choice*, an environmental journal, that “we are at a critical juncture... many feel a sense of impending change (TIC, 2002).” This change that he talks about is the accelerating growth in consumer environmental consciousness.

This change can be seen in the growth of key environmental products and consumer practices that are showing up in other market surveys around the country. The sales of organic food are growing at 20 - 25% per year, while the food industry itself is growing at 3- 5% annually. The social investing market has more than doubled in two years, now representing over \$1.2 trillion. At least 84% of Americans would rather pay more for clothes made without sweatshop or child labor (RCC, 2002).

A researcher named Paul Ray found that we may be living through a period in time where the population of the consumer world is making a shift in mind-set that happens only once or twice a millennium (TIC, 2002). More and more people’s mid-sets are towards new kinds of products and services and often respond to advertising and



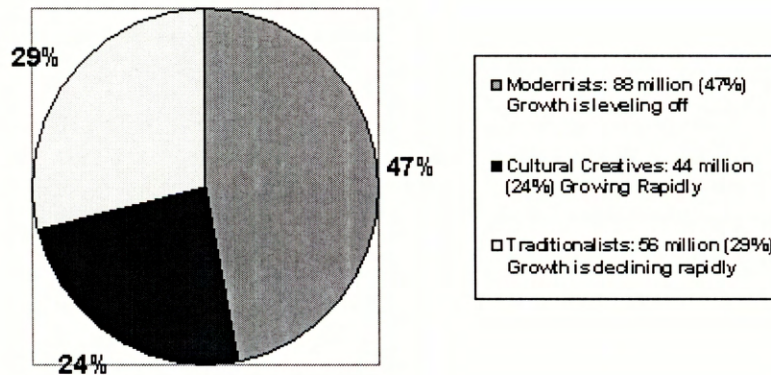


Fig 2.1-1 Pie Graph of Market Groups

marketing in unexpected ways (RCC, 2002). Cultural creative or trans-modernists is the name given to this emergent group. He says that there are currently 50 million cultural creatives in the United States and another 50 million in Europe. These numbers have grown from less than 5 percent of the United States population a generation ago to nearly 25 percent now (CCAC, 2002). According to Ray the two other dominant consumer cultures in America are the traditionalists and the moderns.

Made up of about 29 percent of the United States population traditionalists are made up of mostly religious conservatives. They believe in an image of the old-fashioned American dream of how things ought to be (RCC, 2002). Moderns make up almost half the United States population, producing a very powerful market group. These are the people who have left the traditional world-view and replaced it with a materialistic view. They place a high value on personal success, consumerism, materialism and technological rationality with little emphasis on ecological sustainability. (RCC, 2002)

The cultural creative ideology is based on buying local and buying green. There has never been a cultural revolution that happened so quickly and will even accelerate,

according to Ray (RCC, 2002). With markets getting more competitive, an individual consumers worth is becoming more important. Such emergent groups like the cultural creative catch the eyes of corporations (CCAC, 2002). Recent studies by Paul Ray and the Kaagan Research Associates show that American consumers are progressively incorporating their social and environmental values into their purchasing and investing choices (RCC, 2002). They strongly support their social and environmental values when considering purchase and investment options. Businesses that are able to communicate these core values usually gain market advantage.

In some cases businesses try to “over green” their company or product to cater to extreme cultural creatives. Such extreme greening will usually lead to higher product prices. Although five to ten percent of consumers will pay this high price and go out of their way to purchase only environmentally responsible products, there is a 90 to 95 percent of the market still left (RCC, 2002). This significant group of consumers which include the mainstream of the cultural creatives relies on price and quality for the foundation of their purchasing criteria. Market growth for these cultural creatives requires both satisfaction of the core purchasing criteria for the particular product and the communication of the social or environmental message (RCC, 2002).

The growth the cultural creatives group has established a position in society that shows promise of longevity and influence. This position of influence creates a high demand for a product that some manufacturers have still overlooked. As Harvey Hartman, president of a large market research firm the Hartman Group put it: "The 'green' consumer is now mainstream. There is significant market potential for earth-sustainable products. It is not merely a market niche. It is a market that is here to stay and is still

untapped." (RCC, 2002) When price and quality are comparable, environmentally responsible businesses will increasingly have the market advantage.

A problem with the cultural creative is that even though this group is 50 million strong, they do not have a large political clout. Having women constituting 66 percent of the main group of cultural creatives makes it more unrealistic in our patriarchal society for them to become the corporate kingpins and prominent politicians, and thus have power to change current policies (CCP 2002). Therein lies the problem according to Hazen; the Cultural Creative values that are bubbling up in the counter-culture and on the margins are lacking the importance they should have due to a lack of political position held by believers in their values (CCP 2002). Ray states that this is because the "cultural creatives are a coherent subculture... except for one essential thing: they are missing self awareness as a whole" (RCC, 2002). This means that most of them believe that their environmental views and lifestyle are shared by only a few of their friends and don't know of the other 50 million believers. If the cultural creative revolution wants to become more powerful they will need to have much more influence on men and not be seen primarily as a haven for feminist values (CCP, 2002).

## **2.2 Environmentally Friendly Companies**

A full understanding of where market trends would lead with the development of political power requires an understanding of the companies that would be created as a result of the cultural creatives' beliefs. Environmentally friendly companies are companies that have exhibited favorable attitudes, much in accord with those of the cultural creatives, towards the environment through the management of their practices. The broadest category of environmentally friendly companies is generally referred to as

“green companies”. The genre of the companies referred to as green spans all fields of the business world and has sub-categories relating to more specific environmental issues, one of which is called cool companies. Within this section both the term “green company” and the term “cool company” are defined.

### **2.2.1 Green Companies**

The term ‘green’ has been accepted politically in reference to any group that exhibits environmental consciousness. This term has its foundations in a governmental movement that pushes for awareness of environmental issues, nonviolence, and social responsibility and was chosen under the assumption that a clean and happy earth is a greener earth (DDC, 2002). Recently the term green has been used as a prefix describing any group expressing environmental awareness, from green politicians to green companies. There is no concrete definition describing how green relates to companies in the business world, but it has been accepted that any business catering to the politics of a green movement can be considered part of the green market (GC, 2002).

Companies wishing to be acknowledged as part of the green market develop policies that attempt to reduce their environmental impact. Businesses have contributed to environmental misfortune in many ways. They have assisted in the depletion of ozone, increased the rates of global warming and climate change, contributed to the causes of acid rain, begun an exhaustion of the earth’s natural resources, and polluted the planet as a whole through the creation of excess waste and disposal of toxic chemicals (SHE, 1998). There have been many causes listed for a company to change its practices – feeling a commercial pinch, having to respond to consumer pressures, the activities of shareholders, corporate strategy, competitive behavior, and ecological responsibility – the

general effect of these changes have is the creation of a more environmentally responsible company. These companies create relationships with the environment, thus accepting a certain sense of responsibility to the world that sustains their existence (Bansal, 2000), (SHE, 1998). These relationships are displayed through environmental policies that reduce calamities and other misfortunes through administrative interaction and enforcement.

The extent to which a company builds a relationship with the environment has been linked to many factors, most of which have been compiled into ranking scales. Since there is such a large range of 'greenness', scales were created to assess the intentions of an organization and help to clearly define whether or not it is working towards the prosperity of a green market. These scales are imperative in determining the extent to which a company can be defined as green. The effective range of a scale can be thought of as a spectrum of color ranging from brown/black to bright green. The most basic green company, as defined by scaling systems, is one that follows legislation without surpassing the requirements stated within the laws that were designed for the protection of the environment. The most involved green company, as defined by the scales, is the one that does all that it can do in order to manage a positive environmental policy and at the same time remain financially stable. Also, brown/black companies would be defined as companies that show little concern for the environment, and often ignore regulations during their normal practices.

Many green companies have entered the market for reasons of competition with other companies in their field, and have neglected to accept full responsibility for their actions towards the environment. Companies exemplifying these qualities are hard to

assess with scales because they may actually be carrying through with green practices, but may lack the political and social reasoning of caring for the environment. These companies do not practice green philosophies and will only be green as long as market competition demands them to be. A definition of a general green company can be used in order to identify a green company by practice alone. The general definition of a green company is any company that follows, through the use of an internal company policy exemplifying beliefs of stewardship towards the environment, the standards set by the Environmental Protection Agency (EPA), as well as state and national governmental legislation<sup>1</sup>. Qualification as a green company has required only a minimal effort, but to be green is to embody the practices of green politics and to do as much, not as little, as can be done in hopes of helping the world become a cleaner place for all to live.

### **2.2.2 Cool Companies**

Dr. Joseph Romm founded The Center for Energy & Climate Solutions in 1999 to promote clean and efficient energy technologies as a money-saving tool for reducing greenhouse gas emissions and other pollutants. The Center works with “cool companies” to make specific emissions and energy savings commitments. (ECS, 2002)

Cool companies are those which implement the strategies of Romm and the Center to reduce total energy consumption and lower carbon dioxide emissions. The name “cool” supports their efforts to keep the Earth’s climate from experiencing the harmful effects of global warming - keeping the earth cool.

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<sup>1</sup> The International Organization for Standardization (ISO), as well as many other organizations have created lists of green characteristics and practices, but the basic definition of a green company only requires that the company complies with the laws created for environmental protection

Romm defines a cool company as any company that cuts its emissions by 50 percent or more (Romm, 1999). Under this definition few companies qualify as being cool. Many companies however, have come a long way from where they began by reducing their emissions a significant percentage. A large part of being cool is accepting responsibility and working to improve environmental relations. Thus, it has been accepted to define a cool company more broadly as any company actively working towards the reduction of emissions and energy consumption, as well as waste management improvements. Companies must exhibit continuous progress, typically through the use of internal policies that exceed the local and national legislation, in order to remain cool by definition.

The common acceptance of both broad and strict definitions - working to prevent global warming and cutting emissions by fifty percent - has created a spectrum of companies with different degrees of coolness. The coolness of a company is ever changing. To prevent the adoption of a title for strictly public relations, a company's coolness must constantly be in check.

### **2.3 Green Rating**

Before the early 1990's environmental rating or ranking had not been developed. To provide businesses, consumers, and investors with a tool for environmental and social assessment, green rating scales were produced. They evaluated a businesses environmental and social strengths and weaknesses as a means of benchmarking against competitors (OKM, 2002). This new way uses traditional financial rating and in addition offers the possibility to take account of ethical, social and environmental criteria in ranking a company.

Various assessment methods have been developed by organizations to meet the need to identify and quantify the environmental management of corporations in order to minimize costs, encourage awareness of environmental issues, and/or improve financial performance (DJSI, 2002). A few of the rating systems that exist were developed by the United States Department of Energy, International Chamber of Commerce, and the SAM Index GmbH which is the operating company of the Dow Jones Sustainability Indexes.

Environmental rating has been widely perceived as a useful way of engaging the financial community's (investors, fund managers, creditors and insurers) interest in environmental matters. Although the financial markets are still slightly skeptical about environmental issues and their potential financial implications, the general market is starting to have a growing group that expresses their need for environmental information (DJSI, 2002).

An organization that engaged in ranking corporate environmental performances of other companies typically used one or more indicators of that company' performance and management for its assessment. Current environmental ranking systems are generally considered inadequate, due to the fact that they are built on insufficient data for the system to be statistically considered reliable (ICC, 2002). A solution for creating a credible environmental ranking system would need to use high quality performance data. Using accurate data produces a reliable ranking instrument that is used for assessing corporate environmental performance. In addition, the ranking system should promote improvement by supporting raised awareness of environmental issues and their financial implications (DJSI, 2002).



The start of a green company begins with a good corporate environmental policy. A good policy promotes a basis for good programs and practices that are friendly to the environment. Today's technology is changing at such an amazing speed, current environmental technology is out of date within a few years (DOE, 2002). Although corporations financially can not replace everything as soon as it goes out of date, they should have policies that require replacement on an annual basis. In addition, a company should take advantage of government programs that provide money for environmental improvement.

A good indication of positive environmental policies is awards given by non-profit organizations. For example, EPA's annual merit awards, The Council on Economic Priorities Corporate conscience award, and the U.S. General Services Administration (GSA) environmental award. These can be given due to money donated to research or to buildings that use the latest in energy and waste reduction (IPMVP, 2002). Being awarded such an honor is important because it is a powerful tool in public relations. It lets consumers know their environmental policies and in turn gives them an edge against their competitors.

Another large part in the assessment of corporations is the responsibility they takes with its products and services and its facilities. A corporation should be responsible for the product it produces throughout its lifetime. This means that the product should have as little measurable environmental impact during processing, its proper use, or disposal. By using environmentally safe materials that are easily recycled it results in a green product. The consumer is an important part of how environmentally friendly a product is. The responsibility of a corporation concerning its product is only relevant if it

is properly used, disposed, and recycled. This is why corporations should try to educate their customers to ensure no damage is made to the environment due to misuse. In addition corporations should be responsible for their facilities. Before opening or closing a new facility, all environmental impacts should be taken care of to ensure environmental protection (LU, 2002).

Corporations can do only so much to be environmentally friendly in today's market. In an attempt to maximum their environmental friendliness, businesses should choose contractors and suppliers who endorse the same environmentally friendly green policies. This puts pressure on the industry to network with other green companies for an advantage or to stay competitive in the current and future markets.

Even though current green rating systems use a plethora of information to develop a ranking, they do not take into account overall business energy consumption and emissions. With demand for energy increasing quicker than production, the cost is quickly growing. Regardless of the size of a corporation, they all consume massive amounts of energy through heating and cooling, lights, computers, etc. Use of current technology within all buildings helps to greatly conserve on heating and cooling which reduces long term expenses and cuts down on harmful emissions, benefiting the environment (DOE, 2002).

### **3.0 Methodology**

The project began with the intentions of finding how modern ecological concern was being handled in twenty first century corporations. The initial investigations of primary sources showed that the activities of companies were broad, and many were responding in a way uncharacterized by their class of business. The response itself was

that of the green market, and can also be seen in sub-categories therein such as in the response of cool companies.

Analysis of gathered information seemed to suggest that while there is a great number of resources available for the studying of green companies, few resources exist for researching cool companies. Current market trends seem to signify that corporate consciousness is on the rise, and that only more companies in the genres of cool and green will be constructed. The methodology section outlines how it was determined that market trends are calling for corporate greening, how evaluation of cool companies commenced amidst a lack of resources, how it was possible to create a cool factor, and how this cool factor can be used in correlation with the green scales to yield more in depth information on the intentions of an organization.

### **3.1 The Cool Market**

The investigations that we engaged in after finding that there was a demand for information on various corporate environmental responses yielded copious amounts of documents on green practices and also yielded information on the existence of a green subclass known as the cool market. The cool market became our primary area of concern. Its practices are defined in a few documents, but its value as a response to global warming seems to be underanalyzed.

For this reason, we determined that it was important to create parallels between the green market and the cool market so that a better understanding could be reached as to the workings of the cool subclass. The most valuable piece of information that was found to assist in this process was the existence of grading scales. An analysis of what

was on the scales rewarded our group with information on the exact qualities of a green company, and how important each quality was.

Because of the parallels that were drawn between the green market and the cool market it began to make sense that a scale should be created to better assess the value and practices of businesses wishing to be acknowledged as cool.

### **3.2 The Cool Factor**

Dr. Joseph Romm has published the most thorough information available about the cool market. He and his colleagues guide other companies in their attempts to enter the corporate world as a cool company. Researching all of the changes they help other companies go through allowed for a basic understanding of cool companies' ideal characteristics. This was not enough information to result in the construction of a cool scale, however. It was important to investigate how companies not meeting Romm's rigid definition were reacting in an attempt to become more cool.

For the investigation of company practices, we decided it was necessary to see how companies were measuring up to set standards. The tests we ran show how well a company is operating in reference to the legislatively accepted norms. The Environmental Protection Agency, as well as the International Organization for Standardization (ISO) and Romm's Center for Energy & Climate Solutions all list regulations to be compared with on emissions, energy consumption, and waste disposal. When added to the already existing state and national legislation, an understanding for the best practices of a cool company developed.

These practices were compiled into a list exemplifying the ideal cool company which all others would be measured against. These practices were then put into a list

format with designated values placed next to them that were in accord with what we thought was appropriate. Once we looked through this list we found that some of the practices are noticed in the process, the product, and the operations of a company. Through breaking the practices up into these three categories we came up with a scale that offers valuable information and can be rated as a percentage with certain practices weighing in more than others. These practices are listed in the Appendix, and can also be seen in the scale itself.

This method of ranking gave anyone interested in determining whether or not a company is cool the power to investigate. Answering yes or no to whether the company participates in the ideal practices awards the company with a set amount of point. Each answer that can be used – yes, no, and N/A for not applicable – gives the company a different number of points in their final score.

Companies who have chosen to go cool have made a long-term commitment towards energy efficiency. They have reduced waste in all ways possible and continuously collect data (this process is known as continuous commissioning) to help make long term energy savings. Continuous commissioning shows a great deal of ambition in relation to the cool market. Companies that continuously commission also make strides in all three of the listed categories important to the cool factor.

The final aspect of the ranking scale is a scaling factor. Since networking is a large factor of the cool market there are some kingpin organization that make the market realizable. These companies manufacture products that are essential for other companies to maintain their coolness, offer services that are used to make companies more cool, or are in other ways necessary for the survival of other companies within the cool market.

We thought it necessary to provide these companies with a boost in their rating due to the fact that they allow the cool market to exist more readily, and allow for other companies to enter into the cool market. The scaling factor basically tells the user how necessary to the cool market the given company is. The more necessary the company is, the higher the scaling percentage will be.

### **3.3 Analysis**

The cool factor as described above was the third attempt at rating companies. It was chosen because of its ease and its accuracy as compared to other methods. The other methods that were attempted made use of data that is not offered by all companies to the general public. The method of rating took the average electric bill that a company received and made a ratio with the ideal electric bill that the company could get if their process, practices, and policies were improved. This ratio can be found through the use of assesment companies, but it is not always available because a lot of companies do not put the effort into finding out what their ratio is. The second step of the previous method used the amount of other cool companies the company being ranked is in association with. This networking is important, but it is not always easy to find out a quantitative value for. The final step in ranking a cool company in this other method was to add a predetermined percentage if the company made us of continuous commissioning or outside contractors to make their work places more efficient.

The reason for rejection of the previous method was that it required data that many companies do not release, and it also required data that was hard to determine quantitative values for. The changes that were first made were to compare more directly with our paradigm cool company, but in doing so we found that some values were

weighing in too heavily and that our scale did not allow for percentages of these values to be used. Through changing our scale to an evaluation of the process, product, and operation we determined a way to allow for percentage values to be entered, and we chose information that can be found for most companies. The main improvement that could be made to this scale would be adding more ranking categories and making existing categories more specific.

Once the cool factor scale was constructed it was important to assure that it worked in a way that returned information resembling that which was found by other credible sources. In order to explore the credibility and worth of scaling systems, a number of case studies were employed and investigated. 3M was chosen as the first company because of its reputation as being both highly functional as a green company and as a pioneer in the cool industry, the second case study was General Electric because of its negative reputation in the green market and its positive reputation as a cool industry distributor, and the final case study was Nth Power Technology which is an environmental venture capital firm that focuses on clean energy solutions.

The information found in the case studies was related to the existing cool databases, company contacts, press releases, etc. in order to show whether or not the information created by the scales were valid. Reliability of the scales was established by comparing the outcome of the scale with expected results gained by our investigations into the cool market. Our scale was useful because the outcome was not entirely what we expected, but it was in accord with our investigations and intended goals. The points that were different than what was expected were in the areas where we had preset bias, the scale proved to be more objective, and therefore useful.

The scale that was developed works for a general rating of a company. It describes whether the company fits into the definition of a cool company and it shows areas that could be improved. Improved to the scale could be made by improving the depth of the responses, and by making our scaling factor more thorough by including more categories to be ranked, and by making all the categories that exist more specific.

## **4.0 Introduction to Case Studies**

### **4.1 3M Background**

3M has always been committed to continuous improvement in the areas of environmental, health, and safety programs. In 1975 they became the first manufacturing company to establish a formal environmental policy (3M, 2002). This policy was different from anything the business world has seen because it recognized the necessity for responsible environmental management and conservation of resources. It dictates how 3M will recognize and exercise its responsibility to: solve its own environmental pollution and conservation problems, prevent pollution at the source wherever and whenever possible, develop products that will have a minimum effect on the environment, conserve natural resources through the use of reclamation and other appropriate methods, assure that its facilities and products meet and sustain the regulations of all federal, state and local environmental agencies, and assist, wherever possible, governmental agencies and other official organizations engaged in the environmental activities (3M, 2002). Not only was it used within the US but also around the world at every 3M facility.



Within the same year the environmental policy was introduced, 3M adopted a voluntary program called Pollution Prevention Pays or 3P. This program was based on the never tried idea that efforts to prevent pollution also can give an edge in their competitive/financial strategy. From the time it was implemented in 1975 till 1999, 3P has prevented 807,000 tons of pollutants and saved 3M \$827 million (3M, 2002). The reason for such great results is because it helps prevent pollution at the source. For example instead of removing the waste after it has been created, they reduce pollution in their products and manufacturing processes. 3P goes to the source to prevent pollution through: product reformulation, process modification, equipment redesign, and recycling and reuse of waste materials (3M, 2002). In addition to company support, 3P has helped employees start voluntary projects that benefit the environment by reducing pollutants and energy, more efficient use of materials and resources, or use innovative technology. More than 4,700 of these volunteer projects have been started (3M, 2002).

Not only does 3M have good current environmental policies, they strive for continuous improvement. Their Environmental Management System (EMS) takes care of this through three main strategies. The first strategy tries to continually improve current systems to meet or exceed both government and 3M standards. Dealing with the environmental, health, and safety through all stages of a product's life cycle, the second strategy emphasizes life cycle management. The third and last strategy aims to reduce environmental, health and safety problems to as close to zero as possible (3M, 2002).

Since 3M has been concerned with the environment, they have impressive long term results. For example they have seen an 88 percent reduction in volatile organic air emissions, an 82 percent reduction in releases to water, a 24 percent reduction in solid

waste, and a 35 percent reduction in the rate of waste generation (3M, 2002). They are able to keep such good performance by having good policies and committing to continuous improvement.

## **4.2 GE Background**

General Electric has grown to be a conglomerate with financial ownership and responsibility of many companies (as shown in Appendix A.1) in many fields of business. This creates difficulty when trying to account for an overall evaluation of General Electric's environmental performance. Some of the companies, like NBC, do not have direct effects on the environment and could only be discussed *if* it was discovered that they did indeed have connections to environmental issues. Therefore, only a section of GE is relevant to this paper. When GE is discussed it is in reference to the section of the business that manufactures goods and provides services to customers that could have connections to the stewardship of the environment.

Even in the section of GE that is connected with the environment, however, there is no current information made available to the public. The only figures on disposal, emissions, and energy consumption that can be analyzed are those from previous years. The manufacturing of General Electric products during these years has had a history of environmental issues. As a company GE has had to deal with the Environmental Protection Agency on many occasions. In 1991 the EPA listed GE as a large generator of toxic waste in many cities, also in 1991 the EPA issued a Corrective Action Permit requiring GE to participate in the removal of PCB's from the Hudson River (EPA, 2002). GE has also been cited as the sole contributor of PCB contamination into the Housatonic

River, and GE has been involved in a few other investigations by the EPA such as the necessary demolition of a condo due to mercury contamination (PCB, 2002).

According to information gathered in 1996 the EPA places General Electric Co. in Waterford as the fourth largest polluter of toxic waste out of 692 investigated companies in New York due to the release of 1.4 million pounds of waste (EPA, 2002).

The calamities of the past are important to the present growth of GE. Stephan D. Ramsey, the vice president of GE, states that it is important to “[face] the dual process of looking at the past and the present”. He says that the past of general electric is 109 years old, and was begun when little was known about the effects of industries on the environment. The environmental pitfalls that occurred in the past were the result of legal practices. Fortunately today there is a wealth of information dealing with the environment and by making use of restrictions, legislature, and societal demands, good environmental practices can be created. As a way to deal with the follies of the past General Electric has spent “hundreds of millions of dollars” in volunteer and cooperative cleanups of old sites.

General electric still lacks an environmental policy, however, and their list of value statements which define their company’s aims has no mention of environmental responsibility. As a company GE lacks a mission statement and in place communicates its philosophies and business objectives through the use of the letters they send to shareholders, employees, and customers in their Annual Report. Even in the annual report no information concerning environmental philosophies are communicated (GE, 2002).

General Electric does produce some of the leading innovations in conservation. They make available for other companies the leading brands of energy consumptive lightbulbs, and some of the more efficient generators on the market. The information

gathered through practices conducted in GE facilities has also contributed to valuable information on the characteristics of chemicals. Their progress has been marked with large funding being contributed to clean up efforts around the world.

### **4.3 Nth Power Technologies Background**

Nth Power Technologies is a leading venture capital firm dedicated exclusively to high potential investments resulting from the restructuring of the global energy industry. They work in close association with industry partners and leading players in the electric market to further assist each company investment. Strategic relationships create a small network that speeds the growth of new companies and simultaneously delivers new energy technologies and services. Founded by Nancy Floyd and Maurice Gunderson in 1993 with the belief that, as the global energy industry transformed and modernized, the need would arise for venture capital to back new businesses (NPT, 2002). Rodrigo Prudencio, director of business development for Nth Power, says the firm invests in start-up companies that focus on: energy production, energy efficiency, or energy-related software. They do not invest in the technology per se, rather the development and market of such technology. They avoid companies whose businesses rely on short-term market phenomena, such as the power grid in California.

Distributed generation companies produce technologies that make it possible to store energy for back-up purposes or during peak-times where utilities raise the rates on energy consumption due to high demand.

End-user efficiency products offer the public an opportunity to lower their total energy costs. Energy-saving or energy-use monitoring devices, such as gateways on

meters or smart-energy devices allow one to view energy consumption and easily find where possible energy loss is taking place.

Power-quality companies produce technologies that deliver highly reliable and un-interruptible power for critical functions. This serves to eliminate the need for the power grid.

Transmission-and-distribution automation companies supply updated technology for the conventional power grid infrastructure. While the power grid is becoming more and more outdated. It remains the technique for power distribution, thus any technology used to improve the grid makes steady improvement on energy conservation until technology brings us to the day we no longer need the power grid (NPT, 2002).

An estimated 65% of Nth Power's investments go into distributed generation and storage or communications control/information technology, 25% to those offering services for the energy sector or end-user efficiency product manufacturers, and the remaining 10% to power-quality companies or transmission-and-distribution automation companies. They create and propel a market for energy efficiency. Their work leads to the improvement of energy-related technology, and helps others in their attempts to conserve energy.

## **5.0 Rating With Existing Scales**

Rating of our three companies were done by using the main components of Oekom's scale. This scale (as show in Appendices A.2) was used because it included the most important factors in our Green company paradigm. The rating was sectioned into two parts which included a general evaluation of the company and a more specific evaluation by sectors. This would then give the company a green grade from A+ to D-.

An A+ means the company's environmental activities are especially progressive within the industry while a D- means the company focuses on complying with environmental regulation but shows little or no further environmental commitment. With the lack of information available, we studied the company background and other environmental databases to give the most accurate grade possible.

3M almost mirrored the paradigm for a true green company giving them an A-. This grade was for many reasons. 3M has always been at the forefront of environmental management with numerous policies. They have worked to reduce their raw material, energy, and disposal costs to save money and protect the environment. In addition 3M prides themselves in their lack of public environmental scandals. A great deal of effort is put in to make sure accidents are almost eliminated.

The growing awareness of global environmental issues is putting more emphasis on smart, energy appliances and cleaner power. A venture capital firm, Nth Technology, invests in businesses that are developing technologies and services for the new environmentally clean energy marketplace earning them a B-. Before venture capital firms realized the importance of clean energy, only \$20 million per year trickled down to new companies in the energy sector. Nth Power Technologies and other environmental venture capital firms realized the significance and have grown to \$1 billion plus market. Although they are the corner stone in green power, they lack a strong environmental policy.

On the other hand General Electric takes few steps to help the environment getting a C-. This is due to the multiple reoccurrences of environmental scandals and lack of any environmental policy. Although GE's environmental management is poor,

the products they produce for the consumer clean up the environment. They produce energy star electrical appliances that reduce the consumption the electricity. This however is done to gain a market advantage and not to help the environment.

## **6.0 The Cool Company Paradigm**

There are many factors that contribute to a company's coolness. These factors can be separated into categories of process, product, and operation. A true cool company strives in each of these categories to reduce energy consumption and cut down on the emission of greenhouse gasses.

Association with other cool/green companies provides strength to the cool market. The more a company works toward the prosperity of the cool market, the cooler a company becomes. An ideal cool company would keep it's associations within the green/cool market.

The cool market inspires those within to become environmentally friendly. General goals to improve the environment not held specifically to cool market trends show a company's awareness and care for the issue. Therefore, a cool company is always working towards environmental salvage.

Reducing waste, reusing material, and recycling where applicable are good practices for any company. Money is saved, waste is depleted, and in doing so, care is shown toward the environment. These should be the practice of all companies within the cool market. For any actions taken not in unison with these yields little progress towards the goals of the cool market.

A marketed product must in some way contribute to or advocate the ideals of the cool market, be of high quality, environmentally friendly, and possess recyclable or

reusable characteristics. A product lacking these characteristics is inferior and the consumer should not be forced to sacrifice.

A cool company should have some sort of environmental policy or mission statement making others aware of their commitment to improving environmental status. A cool company should make it quite clear that they are a cool company, and take pride in themselves because of this. Cool companies are elite, and should if at all possible keep all business interactions within the elite cool company circuit.

Environmental protection programs are non-profit and always ask for volunteer assistance. For a company to offer volunteer services to these protection programs shows initiative in improving the environment and creates a correlation between the specific company and environmental activists.

Continuous commissioning allows a company to regulate and collect data on total energy flow as well as monitor areas with heavy energy consumption. Even if a certain company requires a great deal of energy, this equipment helps to uncover where energy is being lost. This data can be used to show all improvements a company is or is not making to reduce total energy consumption. A company willing to make this data public record is; aware of the environmental risk they pose, working to reduce that risk, and eager to support the actions they've taken to do so.

Research and technology allow for companies to become cooler and cooler by the day. Improvements on old methods can dramatically reduce energy consumption. Continuous improvement on cool practices keeps the market sharp and works towards the overall goals of the cool market. The ideal environmental policy implies continuous improvement of commissioning, technology, research, and the environmental policy



itself. This keeps a company up to date on cool market trends and adheres to the progression of the cool market.

The ideal cool company shows flawless environmental ethics, works to the progression of the cool market, and acts as a model company for others to follow. Unfortunately the works of one company do not show such great improvement on the larger scale of energy consumption. Power utilities unwilling to make such improvements negate the efforts made by their green consumers because the energy they're saving is just being wasted anyway.

For a company to be truly cool, their utility must also be cool. Provider and consumer must work hand in hand to reduce total energy consumption or else all goes to waste. Thus, the main objective of the cool market is to turn all power utilities into the ideal cool company, otherwise the efforts put forth by all other cool companies were for not.

## **7.0 Creation of a Cool Company Scale**

This scale used the characteristics of an ideal cool company as listed in our cool company paradigm to create a cool grade. The characteristics that were important to us in grading a cool company are listed under the headers process, product, and operation. Points are awarded according to whether or not a company complies with any given characteristic. Bonus points are awarded for total completion of each category. This scale is depicted in Fig. 7.0-1

<b>Cool Rating Scale</b>		<b>Yes/No/NA</b>	<b>Points out of ( )</b>
<b>Process</b>			
	Continuous Commissioning		of (10)
	Work With Other Companies		of (10)
	Set Environmental Goals		of (10)
	Rycle and Reuse Wastes and Materials		of (10)
	<b>Bonus For Completing All Process Aspects</b>		of (10)
<b>Process Subtotal</b>			
<b>Product</b>			
	Works Towards Cool Ends		of (10)
	Have Accountability For Final Produce		of (10)
	Environmentally Friendly Product or Services		of (10)
	Rycleable or Reusable Product		of (10)
	<b>Bonus For Completing All Prodt Aspects</b>		of (10)
<b>Product Subtotal</b>			
<b>Operations</b>			
	Have a Written Environmental Policy or Mission Statement		of (15)
	Create Partnerships With Other Cool Companies		of (5)
	Volunteer in Environmental Protection Programs		of (5)
	Release Environmental Records to the Public		of (5)
	Are Continuously Improving in		of (10)
	Continuous Commissioning		of (1)
	Technology		of (1)
	Research		of (1)
	Environmental Policy		of (1)
	<b>Bonus For Improvements in all aspects</b>		of (1)
<b>Operations Subtotal</b>			
<b>Total</b>			

Fig 7.0-1 – Cool Company Rating Scale

## 7.1 Rating Case Studies for Coolness

Each case study was rated on this scale (Fig 7.0-1) to determine their cool grade.

Each rating is shown below.

Cool Rating Scale		3M	Yes/No	Points out of ( )
<b>Process</b>				
	Continuous Commissioning	Yes	10 of (10)	
	Work With Other Companies	Yes	10 of (10)	
	Set Environmental Goals	Yes	10 of (10)	
	Rycle and Reuse Wastes and Materials	Yes	10 of (10)	
<b>Bonus For Completing All Process Aspects</b>			10 of (10)	
Process Subtotal				50
<b>Product</b>				
	Works Towards Cool Ends	Yes	10 of (10)	
	Have Accountability For Final Produce	Yes	10 of (10)	
	Environmentally Friendly Product or Services	Yes	10 of (10)	
	Rycleable or Reusable Product	Yes	10 of (10)	
<b>Bonus For Completing All Prodct Aspects</b>			10 of (10)	
Product Subtotal				50
<b>Operations</b>				
	Have a Written Environmental Policy or Mission Statement	Yes	15 of (15)	
	Create Partnerships With Other Cool Companies	Yes	5 of (5)	
	Volunteer in Environmental Protection Programs	Yes	5 of (5)	
	Release Environmental Records to the Public	Yes	5 of (5)	
	Are Continuously Improving in	Yes	10 of (10)	
	Continuous Commissioning	Yes	1 of (1)	
	Technology	Yes	1 of (1)	
	Research	Yes	1 of (1)	
	Environmental Policy	Yes	1 of (1)	
<b>Bonus For Improvements in all aspects</b>			1 of (1)	
Operations Subtotal				50
<b>Total</b>				150/150

Fig 7.1-1 – 3M Cool Rating

Cool Rating Scale		General Electric		Yes/No	Points out of ( )
<b>Process</b>					
Continuous Commissioning				no	-N/A
Work With Other Companies				yes	10 of (10)
Set Environmental Goals				no	-N/A
Rycle and Reuse Wastes and Materials				no	-N/A
<b>Bonus For Completing All Process Aspects</b>					-N/A
Process Subtotal					10
<b>Product</b>					
Works Towards Cool Ends				yes	10 of (10)
Have Accountability For Final Produce				yes	10 of (10)
Environmentally Friendly Product or Services				yes	10 of (10)
Rycleable or Reusable Product				no	-N/A
<b>Bonus For Completing All Prodt Aspects</b>					-N/A
Product Subtotal					30
<b>Operations</b>					
Have a Written Environmental Policy or Mission Statement				no	-N/A
Create Partnerships With Other Cool Companies				no	-N/A
Volunteer in Environmental Protection Programs				yes	5 of (5)
Release Environmental Records to the Public				no	-N/A
Are Continuously Improving in Continuous Commissioning				yes	10 of (10)
Technology				no	-N/A
Research				yes	1 of (1)
Environmental Policy				yes	1 of (1)
Environmental Policy				no	-N/A
<b>Bonus For Improvements in all aspects</b>					-N/A
Operations Subtotal					7
<b>Total</b>					<b>47</b>

Fig 7.1-2 – General Electric Cool Rating

Cool Rating Scale		Nth Power Technology		Yes/No	Points out of ( )
<b>Process</b>					
Continuous Commissioning				N/A	0 of (10)
Work With Other Companies				yes	10 of (10)
Set Environmental Goals				yes	10 of (10)
Rycle and Reuse Wastes and Materials				N/A	0 of (10)
<b>Bonus For Completing All Process Aspects</b>					0of (10)
Process Subtotal					20
<b>Product</b>					
Works Towards Cool Ends				yes	10 of (10)
Have Accountability For Final Produce				yes	10 of (10)
Environmentally Friendly Product or Services				yes	10 of (10)
Rycleable or Reusable Product				N/A	0 of (10)
<b>Bonus For Completing All Prodcct Aspects</b>					0 of (10)
Product Subtotal					30
<b>Operations</b>					
Have a Written Environmental Policy or Mission Statement				yes	15 of (15)
Create Partnerships With Other Cool Companies				yes	5 of (5)
Volunteer in Environmental Protection Programs				N/A	0 of (5)
Release Environmental Records to the Public				yes	5 of (5)
Are Continuously Improving in				yes	10 of (10)
Continuous Commissioning				yes	1 of (1)
Technology				yes	1 of (1)
Research				yes	1 of (1)
Environmental Policy				yes	1 of (1)
<b>Bonus For Improvements in all aspects</b>					0 of (1)
Operations Subtotal					39
<b>Total</b>					89

Fig 7.1-3 Nth Power Cool Rating

## 8.0 Analysis of Scaling Results

There was a good deal of information gained through the act of scaling case study companies. Research was needed on the history of the company, and how the company has reacted to environmental trends in the past. The analysis of their scaling results shows a lot about the practices of the company.

3M is a model for our cool company paradigm getting a 150 on our cool scale. They have consolidated their production to reduce pollution and save energy while producing a better product. Even after their products have left their facilities, 3M makes sure to follow it through its life to ensure the least environmental impact. Within their operations 3M has intensive environmental policies that have been the ideal model for other companies to follow. In addition 3M has been open to the public by publishing annual environmental reports showing reduction in waste and pollution.

The publishing of reports is an important aspect of being cool. It allows for information to be easily gathered by consumers and other companies. Published reports show that the company is confident in the practices and policies. General Electric fails to file annual reports on their environmental performance. They typically make vague their impact on the environment by obscuring their policies and combining health, safety, and environment into the same framework. They also lack policies and goals that deal with environmental stewardship and the reduction of green house effects. General Electric's last big failure in our cool factor is the fact that they have no records of continuous commissioning or interest in monitoring their waste disposal for purposes of reduction.

The products General Electric manufactures are however energy star rated. Most of the household appliances they produce are cool products, and they also create turbine generators that show promise in being clean productions of energy. They produce cool products and allow for other cool companies to succeed in reducing their green house wastes. For this reason general electric was able to score a 47 on the test, which shows they make an impact on coolness, but that their general practices still fall below par.

Nth Power Technologies rates relatively well on the cool scale with a score of 87. They possess all applicable cool characteristics and are very influential in the cool market. The only hindering factor is that Nth Power does not market a product directly. Thus, that product is neither processed nor marketed in a cool fashion. They act as the financial backbone for many other cool companies that may possibly receive a greater cool rating. Their impact on the cool market is great, however lacking direct cool results. They do little to influence the cool market outside of financial and technological means. While these are essential factors in the success of the cool market, educating the general public is another they never seem to touch upon. Few actually realize the impact Nth Power Technologies has set upon the products they buy, 3M does this through the marketing of cool products, winning prestigious awards, and making all aware they are the coolest of the cool companies.

### **8.1 Compare and Contrast Green Results with Cool Results**

3M scored high in both the green and cool ratings. Their perfect grade on the cool scale helped raise the green rating to an A-. The reason why such a high score was earned was due to their good environmental policies and their consumer relationship. They also produce environmentally friendly products that are of high quality. 3M is truly dedicated to helping the environment and will continue to develop new ideas to revolutionize the green and cool industry.

The scores of General Electric were similar in rank as well. A C- score in the green rating was based on their efforts in the cool market to produce energy efficient products. The other area where GE raised its' grade was because of the clean up programs they are involved in. The green ranking of GE was directly linked to the cool

rating it received. If GE had not earned points for their cool products, their green rating would have suffered. The low rank on both scales can be correlated to the lack of an environmental policy. General Electric's chief concern is in being a moneymaking corporation, and their efforts in terms of the environment are minimal, or done for the purpose of making money in a prospering market. The redeemable qualities of General Electric are their support of the cool industry through the development of new products, and their responsibility to comply with clean up efforts and policies set by governmental, state, and local legislation.

As with the previous ratings, those of Nth Power Technology seemed to fall within the same spectrum upon the two scales. Their green rating, B-, is based upon their efforts within the cool market. They focus on improving one factor within the larger scale green market. This shows that their efforts are not environmentally but economically driven. They help those with environmental motives and create little to no adverse effects upon either market, but their focus is more on the market than the environmental issue. For this they receive a respectable, not honorable ranking on each scale.



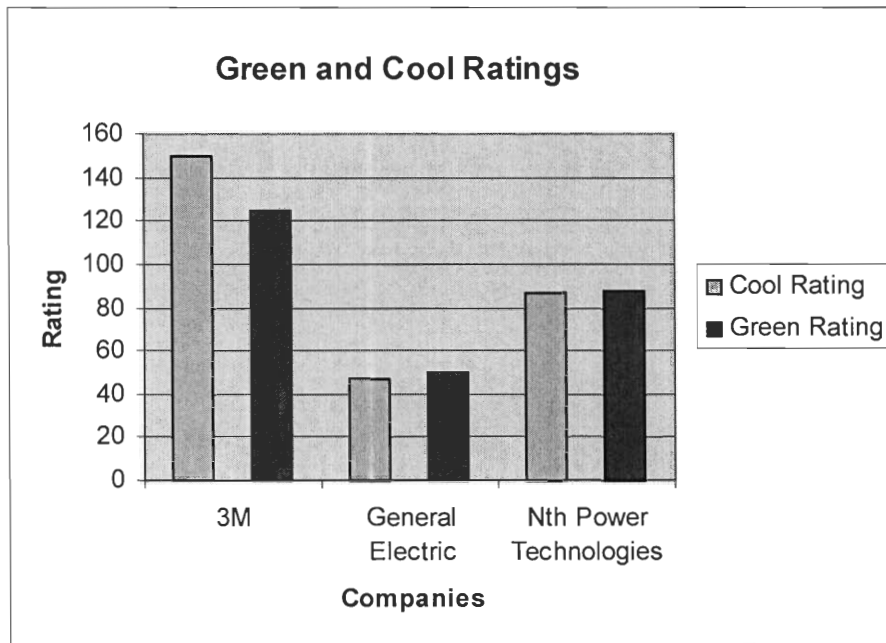


Figure 8.1-1 Correlation Chart for Scaling Results

The figure 8.1-1 shows the results of all our scaling measurements. There seems to be an obvious correlation between a companies green rating and a companies cool rating. The green rating was converted from an A to D scale by using an academic grading scale. The values were taken from 150 being an A+ to 25 being a D-. After the green rating was converted to numerical measurements it became apparent that with a higher cool rating a company achieves a higher green rating. The justification of this correlation lies in company policy. We believe that any company striving to make improvements based on a environmental conscious will make changes in all categories of their practices. The reason that 3M's cool rating is higher than their green rating is due to the fact that 3M is environmentally concerned in all markets. General Electrics results are the opposite with their green rating higher than their cool rating. This is due to the fact that GE has few concerns for the environment, and there green rating is therefore dependant on their cool rating.

There is a definite relationship between cool rating and green ratings. Both show environmental philosophies of the company, but the green rating also encompasses cool practices. Even though the cool market is a sub category of the green market, the results of a cool scale serve as a good bench mark in the overall rating for the practices of any given company.

## **9.0 Discussion of Environmental Market Shortcomings**

### **9.1 Critique of Green Market**

There are many critics of the proposed ideologies of the green/cool market. Their attacks against the market's ability to make a difference in the environment normally are formed through discussions of a companies public relations (PR) campaigns, the growth the market sees every time a new green/cool company enters into competition with other companies, the economic feasibility of being green, the issue of trade with other less ethically minded countries, and the basic frameworks of capitalism (E.7 1999). The opponents of the new market trends state that green and cool companies are just "smoke and mirror" companies that have already been in existence. They imply that any company who wishes to have a cool or green image can accomplish their goal through the exploits of an expensive PR campaign.

This view is challenged by the existence of market scales. Most creators of scales, ourselves included, are mindful of these deceptive business practices. They are apparent in General Electric's grouping of Environmental Health and Safety departments, which serves to obscuring the facts to make a company who has a good safety record look like it is a good environmental record. To oppose the representational image of

companies with the realities of the companies' work, scales make use of questions to objectify and publicize a companies' operations. These questions look into statistical data, participation of environmental programs, existence of environmental policies, the setting of environmental goals, and the use of evaluations of company practices. Scaling systems make the PR department of a company less influential in the company's assertions about its place in the cool/green market.

Green and cool companies who score well on the scales also integrate their work with other companies in other fields. The corporate greening currently going on is one that fosters renewal of images for all companies involved. The critics of the cool/green market state that new companies with environmentally conscious practices are just adding new options to existing business fields. They state that this is the same as building a cake by layers; every new company that enters the market is another small layer of pollution added to the cake of ecological disaster. These critics fail to see that the actual practices of green and cool companies are remodeling the practices of old and existing companies. Companies that once polluted heavily are now buying parts from companies who are intent on making a difference for the environment. This networking is remodeling the practices of all companies in the business realm, and not just adding to existing layers of pollution. Networking is a practice used by most companies and it allows for a deconstruction of the existing layers of the metaphoric cake, which will eventually result in a less polluted atmosphere.

Networking does have its flaw though; it has been seen to create co-dependent relationships. Some companies in the market rely on other companies to maintain a cool image. Without the cool turbine generators produced by general electric many other

companies would not have been able to reduce their energy consumption and waste. The cool factor notices that these codependences exist and it scales companies' grades by looking into how important they are to the existence of a cool market.

Codependency is not a negative critique of the cool market, however, because it is a necessity in the current manufacturing and marketing community. One company cannot design all the products used in the manufacturing processes, or the typical upkeep that their business goes through. Codependency will always exist, and as long as there is a trend in the consumer purchases that calls for a cool market, their will be cool companies making their codependent practices useful and environmentally sound.

One of the last comments frequently stated by critics has to do with the economic feasibility of becoming green or cool. 3M serves as a case in point by distinguishing itself in the cool market and saving lots of money through their practices. These practices have shown that companies can successfully become green, and make money while doing it. This situation is said by most experts in the field to be true for nearly all companies, unless your company makes money through the devastation of the environment like the oil companies and coal companies sometimes do. The reduction of pollution from waste and emissions can lead to overall savings. For example in 3M's environmental policy, their Pollution Prevention Pays (3P) program has done exactly that. They have saved \$827 million and prevented 807,000 tons of pollution being released from 1975 to 1999 (3M, 2002). By product reformulation, process modification, equipment redesign, recycling and reuse of waste materials 3M was able to eliminate pollution at its source. Traditional methods only limit the problem temporarily while consuming resources

operating them. Due to this revolutionary approach, 3M is able to produce a cheaper more environmentally friendly product.

## **9.2 Critique of Cool Market**

While most companies encourage the consumer to purchase as much of their product as possible, electric utilities are doing just the opposite. These utilities are regulated monopolies spread amongst a grid spanning the country. Studies have shown, and utilities are aware that production and transmission of electricity is a major contributor to the emissions of greenhouse-gases that cause global warming. Eric Hirst in an article on energy efficiency stated that electric utilities account for about two-thirds of U.S. sulfur dioxide and one-third of nitrogen oxide emissions and are responsible for about one-third of the U.S. carbon dioxide emissions (Hirst, 2002). With this in mind it is easy to see why and electric utility would be interested in helping their consumer conserve energy.

Energy along with any market product does not have a fixed rate. At some points in time, with great resource and little demand, electricity can be created at a very small price. For instance, it may be cheaper to produce on a winter night, than during a hot summer day where everyone has their air conditioning units cranked. Utilities want to reduce consumer demand at these times when it is costly to generate electricity. (Hirst, 13)

In attempt to keep constant demand electric utilities have been offering services to help their consumers cut total energy consumption, mainly during peak hours. Demand-side management programs or DSMs are mainly monitoring services that help companies spend less on electricity, simply by revealing how much juice companies are using, and

when. These programs are set to create optimal energy efficiency through utility control of the consumer's appliances or equipment.

The Consortium for Energy Efficiency, established in 1992, is a market transformation program. They collaborate the works of these DSM programs and coordinate with manufacturers in attempt to keep the consumer from buying a product of little energy efficiency. For instance, instead of the utility telling every customer to buy an energy star refrigerator, they tell all manufacturers to produce only those refrigerators. They attack the market instead of the customer. The Consortium's efforts have lead to a great deal of government involvement. Regulations on building codes and products have helped make all aware that energy efficiency is an issue of concern. In Oregon, legislatures require construction that meets the Model Conservation Standards. Building codes are set, and the need for Consortium intervention is eliminated.

There is a great deal one can do to reduce energy consumption. As stated by Dr. Romm in Cool Companies, simple design and process improvement can lead to great savings on one's monthly electric bill. Unfortunately flipping a light switch is only the tip of the iceberg. While there is a noticeable difference on a consumers electric bill; from the utility standpoint, there is no true measure of energy being saved. While the customer is not being billed, the same amount of energy is still being lost through transmission. The consumer must have the electricity there when they flip the switch back on, thus without cooperative action between utility and consumer, one's actions may show positive signs of energy waste reduction, when in fact, they've done nothing but pass the buck.

As anyone who pays a monthly electric bill knows, energy conservation is a priority in almost everything. Knocking a few bucks off the bill is only a small step in the equation though. Cooperative nature must exist between utilities and consumers, along with government regulation, and market transformation programs in order to achieve optimal energy efficiency.

### **9.3 Suggestions for General Improvements**

Despite the current situation of a company's environmental policy, an easy way for improvement is to network with other environmentally conscious businesses. These businesses share the main ideas of economic viability, environmental stewardship, and social responsibility. Little aid is given to be able to find these companies that could provide the service or material you need and maintain good environmental policies.

To enable networking of green businesses a company called FatEarth easily connects companies seeking cost-effective environmental solutions with qualified suppliers by a "QuoteSeeker" system (FE, 2002). This system is divided into categories to match the individual business needs. Once the right topic is found, the business fills out a form to specify their requirements for the product or service. Other companies that are environmentally friendly receive this and make bids to the buyer while keeping their identity confidential until a deal is made. In addition a general rating which includes an environmental rating can be found on each supplier to help aid in the buyers' decision making.

FatEarth's mission is to "foster and encourage sustainability: solutions that benefit business, communities, and the environment, none at the expense of another." With markets changing, being able to connect businesses with the most suitable industry

experts, information, products, and services in the sustainable marketplace is a big advantage. This QuoteSeeker system that FatEarth has developed helps buyers and suppliers in this emerging market connect and close deals. In addition to the QuoteSeeker system, FatEarth keeps up to date news of new environmental development and gives research and information to help sustainable projects gets started. They also have made network of other specialized sustainable companies as a type of “tool box” for companies that are seeking solutions (FE, 2002).

## **10.0 Report Conclusions**

The reaction of people and industries to global environmental issues such as global warming and water pollution have been seen in the induction of more and more businesses into the green market. The green market started only a few decades ago but is now a permanent and growing feature of the business world. Even if companies do not have existing policies concerning the environment they may be using green processes or products in their everyday practices because the green market is becoming an unavoidable feature of the current business world.

With people like the cultural creatives demanding new and more earth friendly practices to be conducted in the corporate realm, there has been a significant growth in green markets. Not only are green markets becoming mainstream, they are also becoming demanded and more desirable to a growing consumer population.

With consumer demand being so important, some businesses are building false reputations through the use of a strong public relations department. They build this reputation by emphasizing socially responsible practices that are irrelevant to



environmental stewardship. The information relevant to participation in the green market is often hidden or ignored when a company chooses to represent themselves in this way.

The consumer can become confused when businesses represent themselves in such a sly fashion. Using scaling systems can take away the power of deception used by public relation departments because scales offer form and definition to any market they are used to describe. By grading a company with the use of scales, it becomes easy to see how truly earth friendly a company is.

In the cool market the definitions that exist make it complex for some to ascertain whether a company is striving for goals in environmental issues or whether they are just putting on a façade. Our scale ranks a company for coolness by asking a few simple questions that are of paramount importance to the cool industry. The reception of a high mark on our scale means that a company is similar to our cool paradigm and therefore resembles our definition of an ideal cool company. Companies receiving high marks characteristically help the cool market through use and advertisement of environmentally friendly practices.

On the other hand, companies who receive low marks work with disregard to environmental practices, outdated technologies, or in the process of improvement. After a company receives a poor grade on our scale they are made aware of the fact that improvements could be made. We discerned through our comparison of cool and green scale that any company who boosts their cool rating also improves in terms of their green rating. Cool companies are a faction of the green market that are concerned environmentally and striving for improvement on specific ecological issues.

The many critiques of the green and cool markets have been formed through a voice opposing capitalistic expansion more than the actual workings of green businesses. More complicated critiques make statements saying there will always be business for polluters, and any new company striving to be green will only add more pollution to the already existing environmental problem. The research we have done throughout this paper points to very contradictory results. One of the first things that we noticed was that people are demanding healthy alternatives. They want companies they can rely on for clean practices and are pushing the whole industry towards environmental stewardship. Responsible consumers are curbing the buying habits to only make use of environmentally responsible products much in the same way that animal rights issues were dealt with in the cosmetics industry. The effect of this phenomenon is that existing companies will change their practices to meet with the demands of their consumers or they will suffer great losses to their revenue.

Another way in which the critiques presented to the market fall short is in their failure to see the effect networking has on industries. It is a practice of socially and environmentally responsible companies to look to help others displaying the same ideals. Through working together in this fashion companies serve to reinvent not only themselves but also those working around them and in the same field. Competition then begins within the market to show best environmental practices to gain the support of other companies and consumers. This competition serves to reinvent the industry as a whole, making it more environmentally friendly and more socially responsible. All factors combined, the cleansing of the industry reaches existing markets in many ways and causes businesses without concern to change in hopes of keeping pace.

Following this reasoning it becomes apparent that the green market is not a new market unto itself, but rather a reinvention of all existing markets. Our project offers a new scale that quantifies the coolness of companies amidst this process of reinvention. Scales are important to this process of reinvention because they offer benchmarks of a company's progression into a cleaner and healthier world.

## **Appendix**

### **A.1: GE Conglomerate**

CEO - NBC: Robert C. Wright

Listed on the New York Stock Exchange as: GE.

- broadcast & cable
- financial
- multimedia
- production and industrial
- satellite/communications

#### **General Electric - Broadcast & Cable**

NBC Corporation

- NBC Network
- Paxson Communications (32% - 72 stations and Pax Network).

Owned and Operated Television Stations

- WVTM - Birmingham
- KXAS - Dallas
- WMAQ - Chicago
- WCMH - Columbus
- WVIT - Hartford
- KNBC - Los Angeles
- WTVJ - Miami

- WNBC - New York
- WCAU - Philadelphia
- WJAR - Providence
- WNCN - Raleigh
- KNSD - San Diego
- WRC - Washington

#### Cable

##### CNBC (with Dow Jones)

- MSNBC (joint venture with Microsoft)
- Arts & Entertainment (25% with Disney and Hearst)
- The History Channel
- Prime Network
- Rainbow Media Holdings (owned with Cablevision)
  - American Movie Classics
  - Bravo
  - Independent Film Channel
  - Much Music
  - News 12 (regional news service)
  - Romance Classics
  - extrahelp
- Rainbow Advertising Sales (cable sales)

- Sports Channel (regional sports networks - managed by Rainbow and affiliated with Fox Sports Net)
  - Fox Sports Bay Area (formerly Sports Channel Pacific)
  - Fox Sports Chicago (formerly Sports Channel Chicago)
  - Fox Sports New England (formerly Sports Channel New England)
  - Fox Sports New York (formerly Sports Channel New York)
  - Fox Sports Ohio (formerly Sports Channel Ohio)
  - Madison Square Garden Network
- Value Vision (39.9%) - home shopping network
- National Geographic's cable channel (25% with Fox and National Geographic)
- International
  - NBC Super Channel (Europe)
  - NBC Asia
  - CNBC Europe
  - CNBC Asia
- Canal de Noticias NBC - 24 hour Latin American News
- TV Azteca (Mexico - joint venture)

**General Electric - Financial**

Capital Services - (wholly owned subsidiary) - includes Equipment Management, Consumer Services, Mid-Market Financing, Specialized Financing, and Specialty Insurance.

- Harcourt General - insurance
- Northern Telecom Finance Corp.

- Financial Guaranty Insurance Company
- Union Fidelity Life Insurance
- Life Insurance Company of Virginia
- First Colony Corporation - insurance
- Woodchester - financial services (Ireland)
- SOVAC SA - financial services (France)
- Credit de L'Est - financial services (France)
- Australian Retail Financial Network
- Pallas Group - financial services (United Kingdom)
- United Merchants Finance Ltd. (Hong Kong)
- Minebea Co. Ltd. - financial services (Japan)
- Frankona Reinsurance Group - reinsurance (Germany)
- Aachen Reinsurance Group - reinsurance (Germany)
- GE Capital
  - iXL
  - CFN
  - Realtor.com
  - StarMedia
  - Preview Travel
  - autobytel.com

\* GE Capital Services' Structured Finance Group lent capital to Cableuropa European TV and telephone operator

\*\* GE Capital Services' Structured Finance Group lent capital to Magyar Telecom of Hungary

### **General Electric - Multimedia**

#### Enhanced Broadcasting

- Intercast with Intel
- Wink
- Web TV for Windows
- Talk City - interactive content (12% with New York Life Insurance, Hearst Communications, Cox Enterprises, Starbucks)
- TiVo (partial investment)

#### Interactive

- NBC Internet (NBCi)
- CNET (Internet content company, partial stake)
- Talk City (equity stake)
- iVillage (equity stake)
- Hoover's (equity stake)
- 24/7 Media (equity stake)
- CNBC-Dow Jones Business Video Service
- NBC Desktop Video - live video for desktop computer
- NBC Data Network - data sent over airwaves
- NBC Digital Publishing - produces CD-ROMs
- NBC Interactive Neighborhood - local internet services with NBC stations
- NBC SuperNet - information available on Microsoft Network



- NBC.com
- Telescan (10%) - provider of financially-related Internet technology
- VideoSeeker.com - on-demand Internet video service
- Net2Phone Inc. - (partial) - telephone service over the Internet
- Asiacontent.com Ltd. (35%)
- AllBusiness.com (pending approval)
- Ralph Lauren Media (joint venture with Polo Ralph Lauren Corp.)
- Space.com (with Gannett)

**General Electric - Industrial Services**

(condensed into areas of production only,  
specific brands not listed)

- Aircraft Engines
- CFM International (joint venture between GE and Snecma of France)
- Appliances
- Monogram, Profile, RCA, Hotpoint - brand name appliances
- Electrical Distribution and Control
- Lighting
- Plastics
- Transportation Systems - locomotives
- Medical Systems (x-ray, MRI equipment)
- Power Systems - manufacture of gas, steam, hydroelectric, turbines, and nuclear fuel services

- Industrial Control Systems (motors, controllers, automation equipment)
- Information Services - Electronic Commerce

**General Electric -**

**Satellite/Communications**

- GE Americom, Inc.
- Ameridata Technologies - international business/computer products and consulting
- CompuNet Computer AG - communication technologies (Germany)
- GE Long Distance Service

**A.2: Green Rating Scale**

General Information:

Company Description

- Environmental affairs contact
- Description of main business activities

Environmental Balance Sheet Analysis

- Total environmental protection costs and environmental investments

Environmental Risk / Compliance with Environmental Regulation

- Measures to minimize environmental risk
- Public environmental scandals and historical burdens
- Environmental legal security and level of compliance with environmental regulation
- Environmental liability insurances and environmental fines

Summary of the Company's Environmental Strengths and Weaknesses

Illustration of the Industry Sector's Overall Environmental Significance

Evaluation by sectors:

Environmental Management

- Environmental goals / environmental coordinators
- Environmental reports
- Environmental standards abroad
- Partnerships / staff training / environmental office

#### Products and Services

- Assessment of the direct and indirect environmental impacts of the products and services
- Measures and goals of environmental product and service development such as:
  - Reducing the consumption of non-renewable resources and harmful emissions
  - Use of environmentally benign materials, avoidance of harmful materials
  - Reusability and recyclability
  - Durability

#### Company Evaluation

The environmental activities in each area of analysis are evaluated on a scale which ranges from:

- A+: the company's environmental activities are especially progressive within the industry.
- D-: the company focuses on complying with environmental regulation but shows little or no further environmental commitment

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