

# True Balance: Sustainability in Action

A CMHC Conference convened on September 12, 2007

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## Hope and Learning Lays the Foundation for Reflection and Action:

*A Compilation of Participant Contributions*



Compiled by:

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# Introduction

For those of you who attended *True Balance: Sustainability in Action* on September 12, 2007, you will know that the day was full of learning, questions, deep concern, and commitment. We were privileged to hear about the extraordinary work done by several pioneers in the field, and we had many opportunities to connect with our colleagues, many of whom are pioneers in their own right.

This summary document has a number of intentions.

First it is a **record** of the many voices and bits of wisdom that were recorded that day. Therefore, we confess, it is somewhat long. We did not want to leave anyone's voice out!

Second, it is intended to be a **“refresher” document** – one that you can browse through and reconnect with the highlights of the day. We have tried to include some headlines and photos so that skimming the document will be rewarding in itself.

Third, it is a **resource** for those who want to “go deeper” into a particular area. If you want to pursue Fused Grid, for example, you will no doubt find it useful to see the related questions, appreciations and surprises.

Fourth, this document captures the **seeds of action**. At the end of the day, there were five action groups formed (see page 16), and these will be convened soon. Also, the themes of opportunity (page 15) provide a number of ideas to move forward.

Finally, your questions, concerns, appreciations, and indeed all the work done on that day help **inform organizers of future conferences** both in the Prairie Region and beyond what would be most useful to architects, builders, planners, environmental advocates, and other citizens wanting to create a more sustainable built environment.

We feel privileged to have hosted such a successful day with such committed individuals. Thank you, and thanks to the CMHC for convening this gathering.

Sincerely,

Bob Ziegler and Donna Clark

# Hopes for the Day

**General learning** To learn and gather new or current ideas (4) • Convey and learn • learn about sustainability (3) • What is the current leading edge in design, technology – current directions • See if we are on the right track

**Learning about role of government** Tools that CMHC will give us for sustainability (resources) • Information – what’s out there, what CMHC is involved in • Where to gather further information

*At the beginning of the day, we asked: "What are your hopes for today? What would make this day a success for you?"*

**Learning about specific technologies**

Products, materials, technologies available for achieving sustainability – also methods – research, management, network/ infrastructure • Learn more about Fused Grid, gain new ideas and way of implementation • To find out about Zero emission homes • Built green / Enervision info • Net Zero Home / Equilibrium → keep informed • Details – pros and cons of fused grid, buying? Promotion? • Find ways of addressing the energy distribution systems more effectively

**Cost-benefit economics** What’s realistic? • Funding opportunity contacts • Hard numbers on rebates, tax credits, policies to come out. (States, Europe and Ontario achieve this) • Incentives for sustainable practices • Can sustainability and affordability work together? • Asset management, compatibility with sustainability • To learn more about the balance of achieving sustainability and the costs associated with the various types of development • Buyer confidence in getting true sustainability



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**Staying in touch with the leading edge** Identify obstacles, see what innovations are happening in other groups • Leave with a model to be used for future communities • Tools available to achieve sustainability, marketing, sources of materials/ technology • To see what concepts have been applied and how they are working • Examples from others, what has worked in the past • Evidence of success • One truly innovative solution to sustainability • Find out what some of the new trends in planning are – what are others doing? • Learn how to get more green, social housing built (strategies, market solutions, partnerships, public solutions) • Gain additional insight (information) in terms of implementing sustainability at the ground level (built form).

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**Other learning goals** Sustainability

→ what does this mean? • What's achievable? • Land development strategies/sustain • Focus on servicing/community layout • What is the balance? • Needs of each sector; how being achieved • Learn how to implement more sustainable development • To identify ways regulations can enable or hinder sustainable policies • Energy efficiencies • Housing conference information • Mechanisms for evaluating • Will lifestyle changes be accepted • Converting infrastructure • Ideas for new housing forms • New technologies – how they're being explored • LEED ND (community planning) • How to create truly mixed-income communities

*Generally, participants were looking to learn, to network, and to take definite action.*

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**Taking a step forward, moving into action** To build a better world for the new generations • How can I apply this knowledge to my job? (2) • Practical way to apply sustainability • Translating new concepts to rural and First Nation communities • Changing the municipal rule book • Close the “say-do” gap • Move from theory to implementation • Learn something practical • Link policies and concepts with practice • Introduce strategy and implementation of energy efficient housing program • Prepare guidance to introduce a new legislation to make easy to introduce changes and incentives to bust(?) action • Arrange creation of the permanent (?)/”body”/ committee to prepare changes and future actions • Impact direction • Removal of barriers (action plan) • Learn from others' experience – integrate into current practices • Effect change • Policy into action • innovation and flexibility

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**Networking/Making connections** Developing networks and connections (7) • Creating networks to share the sustainable Olympic experience • Share experiences • Link industry and approving authorities • Share ideas with like-minded people • Understand how different stakeholders perceive sustainability • Exchanging ideas and concepts • Explore business opportunities • To expand the discussion around home building and development as critical platforms for sustainable communities

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**Goals with Exclamation points** Inspiration! That it stop raining!

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# Waterfront Toronto



**Questions and Concerns** Access to loan information? Density rationale? Employment strategy? • Nice use of old industrial area redeveloped – How will housing mix? Affordable housing with what will likely be prime expensive units? • What is the Toronto Waterfront Corporation’s definition of affordable housing? • How was 20% affordable housing determined? 1200/6000 • 20% affordable housing – infrastructure light industrial – residential • Affordability – How to achieve it • How could the waterfront project be repeated on a much smaller (less dense) development without the economy of scale of large condo basis? • How is this sustainable? • I am surprised by the lack of inclusion of renewable technologies such as geo-exchange/solar/wind. Given Toronto has the biggest geo-exchange large scale success with Enwave, why was geo-exchange not considered particularly for cooling loads • Are sustainable (green) objectives and the associated cost in conflict with the affordable housing objective? • How have the sustainability objectives been balanced with meeting financial objectives of the project • With all of the parks and open space, what is being done to keep people safe from crime? • Theory to practice • Why is this attempt to renew waterfront succeeding when previous efforts failed? • How do you know that the consumer will pay for your higher cost end product? • How is Toronto marketing sustainable buildings to the public? • Are any initiatives being taken to address the aging population and their lifestyle changes? • Complex project! I’m very curious to hear more about the tools used to implement aspects of the redevelopment • Lisa mentioned that transit is being developed first – how is public transit being funded? • What are you doing with the Historic buildings in the new flood area? • What is time frame? • How do we move from a high level vision (with a long time frame) to actual development – are requirements really requirements or guidelines? • The master developer is key to success here. How can this top down idea be implemented where land is fragmented? • How will it be implemented? Who is accountable to ensure the vision is achieved? • How to measure success? • How is the significant infrastructure cost funded and how is the cost passed back to the consumer? • How do you get utility (power/gas) buy-in for common heating/cooling systems? • What are the economic and commercial

*For each of the four presentations, participants contributed (on post-it notes) a question or concern, a learning or surprise, or an appreciation.*

*Lisa Prime, Director of Sustainability, Waterfront Toronto outlined the principles of revitalization: Public Accessibility, Sustainable Development, Design Excellence, Economic Prosperity, and Fiscal Sustainability*

arrangements for the supply of energy from the district energy system? • Did you encounter resistance to “buy-in” by private developers and how did the city persuade them to move forward in future development? • I would be curious to know more information on the funding programs that contributed to

the initiative and the partnerships that were established • What type of funding strategy was developed to ensure developer only “focuses” is on site plan and building construction. – Transit, roads/servicing, public energy grid, parks, etc. • Successful social adoption of such large scale project • Lessons learned from False Creek redevelopment?

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**!** **Surprises or Learnings** I really liked a position/Department within a municipal organization being the “Director of Sustainability” allowing increased emphasis toward those types of initiatives in the Appraising/Municipal authority realm • Several points of interest: a) incentives “green loans” b) integration of affordable housing (social sustainability) c) transit first! Not normal in the west • That developers seem OK with green guidelines but don’t see affordability in the same light • Focus on transit first is brilliant • Transit first in the communities • Surprised/encouraged by ability to create a consolidated development authority to control waterfront planning and especially ability to plan/maintain control of commercial spaces • Presentation got me thinking that after completion of the waterfront that Toronto would be a nice place to live • Breadth and depth of project • No dig and dump! • Positive future planning to include future types of energy distribution and social integration are important elements of sustainability • Great collaboration is the key to successful projects • If well thought out and well structured, sustainability can be achieved on large scale projects • Difficulty in coordinating development along Toronto waterfront • Sustainability framework and corporate commitment are key • Surprised there was no solar power discussed. Surprised there was no discussion around the utilization of water resource surrounding the development • Long term vision

*Why is this attempt to renew the waterfront succeeding when previous efforts failed?*

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**+** **Appreciations** Large amount of planning effort to initiate strategies for a more sustainable community • Necessity for leadership, comprehensive top-down leadership in order to achieve sustainable goals • Top down initiative • The corporate vision and leadership “allowed” by 2 or 3 forms of government/landowners all doing “the right thing” and within a market based development models • Vision is commendable • Leadership in planning commercial services within walking distance. Green space within reach • Impressed with the long term commitment of funds and effort to achieve a forward looking development • Impressive work on an environmentally challenging area • Integration of many lifestyle activities into an easily accessible area. An individual can wake-up, go to work, shop, and take a nature walk without getting into a car • The use of financing tools to achieve goals • The idea of first establishing transit route/availability before development. 5 min walk to transit established • Transportation – pedestrian movement and transit “First” • Transit and amenities built first in any community a good idea • Early public infrastructure investment in parks and transit • Creating an overall “sustainability framework” to help define sustainability

*Presentation got me thinking that, after completion of the waterfront, Toronto would be a nice place to live.*

is very important • Daycare/schools were prioritized on the project to ensure social infrastructure was maintained • Certainty created by municipality for developers. Balanced mitigation of risks • Green design competition • The public spaces system is very extensive and shows the City of Toronto’s dedication to public spaces and parks • Good focus on open space, public access to waterfront • Commitment to long term vision and the fluidity of a living “sustainability framework” • 20% affordable housing: ownership/rental? Oversight? Perpetual? Incentives? • The increasing pace of green building at LEEDS • I feel government is essential to master planned redevelopment such as this. I would like to see provincial and municipal governments encouraged to pursue projects like this country wide • Huge team of committed partners working toward a common goal • Fuller appreciation of multiplicity of partnerships and collaboration.

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## Fused Grid



### Questions and Concerns Need to

understand relationship of land use and fused grid • Why don't you have the chartered surveyors determine the additional revenue from park oriented homes? • Genesis project needs higher commercial and employment densities to achieve the real benefits • How do you implement a fused grid system in an existing community? • Is there truly a benefit to this system based on our prairie climate? How many people in Saskatchewan, Manitoba, or Alberta actually walk in the winter? • Does it use land intensively enough? • Does your model incorporate solar gain for passive solar, future PV solar, so good sun orientation? • What about the level of noise to build these neighborhoods either

new or infill and the disruption to transportation (walking or driving)? • Different layouts – effect on potential solar benefits? • The example did not include mixed use? Developers need to be forced to use mixed use for sustainability • The biggest challenge of the fused grid is the municipal Parks Department who want larger green spaces for ease and lower costs of maintenance • CPTED – many images of healthy green spaces contradict CPTED rules but are necessary – also some risk in child's play are also necessary – we need to examine CPTED policies. Diversity in landscapes is discouraged by authorities • What barriers need to be overcome to encourage this design? • From a developers perspective, how does the “fused grid” impact servicing costs and square footage residential yield • Without integrating shopping and efficient transport – work access, does this concept really work in reality? • Design of green space with respect to natural wildlife? • Does the municipality accept the fused grid model? • Could the green space be incorporated into a traditional grid that uses 1-way streets as traffic calming (like Kensington market in Toronto where I grew up)? • How do you ensure safety of pedestrian separated corridors? “eyes on the park” relies on density of units and form of buildings – a few single family homes won't cut it – how can you improve connectivity of pedestrians along roads with fused grid? • Fused grid should promote higher density – pedestrian areas need to be busy. I don't think Saddleton will achieve this • Saddleton example does not completely work – crossing major collector roads to get to schools and shopping still a problem without transportation models • How to implement? Within the existing structure of the downtown core – re multiple ownerships • Integrating more into the community (i.e. mixed uses/commercial destinations) • I don't know if society's habits with transportation will improve with fused grid • You suggested and provided research to show fused grid is “safer” (traffic accidents). What about the safety of the arterials/regional roads required compare to the dispersal of traffic afforded by the traditional grid?

*“Low-level but chronic noise of moderate traffic can stress children and raise their blood pressure, heart rates and levels of stress hormones.”*

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**!** **Surprises or Learnings** Limited to suburbanites! • Although the developable area is comparable to current practice, the addition of program space (schools, organized playfields) which municipalities require will destroy the economies • Interesting concept, new to me! • Genesis: 1) houses front open space; 2) emergency access OK with fused grid; 3) some rural roads cross sections • Saddleton sounds like a great start • I appreciate the increase in developable area and decrease in roads to entice developers while improving pedestrian focus • Municipal Planning needs information to make economic case to support this plan – park/ transport maintenance \$ • Developers/Builders know and plan this way. Municipalities set up so many roadblocks to innovation “if policy fails – try thinking.” • Incorporate city/commercial areas in center of residential where green space/ walkways make access/distance to city/commercial significantly shorter than the drive time/distance • My back goes up when I see cul-de-sacs but I think there is some merit to this model and I will look into it further.

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**+** **Appreciations** Yes! A step in the right direction • Green space as structural elements • Excellent concept • Solid research basis to a new residential model. • No front street access, lots front parks with rear lane services • Interesting to combine cul-de-sac – anti-walking grid – less dangerous walking • Continuous and frequent contact with nature • I appreciate the focus on people and neighborhoods – a positive transition style to sustainable development • Great environments! • Very encouraging to see the research on social benefits to this design, rather than only the cost analysis of developable land • I like the approach • Fused grid good in theory, not always practical • The fused grid model creates green spaces that could be used to install common geexchange ground loops used for small scale district heating and cooling. Idea for a demonstration project • Like the focus on Balance ...something sadly lacking in most modern neighborhood developments • Represents a shift back to people oriented neighborhoods opposed to vehicular! • Personally I would love to live in a fused grid community • Application of safety within urban environment! Fused grid changes the focus from the road to the park • I think the fused grid is a great way of making communities more appealing, safer and active • I’m pleased to see workable ideas/concepts to encourage pedestrian traffic. Very interested in learning more • Surprising the fused grid is more profitable than the conventional model • Health statistics are great. I think people need to see data and vision to be convinced • Learning of the fused grid design • More park space

*My back goes up when I see cul-de-sacs, but I think there is some merit to this model ... I will look into it further.*

*The fused grid model creates green spaces that could be used to install common geexchange ground loops used for small-scale district heating and cooling. An idea for a demonstration project.*

a step in the right direction • Interesting research examples • Enjoyed learning the objectives of fused grid • Great ideas. Health benefits and safety issues are well thought out.

# Equilibrium

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**!** **Surprises or Learnings** Surprised to see the cost still so high • For an energy efficient house, it is really the question of technology development and people’s cultural attitude and awareness. Wanting energy = WAR • Combine home construction/building materials efficiencies with sustainable planning practices – single car garages, smaller lots, landscaping, etc. • If house designers could exchange design ideas with maritime (yacht) designers: storage maximization in confined space, building envelope through hulls, energy production/usage through solar and wind, water conservation, collection, and recycling.

*Equilibrium challenges builders and developers across Canada to act as environmental stewards by: designing low-impact affordable, healthy, highly energy and resource efficient housing that produces as much energy as it uses on an annual basis.*

**?** **Questions and Concerns** I designed several solar/high energy homes 24 years ago, not much is new ... basically little innovation • Addressing affordability aspect will require us to re-evaluate quality of life. Rather than trying to emulate modern-day housing in terms of scale, we’ll need to rethink the term “housing” and design if we’re serious about creating “sustainable” housing. How about reducing size (developing, designing), more (efficient, compact) housing then incorporating energy efficient features? • How have builders of Net Zero homes overcome some of the “road blocks” of current policy – for example, plumbing specs that exclude use of grey water, etc.? • How is the SIP product a sustainable product from an environmental perspective if it is made from polystyrene or polyurethane (oil-based products)? • It is clear that solar gain and use of solar energy are key – why is there no use of internal masonry to temper the climate? (ICFs) • How can PU’s be cost effectively employed? • How are two car garages in suburban communities sustainable or balanced? • Are there zoning issues related to PV and other similar technologies? • Could CMHC follow the market results of the Net Zero homes to gather data re interest in marketplace and market acceptance and resale? • Marketing tool: How long will it take to

*What is the (\$) return to the home owner (cost of energy) for living in a net zero home?*

achieve net zero cost (how many years for \$160,000 in energy savings?) • How accountable and willing are builders with regard to sustainability program guidelines? • What’s better then? Double 2X4 studs or SIPs? • Do these types of energy efficient or Net Zero homes work in a rural environment? Ex: acreage or cluster subdivision • What is the (\$) return to the home owner (cost of energy) for living in a net zero home? • What is the incentive for builder to produce Green homes in a “normal” or “slow” market, if consumer interest is low in comparison to a non-green home with a lower price (and same floor plan)? • Is there a possibility to retrofit existing homes? • Doesn’t the use of natural products speed up our diminishing natural resources? Move more to use of recycled mater with low VOC, but these products are expensive and not as available as they



are in the States (California) • These prototypes are still **UGLY**. The technology overrides the aesthetic and planning aspects that consumers and urban context requires • What were the demographics of the focus group (consumers)? Based on results, it seems there was a high number from Ontario? (concern for blackouts, “reliable energy”) • Retrofitting existing development with new technologies? • It

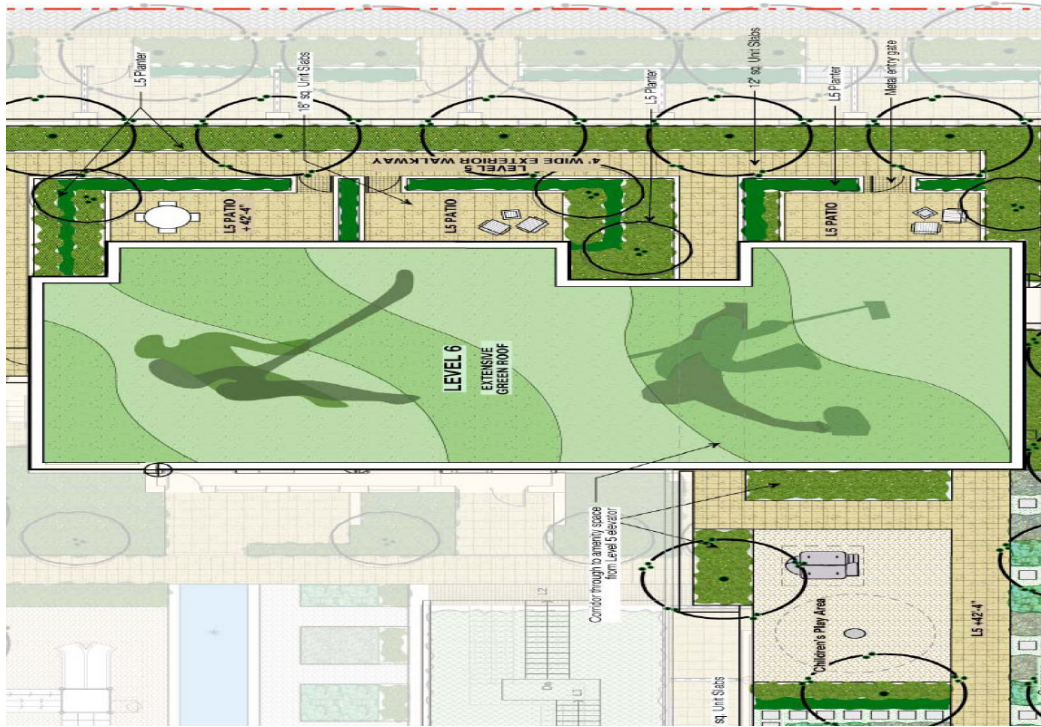
seems that basic of cross ventilation and solar control are not really explored • NZEH house performance evaluation should be done without appliance and inhabitants; otherwise this is not objective

✦ **Appreciations** Avalon: like the attic concept instead of basement • SIPS: very informative • Encouraging to know that people are in the **business** of sustainability (Equilibrium, Avalon, Laebon, Riverdale, SIP) • Feeding back to the GRID! • Great to see these ideas are coming to fruition • remark that Ryan made regarding the decreasing costs of technology is key • Great to see renewables being fully integrated • Congratulations to the Net Zero project teams for their work, effort and dedication in furthering and promoting sustainable development to the public and the building industry

*Encouraging to know that people are in the **business** of sustainability (Equilibrium, Avalon, Laebon, Riverdale, SIP).*

# Olympic Village

- ! **Surprises or Learnings** Partnerships with municipalities is the key to moving forward with sustainable communities • Sustainable building could be done on a large scale and in time • Interesting project. Fascinating process that illustrates the need for multi-sectoral partnerships and shared vision, goals, and objectives • Very interesting ideas. Looking forward to seeing the final results • Convince municipality to exempt sustainable initiatives from density calculations (passive energy space  $\neq$  FSR)



- ? **Questions and Concerns** The initial costs associated with this type of construction • Why is hydropower not an option? • Re: radiant ceiling heating: does convection not negate this? Cold floors [?] • Who really was involved as community reps given that there was no local housing in place? • Why are municipal development authorities so stuck on the relatively recent (circa 1880) inventions of the skyscraper and balloon (stick) frame home? Have they forgotten the Chicago design firm that invented them to quickly populate the North American West through their ease of construction, not their sustainability? Remind those authorities that these two construction innovations rocked the Victorian world, but eventually were accepted to replace the 19<sup>th</sup> Century norm. Perhaps if they were to recognize they are the [new] Victorians holding on to good ideas, but whose time is past. They can embrace a new norm: sustainability • Olympic Village? Please acknowledge that the urban sustainability in the City of Vancouver does not necessarily apply throughout the GVRD metropolitan region • Too many questions, too little paper. As an administrator, I would have liked to have heard more about the bureaucratic hurdles • Were you responsible for the

site reclamations or was the city?  
 What were the costs? • What is the average cost of a False Creek Property to the consumer? • FSR? • Costs borne by the end consumer? • What are the advantages of increased density? Single to multi-family shared livable exterior parkspace versus personal yards • Feasibility of maintaining demand in the market while prices remain high and overhead is also high.

*Why are municipal development authorities so stuck on the relatively recent (circa 1880) inventions of the skyscraper and balloon (stick) frame home?*

**+** **Appreciations** The various types of construction materials and options for energy efficient residential development • Discussion of economic and planning trade-offs • Good to see such great possibilities when city and developers and architects come together • Good to see



a wide variety of LEED items employed in one project • Senior's housing – putting limits on energy use to induce change • Great point raised about compatibility of two- or three-car garage and Equilibrium housing • Good point that the municipal approving

authority would not have to be so supportive of the green [intentions?] unless it was for the Olympics. Approving authorities need to embrace innovation by changing rules • Really interesting. Your work will make the Olympics a success and do Canada proud • Thank you • Very good. Innovative concepts. Be bold! • Brilliant, inspirational, real, and setting new standards • Wow! Tons of food for thought. \ • BTW: Awesome ☺ • I want to be involved! Where can I sign up? • Energy Aware • Leverage a high profile event to innovate at a large scale • Impressive combination of sustainable development elements! Neat that the Olympics could be a catalyst for acceptance of green technologies/changes! • This is a really amazing project! • Great project! Good job • Excellent examples illustrating the profitability that can be realized as part of the sustainable development • Found this very interesting. Appreciate the opportunity the Olympics provide for innovation and acceleration • It is being done!

*I want to be involved!  
 How do I sign up?*

## Catalysts and leverage points – themes

- Increase collaboration between public and private partners
- Change culture – re: the luxuries that we value have to change
- Political buy-in – say “this is what we expect” to the municipal level (first) and then up from there
- Champions and leadership
- Building code changes – currently at odds with sustainable design – could CMHC take the lead?
- Education
- Financial motivation
- Cost of energy – should not subsidize natural gas
- Fear of disaster
- Leadership – in transportation, etc.
- Developers starting to drive change
- Partnerships with banks, realtors, developers, municipal officials, etc.
- Let’s not make this someone else’s problem to fix – let’s organize a parade, rather than complain about the lack of parades.
- Reconvene this group (plus other key players) in one year. Provide updates on initiatives every six months.

*Let’s not make this someone else’s problem to fix – let’s organize a parade, rather than complain about the lack of parades.*

## The Five Action Groups

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- *Get regulations and regulators in line with the sustainable imperative at municipal, provincial and federal levels. (38 "energy votes")*

**Related ideas:** New minimum standards for all new homes to be set and required to be incorporated in all new developments • Establish sustainable principles and guidelines at the municipal level • We, the industry, state that we are prepared to be – and request to be! – regulated. • Leadership from our industry to change building code and collaborate with government policy to accept sustainability • CMHC to develop a National Housing Plan or Strategy [Push Federal Government and Provincial Governments in policy and implementation] • Look at: incorporating appropriate incentives into legislation that will allow sustainability to flourish and also to gain momentum

**Who's in?** Alikhandzadeh, Ali • Bjornson, Dana • Bolo, Jindra • Botanov, Orlin • Boyd, Scott • Broks, Gregg • Chester, Victoria • Crittenden, Jim • Hill, Marilee • Humphrey, Les • Jain, Anurag • Kalmakoff, Lesley • Knight, Simon • MacFarland, Brenda • Marko, Mike • Mishra, Anand • Perkins, Joyce • Prime, Lisa • Prochinsky, Daryl • Reed, Rylan • Roberts, Colleen • Ryan, Susan • Schultz, Don • Sheldrake, Matthew • Sloat, Bob • Stack, Ted • Thakor, Uday • Winkelmann, Sonja



- *Fostering Public-Private Collaboration (21 "energy votes")*

**Related ideas** Commit to lead the industry in integrated design through collaborative (public and private sector) approaches • We commit to being part of a collaborative process • All in this room facilitate collaborative processes to develop education and performance-based planning guidelines

**Who's in?** Bayley, Roger • Bojanov, Orlin • Boyd, Scott • Fitzsimmons, Bill • Kalmakoff, Lesley • Khandl, Christine • MacKinlay, Jayne • Marko, Mike • Mierau, Pam • Prime, Lisa • Rothwell, Sue Ann • Roy, Chris • Scott, James • Tanguay, Denis • Winkelmann, Sonja • Wood, Gayle • Zaluski, Amy

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□ *Marketing Sustainable Housing (18 "energy votes")*

**Related ideas:** CMHC should model the marketing of sustainability on the 1970's Participaction Initiative • A Sustainable House = Diamonds are not the only thing that lasts forever – so is sustainable housing

**Who's in?** Alikhandzadeh, Ali • Bhardwaj, Vinay • Hill, Marilee • Hunt, Ron • Knight, Simon • MacKinlay, Jayne • Michalenko, Rick • Mishra, Anand • Mulley, Carol • Mullis or MacFarland (?), Brenda • Schultz, Don • Syme (?), Shannon • Winkelmann, Sonja • Wood, Gayle

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□ *Credible Community Leaders Pushing Audacious Sustainability Goals (6 "energy votes")*

**Related ideas** Group of champions / LEADERS with public & industry credibility to push **BOLD** long-term goal and short-term steps

**Who's in?** Bayley, Roger • Boyd, Scott • Chester, Victoria • Jain, Anurag • Khandl, Christine • MacKinlay, Jayne • Marko, Mike • Mishra, Anand • Mulley, Carol • Sloat, Bob • Szymocha, Kaz • Winkelmann, Sonja

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□ *Initiating Research that will help implement grey water reuse (5 "energy votes")*

**Related ideas** To implement research with the objective of implementing grey water reuse

**Who's in?** Audet, Johanne • Dupuis, Cam • Hill, Marilee • Rowland, Doug • Ryan, Susan • Waiguru, Maina • Winkelmann, Sonja