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The U.S. Green Building Council: Designer of the Green Building Industry

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Abstract: The focus of this paper is to inform the reader of the process that determines the standards that define what it means to "build green". The author acknowledges the U.S Green Building Council (USGBC) as the industry leading organization that is responsible for the development of those standards. The author outlines the executives, committee formation, voting structure, and monitoring of the USGBC and their influence on the development of the green building industry. Additionally, the accreditation program for industry experts that serve as third party monitors is profiled. Lastly, the author highlights critiques of the USGBC and the potential influence of politics on USGBC decisions.

Table of Contents

Table of Contents	24.
I. Introduction	
A. The Green Building Movement	
B. Benefits	<i>x</i> 3
C. Regulatory Bodies	4
II. U.S. Green Building Council	5
A. Overview	5
B. Key Players	
C. LEED Certification	8
III. CSR Problem: Why do members join?	
IV. How USGBC Benefits Members	
A. Knowledge & Resources	
B. Committees & Voting Power	
V. Analyzing Integrity of USCBC	13
VI. Critics	16
VII. Case Study: The Timber Industry	19
IX. Further Issues	21
X. Discussion Questions	22
XI. Footnotes and Verifications	

I. Introduction

A. The Green Building Movement

While still in its nascent stages, the Green building movement has been a steadily growing phenomenon. In fact, according to a U.S. Green Building Council's (USGBC) power point presentation, in the last five years alone the dollar value of green construction projects has increased from \$3.24 billion to \$10 billion (1). Green buildings are designed, built and maintained to improve the environmental impact, economic benefits, health, and productivity of both the building and its inhabitants. A true green building entails water conservation, energy efficiency and renewable energy while being constructed with environmentally friendly materials. The incentives are great for the players in the development, construction and management of green properties. Although immeasurable, companies that are associated with green architecture are viewed as progressive and undoubtedly benefit from this pro-environment public image. The environmental benefits of green properties are numerous. Research from the USGBC indicates these benefits range from reduced solid waste to less green house gas emissions. Green buildings have been proven to conserve natural resources and protect biodiversity and the local ecosystem. To date, the health benefits focus primarily on occupant comfort, natural light, noise control, improved air and water quality all feature prominently in green buildings. Interestingly, studies have shown an increase in worker productivity and student learning in green buildings and schools (2).

B. Benefits

Arguably the most prominent benefits in the minds of the developers and managers of green buildings are generally economic. For instance, the practice of streamlined permitting for buildings with green features is becoming more common. Clearly developers who can turn

around their projects and get them to market quicker are obviously going to benefit financially. However, the primary argument behind making money in green architecture is that there are customers that value the gains from going green and they are willing to pay for it. Perhaps the most easily measured economic benefit comes from reduced operating costs. More often than not savings from energy use is the primary economic benefit from green buildings. Studies show that green buildings use less than half the energy of conventional buildings (3). Other savings comes from the reduction in water use. In addition to using less water, many green buildings are being built with self-contained water collection and treatment systems that use the collected water for irrigation and toilet flushing. Going green also renders financial benefits in the overall asset value and profitability of the property. Green buildings cost less to operate than conventional counterparts and their resale and rental values reflect this accordingly. A prime example of the potential benefits that are entiring developers to go green is the Banner Bank Building in Boise, Idaho. This building is considered to be in the upper echelon on green buildings in the United States today. In terms of cost savings, the Banner building uses 65% less energy and 80% less water that conventional buildings. The developer, the Christensen Corporation, asserts this reduction in operating costs equated to a 32.4% return on investment. Furthermore, they claim that increased focus on occupant comfort is directly responsible for the high renter occupancy (4).

C. Regulatory Bodies

Laws from all levels of government are the final component driving the green building movement. Many federal agencies and departments such as NASA, the Department of Health and Human Services, the EPA and others mandate that all construction projects built with federal

funds above a certain dollar figure or square footage achieve Leadership in Energy and Environmental Design (LEED) certification. Currently, the U.S Army, Navy and Air Force only encourage LEED certification but are moving in the direction of requiring certification for military construction. At the state level, 22 states have incorporated LEED certification in some form or another. The most common adoption is the edict that all publicly funded buildings above varying square footage meet certification. However, in what is perhaps the start of a wider trend, Maryland requires that all development projects greater than 5,000 gross square feet in the state capital meet LEED certification (5). Additionally, state and local governments are increasingly offering tax credits and other financial incentives to developers of green buildings. For instance, from 2005-2009 the New York State Green Building Tax Credit Program is slated to give \$25,000,000 in tax credits to firms involved in the construction of green buildings (6).

II. U.S. Green Building Council

A. Overview

As the quality and quantity of incentives has matured, so too has the number of green companies who are looking to capitalize in the new industry. This industry wide growth prompted the need for an industry wide standard that encompassed just what it meant to build green. The U.S. Green Building Council was the first organization to fill this need and establish the industry standards. The USGBC is the nation's leading coalition of companies and organizations from across the green building industry. USGBC consists of 100 full time staff, 75 regional chapters with 7,500 member organizations ranging from building owners, real estate developers, facility managers, architects, designers, engineers, general contractors, subcontractors, product and building system manufacturers, government agencies, and nonprofits (7). The USGBC's focus on sustainable building led to the creation and implementation of the voluntary, consensus based

Leadership in Energy and Environmental Design (LEED) Green Building Rating System. LEED certification is the proof that a building has been inspected by an independent, third-party and is an environmentally responsible, profitable, and a healthy place to live and work.

B. Key Players

A closer look at the leading people of USGBC and its broader member base is required in order to support their position. The U.S. Green Building Council's board of directors is made up to 27 directors with 6 additional directors on the executive committee. The current chairman of the board is Sandy Wiggins. Mr. Wiggins has worked in real estate development and the construction industry for over 30 years and has been involved with projects worth over \$750 million (8). He is the founder of Consilience, LLC, a consulting, development and project management firm that focuses on green building. Mr. Wiggin founded and actively chairs the Philadelphia chapter of the USGBC and is a director of the Energy Coordinating Agency (ECA). The ECA is a private, non-profit that focuses on access to safe, affordable and reliable sources of energy and water for low income people Mr. Wiggin also serves as a director on the Pennsylvania Resource Council, a national leader in waste reduction and recycling. Additionally, Mr. Wiggin is an active director for the Delaware Valley Smart Growth Alliance, an organization that promotes smart growth projects by advising proposed projects prior to development approval. A second member of USGBC's executive committee is S. Richard Fedrizzi, the President, CEO & Founding Chairman of the U.S. Green Building Council. Mr. Fedrizzi's green career started when he founded Green-Think Inc. an environmentally focused marketing and consulting firm for the residential and built environments. With Mr. Fedrizzi on the council, the USGBC has initiated three new rating systems and partnered with the Clinton Climate Initiative to implement green building programs in 40 of the world's largest cities. Mr.

Fedrizzi is considered the driving force behind USGBC's commitments to green schools and the council's movement to combat global climate change (8).

The current chair elect on USGBC's executive committee is Rebecca L. Flora. Ms. Flora is currently the executive director of the Green Building Alliance (GBA), a non-profit organization that focuses on the green education and project facilitation. Ms. Flora was also the head accreditor for Pittsburgh's \$350 million convention center project, the first green convention center in the world. Additionally, Ms. Flora is a graduate school adjunct professor in sustainable community development at Carnegie Mellon University's Hemz School of Public Policy and Management. The current treasurer of USGBC's executive committee is Mr. Van Belleghem, a CPA with over 18 years of experience in real estate development. Mr. Van Bellegham is also a managing partner in Windmill Developments, a Green Building development company and the president and founder of BuildGreen Development Inc, a green project consulting firm. The last member of USGBC's executive committee is Gail Vittori, the current secretary. Ms. Vittori has worked at Maximum Potential Building Systems, a non-profit design firm that focuses on sustainable planning, design and demonstration for 25 years. Ms. Vittori is also a founding member of the Healthy Building Network, a national network of green building professionals, environmental and health activists committed to making improvements in public health (8)

The remaining 27 directors come from an array of reputable organizations. Naturally, the most represented companies are a diverse grouping of green building organizations. GreenTime LLC, Ecotrust, Alliance for a Sustainable Built Environment, Sustainable Products Corporation and Yarmuth Radoff Green Sustainability Consultants are a few from this category. However, the other companies that are represented by the board members are extremely diverse. For

instance, Tony Gale, Starbucks Coffee Company's Corporate Architect sits on the board. Mr. Gale oversees the design and construction standards on all Starbuck's coffee houses. Also, Timothy S. Carey, the President and Chief Executive Officer of the New York Power Authority is also a board member. Additionally, Dan Burgoyne, the Sustainability Manager for the State of California's Department of General Services is a director. Mr. Burgoyne's implements sustainable building, energy and resource efficiency at the California state level Dastly, Lisa Shpritz, a Vice President of Corporate Workplace for Bank of America in Charlotte, North Carolina is also on the board. Mrs. Shpritz is responsible for environmental programs and implementation for over 90 million square feet in Bank of Americas across the country. The upper echelon of the USGBC appears to be composed of accomplished people from highly reputable companies. While only one component to establishing legitimacy, USGBC's staff is a positive selling point for their credibility.

C. LEED Certification

In particular, LEED certification focuses on six major areas of efficiency and design; site planning, water management, energy management, material use, indoor environmental air quality, and the innovation and design process (9). Additionally, the LEED rating system takes these six areas and creates individual specifications according to building type. For instance, New Construction, Existing Buildings, Commercial Interiors, Core and Shell Development, Homes, Schools, and Neighborhood Development all have their own rating system. The actual certification process entails awarding points for meeting certain requirements and then tallying the points to determine the LEED rating. Currently, the USGBC has established four levels of LEED, platinum, gold, silver and certified. For a project to be considered for LEED certification it must meet all LEED specified prerequisites and thereby achieve the Certified level of LEED

project certification. More requirements must be met thereby earning more points to move up the scale to the more stringent levels. At the end of the certifying process, LEED will bestow the building with an award letter, certificate and metal LEED plaque indicating the certification level.

This rating system is actively developed via a consensus voting system that begins when volunteers on the LEED Steering Committee approve a recommendation to the DSGBC board of directors. If the board decides to move forward with the release of a product or item they believe meets LEED standards, the USGBC's due paying members are then given the opportunity to comment and vote on the product or item. Approval mandates a two-thirds vote by at least 10% of the members for a standard to be approved. At first glance, this process seems odd, the members of the USGBC are the firms and organizations that serve to benefit from attaining LEED certification. However, these are the same members that set the rules of what exactly LEED certified means. Are these member organizations setting the bar low so they can achieve certification at low costs or are they setting the bar high in order to distinguish themselves from conventional firms? Coupled with that fact that in the past five years voting members in the USGBC has grown by over 500%, understanding the benefits of membership might help to decipher the USGBC's role.

III. CSR Problem: Why do members join?

As outlined above, the health, environmental and economic gains from going green continue to have a growing acceptance. However, the question arises to why firms or organizations interested in these benefits are compelled to accept the USGBC's standards in order to recognize the gains. Why does the USGBC have over 7,500 member organizations that pay anywhere from \$300-\$12,500 annually? While this quantity of reputable business further

helps to legitimize the USGBC as the nation's leading green architecture coalition, a further evaluation determining why exactly these members want to be a part of the organization is warranted. It seems necessary to determine if their inclusion is entirely self-interested at the expense of environmentally best practices.

IV. How USGBC Benefits Members

A. Knowledge & Resources

Simply put, the USGBC promotes itself as the industry leading resource for green building. They claim to have more knowledge and access to practical experience than any other organization. Their information and technical experience is designed to be used as a blueprint for firms that want to go green. The first benefit that members gain is discounts on USGBC and LEED programs and publications. These discounts range anywhere from \$50-\$5,000 on expos, seminars, manuals and project registration and certification fees (10). A second benefit is access to USGBC resources that are entirely in house. Research reports and a database of past LEED certified reports are available for members to use and implement on their own projects. Additionally, the networking ability that comes with membership and access to the USGBC's directory is viewed as a premium on membership. With membership growing at over 1,000 new members a year it appears that many support the notion that the USGBC is the primary green building association.

B. Committees & Voting Power

Additionally, their LEED certification is the national benchmark that distinguishes green buildings from conventional ones. In my opinion, the most enticing member benefit is the ability to serve on committees and the ability to vote on what exactly it means to be LEED certified. The USGBC claims that its committees are the core component in their ability to provide

industry guidelines for green buildings. While consensus voting by all of the members is the common practice, the committees are labeled the primary shapers of future LEED and green building practices. Any member of USGBC can serve on an array of committees that are specifically designed to include a diverse selection of member categories. As seats become available, existing committee members nominate and elect new members to fill certain positions while the executive committee reserves the right to appoint committee Chairs and Vice Chairs. The USGBC's guidelines state that the Chair or Vice Chair of the LEED Steering Committee, the most influential committee, must be a Council Board member. Interestingly, at the time of writing, there were no openings on any USGBC's committees. Twould argue this fact to be a clear indication that volunteering on a committee and having a voice in decision making is valued. Furthermore, it seems hard to believe that USGBC members would volunteer their time unless there was some kind of return on their effort. I would further argue that their role as an unbiased industry standard architect would be supported if the USGBC's committees are indeed formed from a broad spectrum of individuals with a variety of self-interests and their entire member organization is given voting power. However, while not stating this is not the case, determining this in every decision made by every committee that involves a LEED product or rating is a difficult task

A closer look at how LEED committees are organized renders information into the influence that committee members are given. According to LEED's 2006 Committee Charter Report (pgs. 1-26), the most influential LEED committees are the Steering Committee and the Management Sub-Committee. In conjunction with the USGBC board of directors, these two committees are charged with the establishment and enforcement of the LEED product line and rating system. They are further charged with delegation responsibilities and overseeing all

LEED committee activities. In short, all major decisions that involve LEED products and rating system go through these two committees at some point. Additional committees that hold influence are the Horizontal and Vertical Market Committees. These two groups are charged with the criteria and technical development of individual products and products that span entire building sectors. The Technical Advisory Group is another committee that plays an important role in the LEED system. This group is responsible for LEED products meeting the technical requirements of the LEED rating system. Other committees that are given a voice are individual chapter steering committees. These committees work with state and local governments to ensure LEED products meet local laws or the local laws are negotiated to encompass LEED products.

At first glance it is arguable that a conflict of interest exists amongst the members of the USGBC's committees and their decision making power. LEED committees have the power to direct which products are voted on to become LEED certified and therefore have the ability to steer decisions into personal profit making outcomes. To protect against this event, the LEED Committee Policy Manual has a "Conflict of Interest Policy" requiring that voting members who have a conflict of interest must disclose this to the USGBC (11). The corresponding committee shall then decide whether the individual will be allowed to vote on the subject at hand. However, at the time of writing, the inquiries the author made to the USGBC as to the frequency of committee members not being allowed to vote rendered no information to answer this question. A further check on an individual committee member pursuing a personal interest policy is the practice of assuring that a minimum of five member categories are represented on all LEED product committees. This balance is designed to assure a broad set of expertise and interests in the decision making processes.

Perhaps the strongest step the USGBC has taken to assure legitimacy is allowing their entire member base to voice their opinion and vote on the development of LEED products and standards. Detailed product policies are available for all members to review and can be readily attained at the organization's website. A potential LEED product begins with identifying a market niche and determining the scalability of the product. If the Steering committee believes the product viable, they approve the formation of a Core Product Committee to commence product development. This committee is then comprised of both appointed and elected members that meet a specified criterion outlined by the Executive Committee. If the product proves technically sound by the Technical Advisory Group the committee is given the green light to pilot the product and report the findings to the USBGC board and Steering Committee. At this point, USGBC's members are allowed to review the product and research and give feedback. The Steering Committee then refines the product based on the member feedback and then proceeds to ballot the product. If approved by two-thirds of those voting, the product is implemented into the LEED rating system and the product is marketed to interested groups. The LEED rating system is developed in largely the same manner. This development and implementation process is an open and evolving process that continually incorporates new technologies and trends. The USGBC argues this consensus based voting system coupled with the open balloting of new products ensures the integrity of LEED brands.

V. Analyzing Integrity of USGBC

In fact, the USGBC's further argues that its interest in maintaining brand integrity is perhaps the primary selling point as to why they should be accepted as the organization that outlines industry standards. The USGBC has the following: the professional member base that is

willing to pay them thousands of dollars annually; the consensus voting system that is viewed as fair and democratic; and a firm lock on the role of draftsman for the future of green building, an industry whose dollar value has grown drastically in the last five years. In short, if the USGBC are rational thinkers, they will recognize that times are good and any blight on the LEED brand is counterproductive to the larger picture and future gains. Of course, determining the USGBC's[®] ultimate agenda is extremely difficult. However, the USGBC has implemented additional controls that they claim strengthens their LEED brand's high level of quality. The first step the USGBC took was to keep all licensing of their LEED in-house and not by a third party. They believe this certifies a high standard that cannot be compromised by decision makers other than themselves. They also position themselves as the experts in the field by creating and offering credible sources of green building education sources. They argue that if their member base is given access to information about the leading technology, most recent case studies, market research reports, and workshops their position as the leading source for green information is further cemented. Lastly, the USGBC places emphasis on maintaining high levels of consistency, stringency and quality across all their LEED brands in order to deliver a high quality product.

The USGEC also feels their LEED professional accreditation program supports their position as the industry leader for all things green. A LEED Professional Accreditation is proof that an individual comprehends green building practices and principles, can steer a project towards meeting the LEED certifications and is an expert in the LEED rating system. In fact, many green projects mandate that a LEED Accredited Professional (AP) be involved and projects actually receive a LEED point for staffing a LEED AP. The LEED AP assists the developer to make sure the project will eventually meet LEED requirements and helps process

the legal documents that hold the ultimate responsibility for the determination of the LEED certification. The LEED AP is essentially the outsourced monitor for the USGBC who does not actually inspect the building themselves. Like all systems, the USGBC's can fall victim to fraud especially lacking an individual 3rd party inspection of the buildings. However, the author argues that there are a few incentives as to why the USGBC's system might prove sound. Besides reputation, the primary incentives for the developers and monitors to do honest work are the financial benefits from constructing a true green building. A falsely labeled green building will not provide the desired cost savings the developer seeks and hiding this from potential buyers or renters would be difficult. Furthermore, the differentiating qualities of a green building are either present or they are not. The building either uses less water allows for more natural light, has better air quality or it doesn't. Falsifying documents on these subjects by either the developer or the LEED AP seems difficult. None the less, LEED AP appears to play a highly influential position in the certification process.

There are currently over 35,000 LEED accredited professional is a testament to the scale of the green building industry. Examining the process of how a person becomes LEED accredited is necessary to help determine their credibility and motivation in the overall process. First off, there are no barriers to entry for taking the certification test. However, the USGBC does encourage the individual to have experience in the field and prior knowledge of LEED before signing up for the \$250-\$350 test. Regarding the content of the tests, the USGBC writes, The development of a valid exam begins with a clear and concise definition of the knowledge, skills and abilities needed in order to successfully serve as a LEED Accredited Professional. Psychometricians work with experts in the green building industry to identify critical components of the roles and responsibilities of an individual supporting the LEED certification process (12).

Additionally, the USGBC claim there tests to reflect current standards and business practices. Interestingly, LEED identifies six building types but only offers three corresponding exams and clearly states that passing any one test will allow the individual to serve as LEED AP for all the others. Subject matter experts are the final authority in grading the 200 point test. If a candidate receives a grade of 170 or above then they are deemed a "LEED Accredited Professional" (13). The USGBC website nor the author's inquiries revealed any information as to the failure rate of the tests. An interesting conflict of interest arises when evaluating LEED's accreditation process. The USGBC is currently the market leader and receives economic benefits from this position. In order to be in this position they need the green market to be viable and for the green market to be viable there has to be LEED APs out in the field doing business. Therefore, the USGBC has a vested interest in accrediting individuals and expanding the industry. Again, the USGBC believes that their brand is only credible because of the high standards and would most likely argue that if their accredited professionals lacked expertise then their brand would ultimately suffer. Whether this is the case or not is extremely difficult to determine. However, researching the critics of the USGBC and their LEED products does offer a glimpse into the credibility of their organization.

VI. Critics

Interestingly, the author found very few resources when researching USGBC and LEED critics. Whether this can be attributed to the USGBC doing their job well, a lack of knowledgeable critics or the fledgling industry as a whole is difficult to say but none the less noteworthy. The primary critique the author found of the USGBC and their LEED rating system came from Randy Udall and Auden Schendler. Auden Schendler is a LEED AP and is the Director of Environmental Affairs at Aspen Skiing Company. Randy Udall is the director of the

Community Office for Resource Efficiency in Aspen, Colorado. As of 2005, the two critics had built two LEED rated buildings, had six more in the planning stage, built a passive solar home, consulted on multiple green building developments, and designed the world's first renewable energy mitigation program (14). The accomplishments of the two men appear to support their ability to professionally criticize the USGBC.

Mr. Udall and Mr. Schendler argue that, "...LEED has become costly, slow, brutal, confusing, and unwieldy...the result: mediocre green buildings where certification, not environmental responsibility is the primary goal" (15). The first major criticism of the USGBC and their LEED rating system the pair make is that the process of receiving LEED certification is too costly. They argue the USGBC's endorsement that going green does not cost more than conventional building is false and encourage a recognition that additional costs do exist and are worth the money. The first additional costs they outline are LEED consultant fees that average anywhere from \$125 to \$200 per hour. Additionally, they claim the price tag for ensuring a building meets the LEED required mechanical system rating averages \$25,000. They also state that a building's energy system has to be simulated by a computer model which is difficult to accomplish for less than \$15,000 for a 20,000 square foot building. Lastly, the registration costs that range in the low thousands further differentiates green from conventional building. The pair supports the need for a LEED system and understands the necessity for associated costs. However, Mr. Udall and Mr. Schneider believe that the lack of upfront information about costs has hurt the willingness of developers to adopt the LEED standards and slowed the expansion of the sector.

In light of these extra costs, they argue that if the true goal of green architecture is to make environmentally progressive architecture then available funds should be spent on just that

and should receive just compensation by the LEED rating system. This second argument revolves around what Mr. Udall and Mr. Schneider refer to as "point mongering" (16). The two argue that the prestige of being LEED certified encourages developers to seek out LEED credits (points) rather than focus on the end goal of constructing a green building. They place the blame on the rating system that holds all credits equal and does not mandate certain kinds of credits. For instance, conserving energy is considered a staple of the green building movement. Heat recovery systems and other green energy systems can run into the hundreds of thousands or even millions of dollars. As of 2005, the rating system awarded a LEED point for installing one of these costly systems. The two critics argue that the problem lies with equivalent points being awarded for installing bike racks or the installation of an electric car charging station. In theory, with only 26 of 67 points necessary to achieve LEED certification, it is possible for a building to be "greenwashed" and achieve LEED certification without an efficient energy system. Mr. Udall and Mr. Schneider believe that energy efficiency is mandatory in a green building and the USGBC should therefore mandate a minimum level of energy credits. They argue that point mongering undermines the credibility of the USGBC and the green sector as a whole. They expand their criticism by adding that this is but one example of the USGBC deciding protocol based on consensus rather than scientific analysis.

The two authors add that the entire LEED rating system should be more user friendly. A prime example they give took place when they were in the process of certifying one of their projects. The two claim that the entire process took so long that by the time they compiled all the required paperwork new lighting credit requirements had been issued and they were back to square one (17). They argue that the USGBC's bureaucracy encumbers the certification process and therefore the time it takes to get a building to market. This last point is particularly worrying

from a business standpoint. The USGBC's credibility and market share might be hurt if investors and developers feel the USGBC is going to be an obstruction in receiving a return on their investment. They further believe the USGBC's policy of not inspecting the building sites themselves and solely relying on the paperwork adds to the USGBC's faceless bureaucracy. Additionally, they believe the rating system to be "severe and confrontational" rather than a constructive learning process where both parties are interested in reaching a common goal. The last suggestion the two authors make to the USGBC is to better position itself for mass appeal and create a "LEED for Dummies" (18). They argue the overall process is too technical and that there are barriers to adoption based on expertise.

The USGBC does face competition from other organizations that have developed their own rating systems. Green Building Initiative, based in Portland, Oregon and Canada in particular has been very active in lobbying state and local governments to require a green building rating system that is not specific to any one organization. This competition is perhaps the incentive the USGBC needs to ensure it maintains a high standard for its brand name product and rating system. If the LEED rating system becomes a hindrance or the quality is widely viewed as suspect as Mr Udall and Mr. Schneider argue, the USGBC will simply lose their position as the driving force behind the standards of the green building industry. There is no doubt the board of directors at the USGBC are aware of this and are more likely than not working to continually improve their products.

VII. Case Study: The Timber Industry

In researching this paper, the author found a very interesting case involving the USGBC and the timber industry that is a good example of the potential influence of politics. As of 2006, the timber industry was actively lobbying politicians to not adopt LEED certification for what

they claimed was the USGBC's bias against wood. They argued that of the 69 total LEED credits only one focused on wood as a construction material (19). The USGBC denied any such bias but under the pressure decided to assemble the board of directors in order to address the issue. The board commissioned the preparation of a white paper and of a study by Sylvatica in North Berwick, Maine, an environmental consultancy firm to compare the "greenness" of wood in comparison to the rapidly renewable biobased materials that LEED currently certified. The author admittedly is not an environmental scientist and does not have the background to judge the USGBC's actions. However, Sylvatica reported that LEED's preference to certify rapidly renewable biobased materials over wood "does not appear to be justified by the science" (20). Additionally, the author of the white paper, Alex Wilson of BuildingGreen, Inc. clearly writes that an advantage of incorporating change in the certification of wood, "might lessen timber industry opposition to the Forest Stewardship Council", the only timber certification system accepted by LEEDS (21). While it is entirely possible that these comments were free of the influence of the timber industry, the implications of the comments are noteworthy in light of the USGBC's interests to lessen pressure from the timber industry's powerful lobby.

VIII. Conclusion

This paper's intent was to better inform the reader about the process that encompasses the development of the green building industry. Understanding who is making these decisions, how they are making them, how the decisions are being monitored as well as the implications for the industry allows a person to form his or her own opinion and questions. The professionalism of the USGBC board members, the consensus voting structure, and the widespread acceptance of the USGBC all support the USGBC as the industry standard developer. Furthermore, their accreditation program, which empowers individuals to act as the guides and monitors for green

developments, appears to be respected throughout the industry. However, while scientifically based and reputable, it does appear that the USGBC identified a need and was simply the first to market. Their open practice of continual refinement attests to the incipient stage of the industry.

IX. Further Issues

As the researcher and author of this paper there are multiple questions I have been with. The primary question revolves around the influence of politics and lobbying organizations. There is no doubt that powerful influences exist when the potential dollar value associated with the USGBC's policy decisions are so vast. To what extent the USGBC makes decisions with these influences in mind will yet be determined as the industry further develops. An additional question focuses on the conflict of interests the committee members potentially face when voting on LEED policies. The author would like to know the prevalence of committee members not being allowed to vote due to a conflict of interest. These committees are compiled of players in the green building industry and their decisions and voting power have serious economic impacts. It would be noteworthy to discover if no one is ever asked to not vote. Furthermore, the financials behind the USGBC are not readily available. With the USGBC setting standards based on scientific standards, it would be interesting to know the percentage of revenue the USGBC spends on research and development. Lastly, considering the USGBC's interest in having LEED APs in the field, it would be equally revealing interesting to know the failure rate for their accreditation tests.

X. Discussion Questions

1. The author is interested in examining whether the interests of members detract from USGBC's ability to implement environmental best practices in the construction industry. What do you conclude? Should some interests be more represented than others?

2. The author mentions that the U.S. Green Building Council faces competition from the Green Building Initiative. Check out these competitors website and find out what their certification standards are. Which standards give you more confidence in its integrity? Is USGBC really a better standard or are they just better at branding because they are bigger?

3. Review Mr. Udall and Mr. Schendler's qualms over USGBC. Are they valid? If so, what measures can and should the USGBC take in order to ensure a future for sustainable architecture?

4. USBBC operates in an industry with many powerful lobbying groups and trade associations (see Eric Engelman's paper), some of which they have incorporated as members. What should USGBC do to respond to these pressures?

3. If the ultimate CSR goal in construction is to move towards sustainable environmental practices in the industry, what, in your opinion, is the best way of attaining this goal? Getting consensus over a majority of stakeholders and implement incremental change? Or just involve the most innovate, forward-thinking "green" builders who might best accelerate change?

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XI. Footnotes and Verifications

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