Moving the Sustainable Building Agenda Forward
A Green Building Advancement Strategy

March 29 2007, Workshop Summary

September 2007
The Canada Green Building Council – Greater Toronto Chapter would like to thank our partners in this initiative:

Industry Canada, Natural Resources Canada, Environment Canada, Canada Mortgage and Housing Corporation and Toronto Waterfront Revitalization Corporation.

About the Canada Green Building Council – Greater Toronto Chapter

Established in 2003, the Canada Green Building Council (CaGBC) is a non-profit national organization formed to accelerate the design and construction of green buildings in Canada. The Council’s objective is to work with its partners in government and the private sector to accelerate the “mainstream adoption of green building principles, policies, practices, standards and tools.”

The Greater Toronto Chapter is the largest chapter of the CaGBC. The Chapter is comprised of leading individuals from government, the building industry, suppliers and professionals, altogether embodying the various segments of the design and building industry.

Together the CaGBC and the Greater Toronto Chapter represent the broad interests that are necessary to come together to motivate change in the built environment.
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Executive Summary

On March 29, 2007, the Canada Green Building Council – Greater Toronto Chapter (CaGBC-GTC), with the support of its partners and associates, convened a one-day workshop to discuss how concepts of green design, construction and operations can further advance within the building and property industries in Ontario. Approximately 40 stakeholders from relevant sectors participated in this workshop (see Appendix B for a list of participants).

The information put forward by presenters and through consultation with workshop participants has been distilled to outline several areas of concern and opportunities for improvement. It is anticipated that this initiative will provide the necessary information for the development of a green building advancement strategy for Ontario that can later be considered for application across Canada. Throughout the discussions it was inherently recognized that advancing green building opportunities creates economic benefits, stimulates market demand for new technologies, materials and processes and addresses environmental concerns such as climate change, water conservation, and biodiversity.

1) Leadership: Roles and Responsibilities

Participants felt that there is a clear need for leadership in the realm of green building. The primary players identified as needing to take leadership include government, the business community, utilities, and not-for-profit organizations such as the Canada Green Building Council. The roles and responsibilities of each of these groups must be clearly defined to ensure that efforts are not duplicated.

Much emphasis was put on the need for leadership from municipal and regional governments to act as agents of change.

2) Clear and Reliable Information

Reliable and concise information was seen as critical to effect change, along with communication strategies to deliver this information. Currently, there is quite a bit of uncertainty and confusion surrounding the array of technologies and practices available. Many are unsure as to what does and does not work in a given situation. This is largely due to the fact that there is no comprehensive source of reliable information and that communication strategies for green buildings are fragmented, complicated and inconsistent in both the industry and public realms. If society is expected to adopt and embrace these technologies and practices then relevant information as identified by sector leaders must be focused and clearly communicated. This can be done through a variety of mechanisms including, but not limited to, a web portal and/or centers of expertise.

3) Education and Training

Participants agreed that education and training in sustainable design, construction practices, and building operations are fundamental if green buildings are to become mainstream practice throughout the built environment. It was noted that although this education and training exists to some extent, it is not to the degree required to make an industry shift to sustainability.
Education in sustainability must be entwined throughout our school boards’ curriculum to ensure that these values are ingrained in the minds of future generations.

Training programs must target all sectors of the building industry, and include both seasoned as well as new professionals and trades people entering the workforce so as to avoid the “weakest link” syndrome. Even a well designed green building will not function properly if the building operator has not been properly trained how to run it. An integrated design approach must be emphasized throughout these programs.

4) Incentive Programs

Incentives from both public and private entities are important to the advancement of green building. Incentive programs would stimulate the marketplace and advance research and development in the industry.

Although there are incentives currently in place, participants noted that they often lack consistency and can end up becoming disincentives by costing the builder more than they receive.

5) Public Outreach and Awareness

Fostering a paradigm shift in public behaviour was seen as essential for successful mainstream green building deployment due to the fact that the consumer is the ultimate decision-maker. As previously stated, information on green building is currently complicated and inconsistent. This information must be simplified, condensed, made easily accessible and be readily adaptable so that it can be presented to the public in a manner which is not confusing.

6) Sustainable Communities

Another far-reaching concern regarding the advancement of green building is that in order to achieve true sustainability as a society one cannot focus solely on how individual buildings are designed and constructed; their placement and function within communities, and how these communities fit into the larger regional context must also be considered. In other words, our communities must be properly planned and developed to function as a whole. A balance of environmental, economic, and social well-being must be taken into consideration. Often times the most effective way to achieve this balance is through the implementation of well-planned mixed-use communities, in which all needs of the residents can be met.

It was suggested that one effective way to instill a holistic sustainable community design approach is to integrate it throughout our training and education programs as outlined in point #3 (above).

Economic sustainability must also be considered as part of this objective. This will be addressed by a progressive approach to the development and application of new technologies, tools, and processes which in turn will create more competitive and successful businesses.
1.0 Introduction

Although more sustainable options for building design and construction have been on the landscape for some time, the tipping point for mainstream deployment is on the horizon as environmental and energy concerns become increasingly prevalent due to the threat of climate change. In response to this opportunity, the Canada Green Building Council – Greater Toronto Chapter (CaGBC-GTC) convened a one-day workshop on March 29, 2007. The purpose of this workshop was to identify issues that are currently impeding the advancement of green building, and then review and evaluate opportunities that would support a coordinated strategy for green building advancement that could be piloted in Ontario and then considered for the rest of Canada.

The following text provides high level messages extracted from scheduled presentations and the series of plenary and breakout sessions convened at the March 29th 2007 workshop. These excerpts have been used to form initial program recommendations (a framework) for green building advancement. Throughout the discussions, it was recognized that advancing green building strategies creates economic benefits for building owners, the design and construction industry, and tenants. In addition, market demand for new technologies, materials and processes as well as the need to address environmental stresses imposed by rapid community development are supporting the development of reliable green alternatives to current building practices.

This report is structured as follows: Section 2 provides a breakdown of the structure and delivery of the workshop; Section 3 provides a summary of major themes and support mechanisms discussed at the workshop, through both presentations and group discussions; and Section 4 provides an initial program framework and suggestions for next steps moving forward. This report has been developed in preparation for subsequent stakeholder consultations that will vet, prioritize, and advance the initial program framework presented.

"The building code in California changes every three years, and state energy efficiency requirements increase 20% each year”  
-Kevin Hydes, Chair, World Green Building Council
2.0 Workshop Structure and Delivery

The workshop began with a series of three presentations from renowned industry experts: Henk Kaan of the Netherlands Energy and Research Foundation, Joe Van Belleghem, Managing Partner of the Windmill Development Group, and Kevin Hydes, Chair of the World Green Building Council. These presenters were selected to provide participants with background information on the European, Canadian and international experiences with green building deployment. These experiences were shared in order to catalyze ideas for both plenary and breakout discussions.

Following the presentations, participants convened as a large group to partake in a plenary discussion titled Solutions for Change and Support Mechanisms. During this discussion, participants were asked to identify some of the major areas which need attention in order to advance the sustainable building agenda, and to provide suggestions and/or examples of possible support mechanisms.

Subsequently, five breakout groups were formed to discuss, in more detail, the themes which emerged from the plenary discussion. During the breakout sessions participants were asked to address the following questions:

1) What solutions could be most readily implemented to transform a specific market or sector?
2) What solutions are effective and pragmatic to go forward with? What is the critical path?
3) What solutions are critical?

To end the day, all participants reconvened and each breakout group presented their findings.

Altogether over 40 key partners participated in the workshop. The agenda delivered and final participant list are included in Appendices A and B, respectively. Detailed workshop notes, photos and video footage will be made available in the near future on the CaGBC-GTC’s new website which is currently under development.
3.0 Perspectives on Issues and Opportunities

3.1 Perspectives from Presenters

The first presenter, Henk Kaan of the Netherlands Energy Research Foundation, listed a series of thoughtful recommendations based on the European experience. Some of the most pertinent of Kaan’s recommendations included creating new financial structures that address payback times and capitalize on rising energy costs, ensuring that policy is consistent over time so that progress is not disrupted, and disseminating relevant information, such as findings and results, to aid in the marketing and advertising of green building. A full list of Kaan’s recommendations and supporting examples are included in Appendix D for review.

The second presenter, Joe Van Belleghem, Managing Partner of Windmill Development Group, provided an overview of the Dockside Green project underway in Victoria, British Columbia. Dockside Green has become a poster project for green building design given its multiple achievements in environmental and social concepts including innovative wastewater treatment systems, LEED Platinum on all 26 buildings, and transportation and affordable housing considerations, among a myriad of other well thought out opportunities.

"Joe Van Belleghem is at the forefront of a green building movement that will soon become a standard part of architecture and construction. He has a track record of innovation and thoughtfulness that have allowed him to set the bar for environmental responsibility very high.”

-David Suzuki

The Dockside Green case study demonstrates leadership from both the industry and the municipality. The construction contractors and sub-trades – at first resistant – later embraced and championed environmental principles in design and deed. This process has inspired the community at large and the raison d’etre of involved individuals. The municipality showed positive leadership and support for the project by rezoning it within nine months as opposed to the standard time frames that are consistently upwards of three years.

The third and last presenter, Kevin Hydes, Chair of the World Green Building Council, presented an international overview of green building developments. Many countries have encouraged more sustainable options for this industry via low interest loans, standard setting, and/or speeding up the permit process. Significant opportunity to parallel global progress exists within Canada.

It was stressed that all sectors must be engaged in this effort so as to avoid the "weakest link" syndrome. One weak link (i.e. poor operator training) can scuttle an otherwise exemplary project and underscore the need for education and training at all levels of the delivery chain.

A brief biography on each of the speakers is included in Appendix C.
3.2 Perspectives from Participants

Throughout both the plenary and breakout sessions it became evident that there were several recurring themes which require attention in order to move the sustainable building agenda forward. These themes include:

1) Leadership roles and responsibilities;
2) Clear and reliable information;
3) Training and education;
4) Incentive programs;
5) Public outreach and awareness; and
6) Sustainable communities.

For each of these six areas of concern, prevalent issues and suggested recommendations brought forth in the discussion are provided below (see Appendix E for detailed discussion notes from the break-out groups).

1) Leadership: Roles and Responsibilities

There is a clear need for green building leaders in our society. This leadership should come in a variety of forms from different sectors including government, the business community, utilities, and organizations such as the Canada Green Building Council.

**Government**

Leadership must come from all levels of government. Government must lead by example and ensure inter-ministry cooperation, consistent policies, and the development of relevant codes and standards that focus on energy performance and resource management and that can be quickly adapted to keep up with changing technologies. We require innovators in government who will remove obstacles to new reliable technologies and practices, and provide leadership to encourage their adoption.

Much emphasis was put on the need for leadership from municipal and regional governments. It was noted that these levels of government should serve as the delivery agents. When municipalities adopt strategies and policies to facilitate sustainable buildings, they drive change within their jurisdictions. In addition, when municipalities adopt green standards for their own buildings they set an example, attract interest and create demand.

Specific strategies and support tools suggested for municipalities to deploy include:

- The adoption of a ‘house-in-order’ program in which all of their own buildings must meet green building standards.
- Transparency in RFPs. Establish a point system for green criteria, and publish the ratings of each submission\(^1\).

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\(^1\) Toronto has enormous developments coming online – sustainability concepts need to be incorporated into the RFP process. Municipalities in particular need to look at this. When there are public lands things are different. This is very effective for large public holdings. Just get one project going in your neighborhood and it will transform the marketplace.
- Fast-track approvals. ‘Green teams’ can be established in municipal departments and trained so that they have a firm understanding of best practices in the approval process (this has been done in York Region with positive results).
- Celebrate business leaders within their communities (i.e. green developers) and engage with the private sector.
- Communicate to community and businesses in their jurisdictions providing information and encouraging improvements.

A number of current limitations that municipalities face were also identified:

- There are a number of groups that share in the permitting process which makes fast-tracking a challenge.
- It is illegal for a municipality to demand that a developer go above the code.
- There are education shortfalls within municipal departments which can cause numerous problems and delays, for example, if an inspector is uneducated in terms of green building then the approval process will be slowed down. This was seen as a major obstacle to advancing green building, which can be solved by training ‘green teams’.

**Business Community**

It was noted that leaders in sustainability have begun to emerge in the private sector. For example, Home Depot now requires LEED certification of their own buildings and they have changed the lumber supply industry by promoting FSC products.

There is a corporate responsibility which has been emerging as of late, and we must find a way to leverage this. One recommendation was to target the largest 25 development companies and acknowledge those who have taken leadership in sustainable development. Business leaders who are pursuing sustainable practices must be recognized and celebrated. This will enhance their marketability and encourage the more reluctant businesses to follow suit.

**Utilities**

It was felt that utilities also have a significant role to play in the advancement of green buildings. Some utilities, such as BC Hydro, have been exceptionally progressive in adopting environmental stewardship and carbon neutral goals – this momentum needs to be incorporated within the green building movement. Specific recommendations include exploring partnerships with developers for on-bill financing.

"BC Hydro has been mandated to become a carbon-neutral utility. Green building strategies have to be clearly connected to a utility program.”

- Kevin Hydes

**Not-for-profit Organizations**

Organizations such as the Canada Green Building Council and Conservation Authorities in Ontario are also felt to be vital in the deployment of a green building advancement strategy. Their roles may include advocacy and capacity building functions, as well as playing a part in training and education for both the industry and the public.

In addition to the four groups noted above, unions, associations, and educational institutions were also identified as playing important roles in the facilitation and implementation of a green building advancement strategy.
2) Clear and Reliable Information

Reliable and concise information was seen as critical to effect change, along with communication strategies to deliver this information. Currently, there is quite a bit of uncertainty and confusion surrounding the array of technologies and practices available. Many are unsure as to what does and does not work in a given situation. This is largely due to the fact that there is no comprehensive source of reliable information and that communication strategies for green buildings are fragmented, complicated and inconsistent in both the industry and public realms. If society is expected to adopt and embrace these technologies and practices then relevant information including the costs, benefits, processes must be simplified and clearly communicated.

Throughout the workshop several strategies were suggested to deal with this issue including:

- A web based application to share information.
- Centers of expertise, in other words, physical places that people can contact or visit when looking for information, such as the Light House Sustainable Building Centre on Granville Island, British Columbia.
- A labeling system for green building technologies to ensure that they meet certain performance standards.

Both the web based application and the centers of expertise should be all encompassing and include information on government incentives, private sector loans, technologies, products, and services. There is the opportunity to ensure the web portal and centers of expertise are complimentary initiatives. They can be developed by either the public sector, private sector, or a combination of both.

A labeling system which deals with product and service verification would be beneficial. The market is seeing an influx of new “green” products and services which is causing uncertainty surrounding their quality and effectiveness. Both the industry and the public have the right to know what products and services are reliable, and what companies and firms can deliver them. However, it must be noted that an ‘eco-label’ of sorts is a difficult and costly undertaking, and it is yet to be determined which actor would be best suited to fill this role.

3) Education and Training

It was noted that education and training in sustainable design, construction and management practices are fundamental if green buildings are to be deployed in the mainstream. Although this education and training currently exists in some capacity, it is not sufficient to make an industry shift to sustainability.

This education must begin in elementary school. Instilling lessons of sustainability in children at an early age will ensure that green is the norm for the next generation. These lessons must be carried through the entirety of a school career right though

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2 Light House Sustainable Building Centre is an enterprising non-profit society dedicated to advancing sustainability in British Columbia’s built environment. Housed in a 1,300 square foot office space, they provide a “first-stop” integrated service shop for inspiration, information, services, and skills to implement sustainable building solutions.
university or college. Whether a student is majoring in environmental studies, engineering or business, the importance of sustainability, and the tools and skills to achieve it, must be taught.

In addition to ensuring that our children grow up with a green frame of mind, it is vitally important that we begin training and retraining working professionals and trades people. A restructuring of professional and trade skills is required to encourage a green expertise and a greater depth of knowledge. Training programs and workshops must be developed that target all sectors of the industry including consultants, professionals, trades people, building operators and sales people. Workshops are required that emphasize an integrated design approach to bring together all parties involved early in the design process and ensure that building components are designed to work together and not against each other.

One suggested strategy is to develop workshops and training sessions that are inclusive of different sectors of the industry including municipal staff, building inspectors, and developers. It was also suggested that specific training for sales people be undertaken, as it is the task of sales people to eliminate the consumer’s perceived costs and risks associated with green buildings; these ideas must be sold to the consumer.

4) Incentive Programs

More often than not, unless a developer is offered an incentive to go green they will not do so, largely because of perceived and real costs. The same is true for the consumer. Therefore, incentives from both public and private entities are important to the advancement of green building. Incentives to go green will create competition between jurisdictions and businesses, thereby stimulating the marketplace and advancing research and development in the industry.

One of the major downfalls identified regarding current incentives for the building industry is the lack of consistency which accompanies public sector incentive programs. As has been confirmed in the past, public sector incentive programs are vulnerable to funding cuts, are often cancelled or are replaced with alternative programs. When incentives are inconsistent then the methods will fail. Another issue is that incentives often become disincentives by costing the builder more than they receive in return.

Throughout the workshop a number of incentive strategies were recommended including:

Public
  • Penalties for non-performance;
  • Fast track approvals for green projects, such as what was done in Victoria for the Dockside Green project in which the municipality rezoned the project in 9 months as opposed to the usual three years;
  • Density bonuses for developers;
  • Tax incentives for consumers who buy green (i.e. consumers who choose to live in a sustainable condo could receive a break on property taxes);
  • Tax incentives for developers who relieve pressure on public infrastructure (i.e. when a developer incorporates a waste water treatment system in their
development, thereby reducing the need to use the public sewage treatment system); and

- Short-term subsidies on new sustainable products and technologies to spur demand until volumes are sufficient, costs are reduced and the marketplace takes over.

**Private**

- Green mortgages that encourage consumers to buy green (i.e. a mortgage that allows homebuyers to qualify for a more expensive home on the premise that buying an energy efficient home will result in lower utility bills, therefore freeing up extra money for monthly mortgage payments); and
- Green loans\(^3\) that take incremental costs and roll these into a loan that the consumer pays back through savings on energy bills, thereby relieving the consumer of initial cost increases associated with construction.

One important point which was brought forth was that when new cutting-edge products and technologies enter the market, the cost of them is generally much higher than their conventional counter-part. This is seen as a disincentive for many developers and consumers who wish to buy green. However, once demand for a product or technology begins to increase and it is purchased in larger volumes the cost begins to level out. Therefore, it was suggested that government could offer short term subsidies on specific products and technologies to spur demand and drive down cost. In addition to providing improved access to sustainable products, this strategy creates business opportunity and drives economic competitiveness as has been the experience of other jurisdictions.

Lastly, it was noted that there is a need for incentives on the retrofit side. Presently the split between the developer and the building owner provides no incentive to reduce energy needs. It was suggested that a public ESCO\(^4\) may be helpful in this regard.

### 5) Public Outreach and Awareness

Fostering a paradigm shift in public behaviour was seen as a driving force needed for successful mainstream green building deployment. Ultimately the consumer is the decision-maker; the developer simply builds what the market demands. Therefore, a clear message must be sent to the general public so that they are educated on the benefits of green building, such as a healthier indoor environment and lower energy bills. As stated earlier, information on green building is currently complicated and inconsistent; this information must be simplified and condensed so that it can be presented to the public in a manner which is not confusing.

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\(^3\) The Toronto Atmospheric Fund and Tridel have teamed up to create a “green loan” program that leverages the projected operating cost savings of an energy-efficient building to increase the initial investment in equipment and material. The investment made at Tridel’s Verve project in Toronto will be paid back by the condominium corporation over a seven year period. The corporation will do so with some of the funds that would otherwise have been spent on higher gas and electricity bills in a condo building designed to meet minimum building code requirements. Once the loan is repaid, the full operating cost savings will accrue to condo owners and residents.

\(^4\) An ESCO, or Energy Service Company, is a business that develops, installs, and arranges financing for projects designed to improve the energy efficiency and maintenance costs for facilities over a seven to twenty year time period.
It was felt that strong branding could help support such behavioural change, at least in part. In addition to branding of products and services, a consumer friendly labeling system for building performance should be developed so that operating costs, which are lower in green buildings than conventional buildings, are known upfront; this would encourage homebuyers to choose green. Another public outreach strategy is to partner with community groups such as churches and multi-faith organizations. These are seen as powerful vehicles to propose causes to the public and can cause ripple effects within other organizations and groups.

6) Sustainable Communities

Another concern regarding the advancement of green building is that in order to achieve true sustainability as a society one cannot focus solely on how individual buildings are designed and constructed; their placement and function within communities, and how these communities fit into the larger regional context must also be considered. In other words, communities must be properly planned and developed to function as a whole. A balance of environmental, economic, and social well-being must be taken into consideration. Often times the most effective way to achieve this balance is through the implementation of well planned, mixed-use communities, in which all the needs of the residents can be met.

Several issues were brought up throughout the workshop including the notion that the pieces of a sustainable community are being created but they have yet to come together in a community context (except for some examples such as the Dockside Green project in Victoria). There is seen to be a lack of creativity in the industry to create truly sustainable communities. To address this, it was suggested that training and education in sustainable community design begin at the university and college level so that when young professionals and trades people are entering the workforce they are well versed and ready to implement sustainable community design strategies. The bar for sustainability must be raised by including and integrating all aspects of a community, starting with planning and going through to design and implementation.

Economic sustainability must also be considered as part of this objective. This will be addressed by a progressive approach to the development and application of new technologies, tools, and processes which in turn will create more competitive and successful businesses.
4.0 Moving the Sustainable Building Agenda Forward: Next Steps

As noted in Section 1, this report constitutes an initial program framework that examines the major areas of concern and possible directions in which society must focus its efforts in order to advance green buildings and communities. Further consultation is required to review the issues and recommendations brought forth at the initial workshop and reported on here.

Government, the business community, utilities, and non-profits were identified as players from whom we need leadership in green building. The roles and responsibilities of each must be defined so that work is not duplicated. In order to address the remaining areas of concern (i.e. the dissemination of reliable and simplified information; training and education; incentive programs; public outreach and awareness; and sustainable communities) effective strategies and tools must be developed and implemented. The appropriate player or combination thereof, to undertake each endeavor must be determined, and unions, associations and educational institutions must be engaged to take part in the process.

The Canada Green Building Council – Greater Toronto Chapter will continue to work with its partners to extend this initial program framework. It is expected that further discussions will take place at a second workshop, scheduled for March 2008, as well as through direct consultations with key stakeholders. At the second workshop, original participants will reconvene along with additional stakeholders, namely municipal leaders. The purpose will be to review outcomes stemming from the initial workshop, review current initiatives, and enhance previous discussion.

A second report, based on these discussions, will be released in Summer 2008. This report will set priorities and provide a complete program framework that:

- Determines which strategies and tools should be implemented to address each area of concern, taking into account ease of implementation, available resources, constraints and limitations. Both existing tools as well as strategies to develop new, more effective tools will be examined.
- Defines the roles and responsibilities of the various parties involved and determines which party, or combination thereof, is the most appropriate for the development, execution, and upkeep of each strategy and tool.
- Outlines partnerships where they currently exist and highlights the potential for new partnership opportunities;
- Puts forth logical recommended timeframes; and
- Ensures that efforts are coordinated and not duplicated.

Subsequently, the intent is to pilot this program in Ontario and based on the results, make appropriate changes. Once the pilot program is fully accepted, opportunities will be explored to implement it more formally not only in Ontario but across Canada.
Postscript

Following the workshop in March 2007, the Canada Green Building Council – Greater Toronto Chapter (CaGBC-GTC) recognized that a number of initiatives were so clearly and therefore put them into action. These initiatives include:

1) The development of a web portal which will serve as a communication tool. The purpose of the site is be a one-stop shop, at which visitor’s will be able to gain insight and information into regional green building programs, projects, practices, and more. The purpose of this site is not to reinvent the wheel but rather to collect and synthesize available information and make it easily accessible.

2) A framework for an association specific education and training program. The first round of sessions was developed for BILD (formerly Greater Toronto Home Builders Association) and was carried out with great success. 130 builders and developers from around the GTA attended these sessions to gain greater knowledge of green building strategies and technologies as they relate specifically to their field. School Boards will the focus for the second round of sessions.

3) The development of a scholarship program is underway. This program is aimed at students entering a secondary school program with an emphasis on green building.

4) A Municipal Roundtable which focuses on green building is being organized by the CaGBC-GTC in partnership with Toronto and Region Conservation Authority (TRCA). The purpose of this roundtable will be to bring key municipal leaders from around the GTA together to share information on best practices, case studies, and lessons learned.
Appendix A

AGENDA

8:30 AM  Continental Breakfast

9:30 AM  Welcome & Introductions – Workshop Facilitator: Greg Jenish, Office of the Environmental Commissioner of Ontario
    Opening Remarks: Andrew Bowerbank, Executive Director, CaGBC-Greater Toronto Chapter

9:40 AM  Three Perspectives:
    • Hank Kaan, Senior Researcher in Group Renewable Energy in the Built Environment, Netherlands Energy Research Foundation, The Netherlands
    • Joe Van Belleghem, Managing Partner – Developments and Consulting, Windmill Development Group
    • Kevin Hydes, Chair, World Green Building Council

10:45 AM  Break

11:00 AM  Plenary Discussion: Solutions for Change and Support Mechanisms - What Works and What Doesn't?

12:00 PM  Lunch

1:00 PM  Break-out Sessions: Direction for Advancement / Creating a Green Building Strategy for Market Transformation

2:30 PM  Break

2:45 PM  Break-out Sessions Report Back

3:30 PM  Green Building Advancement Strategy: Good Ideas and Closing Thoughts

4:00 PM  Wrap-up & Conclusion
## Appendix B

### Participant List

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Appendix C

Speaker Biographies

Hendrik F. (Henk) Kaan, Senior Researcher in Group Renewable Energy in the Built Environment, Netherlands Energy Research Foundation, The Netherlands

Henk is a well-respected, world renowned lecturer and advisor on the topic of renewable energy in the built environment. Henk has been with the Netherlands Research Energy Foundation for the past 14 years. In his role as senior researcher he is involved with the programming and management of research and development activities in the field of energy in the built environment; acquiring national and international funded projects on sustainable building and energy; and advising as a senior consultant about energy and sustainability aspects of housing. Henk has a Masters Degree in Architecture and Social Housing and a PhD in Technical Sciences from Delft University of Technology and is a recurring guest lecturer at their Faculty of Architecture. Henk is a member and Dutch representative for the International Energy Agency (IEA) and has contributed to several of their tasks under the Photovoltaic Power Systems Program as well as the Solar Heating and Cooling Program.

Joe Van Belleghem, CA, Managing Partner – Developments and Consulting, Windmill Development Group

Joe is a founder of the Canada Green Building Council and former director and vice-chair of the organization. He also currently serves on the board of directors and is the Treasury for the United States Green Building Council. Joe is a LEED™ accredited professional and a chartered accountant. He has over 19 years of development and financing experience in all forms of real estate development and was responsible for the First LEED Gold project in Canada and is spearheading the Dockside Green project in Victoria.

Joe is committed to sustainable community design, speaking at numerous conferences around the globe.

Kevin Hydes, P.Eng P.E., Vice President, Stantec and Chair-elect WorldGBC

Kevin served as the Chair of the USGBC for 2005-2006, and is a founder and director of CaGBC. He is Vice President of Buildings Engineering and the Sector Leader of Sustainable Design at consulting engineers Stantec, and the former President and CEO of Keen Engineering. Hailing from Leeds in the UK, Kevin is a natural leader and a community icon in the field of sustainability. He has focused on green design and advancing its cause for the past 15 years. His vision led to the first LEED Gold Certified project in Canada, the first LEED-EB Gold Certified project in North America, and the successful completion of 20 LEED Certified projects with more than 30 registered projects awaiting certification. He is an Honorary Member of the Royal Architectural Institute of Canada and the Architectural Institute of BC, an Adjunct Professor at McGill University School of Architecture, and the Liaison Officer for the Association of Consulting Engineers of Canada and the CaGBC.
## Appendix D

### Green Building Recommendations Resulting from the European Experience – Henk Kaan

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Supporting Experience</th>
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<tbody>
<tr>
<td>Analyze the problem and ascertain possible relationships to illness and health problems; use this information to develop appropriate building standards</td>
<td>For example, research on the health impact of materials to illness and health concerns has been incorporated – and thereby standardized - into many European building codes (i.e. as in the banning of hazardous elements such as lead and asbestos in building materials)</td>
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<tr>
<td>Identify initiators and early adopters</td>
<td>Passive solar houses developed in the early 1980s were found to be easily repeatable and deployable</td>
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<tr>
<td>Disseminate findings and results</td>
<td>Not everyone believes that all goes well, therefore marketing and advertising is very important</td>
</tr>
<tr>
<td>Disseminate the successes</td>
<td>As above</td>
</tr>
<tr>
<td>Create a very high level of awareness in the general public</td>
<td>FSC certification of wood has been party to many visible levels of advertising (i.e. in magazines and placards in public spaces), which has led to widespread familiarity with the brand and concept</td>
</tr>
<tr>
<td>Create and support innovative financing mechanisms that address payback times and capitalize on rising energy costs</td>
<td>For example, many European banks have embraced new financing models that support sustainable options (in large part through the realization that when energy consumption costs are reduced customers can spend more on mortgages).</td>
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<tr>
<td>Create and take advantage of market opportunities</td>
<td>Create a marketplace for sustainable products</td>
</tr>
<tr>
<td>Identify and strengthen political support, for example through advocating incorporation into broader standards</td>
<td>The quality of housing has increased in the EC community to the point where passive housing may become the European standard by 2020. This is an example of a small demonstration resulting in significant uptake across 27 countries</td>
</tr>
<tr>
<td>Ensure that policy is consistent</td>
<td>Progress can be significantly disrupted with varying commitments to supportive policy (i.e. ‘flip-flopping’ incentives)</td>
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5 Other examples include a school that built in a PV system and wind turbine. A share was bought for each schoolchild. Shareholders received a share in any profits in electricity generated and were able to sell the share after six years, with the option to sell the share after six years. Similarly, developers of Nuremberg soccer stadium in Germany financed the PV system through linking share to preferential ticket purchase for sports fans. In this way, 3000 sq. m. of PV were financed in one day.
Appendix E

Detailed Discussion by Break-Out Groups

Breakout Group # 1

Participants:

- Kevin Lee. Deputy S&T Director (Housing and Buildings), Sustainable Built Environment, CETC
- John Godden. Alphatec Consulting and Construction
- Larry Brydon. Senior Account Executive, Ozz Corporation, GTH builders Association
- Ajon Moriyama. Moriyama & Teshima Architects
- Bill Humber. Chair, Centre for the Built Environment and Civil Engineering Technology. Seneca College
- Greg Nevison. Senior VP of Construction, Tridel
- Barry Beale. Director of Conservation, Ontario Ministry of Energy

Discussion notes (modified):

- Need for a 'simple truth' on housing. Not have too many rating systems, but simplifying the communication
- Shine a light on the heroes and the leaders, and this needs to come from the heart
- Solutions include educating the design community, starting an environmental channel purely about educational work
- Put a labeling system on products that enable understanding materials, energy, consumption, etc.
- The consumer is the decision maker. The tax system provides feedback and should provide incentives that people are doing the right thing (i.e. walking to work etc). Sustainability is all about “location, location, location”
- Need to move priority information (like LEED) to common ground, similar to the Wikipedia approach which enables self-correction
- Many opportunities for impact lie on the neighborhood level
- Education transformation is very important
- Train salespeople - for example the marketing program EcoBroker shows people the products and how efficient or sustainable they actually are
- Inter-government cooperation is necessary
- Web based application to share the information of sustainability
- Center for Excellence could be an actual place for information exchange and networking
- Codes and standards ‘that work’- there should to be quick appeals if something works better
- Focus on incentives for people riding, or not driving, or using public transit
- Better publicly available software that gives real numbers and ratings that are easily understandable
- The actions of the individual compile to the results of the whole
Breakout Group # 2

Participants:

- **Facilitator:** Maia Becker. Manager of Communications and Client Services, Forest Stewardship Council
- Jon Neuert. Baird Sampson Neuert Architects
- Chuck Farmer. Director, Program Delivery, Business Markets. OPA
- Ian Orchard. Manager, Environmental Protection Operations Division, Environment Canada
- Lenard Hart. VP Housing Initiatives, Summerhill Group
- Eleanor McAteer. Senior Engineer, Energy Efficiency Office, Business & Strategic Innovation, City of Toronto
- Tim Stoate. Associate Director Mandate Related Finance, Toronto Atmospheric Fund
- Sandra Kaiser, Smart Centres
- **Raconteur:** Anne Graham

Discussion Notes (modified):

- ‘Figure out who’s doing what’ – more workshops on what organizations are doing and plan to do
- Create recordings of workshops to distribute to those not attending
- Websites to do the same
- Repository for incentive programs available; centralized resource, source of knowledge
- ‘EGA’ from UK provides one stop shop for green incentives, products, professionals, trades, etc. – this is a for profit likely not susceptible to cutbacks in funding
- Educational tools accessible by different segments of society
- Centralized, accessible, comprehensive, open-architecture style site, let the community put it together, support to come from the contributors
- Remove barriers to getting the right info to the right people
- Integrated design at an institutional level
- Designate an organization or institution who will vet and maintain the central resource
- Methods to vet the info and keep it accurate and usable
- Chat rooms
- Peer reviewed research
- Make it relevant to the area/climate etc. for all locales
- Lists of requirements that force the reluctant parts of the market to move in the green direction
- CaGBC registration being used only as a marketing tool, no follow through
- Need for aggressive regulatory standards that move the performance standards forward
- Transparent plans with incremental objectives to move the standards forward
- Create a standardized letter to send to government bodies to encourage changes in standards, funding, etc.
- Target the 25 people (organizations) that control the majority of the development
- Acknowledge those who take leadership (‘heroes’)
- Corporate leaders to be lobbied and challenged to undertake projects which confront and overcome the hurdles
• Address the bottom line realistically as the private sector is profit driven
• Incremental steps as well as the more extreme
• Continually reinvent and recommit
• Discourage green-watching
• Demonstrate that green can pay – cost info part of the central resource
• Educational institutions need to be included in the portal – access, contribute info, eg. UBC Appraisal Institute, etc. linked in
• LEED AT – for trades; green expertise encouraged in the trade sector (contributes to continuity of the green approach); every crew on site to be led by a green knowledgeable person, not just one AP per project
• Existing buildings – remove the split incentive in retrofits
• Fast-tracking used as an incentive
• Define attributes of sustainability that public can ask for, create demand for, and that owners can name truthfully
• Case studies of costs already done added to portal
• Green mortgage program run through CaGBC
• Use VanCity’s experience as resource in green mortgages
• Top-up loans
• Energy-efficient locations mortgage incentives
• CMHC involvement needed
• Promote partnerships amongst the stakeholders
• “Green lane” for approvals
• Have inspectors and builders in same training sessions, workshops
• Municipal approval staff included in an integrated design process – pilot project
• Consolidated list of incentives by region
• Transparency in RFPs – point system for green criteria, and publish the ratings of each submission

Breakout Group # 3

Participants:

• **Facilitator:** Sarah Dionne. Deputy Director, Environmental Industries Directorate, Industry Canada
• Carolyn Woodland – Toronto and Region Conservation Authority
• Lauren Gropper. Sustainability Consultant, Tridel
• James Douglas. Manager, Code Development, Ontario Ministry of Municipal Affairs and Housing
• Lisa Prime. Director of Sustainability, Toronto Waterfront Revitalization Corporation
• John Silverio. Manager of Project Development, Ameresco Canada
• Hank Kaan. Senior Researcher, Renewable Energy, ECN Renewable Energy in the Built Environment
• **Racconteur:** Gavin Simone
Discussion notes (modified):

- Forum with partnership (development leaders, nonprofit groups, municipality officials) to push sustainability
- Passive houses are on the rise (in Europe) due to ideas that are concurrent from government
- The issues with yearly incentives from utilities are that they are too specific and there is a time limit for installation. Suggestion is that government and utilities to set a benchmark, and this should be independent of process of and determined only on outcome
- Governments should lead by example
- European countries have mandated “green” standards for its own building
  - Dubbo City Council has committed to sustainability education
  - Dept. of Ministry of Housing in Europe will first set standards for their own buildings, then mandate it in offices, and then in houses
- Price/property value should be tied into how green the building is (i.e. property tax break if you live in a sustainable condo)
- LEED –ND: does not meet the Toronto Region Conservation Authority. There are some scope issues
- Look for synergies in building ideas that work together - not against one another
- Educate the professional engineers, whom certify drawings, to only certify building plans that meet a minimum green
- Important to understand the importance of education i.e. Al Gore’s film
- Education has to filter down to all levels of a building
- Government responds to customer supply
- Timeline is critical as power plants can take up to 10 years to get online. Impose some self-generation on/in each home that is built now
- Townhomes are akin to horizontal condos in that they share one furnace, A/C
- R&D needs more funding to move this forward
- Integrated design is important and essential
- Workshops (put on by educated green councils) can educate municipalities on proper sustainability procedures

Breakout Group # 4

Participants:

- **Facilitator:** Mark Salerno. District Manager, Greater Toronto Area. Canada Mortgage and Housing Corporation
- Glenn MacMillan. Senior Manager, Ecological Division, Toronto & Region Conservation Authority
- Tom Semler. Manager, Conservation and Demand Management, Hydro One
- Gary Wilde. Manager, Demand Response, Corporate Energy Management, Region of Peel
- Kevin Hydes. Vice President, Stantec
- Stan Hankowski. Procurement Manager, Home Depot
- **Racconteur:** Nick Seed

Notes:

- Developers only build to what the market wants
Moving the Sustainable Building Agenda Forward
March 2007 Workshop Proceedings

- Peel is a good case study
- Rural areas are difficult to affect due to density and finances. Suggests need to concentrate on urban areas with the largest market and new growth.
- Other areas include basements suites.
- Community support is imperative
- Organizations need to be in place for communities to rally around. Churches, community groups, CaGBC representative at the Energy Management Summit is a great example of a “call to arms.”
- One-Tonne Challenge – good idea but poorly implemented. Missed engagement to the groups at the grass-roots level.
- Church is a very powerful vehicle to propose these causes. Multi-faith group concerned with affordable green-housing. Interfaith is another example. This causes a ripple effect of associations or organizations
- CaGBC needs to get in front of all major municipality councils-i.e. Toronto, Peel, etc.
- Should contact Sustain-lane - publicize findings, work with the group, sharing best practices
- Cannot afford to work with weak organizations
- Too much information - needs to be simplified into a checklist such as LEEDs for small-scale citizens, i.e. residents, small businesses

Breakout Group # 5

Participants:
- Greg Allen. Senior Associate, Sustainable Edge
- Michelle Parker. Program Manager, Business Markets, Enbridge
- Doug Webber. Sustainable Design Manager, Halsall
- Kevin Auty, Director of Asset Protection, Home Depot
- Mark Gorgelewski. Associate Professor, Department of Architectural Science, Ryerson University
- Scott Bryk. Recycling for Green Building
- Karen Antonio-Hadcock. Senior Planner, York Region
- Corey Peabody. Policy Advisor, Environmental Industries Directorate, Industry Canada
- Joe Van Belleghem. Managing Partner - Developments and Consulting, Windmill Development Group

Notes:
- Education – universities act as beacons of good ideas (Ryerson) – they are expanding, need space – master planning team – Appears that sustainability is NOT making its way into the actual building. Thinking that green roof is what constitutes a LEED building. The bigger, holistic picture is not being applied. There seems to be too much focus on technical issues. All new buildings are carbon neutral – etc.
- Business classes as well as architects and engineers need to be informed
- There needs to be a list of services. Life cycle costing, what metrics are used, measurements of success. A guideline for RFP’s Program cost and schedule – and then add performance, always seen as added. Tie fees to success – metrics are important – sharing of information on best practices.
- RFP is online, Toronto has enormous developments coming online – needs to be incorporated into the RFP process. Municipalities in particular need to look
at this. When there are public lands things are different. Very effective for large public holdings. Just get one project going in your neighborhood and it will transform the marketplace.

- There is an assumption that private sector will do its own research but most ideas in green building are generic. Government has its hand in most areas of R&D. In the Victoria project they are doing a lot of research.

- There are a set of proven technologies in place and these should be pre-approved and listed (i.e. if you want to use rain water, here is how you do it)

- From a municipal background – standard developments are full of standardized parameters with redundancies – very cost prohibitive to build two systems etc. Municipalities are missing out on things.

- There are a number of groups that share in the permitting process – making fast tracking is a challenge. Need to get all of the jurisdictions together to find solutions. It is illegal for a municipality to demand that a developer go above the code. This is a significant problem.

- What are the municipalities doing to train their people? York region is trying to create a sustainability strategy and create a sustainability matrix. Lots of great ideas but no coordination of ideas. Because York is growing, the standards need to require and encourage green development, from regulatory perspective, incentives, there are areas that can be improved. You need someone to say “We are going Gold – you try to follow”. Port Coquitlam has a matrix on how they are addressing the triple bottom line.

- Look at the Budget as an activity in looking at triple bottom line.

- Canada Green Building Council has a municipal tool kit to encourage and support sustainable development

- There is a hesitancy to learn about what is happening elsewhere

- Capturing avoided costs by the municipality: Waste water, and sewage

- Change development cost charge legislation to allow municipalities to lower their DCC charges

- Measure the economic cost of development – for those developers that reduce water usage by 60% you get some cost sharing....then you get big long term savings

- Sewage treatment – is a huge issue. How do you measure the cost of a treatment plant?

- When you develop one project it reduces barriers for everyone else

- Soft cost budget is 40%. But marketing costs are lower – margin is all that matters

- Is there a way that the CGBC can build on the momentum of Dockside and inform others?

- What role can the CGBC perform to help things along?

- Industry Canada is thinking of developing a sustainability portal. What is the best mechanism? Who should drive it? Get to the point. Have key points on how problems were dealt with. The developer can take examples to the municipality and explain how it works. What can developers do? What are they doing?

- Example: Green materials; how do you get a list together of what you can get. Get a democratized information system of sharing information. Create a strong database. There is a standardized way of validating approaches – three is a huge accessibility feature with the internet. Give quick links where you can get basic information.

- What CGBC can do: educating big organizations which accredit professionals as an instrument on how to educate
Within the collective group here...get a group of people who can go and disseminate the information. How do you get the message out there? End of Suburbia – good example of low cost ways of sharing information.

Other information provided:
1. Incentives: Must be developed with specific targets and timelines must be met to receive incentives; set benchmark for school or building, below it you get incentive, your problem how you meet standard. Need to be careful incentive doesn’t become disincentive by costing more to meet than you receive.
2. Building Codes: National Level codes are based on political decisions, e.g., can be tightened and exceeded with political leadership.
3. Government Leadership: Government at all levels should lead by example. Existing buildings should meet a standard by 2009, e.g., LEED Silver.
4. Regulations: Important concerning health, direct environment, e.g., wood must be certified, same with solvents in paints, glues. Moreover, need regulations on important products to create opportunities for those on leading edge to stimulate market demand.
5. Labelling: European Directive on Energy Performance of Buildings is a labelling scheme displaying energy performance as well as opportunities to improve.
6. Capacity: Ontario doesn’t have capacity. Netherlands has good contact with associations of building contractors. They built over time by attending yearly meetings to talk for an hour about sustainable buildings. Result was building contractors learning about adopting new practices, and eventually winning prizes.
7. Bill 21: Ontario should push forward on Bill 21 addressing institutions on energy benchmarking (i.e. you’ve addressed benchmark, your building should meet this higher standard in three years).
8. Restructuring of Professional Skills: Skills have been around for 30 years but developed early on and not adapted.
10. District Energy Systems: Tool to address major supply issues to come concerning capacity, production and transmission issues. Requiring buildings having to have a certain amount of self generation capacity to reduce load on grid and be a backup for blackouts. Building code was amended to allow natural gas micro generators in buildings. One more step to say it must be done.
11. R&D: Need R&D financing to move products along.
12. Municipalities: Most important thing is role of municipalities, when municipality adopts sustainable buildings, attracts interest, creates demand, stimulates competition between municipalities.