British Columbia Construction Association

A Study on the Risks and Liabilities of Green Building

September 2011

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Executive Summary

Introduction

The prominence of green building projects in Canada continues to grow but so do the risks and potential liability. Government action directed at meeting the public's growing interest and concern with sustainable development will continue to play a critical role in the future of green building in British Columbia. Steps taken by Government include mandating compliance with 3rd party rating systems on public projects as well as offering financial incentives for voluntary gains in energy and water efficiency. These decisions impact all sectors of the construction industry from Owners, Designers and Contractors to Material Suppliers, Educators and final Tenants.

Potential Risks

Issues associated with green building projects may give rise to legal liability under contract and tort legal theories or statutory requirements. The predominant use of 3rd party rating systems in green projects adds a layer of complexity that can significantly alter the scope of liability for all participants. Some issues include the importance of documentation, time lines, and special material use in achieving certification. Additionally, the distributed responsibility of attaining credits across all aspects of a project (design, material selection, installation) means that no one party can control all steps towards attaining certification.

Contract claims may be grounded in breach of contract, misrepresentation or fraud, negligence, and product liability. As a result of 3rd party rating system's lack of privity between Owners, Contractors and Designers, any party providing a warranty or guarantee of final certification is at risk of being exposed to liability. Claims may include consequential damages related to lost sales or diminution in value if a project fails to attain certification.

'The predominant use of 3rd party rating systems in green projects adds a layer of complexity that can significantly alter the scope of liability for all participants…As a result of 3rd party rating system's lack of privity between Owners, Contractors and Designers, any party providing a warranty or guarantee of final certification is at risk of being exposed to liability.'

Tort claims may include misrepresentation, fraud, personal injury, or class action lawsuits reminiscent of the Leaky Condo Crisis due to potential widespread failures in novel green materials or building techniques. Those with specialized training or green building expertise may be held to a higher standard of care for negligent construction or negligent misrepresentation. Alternatively, a lack of experience with green building material or techniques may also give rise to deficient or negligent construction claims against Contractors or Subtrades. These risks may be mitigated in large part by carefully reviewing contract language and understanding how the requirements of green building projects differ from traditional projects.

Contract Recommendations

Contracts should clearly define green terms, relevant timelines, assign responsibility to specific parties, and identify the green goals of the project. Inclusion of timelines in contract requirements is critical as there has been a marked backlog in the LEED certification process.

All participants in the Canadian construction industry pursuing green built projects should carefully review their contractual obligations. Due to the novel risks and specialized requirements of green projects, parties may unintentionally accept more risk than on a standard project. Green projects require heightened co-ordination among participants in order to meet the requirements of 3rd party rating systems. This includes project wide documentation, waste management, material use and building practices consistent with 3rd party requirements. Contracts should clearly define green terms, relevant timelines, assign responsibility to specific parties, and identify the green goals of the project. Inclusion of timelines in contract requirements is critical as there has been a marked backlog in the LEED certification process. Any use of tax credits or other incentive should also be accounted for in contracts.

As Designers and Contractors have no control over final certification, no warranty or guarantee should be provided in relation to attaining final certification. Participants should carefully review any use of consequential or liquidated damage provisions in their contracts as potential claims may exceed the original value of the contract. The length and scope of any obligations should be clearly defined by appropriate contract language. If a party is expected to remain on a project until final certification is attained, then the cost of services provided over that time should be accounted for. Any use of BIM or other project management tools should also be addressed in contracts. If multiple parties are working towards a single credit, assigning liability may be very complicated if not properly addressed in contract language prior to encountering problems.

Tort Recommendations

Parties should carefully review promotional material that represents their expertise in green building or design as these may be used as the basis for claims in misrepresentation or negligence. Designers and Contractors may be held to a higher standard of care if they have specialized training in green building or design. As a result, insurance coverage should be reviewed for potential exclusions for negligent design, installation or construction of green buildings or features.

Projects should not be advertised or represented as 3rd party certified until final certification is achieved. Care must be taken to temper buyer's expectations about the green or sustainable features of a building. Due to the lack of an industry wide definition of "green built" projects, there may be significant divergence between party's conceptions of what makes a building green. This may lead to claims of misrepresentation or false advertising by a disappointed Owner or Tenant. Additionally, all promotional material should comply with the relevant statutory requirements under the *Competition Act*.

Education Recommendations

Related to the need for coordination and communication among participants on green projects is the need for education about sustainable building at all levels of the industry. This includes Subtrades as they play a critical role in attaining 3rd party certification. While many credits are awarded for design elements, the proper installation of building components is critical to achieving desired energy and water efficiency gains and avoiding potential litigation. However, Subtrades are only able to install and construct buildings as per their design and compliance with existing building codes. As a result, special attention must be given to alterations of existing building envelope design including the potential risks with widespread use of green roofs.

If Government is interested in increasing mandatory compliance with 3rd party rating systems or meeting stringent energy efficient requirements then an educated work force will play a central role in achieving these goals. Contractors, Designers, and Subtrades all require an understanding of the green goals sought on a project as well as the steps required to achieve them. A failure by one party can jeopardize the goals of all participants. Increased educational programs related to green and sustainable construction will go far in minimizing potential issues.

Government Recommendations

If Government is interested in increasing mandatory compliance with 3rd party rating systems or meeting stringent energy efficient requirements then an educated work force will play a central role in achieving these goals.

Government must consider the additional potential for liability in green projects when pursuing further green mandates. Alterations to existing building codes or practices in order to comply with the principles of 3rd party rating systems must be done with caution. For example, existing “best practices” used in LEED such as building “flush outs” may increase the potential for moisture issues when combined with alterations to existing building envelope design. In particular, special attention should be given to the impact that green roofs may have on existing building envelope design. These systems add complexity, require diligent maintenance and may result in water or mould damage if improperly designed, installed, or maintained.

The current focus by Government on mandating compliance with LEED Gold on all public projects impacts the commercial and industrial sector disproportionately compared to private or residential green projects. Public projects represent an investment by the tax payers of British Columbia and as such requires that Government provide opportunities for participation to the broadest range of competent parties possible. An open and transparent bidding process in conjunction with standard contract documents is the best way to achieve this. Standard contract documents can play a critical role in ensuring that participants, large or small, are given the chance to participant in the growing green building trend without unfairly assigning risk.

Standard contract documents produced by the Canadian Construction Association ("CCA") and the Canadian Construction Documents Committee ("CCDC") are created through a consensus based approach which can help achieve a balanced assignment of risk appropriate to each participant. A balance must be struck between non discriminatory procurement options and effective project delivery methods. This will require further consultations between industry and government in order to develop an appropriate protocol for achieving this necessary balance.

Government mandated compliance with LEED certification will have an important impact on the future of the bidding process and all sectors of the construction industry in British Columbia. Care must be taken by Government to address the impact that the endorsement of LEED and other green initiatives will have on procurement methods, contract formation, insurance options, and building design prior to introducing further mandatory green building requirements.

Structure of the White Paper

Part One of the White Paper consists of an introduction of the topics covered, sources of information used, current trends in green construction, and an overview of 3rd party rating systems and Project Management Tools.

Part Two begins with an introduction to the sources of liability on green projects including legal definitions applicable to issues addressed in the White Paper. Contract, Tort and Statutory issues are then examined through examples of American litigation followed by suggestions on how to mitigate these risks in the Canadian context. The potential liability associated with green material use is examined as well with a focus on the U.S. Green Building Council's exclusive recognition of FSC Certified Wood Products under LEED.

Part Three addresses additional issues relevant to green construction including insurance coverage, potential for decertification of buildings, potential claims against the U.S. Green Building Council, and American industry led challenges to green building codes.

Part Four provides a summary of the paper and specific recommendations for the issues addressed. Citations are included at the end of the White Paper.

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Thomas McLachlan – research, writing, analysis
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Part One: Introduction

1. Overview of the White Paper

A. What is the Structure of the White Paper?

This White Paper begins with an overview of green building including the impact of Government and then provides several examples of 3rd party rating systems. The sources of legal liability are then considered through an examination of American case law with recommendations following each example. Other issues are then addressed including the availability of green building insurance products, the potential for decertification, potential claims against the USGBC, and industry resistance to Government mandated green building codes. The paper concludes by providing recommendations on how to mitigate the novel risks encountered during green building projects.

B. What Issues Will this Paper Address?

There are a wide range of issues facing Owners, Designers, Builders, Material Suppliers, Tenants and Government in the emerging Canadian green construction landscape. Some of these issues will be familiar to those in the construction industry while other novel issues have arisen due to the convergence of four contemporary trends including: (i) a growing awareness and desire by the public for sustainability in the built environment; (ii) Government incentives and mandatory 3rd party certification on new public projects; (iii) the use of 3rd party rating systems to endorse a building as "green"; and (iv) the uncertain Canadian judicial interpretation of legal issues associated with "green construction".

Liability and risk within these four broad features of contemporary "green construction" in British Columbia may result due to (i) contract language; (ii) tort and statutory breaches; (iii) the use of novel green building material or methods; (iv) a lack of insurance products tailored to green projects; or (v) the choice of procurement and project delivery platform. Government support for green building and the availability of education programs has a significant impact on all sectors of the construction industry.

C. What Sources of Information are Used?

This White Paper will address potential green building issues in British Columbia primarily through an analysis of American litigation arising out of green construction projects. As Canadian litigation is quite limited, trends in American litigation can help identify potential pitfalls and offer guidance to those affected by the particular challenges of green building. The sources used in this paper include trial decisions, academic journals and articles, non-profit construction industry associations and environmental groups, editorials and interviews with industry partners, news articles, government produced reports and commission findings.

2. Introduction to Green Building

A. What is Green Building?

The concept of green or sustainable construction can be encompassed by many terms including "sustainable green building"[i]; "environmental design"[ii]; "environmentally responsible construction"[iii]; or "green building"[iv]. Different terms may stress particular elements of green building[v] but they all describe an effort to address the impact that the built environment has on human and ecological health.

Sustainability is a complex, evolving concept that is defined through technological and environmental advances as well as the position of the person using the term. As such, this paper will use the term "green building" to refer to trends in design and construction that attempts to take into account environmental and human health concerns in addition to the traditional concerns of the construction industry.

Green building can be thought of as the design, construction, maintenance, operation and ultimate disassembly of a built environment which attempts to minimize negative impacts on human health and the environment. This often involves a focus on reduced energy and water consumption, material use, waste management, and land use throughout the lifecycle of a building.

B. Why Build Green?

Some of the benefits commonly associated with green buildings include lower operating costs due to efficient energy and water use, improved worker productivity[vi], potential tax benefits or incentives[vii], higher rent and occupancy rates[viii], and incorporating sustainability into your corporate image or brand[ix].

Interest in green building by the construction industry, politicians and the general public may not come as a surprise. Here in Canada, buildings are typically responsible for almost a third of energy use and produce over a third of all greenhouse gas emissions[x]. Half of Vancouver's greenhouse-gas emissions come from the heating and provision of hot water in its buildings alone[xi]. In America, energy consumption accounts for almost a third of a building's operating costs and the Environmental Protection Agency ("EPA") estimates that if this were improved by 10% in commercial and industrial buildings, the savings would equal $20 billion a year[xii].

As a result of the financial benefits and government support for climate change initiatives, green building has seen a marked increase in recent years. In America, the green building market is expected to grow from between $55 billion and $71 billion in 2010 to somewhere close to $135 billion by 2015 which would make green building account for between 40% to 48% of the commercial building market[xiii]. Other studies presented by the U.S. Green Building Council ("USGBC") are more optimistic, claiming that from 2000 to 2008 green construction accounted for $173 billion of GDP and accounted for 2.4 million jobs. The same study projected that from 2009 - 2013, the American green construction market will account for $554 billion and 7.9 million jobs[xiv]. The USGBC's website reports that there is currently over 1.4 billion square feet

of commercial building space among almost 22 000 projects that has been certified under their Leadership in Energy and Environmental Design ("LEED") rating system at some level[xv] while in Canada, over 212 projects have been LEED certified with the majority attaining LEED Silver and LEED Gold[xvi].

While there has been widespread reports indicating a growing interest and involvement in green building across all sectors of the construction industry, the commercial and industrial sectors seems to be leading the trend. Retail tenants have shown less interest in green building due to a reluctance in passing on higher prices to customers who are not as concerned with a sustainable or green image compared to long term tenants. In addition, homebuyers interested in sustainability may not be able to pay extra for it[xvii].

C. Government Adoption of Green Building Practices

The most significant element influencing the prominence of green building in the commercial and industrial sector may be Government adoption of mandatory compliance with 3rd party rating systems on public projects. Corporate tenants attempting to harmonize their office space with internal company sustainability guidelines and goals may also contribute to this trend. These factors disproportionately affect the commercial and industrial sectors compared to residential construction. However, the retail and residential sectors may be under increased pressure to build green if municipalities continue to increase mandates or incentives for green construction[xviii].

Many governments here in Canada and in America are increasingly including LEED based requirements (or equivalents) on new public construction projects and providing other incentives to promote the voluntary pursuit of green building[xix]. This growing trend consists of two commonalities: (i) jurisdictions that previously only offered incentives have moved towards mandatory compliance and (ii) the inclusion of mandatory green targets previously only required on public projects has expanded to include private and residential building[xx].

There are indications that both of these trends will hold true for the Province of British Columbia as well - 36 municipalities across BC have recently opted into new provincial regulation that requires new homes to be built "solar hot water ready"[xxi]. The regulation does not require homes to have solar powered hot water but makes the subsequent installation of these systems relatively straightforward. Under the Province's Climate Action Plan 2008 and Energy Efficient Building Strategy ("EEBS"), there are millions in tax incentives to expand the use of solar power[xxii]. If the Province is truly committed to the goals identified in these reports then the incentives offered now may pave the way for stricter compliance in the future.

D. American Green Building Trends

As of 2008, LEED requirements had been incorporated into American law in at least 45 states and 14 federal agencies or departments[xxiii]. In addition to legal mandates, there are Government incentives to encourage green projects as well. Several American examples include the *American Recovery and Reinvestment Act 2009*[xxiv], California's mandatory green building code ("*CalGreen*"), and recent federal interim rules which require federal agencies to foster their acquisitions towards markets for sustainable technologies and high performance design for new buildings[xxv].

Other recent green building announcements from the Obama Administration include the *Better Building Initiative* and the companion *Better Building Challenge* which aims "to make commercial buildings 20% more efficient over the next decade, saving $40 billion annually in energy costs and creating 114 000 jobs over the next two years"[xxvi].

E. Canadian Green Building Trends

In Canada, the trend is similar if only smaller in scale. There are federal incentives offered to encourage green practices of new construction, retrofits and the daily operation of commercial and industrial buildings[xxvii]. Recently, the Okanagan Science & Technology Council ("OSTEC") was awarded $500 000 in funding to assist the college in developing green building technologies and design as part of the federal Government's Asia Pacific Partnership Climate Change Initiative ("APPCCI")[xxviii].

Green building initiatives at the Provincial level include British Columbia's 2008 Climate Action Plan, the Energy Efficient Building Strategy and Vancouver's aspiration to become the greenest city on the planet by 2020. Vancouver outlines their approach to attaining this goal in the "Vancouver 2020: A Bright Green Future" action plan[xxix] which was adopted in principle by the Vancouver City Council in July of 2011[xxx].

Vancouver's strategy includes mandatory LEED Gold certification on municipal buildings and retrofits. This would bring the City in line with the Provincial Climate Action Plan which requires that all new provincially owned or leased buildings are LEED Gold certified or meet equivalent criteria[xxxi]. Additionally, Vancouver hopes to move toward municipal buildings that generate their own power, collect and use their own water, and manage their own waste[xxxii]. David Ramslie, manager of Vancouver City's sustainable-development program has stated that the City's new building code, which moves towards carbon-zero building, is expected in 2012[xxxiii].

F. Mandatory Compliance and Voluntary Incentives

Government support of green building has been underway for several years here in British Columbia. In 2007, the Provincial Liberal Government's throne speech stated that steps towards greening the B.C. Building Code would include increased building efficiency through higher Energuide and ASHRAE standards[xxxiv]. In 2008, the Minister responsible for BC Housing, Rich Coleman confirmed higher energy and water efficiency standards as part of the new green

requirements of the BC Building Code. Coleman stated that the changes were "one of the steps being taken across government to meet our target of reducing greenhouse gas emissions by at least 33 per cent below 2007 levels by 2020"[xxxv]. These changes to the BC Building Code require high rise residential and commercial buildings to meet ASHRAE 90.1 (American Society of Heating, Refrigerating and Air-Conditioning Engineers)[xxxvi] energy standards. Additional requirements include the incorporation of high efficiency toilets and urinals in all new or renovated residential projects involving new plumbing[xxxvii].

The most recent provincial building code update is expected to be released in the spring of 2012 with enforcement to follow in the fall of 2012. The provincial codes generally adopt the changes implemented under the National Building Code, yet due to some significant changes, the province has decided to push back its implementation of these changes until 2012[xxxviii].

These mandatory requirements take effect under the Provincial Climate Action Plan and move British Columbia toward increasingly stringent energy efficient building requirements[xxxix]. Optional compliance with green building practices is also encouraged through grants, tax incentives, and strategic planning for residential, commercial and industrial, and the public sector through the Energy Efficient Building Strategy ("EEBS")[xl]. The EEBS includes $75 million for retrofits of existing provincial buildings, $5 million for solar energy systems, and $2 million for industry training and province wide energy conservation studies[xli].

A recent report released in 2010 by the Provincial Government provides an update on the progress made in implementing the Climate Action Plan and EEBS initiatives. The report is titled "Climate Action for the 21st Century" and confirms mandatory compliance with LEED Gold certification and the adoption of a "Wood First Policy" on provincially funded projects[xlii]. As will be discussed more throughly throughout the paper, mandatory compliance with 3rd party rating systems such as LEED may be incredibly problematic.

G. Potential Liability Under Mandatory Certification

Due to the lack of control over attaining final certification, liability may result for all participants on these projects if certification is not achieved. This will be highly dependant on contract language, the coordination and experience with green building of participants, and an awareness of how the use of 3rd party rating systems alters the traditional scope of liability for all members of the construction industry. Additionally, Government mandated material use is inappropriate; the best material for the job should be used and this should be determined by the participants of each particular project. Relatedly, mandated material use in conjunction with LEED may give rise to antitrust claims by those excluded from participation on public projects.

For example, a series of American cases examined by Stephen del Percio in a recent article traces the potential for antitrust litigation arising out of the USGBC's decision to provide credits under LEED for certain wood products but not others[xliii]. The article explores the possibility that the mandatory incorporation of LEED certification, which excludes non Forest Stewardship Council ("FSC") wood products, on public projects may provide the necessary evidence of market exclusion by those pursuing antitrust action. The Canadian jurisprudence of antitrust litigation differs from the American experience but still requires plaintiffs to provide evidence of

market exclusion and injury. The British Columbia Government's decision to implement a "Wood First" policy in conjunction with mandatory LEED certification on public projects may provide this evidence.

H. Extra Cost of Building Green?

As green building continues to move into the mainstream, concerns about the increased cost of a sustainable design are being put to the test. Many supporters of green building argue that the up front costs are not substantial and that green building can be done for the same[xliv] or as little as 2% more[xlv] than traditional construction projects. Others maintain that the extra administrative steps involved with seeking 3rd party certification unnecessarily adds financial burden to a green project[xlvi].

Some in the industry have stated that dedicated personnel is required to coordinated the documentation and timelines necessary to satisfy the requirements for certification under 3rd party rating systems. Additionally, issues with long lead times for certification in Canada and potential delays associated with green building material can increase costs significantly not to mention the potential for litigation outlined in this paper.

Whether the benefits a green project can offer will be worth the potential increase in cost will depend upon the goals of the project and the team's experience with green building. As a result, every industry stakeholder from Owners, Designers, Contractors, Subtrades and Material Suppliers to final Tenants must be aware of the relatively new risks associated with green building in order to determine if green building is worth the potential increase in cost.

3. 3rd Party Rating Systems

A. What are 3rd Party Rating Systems?

Fundamental to the green building landscape is the widespread use of 3rd party rating systems to award certification. Several different rating systems have been developed which measure a project's environmental impact. These rating systems have commonalities but also differ in (i) how they define "greenness" or "sustainability"; (ii) user interface; (iii) cost; and (iv) applicable construction sector (commercial and industrial or residential, new or existing etc.). 3rd party rating systems administer, train and educate, verify compliance with their particular system and ultimately award a certificate or other proof of achievement. Following a 3rd party certificate program is not the same as following a building code - these programs are voluntary and are designed to function above and beyond the standard building code requirements.

A significant source of risk is tied to the widespread adoption of 3rd party rating systems due to their contractual position among the many participants in modern construction projects. As will be discussed later, the independent nature of these verification programs creates a significant source of liability tied to the contract language used among a project's participants.

There are at least 5 established rating systems with 3 focused on commercial & industrial construction and 2 focused on home building. In addition there are many building management tools (2 profiled below) which are designed to assist designers and builders meet the sustainability goals of their projects. The following section will outline the most popular certificate programs available here in Canada and internationally.

B. Rating Systems for the Industrial and Commercial Sector

(i) The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™

Created by the U.S. Green Building Council in March 2000, LEED has quickly become the standard rating system for new and existing commercial construction. LEED is also available for residential construction. The system consists of 9 target areas which covers the lifecycle of a building. LEED utilizes a point system whereby a project can attain points in each of the 9 target areas (site location, water efficiency, energy & atmosphere, materials & resources, indoor environmental quality, locations & linkages, awareness & education, innovation in design, and regional priority).

Depending on the number of points a project can demonstrate (up to 110), the building is able to qualify for Certified (40+ points), Silver (50+ points), Gold (60+ points), or Platinum (80+ points) LEED Status. Due to the distribution of points across the 9 target areas and the lack of designated materials (with some exceptions), developers and designers have flexibility is how they can achieve LEED certification.

The system is administered in the United States by the Green Building Certification Institute ("GBCI")[xlvii] and by the Canadian Green Building Council in Canada ("CaGBC")[xlviii]. The CaGBC recommends that there be a LEED Accredited Professional ("LEED AP") on staff who can coordinate the documentation of the LEED project. There are 3 levels of LEED accreditation available in Canada: LEED Green Associate, LEED AP with one of 5 specialties, and LEED Fellow. The first 2 require courses and the successful completion of an exam while LEED Fellow requires 8 years of LEED AP status and 10 years experience in the green building field. LEED Fellow accreditation also requires a nomination by peers and evaluation in 4 of 5 fields: technical proficiency, education and mentoring, leadership, commitment and service, and advocacy.

(ii) BOMA BESt

BOMA BESt (Building Environmental Standards) is the most recent step in BOMA's Go Green Program which incorporates the existing "Go Green" and "Go Green Plus" systems into one. BOMA Canada created the program in 2005 to accurately and independently assess energy performance in office buildings, shopping centres, open air retail and light industrial properties. BOMA BESt embodies the commercial real estate industry's movement toward creating industry wide common practices.

BOMA BESt offers several tools for managers, operators, and owners of existing commercial buildings to assess and verify their energy and water consumption. There are 4 levels of certification available, each with increasingly strict energy efficiency requirements necessary for certification[xlix].

(iii) BREEAM

The Building Research Establishment created the Environmental Assessment Method ("BREEAM") initially for new construction projects in 1990. It has since been developed to be applicable to new and existing buildings including retail, offices, education, prisons, courts, healthcare facilities, industrial and multi-unit residential buildings. BREEAM is available in the UK, Netherlands, Norway, Spain, Sweden and other countries with some modifications.

The program uses a point system to assess sustainable design, construction and even incorporates deconstruction. The system relies upon certified assessors who operate under licence by an approved organization who work with owners, design professionals, and contractors to determine the points a project can qualify for. Credits are distributed across categories that include energy and water use, internal environment (health and well being), pollution, transportation, material use, waste, and ecological management processes[l].

C. <u>Rating Systems for the Residential Sector</u>

(i) BuiltGreen

BuiltGreen is owned and managed by the BuiltGreen Society of Canada. Membership in BuiltGreen is open to all members of participating Home Builders' Associations ("HBA's") including builders, renovators, product suppliers or manufacturers, service providers, community developers and municipalities. The program includes mandatory Builder Training and third-party testing, inspections and audits. Successful completion of the BuiltGreen Builder Training is required to become a Built Green Certified Builder member. Only BuiltGreen certified Builders can build a BuiltGreen home[li].

There are 4 levels of certification available (Bronze, Silver, Gold, and Platinum) determined by a point system spread across 8 categories. Building materials able to qualify for points must be certified by BuiltGreen Canada. A product catalogue is available online to assist members in choosing their path to attaining a certification level[lii]. In addition to the point system, a BuiltGreen home must also pass an energy audit which consists of an inspection and blower test of the house by a third party energy auditor.

(ii) R-2000

R-2000 is a voluntary energy efficiency standard developed by the Office of Energy Efficiency of Natural Resources Canada in cooperation with Canadian homebuilding professionals and the housing industry. The program was officially launched in 1982 by the Federal Government of Canada[liii].

The R-2000 standard is typically above what is required by Canadian building codes and focuses on energy efficiency, indoor air tightness quality and environmental responsibility. Homes built to this standard are required to be constructed by a certified builder and must be certified by an independent inspector. Once certified, the Government of Canada issues a certificate stating that the home is in compliance with R-2000 requirements which can later be confirmed by subsequent home buyers[liv].

D. Project and Building Management Tools

(i) Green Globes

Green Globes is an energy assessment and management tool operated by the Green Building Initiative ("GBI") in the United States and by BOMA Canada here in Canada. The program is available for new and existing commercial and industrial buildings. Green Globes provides a 3rd party assessment of energy consumption and is preformed by a regional verifier trained by BOMA Canada. Green Globes is widely used by the Canadian Federal Government[lv].

(ii) The Athena Institute

The Athena Institute is a non-profit organization that operates in the United States of America and in Canada. The institute focuses on Life Cycle Assessment ("LCA") of buildings and assemblies. There are two main software packages offered by the institute: (a) ATHENA® Impact Estimator for Buildings and (b) ATHENA® EcoCalculator for Assemblies. Both software packages rely upon the Athena Institute's LCA Database which is capable of representing 95% of the structural and envelope systems typically used in residential and commercial construction. Additionally, the institute offers consulting services for those who desire an independent consultant to assist in the design or envelope profile of a project, or training on either of the software suites.

(iii) Building Information Modelling

Building Information Modelling ("BIM") is a design technique that complies large sets of relational data in order to digitally represent design schematics, buildings materials and other physics based projections like acoustics or light. One advantage that this approach offers is in the relational nature of the data used - a change to one part of a design will automatically change relational components. Additionally, detailed specifications of building material can be attached to a building's digital representation allowing users to track material use, quickly change materials, provide cost estimates or allow for automatic ordering. Advocates of BIM argue that the ability to digitally construct a building, test for defects, make changes prior to fabrication, assembly and operation of the components can largely be done without paper or duplication. Additionally, the complied information can later be used for maintenance and troubleshooting of the buildings integrated components.

This approach is widely cited as an effective tool in literature advocating for an integrated design methodology as it allows owners, designers and contractors a cost effective means to digitally trouble shoot issues prior to construction[lvi]. BIM creates a shared platform where participants on

a project can have input into material use, tracking and sourcing, local environmental features, lighting and other relevant concerns related to achieving credits under a 3rd party rating system early in the design phase[lvii].

The Institute for BIM in Canada ("IBC") advocates for the adoption of BIM as an industry standard tool for designers, engineers, builders and owners. IBC is currently working with industry stakeholders to develop appropriate contract language in standard documents to account for risk allocation and intellectual property rights[lviii].

Part Two: Legal Risk and Liability

1. Introduction to Sources of Legal Liability

A. Sources of Liability

The basis for legal liability in the green construction context will arise primarily through contract and tort legal theories as well as statutory requirements. This section will outline the legal issues most likely to occur in the Canadian construction context through a combination of legal theory and American case studies. While there is some overlap between the issues facing Owners, Designers, Contractors, Subtrades, Material Suppliers, and Tenants, many issues will be specific to a participant's position within the construction industry.

B. Contract Language

Contract language is both the primary source of liability and best defence against it in the green construction context. The widespread incorporation of 3rd party rating systems in the construction industry has created a situation where the traditional stakeholders have little control over the final achievement of certification. A building may be designed and constructed to meet LEED Silver, for example, but fail to achieve that by one point. Or the building may be certified at LEED Silver but not until months after substantial competition.

Another unresolved issue is the potential for decertification of buildings over time - standard contract documents created by the Canadian Construction Documents Committee ("CCDC") include a one year warranty on workmanship but what will happen if this time frame elapses and the building has still not attained certification and subsequent claims for negligent construction are alleged?

Even though substantial completion may not require 3rd party certification under standard contract documents, could the Builder or Designer still be liable for a building that initially achieves certification but fails to maintain it? Could these parties be liable for a green roof which has resulted in water or mould issues years after substantial completion? How long should liability extend to participants on these kinds of projects?

These questions are best addressed by a well founded understanding of the risks inherent to these kinds of projects and by drafting appropriate contracts in response. Part of addressing these

issues involves decisions about how to best allocate potential damages following certification or performance failures. Consequential or liquidated damages may be sought following a failure to achieve a particular level of certificate depending on the contract language used and the decisions to allocate risk among parties[lix]. Additionally, delay claims related to a slow (or failed) certification process and breach of contract claims linked to warranties or guarantees intentionally provided (or not) are all contemporary issues facing stakeholders in the green construction context.

The fact that the credits required for certification are attained at all stages of construction means that responsibility for achieving certification is distributed while liability may not be. Contracts may be critical to achieving certification by assigning responsibility for achieving credits to specific parties and attaching liability for failing to do so accordingly. The contract language used may have a huge impact on how these and other issues are ultimately decided. It must be kept in mind, however, that even the most clearly worded contract may not lead to a predictable outcome as there has been little green litigation occurring in Canada.

C. Tort Liability

Tort legal theories also have a role in creating or minimizing legal liability. The varied definitions of "sustainability" or "green building" held by members of the public and construction stakeholders contributes to the creation of potential liability. Untempered expectations about energy performance or other benefits associated with green buildings may lead to claims of false advertising or misrepresentation when buyer's expectations do not align with reality. Additionally, training and expertise gained through the LEED Accredited Professional ("LEED AP") programs or other 3rd party training systems may warrant an elevated standard of care and as a result affect standard professional liability insurance coverage and alter traditional negligence based claims. Due to the novelty of green technology and building methods, product liability and personal injury claims may appear on the green building horizon as well (mould, air quality, water damage from green roofs).

D. Concurrent Liability in Contract and Tort

It should also be kept in mind that some actions may arise out of both contract and tort law concurrently. Specifically, a plaintiff can sue under both contract and tort for fraudulent misrepresentation[lx]. Other concurrent claims are possible as well. For example, a negligent act may give rise to an independent tort claim and also serve as the basis for a breach of contract claim - the critical question is whether sufficient proximity exists between the parties, not how their relationship arose.

Contracts do, however, allow the private ordering of rights and responsibilities so the availability of tort remedies may be limited or waived altogether under contract. For example, a mutual agreement may be made where no party can be held liable for consequential damages. This would limit the tort remedies available if negligence is shown. Tort duties or rights that are not contradicted by contractual arrangements remain a viable path for a cause of action[lxi]. However, in order for contractual agreements to be enforceable they must not be illegal or unconscionable[lxii].

E. Other Potential Issues

Other potential issues include the financial stability of 3rd party rating systems, potential anti-trust action, industry lead challenges to green building codes, and limited insurance options for green builders. There are tangible, financial benefits to be gained when building green - higher occupancy and rental rates to name two[lxiii] - but participants must be aware that these and other issues are live questions in the green building context as there is little Canadian judicial interpretation available to predict legal outcomes.

The following sections will examine the basis for liability in green construction projects, provide and overview of applicable legal terms, examine case studies from the American experience and recommend risk mitigation strategies for the Canadian context.

2. Contract Definitions

A. Breach of Contract

A breach of contract can be defined as an act which does not conform with the terms of a legally binding agreement[lxiv]. The subject matter of a contract can be classified as (i) representations or (ii) terms. Breach of a representation has less severe consequences compared to breach of a term. Terms can be further categorized as (i) conditions, (ii) warranties, or (iii) intermediate (somewhere between the previous two categories). The classification of a term as either a condition or a warranty will depend upon the relative position of the parties, their knowledge, and the importance of the term relative to the performance of the contract.

For example, a Developer making representation about the health benefits of a LEED certified building to a potential Tenant may result in those representations being classified as terms of the contract given the Developer's superior knowledge of the building and the rating system used. If the health benefits do not materialize, the Tenant may allege that a condition of the contract has been breached.

B. Damages

The starting point for all damages claimed under breach of contract is governed by the expectation principle: monetary compensation should be given in the amount required to put the innocent party into the position they would be in had the breach not occurred[lxv]. There are variations and limitations on this general principle but this basic premise is the standard remedy available under breach of contract.

For example, in the above example, if the Tenant had incurred costs associated with moving their business out of the LEED certified building then damages may include these expenses as they would not have occurred if the health benefits represented had materialized.

C. Misrepresentation

Under Canadian jurisprudence, misrepresentation is a representation of a positive statement of fact made by one party to another that (i) is false and (ii) is relied upon to the detriment of another party. There are generally three levels of misrepresentation grouped according to culpability: (i) innocent (ii) careless and (iii) fraudulent. The remedies available increase in severity to match the level of culpability shown. The remedies available under a claim of fraudulent misrepresentation will depend upon whether the claim is rooted in contract or tort[lxvi].

In order to ground a claim in misrepresentation, the plaintiff would have to show that they relied upon a statement or demonstrate that the statement had induced them to enter into the contract to their detriment. If a statement can be shown to be material to the contract, then reliance will be shown. The test for materiality can be summed up as the question: "would a reasonable person in the same situation have relied upon the statement in question when entering into the contract?".

For example, a dissatisfied buyer would have to show that a "reasonable buyer in their situation" would have relied upon the same advertisement or statement in making their decision to enter into a contract[lxvii].

D. Innocent Misrepresentation

An innocent misrepresentation is defined as not being given fraudulently or recklessly. The remedy for an innocent misrepresentation is generally confined to rescission of the contract but only where both parties can be put back into their pre-contractual position[lxviii].

For example, an Owner may make a statement to a potential buyer about the health benefits to be gained by working in a LEED certified building. If a buyer relies on that representation in making their decision to purchase the building or enter into a lease and no health benefits can be shown subsequent to the agreement then the buyer may argue that that the statement was a misrepresentation. If this is shown, but fraud or recklessness are not shown, the agreement may be rescinded.

E. Fraudulent and Reckless Misrepresentation

Fraudulent misrepresentation can be shown if the defendant has induced the plaintiff to enter into a contract on the basis of a representation that the defendant (i) knew to be false or (ii) had no belief in. Reckless misrepresentation can be shown if the defendant's statement was made without care as to its truth.

If any of the above are shown then fraud has been made out and the available remedies will depend upon whether the claim is rooted in contract or tort. A claim of fraudulent misrepresentation under contract generally limits the remedy available to rescission of the contract[lxix]. A claim of fraudulent misrepresentation under tort (also known as deceit) allows for damages including consequential damages[lxx].

For example, if an Owner makes representations to a potential buyer about the sustainable features of a building and knows that no such benefits will be attained or does nothing to inform a buyer that such benefits are not likely to be experienced then fraud or reckless misrepresentation may be shown.

F. Warranties

Warranties are terms of a contract considered a promise and as such allow a plaintiff to recover full expectation damages for breach of contract. In order for a statement to be considered a warranty and not a representation, the statement must be shown to be a promise instead of simply a statement of fact[lxxi]. Expectation damages are calculated by the monetary position the plaintiff would have been in if the contract had been fulfilled[lxxii].

For example, a LEED AP Design professional who makes a statement as to the energy efficiency gains that will be experienced due to a certain design feature may be held to that statement as if it was a promise. If the same designer instead made representations about previous buildings with similar designs and energy performance, then these statements may be considered to be statements of fact rather than promises in relation to the performance of the building under consideration. A failure to conform to a warranty results in more severe consequences compared to a failure to conform to a mere representation.

G. Conditions

Conditions can be thought of as terms which are fundamental to a contract and a breach of a condition can allow the innocent party to repudiate the contract (ie. avoid their obligations under the contract)[lxxiii].

For example, a Contractor who guarantees that they will build a LEED certified building may be in breach of a condition of the contract if certification is not achieved. The same Contractor could instead guarantee to construct a building in conformance with the building design (as per CCDC 2 standard documents). There may be other terms which bind the Contractor or Subtrades to certain steps but not final certification. If it is successfully shown that a condition of the contract was LEED certification and certification is not shown, then the contractor may be held in breach of a condition of the contract and the innocent party may not be bound to their obligations under the contract.

3. Tort Definitions

A. Negligence

Broadly speaking, every cause of action based in negligence requires (i) an existing duty of care known to law; (ii) a breach of that duty by an act or omission by the defendant which (iii) fell below the applicable standard of care; and (iv) foreseeable damage caused by the breach[lxxiv].

B. Duty of Care

There are established duties of care under Canadian law but new categories can be established under misfeasance (an act) or nonfeasance (an omission) if proximity and an appropriate policy rationale can be shown. A duty of care describes the responsibility that one party owes to another class of people.

For example, in the construction context, Contractors, Subcontractors, Architects and Engineers who participate in the design and construction of a building all owe a duty of care to subsequent purchasers to take reasonable care in completion of the structure so as to avoid defects which could pose a foreseeable substantial danger to the health and safety of its occupants[lxxv].

C. Standard of Care

The standard of care expected of a party is that of the reasonable, ordinary and prudent person in a similar situation. This standard can be higher for those who possess expertise in an area. A party can also be held to a higher standard of care through contractual agreement. In order to show negligence, the act (or failure to act) alleged to have breached an existing duty of care must fall below the appropriate standard of care.

Typically, a professional will be held to the same standard of care required of a professional in the same field. For example, architects and engineers owe a duty to their clients to exercise the reasonable care, skill and diligence expected of an ordinarily competent professional[lxxvi]. A roofing contractor would therefore generally be held to the same standard as other reasonable and prudent roofing contractors in the trade at the time of work. Industry practices, regulations and policies can inform this standard and, as will be discussed below, additional training or expertise in an area can also elevate the standard that will be applied.

In the green building context, those with LEED AP or other sustainability related expertise may be held to a higher standard than those without it. For example, a LEED AP designated roofer may be held to the higher standard of other roofers with LEED AP training who are working in similar conditions. If there are subsequent issues identified with the building envelope due to negligent installation of a roofing system, the roofer with LEED AP status may be expected to perform at a higher level than other non LEED AP roofers.

For negligence to be shown, the act in question must have fallen below the standard expected. Perhaps a specific component critical to the roof system in question was not installed properly - this omission may not be held to be negligent for a ordinary roofer, but it may be sufficient for a roofer with a specialization in green roofing systems to be held negligent.

D. Consequential Economic Loss

If the negligence of an Designer is shown to cause physical injury to a person or damage to property then liability may extend to the consequential economic losses associated with the negligently caused injury as long as the losses are not too remote[lxxvii].

E. Pure Economic Loss

Pure economic loss is a financial loss not associated with a physical injury. Designers could face liability under this theory for negligent misrepresentation (outlined above), negligent performance of a service (promised energy efficiency or health gains), defective products (green roofs) or relational economic loss (devalued building and lost rent)[lxxviii].

F. Negligent Misrepresentation

While the requirements for negligent misrepresentation and fraudulent misrepresentation in Canada are very similar, there are key differences. Under negligent misrepresentation, reliance on a untrue or misleading statement must be shown but there must also be a duty of care based on a special relationship between the plaintiff and defendant. This special relationship may attach to advice or counsel given by professionals to clients[lxxix]. However, this special relationship may extend to other situations where reliance on a statement is foreseeable and such reliance in reasonable in the circumstances[lxxx]. This may arise through the adequacy of designs or tests performed, information contained in tender documents or a project's compliance with applicable building codes or bylaws[lxxxi].

Additionally, the statement or representation in question must have been made negligently. This would require that when a party made the representation, this act fell below the appropriate standard of care[lxxxii]. The requirements for negligent misrepresentation can be summed up in the following 5 steps:

(1) there must be a duty of care based on a "special relationship" between the representor and the representee;
(2) the representation in question must be untrue, inaccurate, or misleading;
(3) the representor must have acted negligently in making said misrepresentation;
(4) the representee must have relied, in a reasonable manner, on said negligent misrepresentation; and
(5) the reliance must have been detrimental to the representee in the sense that damages resulted.

The statement or representation made by the defendant does not need to be made dishonestly or fraudulently in order for negligent misrepresentation to apply. Under fraudulent misrepresentation, however, there must be evidence of dishonest or fraudulent conduct[lxxxiii].

For example, buyers relying upon promotional material claiming that a building under construction will have lower energy bills due to LEED certification may have a claim against the Owner for making the statements negligently. If the "ordinary and prudent Owner" in this situation could have reasonably foreseen the losses experienced by future tenants if the energy efficiency gains were not to materialize, then statements promoting the energy efficiency of the building may have been given negligently. It would not have to be shown that the Owner behaved dishonestly when making the statements about energy efficiency.

If proven, damages could include the Tenant's cost associated with entering into the contract, relocating, or other costs which can be shown to have resulted from the Tenant's reliance on the negligent misrepresentation. Some exclusions for damages sought under negligent misrepresentation in Canadian jurisprudence include (i) loss of rental income connected to a rental property purchased, (ii) loss of profit, (iii) loss of opportunity of profit and losses on the sale of equipment, and (iv) loss of capital related to the diminution in value of a purchased franchise[lxxxiv]. Typically, damages will be calculated based upon the cost it would take to place the plaintiffs in the position they would have been in if they had not relied upon the negligently made representation[lxxxv].

G. Fraudulent and Reckless Misrepresentation

Fraudulent misrepresentation can be shown if the defendant has induced the plaintiff to enter into a contract on the basis of a representation that the defendant (i) knew to be false or (ii) had no belief in. Reckless misrepresentation can be shown if the defendant's statement was made without care as to its truth.

If any of the above are shown then fraud has been made out and the available remedies will depend upon whether the claim is rooted in contract or tort. A claim of fraudulent misrepresentation under contract generally limits the remedy available to rescission of the contract[lxxxvi]. A claim of fraudulent misrepresentation under tort (also known as deceit) allows for damages including consequential damages[lxxxvii].

4. Statutory Definitions

A. Federal *Competition Act*

Additionally, liability may arise through applicable legislative regulation of advertising. In Canada, false advertising is an offence under the federal *Competition Act* and may result in criminal or civil liability[lxxxviii].

The Competition Bureau enforces the federal *Competition Act* and is responsible for eliminating activities that reduce competition in the marketplace[lxxxix] including false or misleading representations, deceptive marketing practices, and antitrust. Failure to comply with the *Competition Act* can lead to both criminal and civil liability. The onus is on the party making a representation about a product to show that the claims are verifiable through adequate testing[xc].

B. British Columbia's *Business Practices and Consumer Protection Act*

Provincial consumer protection legislation may also apply to deceptive or misleading marketing practices[xci]. Under British Columbia's *Business Practices and Consumer Protection Act* representations made to consumers about performance characteristics that are not present may lead to liability under the Act[xcii]. Owners or other parties promoting the sustainable or green features of their buildings must be careful not to overstate the benefits to be gained through either (i) specific sustainable or performance features or (ii) benefits associated with a 3rd party certification.

For example, given the flexibility in achieving LEED credits, no two LEED Gold buildings will necessarily have the same energy or water efficiency. As a result, one LEED Gold building may be more expensive to operate than another or offer different benefits. Care must be taken not to allow the promotion of LEED certification to automatically translate into "increased energy efficiency" or "increased worker productivity" in the minds of potential buyers. This is not to say that 3rd party certification cannot form the basis of promotional material but care must be taken to specifically delineate the benefits to potential consumers as a result of the building attaining certification.

C. Canadian Standards Association and Green Guides

The Canadian Standards Association ("CSA") in partnership with the Competition Bureau of Canada has created a guide to assist parties making environmental claims in complying with the relevant federal legislation. The guide outlines 18 voluntary general principles to follow - compliance with the guide does not guarantee compliance with the relevant statute but those who follow the guide will generally be free from sanction[xciii]. The guide represents the CSA's suggestions for best practices and should be consulted prior to making claims associated with the environmental benefits of green buildings.

The guide states that "[a]ny statement or symbol that refers to, or creates the general impression that it reflects, the environmental aspects of any product or service is considered an environmental claim"[xciv]. Claims made about the "greenness" or "earth friendly" characteristics of a building will fall under the ambit of the guide. Importantly, the guide states the following in relation to claims of "sustainability": "The concepts involved in sustainability are highly complex and still under study. At this time there are no definitive methods for measuring sustainability or confirming its accomplishment. Therefore, no claim of achieving sustainability shall be made"[xcv].

5. Contract Analysis

A. Introduction

A major concern in the green building context is working on a project seeking 3rd party certification but ultimately failing do to so. This is especially salient given that public projects in British Columbia must attain LEED Gold certification at a minimum. Contracts play a central role in addressing the potential for liability in this situation. This issue can be further complicated when tax credits or other financial incentives are also contingent on successful 3rd party certification. The use of 3rd party rating systems introduces risk because of their lack of contract privity between the Owners, Designers, or Contractors. Depending on the contract language used, participants on green construction projects may be bound to promises they have little control over. There is no way for Designers or Builders to guarantee whether a building, even designed and built to the necessary specifications, will attain certification or not.

The inclusion of timelines and other relevant regulatory requirements are critical in green building contracts due to potential delay issues with building materials or final certification. A

significant backlog in the CaGBC certification process has also been emphasized as a major concern with two to three year delays being reported[xcvi]. Further complicating potential liability on green projects is the fact that the responsibility for attaining credits is distributed across multiple parties - sometimes many parties may work together on a single credit. A failure to achieve one credit may jeopardize the green goals of the entire project; if contract language does not address these realities then assigning liability after a problem is encountered may prove difficult.

For an Owner, a failure to achieve certification could result in breach of contract claims for lost profits from potential tenants who are only interested in a certified building or lost tax credits and other incentives linked to attaining certification. Other claims may be grounded in false advertising, fraud or deceit if the building had been marketed as 3rd party certified during its construction but does not achieve it.

For Contractors and Designers, a failure to achieve certification could lead to law suits from Owners seeking consequential or liquidated damages for breach of contract. Additionally, Owners may seek damages from Contractors or Designers in the amount of a building's diminution in value[xcvii]. For Subtrades, this may result in holdbacks while the other parties sort out their rights and obligations, await final certification on a completed building, or attempt to blame Subtrades for faulty or negligent work.

The following section examines three American court cases that have arisen out of green projects. They demonstrate the potential for claims made after a failure to (i) achieve certification; (ii) adequately define green building goals and terms in contracts; and (iii) adequately address relevant regulatory requirements tied to bond programs. The use of 3rd party rating systems is widespread in America, their experience can provide insight into potential issues which may arise in the Canadian context.

B. ***Southern Builders, Inc. v. Shaw Development LLC***

The case of *Southern Builders, Inc. v. Shaw Development LLC* involved a $7.5 million luxury condominium development called "The Captain's Galley" in the state of Maryland. Shaw Development LLC ("Shaw") retained Southern Builders Inc. ("Southern Builders") as the General Contractor under a Stipulated Sum Contract for $6 995 000[xcviii]. The project consisted of a six story building with 23 residential units, swimming pools, a restaurant, and 6 boat slips[xcix].

Construction was completed in 2006 and the developer (Shaw) intended to achieve LEED Silver certification. There were delays in construction and when Southern Builders filed a mechanics lien for $54 000, Shaw counter-claimed for $1.3 million with $635 000 in lost tax credits. The case ultimately settled out of court, but this too can inform our understanding of what went wrong.

(i) The Claims Made

The counter-claim made by Shaw alleged breach of contract for, among other things, a failure to "construct an environmentally sound "Green Building", in conformance with the LEED Rating

System". Claims were also made in negligence alleging that Southern Builders' failure to meet industry standards of competent workmanship and an "inability to complete its contractual obligations, in a timely and conforming manner" hurt the developer's ability to sell condominiums units and caused them to incur "interest, marketing and other expenses"[c]. The contract stated that the "Project is designed to comply with a Silver Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Division 1 Section 'LEED Requirements'"[ci]. The consequential damages flowing from the alleged breach of contract included the lost tax credits while the negligence claims were linked to the delay in substantial completion allegations.

(ii) <u>The Tax Credit Program</u>

The tax credit program in Maryland consisted of three steps and could result in credits worth 8% of the total development cost. First, only projects over 20 000 square feet and seeking LEED certification at some level could apply. Projects which passed this first hurdle then applied for an *Initial Credit Certification* through the Maryland Energy Administration ("MEA") who determined the maximum amount the proposed project could qualify for and set a deadline for the expiration of the tax credit. Second, once a *Certificate of Occupancy* was attained, an application is submitted to the MEA for a *Final Credit Certificate* which must be attained prior to the deadline initially set. Third, the project must attain LEED certification prior to the deadline initially set by the MEA in order to attain the *Final Credit Certificate* which then finalizes the tax credit[cii].

(iii) <u>Risk Mitigation from *Shaw Development, Inc. v. Souther Builders LLC*</u>

The case demonstrates the importance of considering consequential damages as well as contract language that properly addresses the inclusion of incentive programs sought by Owners. The contract made no reference to the tax credits or the regulatory framework in which they existed, a plan for achieving them, or consequences for failing to achieve them. This was a major problem for both Shaw and Southern Builders because neither party clearly addressed the additional risk associated with the time sensitive requirements of the tax program.

The standard AIA contract form used included a mutual waiver of consequential damages, which was presumably included. This created a problem for Shaw in that it would have been easy for Southern Builders to show that the lost tax credits were consequential damages resulting from the delay in construction and subsequent failure to attain the necessary *Final Credit Certificate* within the required time limit. As a result, Shaw's right to claim these damages had been waived and the case likely settled out of court for this reason[ciii].

The steps required by Southern Builders to attain LEED certification was also unclear. One allegation by Shaw was that the Project was not constructed in conformance with LEED Silver as per the contract yet there is little mention of what is required by Southern Builders in order to achieve this. Indeed, Southern Builders could have constructed the building to the "required specifications" and still failed to achieve LEED Silver because certification is ultimately out of the hands of Owners, Contractors and Designers.

Due to the settlement, we do not have a judicial determination as to whether the project's failure to achieve LEED Silver under the terms of this particular agreement constituted a breach of contract. The counter-claim by Shaw argued that the failure to achieve LEED Silver caused the loss in tax credits. It is important to understand, however, as one commentator put it, that "it was the failure of both parties to translate the procedure for obtaining green building tax credits under a Maryland state-level incentive program into the contract documents that exposed both sides to unanticipated liability" not the failure to achieve certification *per se*[civ].

The failure to include timelines is especially critical to the Canadian green construction context. According to the CaGBC, the typical green building project has a two year timeline from initial registration to final certification and between 25-30% of projects seeking certification never attain it[cv]. The *Shaw* case demonstrates the importance of including potential liabilities outside the traditional scope of standard contracts. Due to the prolific amount of government grants, incentives and support of green building initiatives[cvi], inclusion of incentive program requirements in contract documents is vital to avoiding unexpected liability.

C. Destiny USA Project

One of the incentives offered by governments to support the construction of green buildings are tax exempt bonds tied to LEED certification or performance based reductions in energy or water use. One example of this approach can be found in the *American Jobs Creation Act* of 2004. Section 701 of the Act[cvii] is a provision which allowed the United States Treasury to issue $2 billion in tax exempt green bonds[cviii].

Among other requirements, qualifying commercial projects had to have at least 75% of the square footage of buildings registered for LEED certification and be "reasonably expected (at the time of the designation) to receive such certification" and to be at least one million square feet or 20 acres in size[cix]. This section of the Act purported to stimulate sustainable development on existing brownfield sites by providing financial incentives for the purchase of bonds by private investors. One project which took advantage of this bond program was the Destiny USA mega-mall project developed by Robert Congel[cx].

(i) The Bond Program

The Syracuse Industrial Development Agency ("SIDA") issued $238 million in bonds to private investors. The investors were able to capitalize on the tax free interest accrued over the 30 year life of the bond. In return for this tax break, the public benefit gained was the redevelopment of unproductive brownfields[cxi]. The capital raised by the sale of the bonds went towards an interest free loan which, according to the developer, saved $120 million on the Destiny USA project.

The 2.4 million square foot development had originally qualified for the green bonds by indicating the inclusion of many green features including large scale photo voltaic arrays on roofs, on site fuel cell energy generation, other energy performance targets and LEED certification[cxii].

(ii) Litigation

Subsequent delays and litigation with Citigroup have significantly altered the project's scope. Citigroup had stopped payments on a loan provided to the project allegedly due to construction delays, lack of tenants and other problems. In response, the developer of the project successfully sought injunctive relief in order to force Citigroup to continue making payments on a $155 million dollar construction loan in 2009[cxiii].

In upholding the injunction, the Supreme Court of New York cited statements made by a Citigroup managing director at a 2007 U.S. Green Building Council Presentation. Referring to the "revolutionary" and "visionary" nature of this "new financial paradigm for green economic development", the court stated that injunctive relief was appropriate due to the inability to calculate potential damages given the "unique character" of the green development[cxiv].

In a recent press release the parties indicated that they had come to an undisclosed accord[cxv]. The deal apparently reduces the loan to $86 million (the balance of what had already been loaned) contingent upon Destiny USA finding a new lender to refinance the $310 million mortgage that Citigroup holds on the mall[cxvi].

(iii) Green Bonds, Government Oversight and Potential Liability

How do the Green Bonds used to finance the project inform our understanding of risk tied to LEED certification? In this case, the delays experienced on the project which hampered LEED certification triggered additional government oversight. The Internal Revenue Service ("IRS") is charged with enforcing the provisions of the agreement and required the bond insurer ("SIDA") to create an account worth 10% of the $238 million Green Bond loan - in this case the reserve amount held by SIDA is $2.38 million plus interest[cxvii].

According to an IRS bulletin, written assurances as to the proposed project's eligibility and ability to meet the requirements are necessary in order to receive the bonds. The IRS is charged with enforcing compliance with these requirements and revoking the bonds in the event of non-compliance[cxviii]. Under the Act, the bond issuer (in this case SIDA) is required to file a report to the IRS and Environmental Protection Agency ("EPA") stating that the project in question has attained or is expected to attain the requirements under the Bond Program[cxix].

A recent deal between the Mayor of Syracuse, Stephanie Miner, SIDA and Robert Congel has temporarily postponed the revocation of the bonds linked to the program. In exchange for $1 million dollars, Robert Congel attained a 6 month extension on the tax exemption deadline but is required to complete an early part of the total project[cxx]. There is no guarantee that the deal will not fall apart if the project has not met its obligations in the required time.

If it is ultimately held that compliance has not been met, then the IRS has the ability to seize the $2.38 million held in reserve. The IRS also has the ability to revoke the tax exempt status of the bonds. If this were to occur then litigation may follow: investors who have lost their tax exempt status may sue the bond insurers for their losses (SIDA); if the bonds were insured then the insurers may seek to recover against the developers of the Destiny USA project; and the

developers may pursue litigation against their Designers or Contractors for failing to meet the sustainable requirements listed under the Bond Program including LEED certification[cxxi].

(iv) <u>Risk Mitigation from Destiny USA Project</u>

This project serves to underscore the potential implications for Owners, Contractors and Designers participating in a green project tied to Green Bonds or other government funded incentives. The construction difficulties experienced by the developers and builders of the Destiny project were further compounded by the oversight of the IRS and the necessary assurances of SIDA, the bond issuer. For example, the bond program requires applicants to include "information on financial incentives and penalties" in contracts between the developer and project participants in their initial submission[cxxii]. These clauses must "tie a part of the contractor's and subcontractors' compensation to their level of success in designing and constructing LEED-certified, sustainably-designed buildings"[cxxiii].

This requirement of the bond program works to initially define the scope of any potential contract to include some assignment of responsibility for achieving LEED certification directly to Contractors and Designers. The final determination of what this looks like is ultimately up to the participants to decide but this particular requirement significantly defines the freedom of parties to assign liability.

The use of clauses binding contractors to performance benchmarks could vary by quite a bit but any agreement by Contractors which amounts to a guarantee of certification could be immensely problematic. Perhaps a more balanced approach could bind contractors to specific steps which would move the project towards certification or assign liability according to a participant's duties on the project. Due to the distributed responsibility of attaining credits under LEED (and other 3rd party rating systems), a Contractor could potentially fulfil all of their duties successfully and the project may still not attain certification. Additionally, actions beyond any one participant could potential inhibit the successful certification of a project.

The Destiny USA project helps to show how the inclusion of a government funded bond program can add complexity to the contractual arrangements of participants on green projects. The incorporation of LEED requirements as part of the Green Bond program's prerequisites shape the contours of contracts between participants. In addition, there is the potential liability from the bonds themselves if they are revoked due to a determination of non-compliance by SIDA or ultimately the IRS.

D. <u>*Bain v. Vertex Architects*</u>

An example from Chicago, Illinois in 2010 highlights the importance of defining terms and carefully drafting a contract to match all parties green building expectations and goals[cxxiv]. The case involves a small residential project seeking LEED Homes certification. Bain claims under breach of contract that the Designer and General Contractor, Vertex Architects ("Vertex") failed to "create a sustainable green modern single family home" and also "failed to diligently pursue and obtain for the Project certification from the USGBC LEED for Homes Program"[cxxv].

While the case is as yet unresolved, using phrases such as "sustainable green home" which are open to subjective interpretation leaves both parties open to unexpected liability. These terms should be clarified and tied to objective standards. Definitions could include specific performance criteria or steps required by the Designer or General Contractor and Subtrades in order to achieve the sustainable goals of the project as agreed to by the parties.

E. Summary of Contract Analysis

A failure to achieve certification may lead to claims of breach of contract which exposes all parties to risk including Owners, Designers, Contractors and Subtrades. The consequences of not achieving the desired level of certification highly depend upon the contract language used and the choice to include mutual waivers of consequential damage or liquidated damage clauses.

In the *Shaw* case, consequential damages were sought in response to the failure by both parties to properly account for the steps required to attain the relevant tax credits. Tied to these allegations is the risk that Contractors and Subtrades may be accused of negligent performance of work which resulted in a failure to attain the desired level of certification.

In the *Destiny USA* case, the incorporation of government incentives tied to sustainable goals added to the complexity of the project when delays were encountered. If the Green Bonds are ultimately revoked then liability may result from investors seeking damages from the Developer who may turn to their Design and Construction teams for indemnification.

In the *Vertex* case, the use of terms like "sustainable" were not sufficiently defined in the contract. The case also demonstrates the potential risk to Designers and Contractors for a failure to "diligently pursue LEED certification". Whether the claims in this case are successful remains to be seen but it demonstrates the potential for litigation when a party's green building goals are not attained.

Additionally, Owners are at risk if they market a building as LEED compliant only to have it denied certification. Owners may also be open to fraud or false advertising claims if a building's energy or water performance does not measure up to advertised claims. Contractors and Subtrades may also be implicated in similar tort claims based in negligent work or for failing to meet specific performance criteria included in contracts or descriptions of the required scope of work. The following section addresses the potential for liability in green building under tort legal theory.

6. Tort Analysis

A. Introduction

Apart from contract issues, liability in the green building context may also arise under tort legal theory. Potential issues include but are not limited to fraud or misrepresentation, altered standards of care in negligence or insurance claims, and product liability.

(i) Role of Government

Claims under tort theories may have extensive implications as governments mandate LEED certification on public projects or change existing building codes to mirror existing 3rd party certification programs. Tort based liability may give rise to class action law suits reminiscent of the BC Leaky Condo Crisis as a result of widespread incorporation of novel green building material or techniques.

Relatedly, there may be other issues associated with government effectively outsourcing building codes to 3rd party rating systems - the inception of these programs as voluntary, complementary guidelines may fundamentally conflict with the purpose, structure and development of standard mandatory building codes[cxxvi]. This is not to say that a wholesale rejection of concepts found in 3rd party rating systems is appropriate for government's interested in "greening" existing building codes, but caution is warranted when transferring comprehensive requirements from a fundamentally voluntary program into mandatory regulation which serves a very different purpose.

The inception of 3rd party rating systems such as LEED or BREEAM was rooted in a framework of complimentary standards to existing building codes. While these programs may have undergone extensive development and refinement in order to adapt to different regional climates and conditions, they are still fundamentally designed to function as a voluntary and complimentary building code. As such, the potential implications of widespread Government inclusion of these 3rd party requirements should given serious thought prior to any expansion of this trend.

B. Fraud and Misrepresentation

One concern for participants in green construction is the risk that a building's performance may not measure up to representations made. This is most salient to Owners but Designers and Contractors may also be implicated. Fraudulent misrepresentation can be shown if the defendant has induced the plaintiff to enter into a contract (or sale) on the basis of a representation that was known to be false or that the defendant had no belief in. If fraud can be shown, then damages will reflect the losses suffered by the plaintiff in relying upon the fraudulent representation. This determination can include consequential damages flowing from the fraud which could include the cost of entering into the contract or losses experienced due to the reliance on the fraudulent misrepresentation in question. The purpose of awarding damages under fraud is to place the plaintiff in the position they would have been in had they not relied upon the fraudulent statements[cxxvii]. It must also be kept in mind that fraudulent misrepresentation can be concurrently claimed under breach of contract and tort[cxxviii].

For example, If an Owner has advertised a condo complex as being "Green" or "Sustainable" due to increased water or energy conservation claimed under LEED certification, the final buyers may have very high performance expectations. This may lead to accusations of false advertising or fraudulent misrepresentation against the Owner if the Buyer's expectations were not sufficiently tempered or if subsequent testing shows that there are no energy or water efficiency gains. The Owner may know that LEED certification was achieved without prioritizing credits

towards energy efficiency and that the building is no more energy efficient than another. If it can be shown that the Owner knew potential buyers were interested in purchasing the building due to the belief that it was more energy efficient and the Owner did nothing to correct this, the Owner may be liable for fraud.

(i) Implications for Contractors, Designers, and Subtrades

If an Owner faces allegations of fraud or negligent misrepresentation based on a claim that was made in relation to efficiency associated with green design, then the Owner may turn to other participants in order to recover any losses suffered. The Owner may pursue claims against its Designer or Contractors under (i) breach of contract in relation to achieving certification as outlined above or (ii) a negligence based claim for substandard design or installation of building components.

For example, an Owner may have worked with a Designer to produce an energy efficient condo complex. During construction, the Owner may have advertised that the building was expected to attain higher energy efficient rates due to its design. If subsequent testing of the completed building does not show an increase in energy efficiency and the Owner is found liable, then the Owner may attempt to recover losses suffered from the Designer or Contractor.

This may result in claims made against Contractors or Subtrades for negligently installing building components. Claims made by Owner's may allege that the Designer failed to met the appropriate standard of care when designing the green building. The success of these kinds of claims may hinge on representations made by Designers or Contractors as to their expertise in green building or design. In either case, the act alleged to have been negligent must have fallen below the appropriate standard of care. In the relatively new green building context, determining the appropriate standard of care may become a bit fuzzy.

(ii) Altered Standard of Care

Typically, the standard of care applied to negligence analysis is determined by looking at the hypothetical "objectively reasonable and prudent person" in the same situation. The specific facts of the case are important to this determination as is the seriousness of potential harm to others, the cost to minimize potential harm and the likelihood of harm[cxxix]. Additionally, industry practices and custom as well as statutory guidelines or regulations can inform what a "typical" construction participate would have done. Due to the novelty of green construction, the building systems and materials used, and the lack of any industry wide standards in relation to green building, defining the appropriate common law standard of care in this context may prove to be difficult.

For Designers, the standard of care applied may be altered for those with specialized training or expertise[cxxx]. For example, a Designer who is a LEED AP may be held to the standard of the "ordinary and prudent LEED AP designated Designer". If so, then this would exceed the common law standard of care and may result in exclusions under typical professional liability insurance. Additionally, a higher standard of care could be contracted into which would also likely result in exclusions from standard professional liability insurance.

For Designers, this may result from claims made about their particular expertise in green or sustainable design including the incorporation of high performance energy systems. A higher standard of care may result simply from attaining LEED AP designation or including statements in relation to sustainable design in marketing material[cxxxi]. In addition to potential exclusion from professional liability insurance, a higher standard of care may make it easier to show negligence. If a party is expected to perform at a higher standard of care then the scope of potential acts which fall below this threshold is increased.

For example, if an Owner is alleging that a Designer negligently designed a green building which resulted in sub optimal energy efficiency, then it would have to be shown that the Designer's services fell below the appropriate standard of care. A building design which may have been sufficient from a non LEED AP Designer may fall below the standard of care applied to a LEED AP Designer. This may be determined by the choice of contract language used to described the scope of work or type of building contracted for. In the *Vertex* case described above, the contract described the building as a "sustainable green modern single family home"[cxxxii]. This kind of contract language may increase the scope of services expected and increase the likelihood of a successful claim in negligence.

C. Summary of Tort Analysis

Tort liability may arise due to government mandated conformance with 3rd party rating systems' requirements. This may result in class action law suits reminiscent of BC's Leaky Condo Crisis due to the unknown long term consequences of novel green building material or techniques. Green roofs are an especially salient concern in this area and are covered in more depth below.

Additional liability may result from claims grounded in fraud or misrepresentation from disappointed Buyers or Tenants. Owners must be careful to make accurate representations about the benefits attained from 3rd party Certification and to temper expectations about the green goals of the project. Designers and Contractors may be at risk of liability if Owners attempt to recover losses from them in negligent design or construction. This also raises the potential for an altered standard of care to be applied to negligence claims which may result in exclusion from standard insurance policies.

7. Product Liability

A. Introduction

New building materials are being developed in order to meet the increasing demand for environmentally responsible homes and buildings. This is in part due to the availability of credits under LEED and other programs for the use of recycled content in building materials and in part due to an increase in public scrutiny of the potential negative health and environmental consequences of the built environment.

While laudable, the use of novel less harmful building material or new construction techniques may give rise to liability due to: (i) contractor inexperience with installation; (ii) lack of long

term evaluation of green materials; (iii) lack of understanding of how new building materials may impact existing traditional building systems[cxxxiii]; or (iv) warranties provided unintentionally about the durability or effectiveness of unproven materials or techniques. Product liability issues may give rise to liability under contract and tort legal theories and may extend to include claims grounded in antitrust as well.

(i) Mould and Water Damage

Given its exclusion in CDDC 2 2008 insurance coverage, the risk of mould is a salient issue in the green construction context of British Columba[cxxxiv]. New designs may advocate for a tighter building envelope or increases between exterior and interior air circulation which exceed HVAC industry standards - either of which may lead to moisture and mould issues[cxxxv]. Other practices relevant to LEED credits and "best practices" such as building flush outs may also contribute to an increased risk of mould given the large amounts of outdoor air and moisture introduced into a building[cxxxvi]. In turn, the presence of water damage or mould may give rise to personal injury claims due to health issues in addition to property damage claims[cxxxvii].

(ii) Green Roofs

The long term consequences of a mass adoption of green roofs remains to be seen[cxxxviii] but property underwriters have also cited potential benefits to be gained under these new building systems[cxxxix]. For example, green roofs may offset heat absorption but they require proper design, installation and tenant maintenance in order to avoid water intrusion problems[cxl].

Claims made in relation to water or mould issues may be pursued against Designers, Contractors or Owners. As the building envelope has historically been the "component that fails the most frequently and usually the most dramatically", scrutiny of new material or techniques that impact envelope performance is warranted[cxli].

(iii) Examples Used Below

We can look to the BC Leaky Condo Crisis for guidance about potential issues associated with (i) changes to building envelope design and (ii) the role of government in mandating these changes. Next, an American case involving the use of green wood products for structural features of a high profile building demonstrates the role of Material Suppliers in green building liability. Then, the potential for antitrust action in the green building context is examined which may encompass wood products endorsed by the USGBC.

B. Green Roofs and Potential Litigation

In relation to product liability, many sources have noted potential problems associated with the use of green roofs. These may include water intrusion, structural issues due to additional weight from water retention, and resulting class action law suits[cxlii]. Green roofs have become popular internationally but have been more slowly adopted in North America[cxliii]. The use of green roofs can substantially addresses issues common to large urban environments such as natural environment displacement, increased costs during summer months to cool buildings and the

"urban heat island effect, a phenomenon whereby a metropolitan are is between 1 C and 5 C warmer than its surroundings"[cxliv].

(i) BC Leaky Condo Crisis

The benefits accrued due to the use of these systems must be balanced against the potential risks. Green roofs are complex systems that require proper installation from qualified, experienced professionals and require proper maintenance by subsequent Owners or Tenants to avoid costly repairs or malfunctions[cxlv]. Such systems should not be entirely discounted but participants should be aware of the potential legal and structural issues associated with their use.

The trend of government mandated green roofs continues[cxlvi] but caution is warranted given the problematic history with alterations of building envelope design in British Columbia. The Leaky Condo Crisis signals that widespread changes to building envelope performance may give rise to unintentional consequences. The judicial history also shows that future liability as a result of such changes will likely attach to Owners, Designers, Contractors and Subtrades but not to Government entities[cxlvii].

C. *Progressive Homes Ltd. v. Lombard General Insurance Co. of Canada*

In a recent 2010 decision, the Supreme Court of Canada ("SCC") has indicated that insurers providing General Construction Liability ("GCL") policies have a duty to defend the General Contractor holding a policy for losses suffered in relation to subcontractor work in the context of the Leaky Condo Crisis[cxlviii].

(i) Changes to BC Supreme Court Ruling

The SCC ruling overturns a British Columbia Supreme Court ("BCSC") decision that characterized the damage experienced by buildings during the Leaky Condo Crisis as falling outside the ambit of GCL insurance policies. The lower court's decision turned on an interpretation of exclusions to coverage described in the insurance policies. The BCSC held that the kinds of damage experienced during the crisis could not be considered "property damage" or an "occurrence" sufficient to trigger indemnification by the insurer because faulty workmanship could not be considered fortuitous or an "accident"[cxlix].

Progressive Homes successfully appealed to the SCC which determined that the wording of the policies in question sufficiently captured the kind of damage and loss experienced by the original plaintiffs seeking tort damages from Progressive Homes. Of note, the SCC held that the plain reading of the insurance policies in question did not allow for Lombard's "complex structure" argument. The court essentially rejected the idea that a part of a building could be artificially removed from its interrelated components in the context of determining the scope of "property damage"[cl]. Lombard had argued that "property damage" could not include damage to the building caused by another component of the same building - this would have limited coverage to that experienced by a third party. Additionally, the SCC held that whether or not faulty or deficient work could be considered fortuitous or an "accident" should be determined based upon the facts of each case and cannot be subject to a blanket exclusion.

(ii) Risk Mitigation from *Progressive Homes Ltd.*

The scope of coverage provided to Contractors will turn upon the specific wording of coverage, exclusions, and exceptions in their GCL insurance policy. The case also highlights the impact that subcontractor work can have on potential exclusions from coverage. While the court held that the insurer's duty to defend had been triggered in this case, Lombard had the opportunity to "clearly and unambiguously" show that the exclusion clauses applied. Lombard failed to do so in this case but a different set of facts may result in exclusions[cli].

This recent case from the SCC highlights the importance of reviewing GCL insurance policies for the specific wording of exclusions with an eye towards their impact on subcontractor work. While it is clear that a "complex structure" theory will not apply to subsequent attempts to exclude coverage for "property damage" resulting from another part of the same building, the potential exclusion of coverage for faulty subcontractor work remains a fact driven determination.

In the context of green building and increased interest in green roof technology, subcontractor inexperience with novel building material or design may still result in losses which are excluded in GCL insurance policies. For Government considering mandating green roofs, caution is warranted given the potential for building envelope intrusion cited by some authors[clii]. Given the necessity for proper maintenance by subsequent owners or tenants of a building with a green roof, Owner's should be sure to include sufficient instruction and could include building maintenance clauses when dealing with Tenants or Buyers.

D. *Chesapeake Bay Foundation, Inc. et. al. v. Weyerhaeuser Company*

This case involves claims made against Weyerhaeuser in relation to a wood based product known as "Parallams". The plaintiffs include the Chesapeake Bay Foundation ("CBF"), SmithGroup, Inc ("SmithGroup") the principal designers, and Clark Construction Group ("Clark") the contractors commissioned to complete the project[cliii].

In total, 5 claims are made against Weyerhaeuser including (i) breach of contract, (ii) common law indemnity, (iii) contribution, (iv) negligent misrepresentation, and (v) negligence. These claims arise out of allegations that Parallams exposed to exterior weather conditions had deteriorated and pose a risk of death or serious injury due to a failure in the structural integrity of the building[cliv]. The case highlights the potential for multiple claims arising out of the use of green building products by teams pursuing sustainable design.

(i) The Project

The building in question is known as The Philip Merril Center, which was the first LEED Platinum certified building in America and has attained numerous sustainable design and environmental construction awards[clv]. The Chesapeake Bay Foundation commissioned the design and construction of the project to serve as their headquarters. In compliance with the CBF's mission to promote the protection of the Chesapeake Bay through environmental education and

regulatory enforcement, the design and construction of the building incorporated many sustainable concepts such as recycled and non-toxic building material, energy efficient design, and conservative water management[clvi].

(ii) The Building Material

The original design created by SmithGroup called for the extensive use of glue-laminated wood members in the roof truss system and in various columns and beams, some of which were completely exposed to the weather[clvii]. The contract documents allowed for an alternative material to be used. This alternative building material known as "Parallel Strand Lumber ("PSL")" or "Parallams" consists of wood waste material bonded together under pressure and high-strength adhesive[clviii]. It is important to note that SmithGroups's design required an appropriate sealant regime in order to preserve the exposed structural wood regardless of the wood product used.

According to the CBF, Parallams were an appropriate building material for the green project because they consist of waste material from fast growing trees[clix] and when properly treated do not leach toxic chemicals into the surrounding environment[clx]. Additionally, Parallams have been touted as green by Peter Moonen due their efficient use of harvested wood[clxi]. This is possible because smaller pieces of waste product can be combined to create strong, high density structural material which is pre-cut to reduce on site waste. The issue with Parallams in this particular case, and salient to our discussion of product liability in green projects, relates to the proper application of a necessary sealant and the resultant liability for an apparent failure to do so.

(iii) Background to Current Litigation

Prior to the current litigation underway, efforts were made by all participants to locate and remedy several issues with the exposed structural beams. Initial water intrusion into the building envelope was identified early after substantial completion of the project by Clark. In response, Clark hired a consultant to locate and identify the water leakage issue. The consultant's report stated that the exposed Parallams were inherently difficult to seal due to irregularities in the wood and that they may not have been sufficiently treated[clxii]. These concerns were temporarily allayed when Weyerhaeuser supplied certificates asserting that all members had been treated with PolyClear 2000, a sealant which Weyerhaeuser claimed was an appropriate substitute for the sealant called for by SmithGroup's original design[clxiii].

Nearly 9 years after completion of the project, the parties met after CBF identified sections of Parallams which had seriously deteriorated during an annual inspection[clxiv]. All parties agreed to have another consultant inspect and report on the integrity of the building. This report suggested that all the exposed Parallams should be replaced and that testing had indicated that these members had either (i) not been "treated to the levels prescribed by the Contract Documents" or (ii) deteriorated because the sealant used had been "unsuitable for the application"[clxv]. These tests revealed that the structural members in question had between 5% and 74% of the retention levels required from the pre-construction treatment supplied by Weyerhaeuser[clxvi]. An additional inspection was undertaken by a consultant to CBF's insurance carrier which also concluded that

the Parallams "had not been adequately treated prior to delivery and installation at the Project"[clxvii].

Following the completion of these tests, CBF, Clark, and SmithGroup came to an agreement whereby the faulty Parallams would be replaced. In turn, Clark sought indemnification from Weyerhaeuser for these costs pursuant to the Purchase Order for the Parallams[clxviii].

(iv) Allegations

The Purchase Order between Clark and Weyerhaeuser required (i) that any deviation from the design requirements be approved by the architect (ii) and that Weyerhaeuser indemnify Clark for any negligence in relation to material supplied by Weyerhaeuser[clxix]. Critical to the claims made by the plaintiffs is the allegation that no consent was given by SmithGroup for Weyerhauser to use PolyClear 2000 in lieu of the designated sealant in the Contract Documents and that Weyerhaeuser was aware that the Parallams supplied would be exposed to exterior weather conditions.

Clark alleges breach of contract for deviating from the Contract Documents without approval from the architect and for negligently providing materials known to Weyerhaeuser to not be suitable for the intended application.

Both Clark and SmithGroup claim that the liability they face from CBF should be indemnified under common law by Weyerhaeuser due to Weyerhaeuser's superior knowledge of PolyClear 2000's limited applicability in exterior environments and the knowledge that PolyClear 2000 was intended for use on exposed Parallams. Additionally, they allege that Weyerhaeuser failed to adequately treat the Parallams which led to liability exposure for Clark and SmithGroup. This claim rests upon the relationship between supplier and purchaser instead of any contractual agreement between the parties.

Clark and SmithGroup also allege that their settlement with CBF to remediate the Project is reasonable and since the losses are a result of Weyerhaeuser's improper selection and application of the required preservative, Weyerhaeuser should contribute to Clark and SmithGroup's costs of remediation.

Clark and SmithGroup also allege that Weyerhaeuser was negligent when they made untrue representations about the Parallams used in the Project. According to Clark and SmithGroup, Weyerhaeuser made representations that the required level of treatment has occurred prior to delivery, was aware of the exposure of the Parallams to weather, the unsuitability of PolyClear 2000 to exterior applications, and that all this information was provided by Weyerhaueser with the intention that the plaintiffs would rely on it[clxx].

The Plaintiffs further allege that Weyerhaeuser was negligent in their supply of PolyClear 2000 sealant given that Weyerhaeuser was aware that this sealant was not appropriate for exterior application and that the Parallams supplied were going to be exposed to the weather. Additionally, the plaintiffs allege that the failure to provide the Parallams with the required amount of sealant prior to delivery is sufficient to ground a claim in negligence. This allegedly

resulted in the risk of death or personal injury due to the failed structural integrity of the building[clxxi].

(v) Risk Mitigation from *Chesapeake Bay*

The case clearly demonstrates several potential issues associated with the use of new building materials. While it is difficult to explicitly define the role that contract language played in this case it is still useful in highlighting the potential cost of failed green material use and the role that Material Suppliers may play in these types of claims. The damages sought in this case exceed $3.4 million[clxxii] not to mention litigation and delay expenses.

Will the Contractor and Designer be left with the cost of remediating the Project if they are unable to successfully claim indemnification from the material supplier? What would have happened if the building had collapsed prior to any remediation agreement between the Owner, Designer, and Contractor? This risk of bodily injury or death due to the failed structural integrity of the building raises the spectre of potential criminal liability.

On the USGBC's website, there is a profile of this project which states that the contractor was unfamiliar with the goals of the client and with the "green process" used[clxxiii]. This may have resulted in some of the confusion associated with the use of PolyClear 2000 without approval from the Designer, even though the Designer apparently requested that Weyerhaeuser submit the data on this preservative and was therefore aware of its potential use[clxxiv].

The issue of negligent misrepresentation in this case should serve as an indication that similar issues could be on the horizon. This could occur through a similar scenario related to information provided by a material supplier but could also arise through advice given by a professional such as a Designer.

For example, a Designer could makes representations to a developer that a green roof will not add costs to the maintenance of a building but subsequent installation causes damage due to an increase in weight caused by moisture retention. Due to the element of negligence and related inquiry into the appropriate standard of care, a designer who specializes in sustainable design may owe a higher duty of care to their client. As mentioned previously, additional care must be taken by parties who hold themselves out to be experts in green construction or green design when giving advice or supplying "sustainable" services as they may be held to a higher standard of care.

While building materials such as Parallams may allow designers to meet the sustainable goals sought by Owners through the use of products that come from fast growing wood products or minimize waste, the limitations of these products may only become clear over time.

E. Antitrust Liability

Other potential issues arising out of building material in the green construction context is litigation between material suppliers themselves. 3rd party rating systems such as LEED award points for the use of recycled building materials and other sustainable or less harmful materials.

As previously stated, many indicators show that green construction is a growing market that requires specialized building materials. The resulting increase in demand for these kinds of materials has begun to fuel litigation among suppliers of green building materials.

The increasing prominence of LEED requirements on public building projects has both contributed to the growth in this market and in some cases has been used as evidence of injury by those seeking financial redress.

This section will begin with a discussion of two recent American cases which highlights the potential for an increase in litigation among material suppliers hoping to capitalize on the unique and growing demand for their products. Then the potential for antitrust litigation will be covered with an overview of an article by Stephen del Percio who examines the American case history of antitrust action with an eye to the current USGBC policy of only awarding credit for wood certified by the Forest Stewardship Council. The American potential for antitrust litigation will then be compared to the Canadian context.

(i) *Kenetics Noise Control Inc., v. ECORE International Inc.*

In October 2010, Kenetics Noise Control ("Kenetics") alleged that ECORE International Inc. ("ECORE") fraudulently obtained and enforced a patent on acoustic underlayment flooring. Kenetics claimed that they suffered losses as a result of ECORE's improper ability to "monopolize a rapidly expanding market for acoustical underlayment and rubber acoustical underlayment"[clxxv].

The product in question is made of recycled tires and as such qualifies for LEED credits[clxxvi]. In their initial complaint, Kenetics relied upon the increase in government incentives and the general growth in the green construction industry to demonstrate their losses due to market exclusion:

> In addition to environmental benefits, obtaining LEED certification allows participants to take advantage of unprecedented levels of government initiatives available for green projects and to market buildings as premier projects with increased potential for profitability. These factors, as well as heightened awareness and demand for green construction and improvements in sustainable materials have contributed to rapid growth of the green build market[clxxvii].

While the case was dismissed in March 2011 due to lack of jurisdiction, it is still important to note the potential for litigation related to products which are able to qualify for LEED credits. Also, as stated by Kenetics in their complaint, government incentives and mandatory compliance with LEED certification on public projects has created a market for specialized material able to qualify for LEED credits.

(ii) *RB Rubber Products, Inc. v. ECORE International, Inc.*

A case initiated in Oregon on March 15, 2011 alleges similar complaints against ECORE by RB Rubber Products, Inc. ("RB Rubber") for improper patent enforcement and antitrust

violations[clxxviii]. RB Rubber claims that due to "its anti-competitive conduct, ECORE has attempted to, and did, monopolize a rapidly expanding market for acoustical underlayment and rubber acoustical underlayment"[clxxix]. The complaint also states that the product is "often used in high rise buildings and condominiums" and qualifies for LEED credits[clxxx].

While, it remains to be seen what will occur in *RB Rubber*, both cases serve as a warning for Material Suppliers that the current demand for green building materials may be accompanied by litigation based on competing patent claims or antitrust allegations of unjust market exclusion. As building materials able to qualify for credits under 3rd party rating systems increase in importance, claims made by those attempting to get a piece of the action (or defend their own) will likely increase as well.

Participants in green construction other than Material Suppliers should also take note as these cases show the potential to limit the supply of green building materials. This may occur due to the novelty of these materials, control of the market by a relatively few entities through patent enforcement, or simply due to their specialized nature.

The increase in mandated LEED certification on public projects identified earlier coupled with a finite variety of credit eligible building materials may contribute to the prominence of this issue. Indeed, there is evidence of this occurring in New York state with a building material able to exclusively qualify for a specific LEED credit - FSC certified wood products[clxxxi]. Apart from supply issues, FSC certified wood products may also be at the centre of antitrust action.

(iii) American Antitrust and Certified Wood Products

A recent article by Stephen del Percio, a LEED AP designated construction lawyer out of New York state, traces the potential for antitrust action against the USGBC in relation to the organization's exclusive endorsement of Forest Stewardship Council certified wood products for LEED credit[clxxxii]. The extensive adaptation of the LEED system by governments coupled with the exclusive recognition of FSC wood products under the LEED system leads to the potential of antitrust action under American law. While the American jurisprudence reviewed is not directly applicable in Canada, the issue of anti-rust litigation in relation to discriminatory selection of eligible material for LEED credits on the part of the USGBC or the CaGBC is.

The article argues that LEED's pervasive market and legislative adaptation is more likely to give rise to antitrust action when compared to smaller but similar rating systems such as Green Globes. The Oregon based Green Building Institute ("GBI") created Green Globes in part through the participation of the Wood Promotion Network, "a consortium of timber industry entities that includes the American Forest and Paper Association" which promotes the Sustainable Forestry Initiative ("SFI")[clxxxiii]. Unlike the USGBC's LEED system, Green Globes awards credits for the use of wood products certified under the FSC, the SFI or the Canadian Standards Association ("CSA")[clxxxiv].

There are at least 50 forest stewardship or certification programs around the world with 4 dominating the North American market including the Forest Stewardship Council, the Sustainable Forestry Initiative, the Certified Family Forest, and the American Tree Farm System.

The FSC was created in 1993 in Germany with a focus on managing tropical rain forests while the SFI was created in 1994 originally in order to address North American forests but has since spread around the globe[clxxxv]. As of 2007, the disparity between the amount of credit eligible wood available in North America was stark: the FSC represented roughly 20% or 73 million acres of certified wood product while the SFI represented roughly 135 million acres of certified wood product[clxxxvi].

The USGBC is aware of criticisms related to it's exclusive endorsement of FSC wood products and in response directed its Technical Steering Committee to examine the situation in 2006. The committee recommended changes which would create a benchmark system in order to award non-FSC wood with the relevant LEED credit (MR Credit 7). The proposed "Forest Certification System Benchmark" review system would examine other forest certification program's governance, technical standards, accreditation and auditing, and chain of custody and labelling requirements. This may result in non-compliant forest certification systems being recognized in order to qualify for the LEED wood based credit[clxxxvii].

Stephen del Percio's article provides an overview of the American *Sherman Act*, which allows a cause of action for anti-competitive behaviour. The *Sherman Act* can be applied to any standard setting organization which discriminates against a product in order to unduly restrict competition[clxxxviii]. In *Allied Tube & Conduit Corp. v. Indian Head, Inc* the Supreme Court of America stated that "private standard-setting associations have traditionally been objects of antitrust scrutiny"[clxxxix] precisely due to the their incentive and ability to restrain competition[cxc].

In order for a successful claim to be made against the USGBC in America, it would have to be demonstrated that the exclusion of non FSC wood products from credit eligibility was not based on objective standards but instead due to the influence of the USGBC's membership[cxci]. This possibility has been acknowledged by the USGBC under its Antitrust Compliance Policy[cxcii] and with good reason as complaints were filed in October 2009 by The Coalition for Fair Forest Certification[cxciii] with the American Federal Trade Commission[cxciv]. The complaint specifically cites, among other concerns, the exclusive endorsement of FSC certified products by the USGBC's LEED system. As the USGBC's Forest Benchmark standard is still under development, FSC certified products continue to enjoy a monopoly over credit eligible wood products under LEED.

(iv) Canadian Antitrust and Certified Wood Products

In Canada, antitrust liability may arise under the federal *Competition Act*. There may be claims made against the CaGBC or USGBC in relation to the exclusion of non FSC certified wood products grounded in conspiracy by unlawful means[cxcv]. The offence of conspiracy under the *Competition Act* is divided into criminal and civil sanctions. The former being reserved for the most egregious offences while less severe forms will be subject to civil review by the Competition Tribunal[cxcvi].

Conspiracy by unlawful means requires that (i) the defendants contemplated unlawful conduct under an agreement that was (ii) directed at the plaintiff, (iii) was known by the defendants to likely result in damages in the circumstances and (iv) did result in damages[cxcvii]. The form of the

agreement can be varied but must include "the intentional participation with a view to the furtherance of [a] common design and purpose"[cxcviii] and include two or more people. The term "unlawful" conduct is unclear in its scope. However, breach of legislation relating to labour relations, fulfilling the elements of a criminal offences, and actions sufficient to establish other tortious conduct have all been held to fall under the ambit of "unlawful"[cxcix].

The agreement must be between competitors hoping to create "naked restraints" on trade[cc]. Such restrains are not related to legitimate business collaborations and can be grouped based on the agreement's aim:

> (a) to fix, maintain, increase or control the price for the supply of the product;
> (b) to allocate sales, territories, customers or markets for the production or supply of the product; or
> (c) to fix, maintain, control, prevent, lessen or eliminate the production or supply of the product[cci]

Under the criminal or civil provisions of the Act, it would have to be demonstrated that the members of CaGBC's decision to exclusively accept FSC certified wood products was intentional done in order to control the market in wood products. As in the American examples, Canadian plaintiffs may use government mandates for LEED certification as evidence of injury due to exclusion from a large and growing market.

The CaGBC is quite aware of LEED's widespread adoption by government[ccii], taken in tandem with the knowledge that producers of non FSC wood products would be hurt by LEED's exclusion in the market for public projects, this may help establish the requirement of an "intentional participation with a view to the furtherance of [a] common design and purpose" which was known to have likely harmed non FSC certified wood producers. While it may be very difficult for a plaintiff to establish the requirements for a common law or statutory antitrust claim, it is one potential claim on the horizon.

However, a recent agreement may help avoid potential conflict between the FSC and other forest certification entities. The Canadian Boreal Forest Agreement consists of a framework to establish appropriate conservation measures (including shared sustainability benchmarks) among 21 members of the Forest Products Association of Canada and 9 environmental groups[cciii]. As the agreement provides a framework for future consultations[cciv], it may go far in diffusing further legal action between the FSC, the USGBC or CaGBC and other forest certification programs not acknowledged under the current version of LEED.

(v) Certified Wood Product Supply Issues

In addition to any potential claims grounded in antitrust, the issue of product supply is also salient. A recent review of the availability of FSC certified wood products in New York state indicated issues with the capacity of FSC certified mills to keep up with demand.

The study indicated that Designers chose FSC certified wood in order to qualify for the relevant LEED credit or at the request of their client, and that many of them paid a premium for the product. The study goes on to state that this kind of premium is rare and that it is likely due to interstate supply and demand with New York suffering a lack of supply[ccv].

The current LEED Canada requirements for New Construction include a credit for using a minimum of 50% (based on cost) "wood-based materials and products that are certified in accordance with the Forest Stewardship Council's Principles and Criteria, for wood building components"[ccvi]. If only FSC certified wood products qualify for credit under LEED, and all new public buildings must be LEED Gold certified then supply issues similar to New York State may arise. This may become more prominent when coupled with the BC Provincial Government's "wood first policy".

However, a recent report from 2008 claimed that the CaGBC had only awarded MRc7 certified wood credit to 9 projects or about 12% of all certified buildings in Canada. The report goes on to state that the LEED goals of "environmentally responsible forest management" and transforming markets are "not being met by its preference for one [forest] certification scheme"[ccvii]. The wood certification credit is only 1 among 110 potential credits but depending on the project location and scope, this may be a critical credit to achieve in order to met the required 60 credits for LEED Gold on all new public projects[ccviii]. It remains to be seen whether or not this issue will become more pronounced in the coming years.

Part Three: Other Issues

1. Insurance Products

A. Introduction

A recent survey of insurance providers in the United States indicated that they regularly give green projects more scrutiny due to the use of novel material or techniques often involved. This increased scrutiny is the result of the potential for incorrect installation of green roofs, energy systems or other material use by inexperienced contractors resulting in claims of faulty workmanship and construction defects[ccix].

B. Professional Liability Insurance

As stated previously, professionals may be held to an altered standard of care in the green building context which may result in exclusion from standard insurance policies. This may occur due to (i) representations made to a client or (ii) through promotional material representing the professional as an expert in green building or design[ccx]. Additionally, this may apply to professionals who have attained LEED AP designation[ccxi].

In Canada, "unless modified by the professional services contract, an architect or engineer owes a duty to the client to exercise reasonable care, skill and diligence expected of an ordinarily competent professional"[ccxii]. The "ordinarily competent design professional" will most likely not

include a consideration of sustainable or green design. As a result, coverage for errors or omissions and other negligent acts related to the sustainable or green goals of a project may not be covered without additional insurance.

In response, at least one insurance company has already tailored products for "independent firms that provide technical consulting on sustainability requirements, create and submit the LEED-required documentation, or serve as a Green Building Facilitator in an overall management role"[ccxiii]. The same company recommends that projects involving LEED AP designated individuals ensure that coverage is obtained for negligently provided "sustainability services"[ccxiv].

C. Other Insurance Products

Apart from "green" professional liability insurance there are products available to help offset the risk associated with other aspects of green building including[ccxv]:

(i) Energy Saving Insurance: This covers losses associated with unmet efficiency gains. This may reduce costs on a project by reducing interest charged on loans and through quality control (ie. help cover replacement costs on non conforming equipment).

(ii) Upgrading After Damage: If damage occurs to a building then this will allow the owner to upgrade the building to a greener standard. For a total write off on a non-LEED certified building, the costs of creating a LEED Silver building may be covered. For a partial loss, costs associated with greener office equipment, lighting, and indoor air quality may be covered. Additional insurance can be obtained to help cover additional soft costs which may accompany remediation work on a green project including: diverting debris to recycling centres, flushing out contaminated indoor air, or re-registration with LEED certification. This type of insurance may also cover any losses which resulted from high efficiency power or water systems that were operational prior to the need for remediation[ccxvi].

(iii) Indoor Environment: This covers any claims grounded in personal injury due to specialized material or equipment use on green buildings[ccxvii]. This is particularly salient given the uncertain future of mould or water damage claims which may arise in relation to green roofs or alterations to standard building envelope design on green projects[ccxviii].

(iv) Reputation Damage: This covers costs associated with reputation damage following a failure to achieve the advertised level of certification sought on a project. Claims may relate to higher lease rates that were agreed to under representations that a certain level of certification was to be attained. Additional coverage may be obtained to hire crisis management consultants to respond to adverse media coverage of the project's failure to obtain certification[ccxix].

(v) Director and Officer Protection: This covers claims that "allege harm that is attributable to the governance or management of an organization" including errors and omissions, neglect or breach of contract.

(vi) ClimateWise Principles: This is an approach which "over 40 international insurers and brokers" have incorporated into their risk management projections. The approach incorporates a company's strategic planning associated with Climate Change into the premium charged on their insurance policies. As more insurance brokerages move to this model, companies which neglect the impact of Climate Change on their business may face higher premiums on their insurance coverage.

D. Green Performance Bonds

In addition to the coverage provided under the emerging products listed above, participants in green construction projects may soon obtain performance bonds related to the specialized requirements of these projects.

In the 2006 Washington DC Green Building Act, performance bonds specific to green and sustainable projects will be mandatory in 2012[ccxx]. At the time of the bill's passing, no such product existed and the surety markets are still resistant to the law in question. Resistance to the bill is not surprising as the surety provider would be on the hook financially to remediate a project which fell short of contracted energy efficiency or performance targets, which may include a specific LEED certification level depending on the contract entered into. As discussed above, being bound by contract to produce a specific level of certification is problematic due to the lack of control over final certification by the contractor. It remains to be seen whether optional green performance bonds will be available here in Canada.

2. Decertification

A. Introduction

A relevant concern for those working a project seeking LEED certification is the possibility that even if certification is attained, it could later be revoked. Up until very recently, anyone could submit a challenge to an existing LEED certified building to the USGBC. Changes by the American Green Building Certification Institute on September 17 2010 now restrict standing for a challenge to those who have specific personal knowledge of the project and the specific LEED points challenged within 2 years of final certification[ccxxi].

B. Northland Pines High School

Much of the publicity around this issue stems from a challenge to the LEED Gold certification given to Northland Pines High School in Wisconsin[ccxxii]. A group of citizens challenged the design and use of the school's HVAC system arguing that the original design did not meet the requirements under LEED and that a more efficient system could have been used. Part of the reason for the scrutiny on this project is the fact that the project was funded under a $28.5 million bond program which received assent under a public referendum in 2004[ccxxiii].

(i) The Challenge

The heart of the challenge involved a review of the original design for compliance with LEED requirements by Taylor Engineering ("Taylor"), who was retained by the USGBC as part of their review. The report provided by Taylor stated that the original HVAC design did not in fact meet the performance requirements of the credits originally awarded: ". . . the original design did not meet Indoor Environmental Quality (EQ) Prerequisite 1 and Energy and Atmosphere (EA) Prerequisite 2 of LEED NC version 2.1"[ccxxiv]. The report goes on to state that even though the original design should not have been awarded the credits in question, "the project provides a sufficient level of compliance"[ccxxv]. This determination seems to be based on the original design team's "diligent" response to Taylor Engineering's questions[ccxxvi]. The school has since received affirmation of its original LEED Gold status by the USGBC but the process used to reach this result has been critiqued by some[ccxxvii].

(ii) Criticism of the Review Process

Chris Cheatham, a LEED AP construction lawyer, is one legal commentator who has taken issue with the problematic determination of LEED compliance in this case[ccxxviii]. He argues that the standard of compliance necessary to maintain an existing LEED certification is unclear, as this case seems to highlight. If the initial design did not meet the necessary requirements, then how could subsequent comments do so? Additionally, who must be satisfied under this review process, the USGBC or Taylor Engineering?

One issue identified in an interview between Mr. Cheatham and Thomas Taylor (who was a consultant on the Northland Pines Project) is the possibility that the same design or energy model can be interpreted in different ways by different engineers or architects. Mr. Taylor recommends addressing even minor deficiencies identified early in a project in order to avoid potential complaints or challenges once the project developed[ccxxix].

Decertification of a project remains a distinct possibility for all parties working on a project seeking LEED certification. The consequences may parallel those identified in relation to a failure to attain certification but could be even more complex as the window for decertification currently extends to 2 years after final certification is awarded.

3. Class Action Law Suit

A. *Henry Gifford, Gifford Fuel Saving, Inc. v. U.S. Green Building Council et al.*

Apart from antitrust litigation, the USGBC may be open to other risks to its operation. What began as a class action law suit[ccxxx] filed against the USGBC in October 2010 has since become a claim by 4 plaintiffs[ccxxxi]. The principle plaintiff is Henry Gifford, an energy consultant[ccxxxii] who alleges that the USGBC is guilty of monopolization through fraud, unfair competition, deceptive trade practices, false advertising, wire fraud, and unjust enrichment[ccxxxiii].

Gifford takes issue with several representations made by the USGBC, including a claim that LEED certified buildings use 25% less energy on average than non certified buildings. Gifford

argues that this is a false claim made to intentionally monopolize the energy efficiency consulting market[ccxxxiv]. As a result of this alleged monopolization by the USGBC, Gifford and the other plaintiffs claim their own consulting businesses have been injured.

In response, the USGBC had filed a motion to dismiss the allegations based on inadequate standing by Gifford[ccxxxv] which was upheld in August 2011[ccxxxvi]. While any imminent danger to the financial viability of the USGBC or CaGBC due to class action claims have been put to rest for now, other similar claims are not precluded. The case was thrown out due to a procedural issue with standing not due to the content or merit of the underlying claim. This means that another group with a less speculative claim of injury may be successful in the future.

4. Industry Led Challenges

A. Introduction

Related to third party challenges of certified buildings is the possibility of industry led challenges to green building codes in general. There has been at least two such cases in America. While both cases turn on jurisdictional issues between the Federal and State level governments, they also indicate that not all players in the construction industry are fully on side with the increasingly strict requirements of green building.

B. *The Air Conditioning, Heating and Refrigeration Institute, et al. v. City of Albuquerque*

In 2007 the Albuquerque City Council passed a series of building code requirements that applied to commercial and industrial buildings as well as the residential sector[ccxxxvii]. These new requirements exceeded the federal building code at the time and were challenged by three parties representing "manufacturers, distributors and installers of heating, ventilation, air conditioning" (HVAC) as well as 12 distributors and contractors involved in the trade[ccxxxviii]. It was successfully argued in part that sections of the code relating to a prescriptive path of compliance was preempted by federal jurisdiction.

C. *Building Industry Association of Washington, et al v. Washington State Building Code Council*

In another recent suit from Washington in 2011, the Building Industry Association of Washington and several other plaintiffs unsuccessfully argued that increased energy efficiency requirements in the state building code were preempted by federal jurisdiction. The court held that the code in question qualified for a preemption exception and was therefore enforceable[ccxxxix].

While both of the above claims were based on jurisdictional issues specific to the United States of America, their value to a Canadian analysis lies in their warning of potential industry resistance to increasingly strict energy efficiency guidelines.

5. LEED and the Bidding Process

A. Introduction

In addition to all the other issues presented in this paper, the role of LEED in the bidding process must also be considered. Two recent cases offer different perspectives on how a LEED requirement on a project may impact the Owner's consideration of a bid and whether or not such a requirement can justify a less open and competitive bidding process.

B. Burchick Construction Company, Inc.

An interesting case from 2010 involved a contractor's challenge to a bidding decision by a school board. The school board had argued that due to the LEED requirements of the project in question, it was appropriate to not use the standard competitive bidding process. Burchick Construction Company, Inc. successfully argued that their bid should have been considered given that the school did not provide an accurate description of the scope of work required or why the LEED requirements of the project justified a non-competitive bidding process. The court held in favour of the contractor stating that the school's "determination that it is not practicable or advantageous to use the competitive sealed bidding process" was deficient[ccxl].

C. Hampton Technologies, Inc.

In a contrasting case decided in July 2011 by the Supreme Court of Pennsylvania, it was held that the LEED requirements and contractor experience with green building were sufficient to award a public building contract to the non-lowest bidder. The electrical contractor Hampton Technologies Inc. argued that the Owner improperly considered the winning bidder's "experience with LEED certification" and awarded the $20 million tender for a new Family Court building in contradiction of the tendering process rules. The court rejected the contractor's bid protest and held that the Request For Tender ("RFT") documents properly identified that LEED experience would be given weight in the determination of a successful bidder[ccxli].

D. Summary

Both cases show the emerging prominence of LEED and green building expertise in the market and in the court room. The former is interesting in that it holds that the LEED requirements on a project are not sufficient on their own to avoid statutory compliance (in the state of Pennsylvania at least) with competitive bidding requirements. The later highlights the importance that green building experience may have in attaining public contracts, especially given the growing trend of mandatory compliance with green standards on new public projects.

Part Four: Recommendations

1. Recommendations

A. Introduction

The topics covered in this paper do not form an exhaustive list of potential issues that may arise in the Canadian green construction landscape. Also, as the predominance of litigation covered in this paper comes to us from the United States, there may be significant variation in the Canadian judicial interpretation of the very same issues. However, American litigation can serve as a signpost to what may lay ahead for the stakeholders in the construction industry here in Canada.

Importantly, there are shared aspects between the American and Canadian green building experience including: (i) the importance of contract language; (ii) the impact of tort liability and the potential for an altered standard of care; (iii) the risks associated with using novel green building materials or techniques including green roofs; (iv) the potential for antitrust litigation affecting material suppliers or 3rd party rating systems directly; (v) the importance of adequate insurance; (vi) and a need for all participants in the construction industry to understand how the incorporation of 3rd party rating systems adds a level of complexity which must be accounted for at the outset of any green project.

This section will offer recommendations in relation to the issues covered in this paper. Each participant on a green project has issues specific to their role but given the that a failure by one party may result in liability for everyone on the project, a collaborative approach may work to reduce potential issues before they even arise. Additionally, a shared understanding of how each participant is exposed to potential liability may also reduce risk across the board.

B. Contract Language

(i) Define Terms

Due to a lack of industry wide definitions it is important to keep all parties on the same page - what makes a building "green" to one person may not be "green" to another. Clearly defining terms such as "green" or "sustainable" can help avoid liability. If all parties have a shared understanding of the terms, standards and goals of the project then all parties can avoid confusion and temper unreasonable expectations about what will be achieved[ccxlii].

Objective standards can be identified in order to further reduce confusion about green terms - stating a desired LEED level may be sufficient but be aware of the issues associated with guaranteeing this result[ccxliii]. Performance based standards may also be a viable alternatives to LEED defined goals depending on the project. Contractors and Subtrades should be aware of what they are agreeing to - the *Vertex* case outlined above demonstrated the issue with using terms like "sustainable green home" in contract documents.

(ii) Define Timelines

Inherent to the incorporation of 3rd party rating systems in green construction projects is the issue of timelines. As previously stated, there has been significant issues with the lead time on Canadian projects awaiting final certification. According to the CaGBC, a typical project has a two year timeline from initial registration to final certification[ccxliv]. Other sources have indicated up to 3 year delay in attaining final certification. Additional issues may arise when attempting to source the building material necessary for attaining credits.

By clearly laying out the timeline of green projects, including extra time for documentation and material sourcing, unexpected delays and litigation similar to the *Shaw* case can be avoided. If all parties are aware of the extra steps required to attain 3rd party certification then there will be less chance of someone being on the hook for a delay that could have been accounted for.

(iii) Account for the Regulatory Environment

All participants on green projects should be aware of the various documentation and record keeping requirements for the particular 3rd party system used - a failure to properly understand how this fits into the project's timeline and applicable regulatory framework may result in significant problems. Participants may want to conduct an internal review of company documentation policy to ensure that it complies with the relevant 3rd party system being used.

Both the *Shaw* and *Destiny USA* cases offer clear examples of the intimate connection between regulatory timelines, green building incentives, and the potential for litigation following delays or failures to meet the necessary deadlines[ccxlv].

(iv) Assign Liability According to Responsibility

One way to help avoid litigation is to clearly assign liability to specific parties - if there is confusion about *who* was responsible for achieving *what* on a project then there is more chance that litigation will ensue when problems are encountered[ccxlvi].

This strategy could include assigning liability tied to specific stages of construction rather than the project's final goals - this would define what is expected of each party at each stage of the project rather than, for example, assigning all liability for a failure to achieve certification on the General Contractor or Design Professional. This type of arrangement could clearly delineate liability by including provisions which bind Subtrades and Material Supplies to the green goals identified by the Owner, Designer or General Contractor[ccxlvii]. Such an approach may help assign liability more fairly - a missed credit outside the scope of one party's responsibilities would not result in liability for that party.

A green building plan could be created at the outset of a green project to help keep all parties on the same page. Additionally, contract language that allows for a separation between design-based and construction-based green components may aid in properly assigning responsibility and liability[ccxlviii]. For example, on site waste management and recycling goals could be included

under the construction-based requirements of a green building plan while site location or the inclusion of natural light features could be included under the design-based requirements.

Participants on a project can also address potential failures to attain certification through (i) consequential damage clauses (or waivers) or (ii) by assigning liquidated damages to specific parties. Additional issues which must be addressed is the length and scope of commitment expected of Designers or Contractors on green projects.

(v) Consequential Damages

Due to the potential for these damages to exceed the value of the original construction contract, the inclusion or waiver of these rights should be weighed by each party carefully. Mutual waivers of consequential damages have been advocated for by several commentators. While this would protect Contractors and Designers from incurring liability which could potential dwarf the size of their original contract, Owner may be less willing to accept all liability associated with a project's failure to attain its green or sustainable goals.

(vi) Liquidated Damages

The use of liquidated damages may be a more viable alternative to the inclusion of a mutual waiver of consequential damages. As Owners may not be willing to waive their ability to recover for losses associated with green projects and Contractors may not be willing to accept the risk of being exposed to consequential damages, liquidated damage provisions may be acceptable to both parties. The use of liquidated damages may be a middle ground where participants can agree on reasonable estimates of potential losses as a result of failing to achieve all the green goals of a project. These kinds of clauses can help parties plan for potential liability and seek insurance or project planning accordingly.

(vii) Length and Scope of Obligations

It is critical to define the length of time and scope of services a party is expected to provide on a project. This includes recognizing the risk in making any guarantees or warranties about attaining final certification - as 3rd party rating systems are not bound to Owners, Designers, or Contractors they are under no obligations to provide final certification of a project.

However, contract documents should clearly state whether a Designer or Contractor is obligated to remain on a project until certification is obtained or not. This should include the possibility that once certification is obtained, it may later be revoked. This striking possibility was highlighted in the *Northland Pines* case outlined above. If a Designer or Contractor is expected to provide their services until certification is obtained then the scope of work expected to correct deficiencies which prevent certification should also be clearly defined including the cost of such services if any.

(viii) Industry Standard Forms

Standard forms are a good starting point but may not sufficiently address the risks encountered on green projects using 3rd party rating systems. Standard contracts may need to be modified in order to fully address the responsibilities of sub-trades, sub-consultants (ie. LEED Facilitators or other 3rd party advisors), and material suppliers on green projects[ccxlix]. A recent bulletin from the Canadian Construction Practices Committee ("CCPC") states that substantial performance of the Work does not include the requirement to obtain LEED certification in standard contract forms.

The Canadian Construction Association ("CCA") recommends that Contractors limit their contractual obligations to the scope provided for in CCDC 2 (GC 12.3.2): "The Contractor shall be responsible for the proper performance of the Work to the extent that the design and *Contract Documents* permit such performance"[ccl]. This approach currently limits liability for Contractors by requiring them to construct a building as per the Design professional's requirements. If the project fails to attain certification due to a design related element, the Contractor should not incur liability. However, if certification is not attained due to a Contractor's failure to conform with the Contract Documents (ie. by not properly following a recycling plan or properly documenting material acquisition or use) then recourse may still be sought by a disappointed Owner.

C. Tort Liability

(i) Promise Only What Can Be Delivered

As addressed previously, 3rd party rating systems are not bound in contract to Contractors, Designers or Owners. As a result, there is no way for any of these parties to ensure a project designed or built to meet the requirements of a 3rd party system will actually attain the final desired certification until the 3rd party audit is complete.

Owners should not advertise or make representations that a building under construction is certified by a 3rd party until it actually receives certification. Designers should not make representations or guarantee in any way that a design will produce certification or even attain certain performance levels unless they are willing to accept the liability that may follow when certification is not achieved or performance targets fall short. Contractors should avoid making similar representations or guarantees for similar reasons. Neither party can control whether the 3rd party used will provide final certification[ccli].

It is important for Owners to keep the advertising guidelines discussed above in mind when making representations about the benefits of buying or leasing space in a certified building. Promotional material may become the basis for a claim in misrepresentation or false advertising if the advertisement is not careful to qualify any claims made in relation to the green features of the building.

D. Product Liability

(i) Green Roofs

The widespread use of green roofs may give rise to class action lawsuits reminiscent of BC's Leaky Condo Crisis due to the complexity and need for proper maintenance of these roofing systems. Alterations to existing building envelope design may have unintended consequences in the future. As a result, the use of these systems should be well understood by installers and subsequent operators. Governments considering mandating their use should also be aware of the potential risks involved.

(ii) Delays

Due to the novelty of many green building materials, Designers specifying green materials should work with the Builder to ensure that material supply will not be an issue. Unexpected delays or litigation can be avoided by ensuring that all Subtrades understand the impact that deviations from designated material use can have on successfully attaining 3rd party certification.

(iii) Litigation Among Material Suppliers

Participants should also be aware of the potential litigation between material suppliers that may arise in the green building context. The issues raised in the *Kenetics*, *RB Rubber*, and FSC certified wood cases should raise flags about potential complications for Designers and Contractors seeking material appropriate for the use on green projects.

E. Insurance

(i) Potential Exclusions

Participants must ensure that they have adequate insurance coverage given the specific issues identified above in relation to changing standards of care, misrepresentation, false advertising and emerging green materials and building techniques (ie. green roofs). A thorough review of potential insurance exclusions should be undertaken and a plan for mitigating these risks should be created[cclii].

(ii) Professional Liability Insurance

If standard professional liability insurance is insufficient for the scope of green goals on the project then some attempt should be made by all parties to reach some middle ground as a lack of coverage may seriously harm all participants.

For example, a Contractor or Designer who is not covered for claims made by an Owner grounded in negligent construction of a green building may result in significant liability for both parties. A dissatisfied Owner may not be able to recover their losses and the Contractor or Designer may not be able to remain solvent in the face of a large claim for damages. It remains

an open question in Canada whether an elevated standard of care will be applied to professionals who market themselves as green experts - if so then they may face exclusions from their standard professional insurance[ccliii].

Remember, the potential losses associated with green litigation may dwarf the size of the original contract given the potential for consequential damages as highlighted in the *Shaw* and *Destiny USA* cases. A careful review by all parties as to their exposure to risk related to the use of consequential or liquidated damages provisions in contract documents should be undertaken.

F. Project Delivery

(i) Coordination Among Project Participants

Due to the shared responsibilities of a green project, coordination among participants is critical to avoiding liability and successfully achieving the desired level of certification[ccliv].

Under LEED, a significant amount of potential credits are attained prior to construction. Coordination between Designers and Contractors during the design phase will go far in avoiding liability and confusion by addressing potential issues with material use or site coordinations[cclv]. Addressing these issues will remove the potential for Contractors being on the hook for issues they had little control over and will aid Designers in choosing materials and systems that the Contractor has experience or knowledge with.

One potential strategy is to have a "Green Facilitator" explicitly identified who will be responsible for coordinating the various documentation requirements associated with achieving certification. This person can be contractually bound to the Owner or General Contractor and aid in reducing confusion about who is responsible for what green aspect of the project[cclvi].

(ii) Experienced Team

The use of teams familiar with the procedures of the 3rd party rating system used may go far in achieving the green goals of a given project[cclvii]. Engaging with teams familiar with green building materials and design may also prove invaluable for ambitious green projects. If using LEED then the inclusion of LEED AP consultants, contractors and designers may be critical to the project's success but be aware of the potential changes to the standard of care expected of experts in green construction discussed above.

As representations made by Contractors or Designers about their green or sustainable expertise may be critical in litigation grounded in breach of contract or negligence claims, any such claims should be reviewed, vetted, and documented by Owners or other participants[cclviii].

(iii) Building Information Modelling (BIM)

As stated previously, the use of BIM may assist in an collaborative approach by providing shared models of expected energy use or other performance features of a building prior to construction

and moving important design issues to the front of a project's timeline[cclix]. Additionally, BIM can be used throughout the project's construction to keep track of material use and sourcing[cclx].

It is important to note however that the use of BIM or other collaborative approaches should be properly addressed in contract documents[cclxi]. There may be unintended insurance repercussions due to multiple parties working together to produce a design or make other key decisions.

(iv) Design-Build or Integrated Project Delivery (IPD)

As stated, communication between project participants is critical on green projects seeking certification due to the distributed responsibility of gaining credits. Pursuing a design-build methodology may assist in ensuring that the Designer and Contractor have the same goals in mind and a shared plan for attaining them.

An Integrated Project Delivery ("IPD") path may assist in the necessity of good communication and planning among the participants on green projects. This may aid in effective delineation of responsibilities between Designers, Contractors, and Subtrades and as a result help the project attain the green goals desired with less risk of confusion or litigation[cclxii].

This multi-party approach differs from the traditional linear design-bid-built approach and so may not be applicable for all green projects, however, it does allow for much more collaboration and trouble shooting from the outset of a project. This may assist in meeting certification requirements or other green goals by ensuring that all participants are on the same page from the outset. An integrated approach to project delivery strives to work from a collaborative perspective with consensus based decision making being central[cclxiii].

The contractual arrangements available under an IPD methodology may limit its applicability. As this approach involves all participants simultaneously making design based decisions, general liability insurance or professional liability insurance may not cover all aspects of the final work[cclxiv]. This may depend in large part upon the specific contractual arrangement agreed upon by the parties. For example, if the desired certification is not achieved as a result of not attaining a single credit and multiple parties worked on achieving that single point, assigning liability between these parties may prove difficult[cclxv].

G. The Role of Government

(i) Mandatory Compliance with 3rd Party Rating Systems

The current trend of mandating compliance with LEED Gold on public projects by the BC Government should be continued with caution. Unresolved issues with the long term consequences of green building material and techniques including green roofs remain salient when considered in light of the Leaky Condo experience. Additional concerns relate to the significant backlog in certification of LEED projects or best practices recommended under LEED.

By recognizing LEED as the exclusive 3rd party rating system used to measure sustainability, the Province is at risk of excluding material use that does not confirm with LEED's requirements. Additionally, mandatory compliance with 3rd party rating systems risks outsourcing future building requirements to a private non-democratic entity who's model is fundamentally built upon a voluntary compliance framework. This may create a situation whereby Owners and Contractors must consistently meet an evolving green standard or risk producing buildings that are viewed as obsolete, wasteful or dangerous to the public even though there have been concerns raised as to the actual energy performance of LEED buildings.

Additionally, issues with wait times for obtaining final certification must be taken into consideration. Mandatory compliance with 3rd party rating systems may create a situation where the stakeholders involved in a building have to wait months or years after substantial completion in order to receive final certification. This may create issues associated with holdbacks on final payment which impacts all participants on these projects. The potential for building decertification must also be addressed in light of the Northland Pines example outlined above.

Importantly, as Government mandates compliance with LEED on public projects the role of standard contracts in creating a fair and competitive environment for all participants should be given serious weight. This includes the use of competitive bidding systems and an awareness that the additional risks of building green affect the various stakeholders of the construction industry in different ways. Caution must be taken to avoid creating mandates that assign risk unfairly to Contractors or Subtrades on public projects. For example, Owners and General Contractors have an increased ability to research, plan and mitigate risk compared to Subtrades. Additionally, if liability does arise then the consequences may be much more serious for smaller companies unable to carry these additional costs.

The current focus by Government on mandating compliance with LEED Gold on all public projects impacts the commercial and industrial sector disproportionately compared to private or residential green projects. Public projects represent an investment by the tax payers of British Columbia and as such requires that Government provide opportunities for participation to the broadest range of competent parties possible. An open and transparent bidding process in conjunction with standard contract documents is the best way to achieve this.

A balance must be struck between non discriminatory procurement options and effective project delivery methods. Some advocates for a design-build approach argue that the ability of one party to control the design and construction of a green project limits risk by reducing the distribution of responsibilities and thereby increases the chance of attaining certification. Design-Build may be appropriate for some public projects seeking LEED certification, but an open and transparent bidding process should not be made subordinate to the pursuit of 3rd party certification.

Standard contract documents can play a critical role in ensuring that participants, large or small, are given the chance to participant in the growing green building trend without unfairly assigning risk. Standard contract documents produced by the CCA and the CCDC are created through a consensus based approach. The use of these contract documents can help achieve a balanced assignment of risk appropriate to each participant. It is recommended that caution be taken by

government when considering further mandatory compliance with 3rd party rating systems or expanding current requirements.

2. Conclusions

Many of the risks inherent to green building will be out of the hands of any one participant. Given that the issues outlined in this paper range from material selection, procurement, and installation to new technologies and changing standards of care, not every risk can be accounted for in contracts[cclxvi]. However, those embarking on a green project should attempt to identity the risks specific to their project and mitigate them through contracts as much as possible. Additional risks related to insurance coverage should be also be addressed through contract language. One of the largest risks on green projects is not being aware of potential claims related to contractual agreements that expose a party to more risk than initially anticipated for.

Education can also play a key part in a successful green building strategy - if the steps required to attain certification are not known by all participants then certification may not be achieved. For example, material use by Subtrades appropriate on a standard building project may seriously harm the ability of the project to attain certification. Relatedly, the installation or use of novel technologies or building systems by inexperienced Subtrades may result in a failure to attain the green goals of the project. Effective communication between all participants about the green goals of a project and the requirements to achieve them is the best starting point for any risk mitigation strategy.

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