



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Centre for Sport and Sustainability

THINK TANK 3

**SPORT & SUSTAINABILITY — UNIVERSITIES AS
AGENTS FOR CHANGE**

— SUMMARY REPORT —

Centre for Sport and Sustainability
School of Kinesiology
University of British Columbia

September 26-27, 2013

Table of Contents

Table of Contents..... 2

About the Centre for Sport and Sustainability..... 3

Introduction 3

Partners 4

Opening Remarks 5

Session 1: Strategy & Engagement..... 5

Session 2: Human Wellbeing 7

UBC Green Buildings Tour..... 9

Evening Reception..... 10

Session 3: Buildings and Venues 10

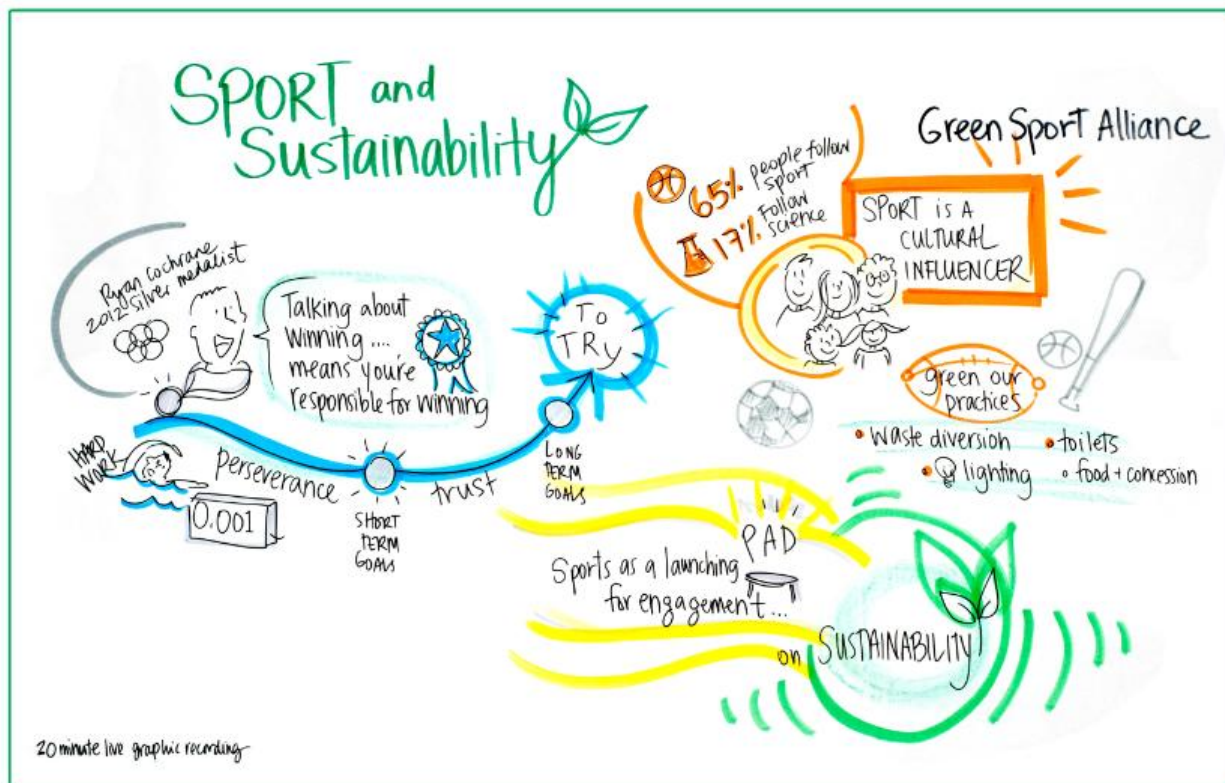
Session 4: Measurement & Planning 13

Session 5: Business Case 15

Next Steps 16

Appendix A — Think Tank 3 Registrants..... 17

Appendix B — Detailed Program 19



Graphic recording courtesy of the BC Climate Action Secretariat

About the Centre for Sport and Sustainability

The UBC Centre for Sport and Sustainability was established as a global resource to capture and transfer knowledge on how sport can create sustainable benefits locally, regionally, and internationally. The Centre is focused on improving understanding of how sport can help advance economic and social development, urban renewal, cultural identity and ecological wellbeing. Researchers and students from a variety of academic fields at UBC are engaging the increasing global demand for information, analysis and evaluation on these and related issues. The UBC Centre has also formed alliances with other major educational institutions and organizations that are investigating the roles of sport in sustainable development. The objectives of the Centre are as follows:

- To bring together a critical mass of scholars and practitioners at UBC interested in the broad area of sport and sustainability.
- To foster collaborative opportunities for sport and sustainability-themed research for faculty and students together with scholars and stakeholders working in government agencies, NGOs, and other universities and institutions nationally and internationally.
- To offer a platform for fund raising and grant and contract support, and to organize interdisciplinary and University-wide lectures, conferences, symposia, colloquia and workshops.
- To attract post-doctoral fellows, visiting professors and other scholars wishing to undertake sport and sustainability-themed research at UBC.
- To provide a catalytic function for collaborative projects and activities that would not be possible for individuals acting on their own.

Introduction

The UBC Centre for Sport and Sustainability in conjunction with UBC Athletics & Recreation, UBC Sustainability Initiative, the Green Sports Alliance and the BC Climate Action Secretariat hosted the third in their Think Tank series on September 26-27, 2013. The theme was Sport & Sustainability: Universities as Agents for Change. The event consisted of two days of interactive, peer-based learning on how sport can be leveraged to promote human and ecological wellbeing. The purpose of Think Tank 3 was threefold:

1. Enhance our understanding of how Universities, sport and community organizations can leverage sport and sustainability
2. Blend academic and practitioner views to explore innovative solutions, effect change, and create a return on investment
3. Bring together individuals from universities, community and sport organizations, primarily from Canada and the Pacific Northwest

The event focused on the core themes of: Operationalizing sustainability, enhancing human well-being, green venues/buildings, measurement/certification and business case of sustainability.

Think Tank 3 also included a UBC Green Buildings tour and an evening reception co-hosted by the BC Climate Action Secretariat. Keynote addresses were delivered by:

- **The Honorable Mary Polak**, Minister of Environment for British Columbia
- **Ryan Cochrane**, Olympic Silver & Bronze Medalist, Canadian Distance Swimmer
- **Scott Jenkins**, Board Chair of the Green Sports Alliance & VP of Ballpark Operations, Seattle Mariners

Thanks to the generosity of the Vancouver Canucks, the sport and sustainability conversation continued at Rogers Arena as the Canucks defeated the New York Rangers 5-0.

The event was attended by a variety of key stakeholders including: athletic administrators, sustainability officers, researchers, recreational programmers, facility managers, professional sport team executives, sport venues operators, amateur sport bodies, government and non-government sport organizations, and sustainability organizations. A complete list of attendees can be found in Appendix A. It must be noted that many attendees were unable to participate for the entirety of the Think Tank. This report summarizes key points from the presentations and discussions held throughout Think Tank 3.

Partners

We would like to recognize and thank all the partners who made this event a success.

HOST



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Centre for Sport and Sustainability

PRESENTERS



GREEN
SPORTS
ALLIANCE

SPONSOR



LiveSmart BC

Opening Remarks

Bob Sparks, Professor & Director, School of Kinesiology & CSS, UBC

Sport has the potential to be a powerful agent of change. Sport can create a sense of community and shared identity, help raise awareness about public issues, mobilize support to help address these issues and change behaviour. For example, the increased use of public transit in Vancouver has been credited in part to the transportation plan for the 2010 Winter Games and the construction of the Canada Line. The light rail transit line hit the 100,000 passenger/day "break even point" 3 years ahead of schedule. While it is true that sport can also lead to social misconduct (e.g., Stanley Cup riots), the larger point is that sport can and does play a significant role in community development and capacity building, as seen in sport volunteerism. The largest portion of volunteers in Canada are those who volunteer for sports – this figure is often put at 80% or more of all volunteers. Furthermore, the communicative power of sport, locally and internationally, can be overlooked. UBC's Olympic Games Impact Study news release on October 25, 2011, titled "2010 Winter Olympics provided economic and cultural boost", received a high rate of response, over 125,000,000 page views on related electronic media news stories.

Session 1: Strategy & Engagement

— co-facilitated by Ken Baker, Principle, SEE Solutions & Advisor, UBC CSS and Martin Tull, Executive Director, Green Sports Alliance

PRESENTATIONS

John Robinson, Professor & Associate Provost, UBC Sustainability [via Video]

UBC is developing their vision to embed 'regenerative sustainability' in both practice and academia. Regenerative sustainability refers to maximizing our ability to do environmental and social good as opposed to just minimizing harm. Sport is a strong vehicle for sustainability, particularly with its positive impact on human wellbeing through health benefits for our children, improved social networks, and a volunteering ethos. Universities have a powerful role to play in the societal transformation that is sustainability and they are uniquely positioned to act as agents for change because of four key characteristics: 1) single owner/occupiers of significant capital stock, 2) public institutions, 3) teaching, 4) research. UBC showcases this by mandating the most aggressive GHG reduction targets of any top 40 university, embedding sustainability in curriculum and research, and showcasing buildings like the Centre for Interactive Research on Sustainability. Some challenges faced when embedding sustainability include: buy-in of leadership; building a track record to make the case; path dependence of institutions with long-standing rules and expectations; creating cultural change by integrating academia and operations; and including sustainability into standard operating procedure. Four verbs to summarize our sustainability efforts: Commit, Integrate, Demonstrate, Inspire. [video]

Ken Baker, Principle, SEE Solutions & Advisor, UBC CSS

Sport organizations can shift their emphasis towards sustainability outcomes through the following steps: a) *Start at the top*: get buy-in from senior management; b) *Embed into the business planning*: connect sustainability outcomes to business plan; c) *Empower the team*: provide learning opportunities and identify champions; d) *Connect with partners*: seek collaboration and engage communities and stakeholders; e) *Measure what matters*: identify outcomes and track/report on them; f) *Recognize and celebrate*: develop capacity to story-tell around success. [presentation]

Ann Duffy, President, Ann Duffy Group

Sport, and in particular events, provide opportunities to think about the kind of change and legacies we want to leave. Mega-events such as the Olympic Games and the FIFA World Cup have embedded sustainability into their key goals. There are a number of positive attributes that events can leave behind: increases in culture & diversity, clean up & green ups, volunteerism, accessibility, social inclusion, economic development through sourcing, fan & volunteer engagement, and education & research. A common roadmap for implementing sustainability management is: define, engage, set objectives, implement & measure, check and review. Engagement is key because it defines priorities & goals; raises awareness; enrolls participation; provides feedback; and informs strategy. Universities can act as agents for change by providing access to human resources and acting as living laboratories to test new models for business, sourcing, collaboration, leadership, engagement, building healthy and resilient communities, and supporting future generations. [presentation]

DISCUSSION SESSION 1

Considering sport/athletics in an academic environment, what challenges, opportunities, and solutions exist for:

Embedding sustainability in strategic and business planning processes?

New organizations have the opportunity to infuse sustainability throughout the ‘DNA’ of their corporation. Sustainability can be a challenge for older organizations with older facilities and entrenched behaviours. A push is needed for a longer-term view on the idea of ‘return on investment’ as the sustainability learning curve is both long and steep. There are often discrepancies between real impacts (e.g. CO₂ emissions) and public expectations of sustainability initiatives (e.g. recycling). Research can help determine where the greatest impacts are and how these can be addressed, along with meeting stakeholder concerns.

Bridging the gap between academics and operations, theory and practice?

If we want to entice people into relationships, we need to consider the language used. We also need to recognize that everyone has something to contribute (co-creation, co-learning, co-development) and that this adds to sustainability. It is also important to create space for someone to focus specifically on sustainability initiatives. UBC has developed the cross-cutting theme of ‘University as a Living Lab’ to encourage research to be tested on campus and put into practice – this has proved quite successful with, for example, hundreds of course-led student sustainability projects happening each year.

Building a culture that values sustainability?

Start with conversations about how greening can save money. Ensure grassroots buy-in during planning and implementation to get staff engaged/inspired. Rebrand to show what initiatives are already happening. Surface what you are doing and incorporate this into culture so it becomes “just the way we do things”.

PRESENTATIONS**Ethan Nelson, Waste Prevention and Green Building, City of Eugene**

There is a need for sustainability programs due to drastic increases in energy/water use and waste. Sport is a powerful tool to work towards sustainability initiatives — according to the National Resources Defence Council (NRDC) 61% of Americans pay attention to sports; 18% to science. The City of Eugene, as a municipal government, sees value in applying sport and

sustainability to their events. We recently launched a *Responsible Sport at Tracktown 2012: We Can! Campaign* with the goals of reducing waste, reducing emissions and improving health. To engage, the first key to success is to plan early, and the second is to have a framework... but which one? There exist many. The Council for Responsible Sport is developing its own approach that supports, certifies and celebrates responsibly produced sports events in Oregon. Telling the story is a key ingredient, something we did through education and activation programs for participants throughout Tracktown 2012.

Trevor Barry, Social Media & Outreach Officer, BC Climate Action Secretariat

British Columbia is committed to taking action on climate change and was the first Province or State in North America to legislate carbon neutrality across the Province, including all schools, hospitals, colleges, universities and other government buildings. As a leading jurisdiction on climate action, the Province has a legislated target to reduce greenhouse gas emissions by 33% by 2020 and achieve an 80% reduction by 2050 (from 2007 levels). Outreach goals of CAS include promoting understanding of the urgency of climate change and awareness of carbon neutral operations. Social media technologies such as Twitter and Facebook can be used to get sustainability messages/stories out to the community, but organization and integration of social media is essential. Other helpful programs include HootSuite (allows for bulk upload across Facebook, LinkedIn and Google) and our IGLOO platform for our LiveSmart Leaders community for climate action which enables blogging, forums and calendars for our members.

DISCUSSION SESSION 2

What tools and techniques can be used for the engagement of sustainability initiatives?

To ensure followers stay interested, we need: on demand messaging (e.g. Twitter), personal messaging (e.g. Facebook), depth to message, and encouragement of interaction (e.g. praise sustainable behavior). We need to be aware of the difference between professional and personal use of social media and messaging has to align with this.

How do you engage with municipalities to promote sustainability initiatives?

The sport sustainability ecosystem is context-dependent; therefore a platform or framework needs to be context-specific to have impact. 'Engagement' vs. 'tokenism' – we need to examine how engagement is framed in a bigger picture rather than just be seen as a one-off. Branding and communication – we need to make it matter for people in different places by telling the local stories that resonate. Changes to language are needed for different contexts and audiences.

How do you engage with players and teams to promote sustainability initiatives?

Athlete engagement is both a precarious and difficult task as athletes have other priorities (athletics) and also may see a discrepancy between the core messages of sustainability and their own behaviors (e.g. wealthy lifestyle and significant air travel). College athletics might be a jumping off point for these initiatives as there may be less stark contradictions between athlete behaviours and modeling sustainability. The behaviours of the organization or team must match the values of sustainability first before athletes can effectively become sustainability champions.

Session 2: Human Wellbeing

- Facilitated by Wendy Frisby, Professor & Co-Director, CSS, UBC
- Session format: Keynote followed by 'Pecha Kucha' style presentations

KEYNOTE

Jaci Edgeworth, Co-Chair, Special Olympics Canada 2014 Games, Leadership Advisory Committee, ViaSport & Director, lululemon athletica

Sport can create change and lasting social impacts in many capacities such as public engagement, government and corporate support of our athletes, and venues built with legacy in mind. Canada's *Own the Podium* program invested heavily in human performance which not only changed our culture around winning, but almost doubled Canada medal conversion rate. ViaSport was established in 2011 as a legacy of the Games to provide strategic leadership to sport in BC and increase levels of physical activity at every stage of life, in every community. BC will become a province of healthy children & families in safe, active communities through the power of sport. Next summer, Vancouver will be hosting the Special Olympics Canada 2014 Summer Games. Our goals include implementing a performance project with Special Olympics BC; promoting Special Olympics volunteerism, support & awareness; and Games legacies such as working with UBC on event management and sustainability planning / transfer of knowledge. Most of all, though, to create healthier and happier Special Olympics athletes.

PRESENTATIONS

Paula Carr, Community Strategist, Collingwood Neighbourhood House

Collingwood Neighbourhood House utilizes a holistic perspective that supports diversity throughout the community. Through an initiative entitled INTERactive we are promoting increased physical activity as a common agenda to help make diverse social connections and reach people who may not be participating but would like to. Whole person and whole community connections are fundamental to wellbeing.

Kathleen Hatch, NIRSA President & E.D. of WSU Recreation & Wellbeing

Physical activity is closely tied to social wellbeing. University recreation programs touch almost every campus member and are a unique leverage point. Recent research suggests that frequency of use of recreation centres is linked with higher GPA and retention of material.

Michael Tan, Associate Director, UBC Intramurals and Recreation, UBC

Recreation activities that are implemented at UBC have a role in enhancing social wellbeing. 43% of UBC students are involved in UBC REC opportunities. Sport and recreation can also help build a sense of community. We use sport and recreation to create skill development and employment opportunities such as through our major events like Storm the Wall and Day of the Longboat.

Alden Habacon, Director, UBC Intercultural Understanding Strategy Development

Sport can help foster an environment of dynamic human interaction and community cohesion. The point of diversity is to work together to become socially sustainable. Newcomers to UBC or Canada have anxiety and won't perform as well without social support.

Susan Grossman, Director, UBC Community Learning Initiative

Regenerative communities leads to thriving citizens. To create regenerative communities, one must collaborate with community partners and mutually benefit each other to improve. Difficulties exist in measuring these regenerative communities but benefits are apparent.

Laura Kean & Derek Flint, Executive, Right to Play UBC

Right to Play uses the power of sport to improve the lives of children in disadvantaged parts of the world by teaching life skills, fostering healthy habits and improving quality of life. The UBC

Chapter consists of two components: After-School Play Program (organized play programs at local schools) and fundraising initiatives for Right to Play International.

Patricia Mirwaldt, Project Lead, UBC Wellness Initiative

UBC's Wellness initiative has been tied to UBC's organizational goals. To achieve physical activity guidelines, the built environment and the community must work in conjunction.

Janet Mee, Director, UBC Access & Diversity

Inclusive behaviour is essential in achieving community wellness. UBC Access & Diversity has used Sport as a platform to increase human wellbeing. For example, male varsity student athletes took a leadership role in a 'violence against women' prevention campaign. Active bystander or active witness programs can eliminate prejudice.

DISCUSSION SESSION 3

What would the benefits be if human wellbeing were better connected with the ecological sustainability agenda?

- It would allow people to 'own' it and enable sustainability to be relevant and empowering for all.
- It is a big challenge to tie in social and interracial wellbeing into environmental sustainability because it requires more than appeals for personal responsibility.
- There is an ideological divide between 'us-here' and the 'environment out there' – we need to get people to feel the environment in their daily life and not feel this divide.
- Selling sustainability to people should be broken down to a 'liveable level' so people can understand their impact, and see solutions without feeling hopeless.
- Inclusion and diversity cannot be ends in themselves — just as sport needs to be combined with something else, sustainability and wellbeing need to be connected with something personal, or somehow significant, that they can see and feel the difference.

UBC Green Buildings Tour

Walking tour through UBC campus included two iconic 'green' buildings on the UBC Vancouver Campus:

- **C.K. Choi Building:** UBC's first 'green' building built in 1996, some features include: composting toilets that save more than 1,000 litres of water per day; 50 percent reused or recycled materials in construction; 100% natural ventilation; overall energy use 23 percent below a comparable building built to ASHRAE 90.1 standards; named one of the Top Ten Green Buildings by the American Institute of Architects.
- **Centre for Interactive Research on Sustainability (CIRS):** Built in 2012, this world-class showcase of green construction aims to achieve a net positive impact environmentally for energy, operational carbon, structural carbon, water quality; and socially in terms of health, productivity, happiness. It houses students, researchers and partners who test, develop, and educate on sustainable building and urban development practices. CIRS has achieved LEED Platinum status and is in process of becoming one of only two buildings in British Columbia to reach Living Building Challenge recognition.

Evening Reception

Reception + Keynote hosted by BC Climate Action Secretariat at Coast Coal Harbour Hotel. Canucks vs. New York Rangers game at the Rogers Arena hosted by Vancouver Canucks.

- **Keynote:** The Honorable Mary Polak, Minister of Environment
- **Keynote:** Ryan Cochrane, Olympic Silver & Bronze Medalist
- **Keynote:** Scott Jenkins, Board Chair, GSA & VP Ballpark Operations, Seattle Mariners

Session 3: Buildings and Venues

— Facilitated by Kavie Toor, Associate Director, UBC Athletics & Recreation

PRESENTATIONS

Scott Jenkins, Board Chair, GSA & VP Ballpark Operations, Seattle Mariners

Sustainability = Opportunities: (e.g. Bottom line savings, sponsorship revenue, brand value, improve environmental performance, and influence culture). Strategies include waste diversion (zero waste), energy management, sustainability sponsorship and fan engagement. Stadium energy use is independent of fans in attendance. Has begun to capture energy use of other 30 MLB clubs to allow for analysis.

Q: Can you talk a bit more about fan engagement in the Eco quiz?

A: We have found that fan engagement is higher with an environmental quiz compared to other types of initiatives.

Q: You discussed saving money – how much traction have you been able to get with things that cost money?

A: It's difficult to do. If you have leadership, you have a better chance to get these initiatives supported. It helps if we have sponsorship to help cover costs.

Q: To whom in the family is the sustainability message intended? Purse holder? Teenager? Kids? Who is the best investment targeted towards?

A: Inconclusive and extremely variable. But the importance of thinking about this should be reinforced.

Michael Doyle, Executive Vice President & GM Rogers Arena, Canucks

Vancouver Canucks are working to improve their environmental performance by implementing an environmental plan to try to control their waste (Goal of 80% landfill diversion by 2014 with the long term goal of zero waste). We are also working towards more accurately measuring water, gas, and electricity usage. Old infrastructure is challenging and can limit our sustainability initiatives.

Q: In terms of impact, how well have you been able to capture the total impact of your sustainability initiatives?

A: Most of the focus has been on trying to handle what we have been doing in terms of waste reduction. Looking into the future, we want to look at packaging and what is being brought in to the building. No numbers are tallied yet but we are working towards this.

Q: In terms of your environmental strategy, do you see a time where you can start to link different groups together to work towards sustainability?

A: Yes. One of our biggest assets are the players because they have the ability to go into the community and garner attention. Tying this piece into our strategy will be very important. We have not gotten there yet but it will be important to do down the road.

Mike McFaul, Director, Engineering and Maintenance, BC Place

There are considerations to working in organizations that employ either top down sustainability approaches (e.g. BC Place) or bottom up approaches (e.g. CenturyLink Field). Advantages of top down: Organizational coordination and cooperation, financial support, results can be seen quickly. Advantages of bottom up: No expectations for success, little exposure to failure. Disadvantages of top down: High expectation to show successful results, potential for steep learning curve. Disadvantages of bottom up: Poorly defined objectives, limited support from senior management, little to no financial backing.

Q: UBC Athletics found that waste was less than 1% of their carbon footprint. Where next?

A: At BC Place we are just beginning our sustainability program. From a credibility standpoint, a waste diversion program is important. As for a long-term approach, we need to reduce utility consumption.

Q/Comment: BC place is a carbon neutral facility given our governmental mandate. Additionally, tools have been created to measure diversion, which is another resource.

A: The greatest responsibility at BC Place is reducing the amount of offsets they have to purchase.

Kavie Toor, Associate Director, UBC Athletics & Recreation

UBC Athletics has worked to improve the environmental performance of the athletic buildings and fields on campus. We have been able to conduct a wide array of research/measurement based on partnerships and student work placements including carrying out the first ever LCA of athletics events and facilities of any North American University. Ongoing student projects have also helped us examine energy retrofit options, transportation behaviour change solutions, and water use reduction projects. A number of sustainability features are being incorporated into our venues, one example under review is a new storm water catchment cistern being placed under the new UBC Aquatics Centre. We also experience challenges: a recent example is not being able to include certain sustainability features in a new building due to conflicting priorities from financial donors.

Q: How do we better utilize the knowledge in universities to help out in the community?

A: It is important to take the research and connect it with discussions going on in the community. It is crucial we know what is going on in all areas and make links between stakeholders in the community.

Q: From a municipality standpoint, how do we help? In some instances, Universities have become frustrated with abiding by building codes, etc. that municipalities have.

A: Municipalities should be in initial discussions but all people in this discussion should be on board with sustainability initiatives. Often the dialogue becomes about completion and the bottom line but this does not enable change.

Tess White, Solid Waste Coordinator, Township of Langley

The Township of Langley has newly launched a waste management program at the Langley Event Centre. Buy-in from public users is important for success — one of our strategies is to create education and activation programs to tell our story and encourage behaviour change. Recycling is the first big step to getting people to take bigger steps to other sustainability projects. The township of Langley has identified three phases to achieve our goal of zero waste:

Phase 1) facility assessment, waste audit, engage stakeholders; Phase 2) green purchasing, container management; Phase 3) education & awareness, implementation. Our biggest challenge has been in dealing with how to compost coffee cups since some are compostable and others are not. It is important we make the recycling decisions easy for people to understand.

Q: How do you deal with front of house contamination?

A: Visually inspect bins, provide ongoing education, and give it time.

Q: Why don't you have clear bags visible?

A: We deliberately hide the bin contents. The danger of using clear bins is that if people look at what is in the bags and see mixed contents, they will copy the behaviour.

Q: What are the diminishing returns? At what level do we invest resources to implement these programs if we are still constantly running up against sourcing issues?

A: If we can get people to change their behaviour, it will be worth it.

Jennifer Bruce, Former internship student, University of Windsor-UBC

Through a student internship placement with UBC Athletics and the CSS, Jennifer Bruce measured water use performance of UBC Athletic teams, events and venues. Research methodology consisted of facility inspections (inventory of water sources, flow rate for each source), determination of frequency of use for each water source (regular facility users, attendance statistics, sample occupancy count), development of conservation options, and creation of a cost analysis. Several recommendations were proposed which primarily targeted poor performing facilities where significant savings could be realized such as installing low flow urinals in the 62-year-old War Memorial Gymnasium. Conservation options proposed in each facility had a payback period of less than three years.

Q: Is there a standardized framework and methodology that can be utilized so that the data in universities can be consistent and useful?

A: Not as of yet. Matt Dolf carried out a Life Cycle Assessment of Athletics facilities, which provided a useful baseline of data to prioritize our efforts and compare future data with. The first step is having access to accurate and up to date data which in the case of water usage can come from installing smart meters in each facility. Data is available around the clock and can provide useful information on building performance.

Q: What are the challenges around being the first sustainability intern for athletics?

A: It was difficult to collect data and find information. Prior to this internship, there were no procedures in place for Athletics and Recreation to track and monitor current data that was available and no designated person to compile information. It was also a challenge to get people to see this work as relevant to everyday tasks. The biggest first step was to put procedures in place and educate staff on some of the initiatives the entire University is undertaking as well as Athletics and Recreation themselves.

Comment: At University of Oregon there has been no traction with the students to do sustainability work. The sustainability aspect is not there for them unless it's around sponsorship and related engagement in terms of the research and getting empirical data.

Session 4: Measurement & Planning

— Facilitated by Matt Dolf, Director, Special Olympics Initiatives & Manager, CSS, UBC

PRESENTATIONS

Matt Dolf, Director, Special Olympics Initiatives & Manager, CSS, UBC

We have an urgent need to address environmental degradation due to climate change and over-extraction of our resources. Sport is taking up the environmental call to action and there is a lot of energy among researchers and practitioners to develop new management standards and methods, particularly around events. Life Cycle Assessment (LCA) is a method that can be used to measure the environmental impacts of a product or service, cradle to grave. An LCA was carried out on UBC's Athletic and Recreation department which found that waste contributed only 1% of the carbon footprint; the majority came from participant travel and venue energy use. Travel in particular is an opportunity for events to reduce their footprint, however results show that the areas of maximum benefit may be counterintuitive. Even though only 4% of spectators came from out of town, this group constituted over 50% of the carbon footprint. Targeting local spectators through bike-to-the-game initiatives, for example, would only lead to a minor overall footprint reduction. Long-distance travel should be the priority. The implication for sport events is that they should measure their impacts to inform actions and most likely target travel and energy use in venues, at least for small to medium sized events.

Colleen Barta, Director of Development, IERE

The Institute for Environmental Research and Education (IERE) works to disseminate comprehensive, fact-based research for use in the development of responsible environmental policy, programs and decisions. IERE has been approved to conduct an LCA (Life Cycle Assessment) on the Chambers Bay Golf Course, host of the 2015 US Open Championship. Results will be presented in the form of a life cycle based eco-label, also known as a TYPE III Environmental Product Declaration (EPD). The full spectrum study will analyze all pertinent impacts categories including; climate change, water footprint, ozone depletion, acidification, eutrophication, photochemical smog, ecotoxicity, mineral depletion and others. A former Brownfields site, the Chambers Bay LCA will demonstrate that the revitalization of industrial land is a viable ecosystem for a golf course. A three year pilot program for the development of EPD labeling for consumer products is underway in the European Union addressing policies to require life cycle based labeling as the standard for revealing environmental impacts of products and services. Director Barta revealed the recent release of IERE's automated software to provide EPD labels for the craft beer industry, under their Earthsure program. An example of an EPD for a pint of beer showed that its production produces a water use impact of 1.5 liters, a climate change impact of 210 grams CO₂ equivalent, and an ozone depletion impact of 0.011 grams CFC-11 equivalent.

Kasun Hewage, Assistant Professor, UBC & Rehan Sadiq, Professor, UBC

[via Video Conference]

The UBC Okanagan Campus' Life Cycle Management (LCM) Laboratory applies a variety of Life Cycle thinking methods to assess sustainability more broadly by including Life Cycle Assessment (environmental); Life Cycle Costi-LCA (social). The LCM research program has been actively engaged in developing novel and pragmatic approaches for life cycle sustainability assessment (LCSA). The LCM research program is currently involved in both basic and applied research related to energy-based LCSA, uncertainty evaluation in LCSA, water and carbon footprint assessment, s-LCA, and risk-based LCSA. The LCM research program has developed many innovative methods and systematic processes that can assist asset managers and urban

planners in making informed policy decisions related to housing and building, urban development, water-energy nexus, and green building products.

James Tansey, Professor & E.D., ISIS, Sauder School of Business & Founder, Offsetters

LCAs can often lead to surprising outcomes that allow you to shift focus onto the things that matter most. Offsetters has conducted a wide range of LCAs on events and sport-related products (e.g. Deck shirts for sailing, Offset sponsor for Vancouver 2010, Dow Chemical projects in Sochi 2014). Spectator travel has a massive carbon footprint. Direct emissions resulting from 2010 Olympic Games = 118,000 tonnes. The best way to embed carbon offsetting comprehensively at sporting events is to integrate the costs into fixed items such as ticket prices or merchandise. Voluntary opt-in programs experience low uptake.

Kenneth Porter, Policy Analyst, BC Climate Action Secretariat

BC is a leader in reducing carbon emissions, bringing into provincial legislation a carbon tax and becoming the first jurisdiction in North America to achieve carbon neutrality in its public sector, which includes schools and universities. The BC Climate Action Secretariat has developed a Climate Action Plan to meet its GHG reduction targets of 6% by 2012, 12% by 2016, 33% by 2020 and 80% by 2050. Public sector energy conservation agreements have invested \$61 million into 250 projects over 3 years, created an estimated 500 jobs, saved taxpayers \$12.6 million annually and reduced GHG emissions by 35,600 tonnes. The Carbon Neutral Capital Agreement has allocated 5 million dollars for school districts for reduction projects. BC emissions dropped 4.5% from 2007 – 2010 while population and GDP grew. In-house tools and resources are available for 189 municipalities to measure and report emissions but better, simpler, and cheaper tools are needed. Sport is high profile and can demonstrate proof of concept on climate action. Strong measurement = strong data = increased ability for engagement. Key lessons learned include: communicate co-benefits, integrate clear business cases in data, keep it as simple as possible.

DISCUSSION SESSION 4

Towards measurement standards — What are the implications of developing Product Category Rules (PCR) and automating Environmental Product Declarations (EPD) for sport?

- Environmental Product Declarations (EPD) are an important change in the industry. They are an LCA-based approach to creating standardized and industry-agreed reporting guidelines for the environmental attributes of products and services. EPD's are in development for sporting goods, apparel, and sport venues such as golf courses and soccer fields. Some countries in the EU such as France are moving towards requiring EPD's on all products and services sold in their country. LEED is also providing points to buildings that source products with EPD's.
- As there are only around 200 certified EPD practitioners in the world, the capacities of the LCA community is not at present able to deliver the demand that may be on the horizon. But creating EPD's is affordable for smaller companies through a model where larger companies offset smaller company assessment efforts. An example here is the Sustainable Apparel Coalition where companies like Puma or Levi's pay more than small companies to develop standard rules.

Carbon footprinting — What are the latest trends in the sport and event space?

- An increasing number of events are performing carbon footprinting for internal planning and external communication to stakeholders, e.g. Olympic Games, FIFA World Cup, America's Cup.
- Events are problematic as there is no event-specific guidance for how they measure and report impacts. Standards are needed for events to credibly claim 'carbon neutrality' because at the moment they can set their own goal posts. A global framework is needed before claims can credibly be made. In the meantime, terms such as 'carbon responsible' or 'low-carbon' are preferred.

Enabling measurement — What are the best practices / barriers / opportunities / key actors to support environmental assessment?

- There are differences in environmental metrics used (e.g. carbon, biodiversity, water) and this causes the difficulties of standardization. This makes it hard to ensure consistency while maintaining flexibility, simplicity, and scale-ability.
- Further discussion of standardization and certification of sport/events around the environmental impacts is needed. Targeting repeat events may be a priority as they can build on a baseline and improve over time. Creating benchmarks – such as energy use per square foot for hockey rinks – would provide useful information to facility operators.

Session 5: Business Case

— Facilitated by Ben Finkelstein, Manager, Green Communities, BC CAS

PRESENTATIONS

Ryan Smith, Senior Associate Director Faculty of Science, UBC

From a philanthropic perspective, to make a fundraising case for sustainability, you need to ask 3 questions: to whom? by advancing what? is this achievable? UBC is currently in a \$1.5 billion campaign to be completed by mid 2015; we are currently over \$1.2B raised to date. Within Science and sustainability we have diverse projects including closed containment fisheries, biodiversity research, biofuels, mining, oil and gas projects, ocean, land, and mammal protection work. Two well-known examples are the Centre for Interactive Research on Sustainability (CIRS) building and Project Seahorse. Cases to donors generally fall into three categories: Case 1 - the project, where we test out an idea that may lead to change in social policy or a new technology. Case 2 - the patron, an example of this was Guylian Chocolates looking to support an ocean conservation project and decided to fund Project Seahorse. Case 3 - the narrative, such as the CIRS building which used the idea of regenerative sustainability to inspire going beyond 'less harm' thinking. Make the case by being clear about what you are trying to do, identify your audience, and show how it advances an outcome-based solution by making the world a better place.

Rob Abbott Executive Director, Carbon Neutral Government and Outreach, BC Climate Action Secretariat

Sustainability is not a problem to be solved but a future to be created. Often success is difficult to measure in monetary terms, e.g. reputation, innovation, stakeholder relationships. We need to be aspirational and use strategy and measurement in a way that ensures results meet intent. Current challenges of sustainability work: Canada conducts good research but its ability to move

research into market is constrained; sustainability can alienate people. Opportunities for sustainability to work: sport can act as vehicle to help catalyze change due to its public appeal and the use of an inspirational narrative. Next steps of sustainability work: connect the dots/break silos (economically & environmentally), need common language, need to have some legacy out of a building, construct a stakeholder map. Think about whether your narrative of sustainability change is offensive (visionary and competitive advantage), defensive (cost saving or risk avoidance), or reactive (trendy). Map a journey that both moves through the stages of exploring, executing, and evolving by increasing both our capacity to share value and our business and community impact. To drive sustainability (or resilience) forward, we need to forge trust and collaborative opportunities within and between three types of innovators: (1) disruptive; (2) bridging; and (3) receptive.

Next Steps

The presenters and discussants contributing to Think Tank 3 shared enriching perspectives, lessons, and experiences within the context of Universities acting as agents for change to leverage sport and sustainability. A number of themes emerged. First, the recognition that sustainability can be an aspirational force that seeks to inspire net positive change in social, economic, and ecological systems. This may be difficult to measure at times but can bring co-benefits such as enhanced staff and stakeholder engagement, risk management, enhanced reputation, and a more robust and long-term business case. Secondly, we need to reduce silos between human and ecological sustainability imperatives as well as between scholars and practitioners. Thirdly, a clear outcome was the recognition that universities can serve an invaluable role both as test-beds for ideas and as a resource for community organizations. For example, there was strong interest by participating teams, facilities, and leagues to foster a 'sport and sustainability' internship program. Finally, sport is still in a fledgling state of tackling sustainability issues but has rapidly matured over the past decade with new research, guidance standards, and dedicated support organizations. Many solutions require ingenuity, leadership, and a willingness to fail. By sharing these experiences, we build our collective expertise and strengthen our ability to make the case for further change.

This was the third in our Think Tank series. The first Think Tank was held during the Vancouver 2010 Olympic Games themed on *Sports Mega Events, Sustainability, and Impact Assessment*. It brought together academic experts and practitioners in the fields of event management, sustainability, and indicator analysis. Think Tank 2 dealt with *Sport Mega-Event Impacts, Leveraging, and Legacies* and was held November 11-12, 2011. This invitational event brought together twenty leading researchers from across the globe for an intensive two-day session where academic papers were presented and reviewed. The event was also preceded by a one-day graduate student symposium involving six universities.

Stay tuned. With UBC hosting the Special Olympics Canada 2014 Summer Games next July, we hope to "leverage" this opportunity by hosting our fourth Think Tank next spring related to the theme of *Disability Sport* with an emphasis on *Paralympics and Special Olympics*. In the meantime, expressions of interest in presenting, supporting, or participating are welcomed.

Appendix A — Think Tank 3 Registrants

Fist	Last	Organization
Rob	Abbott	BC Climate Action Secretariat
Ken	Baker	UBC CSS
Trevor	Barry	BC Climate Action Secretariat
Collen	Barta	Institute for Environmental Research and Education
Erica	Bennett	UBC Graduate Student
Jennifer	Bruce	Independent
Paula	Carr	Collingwood Neighborhood House
Ryan	Cochrane	Olympian
Dan	Cooper	UBC Athletics & Recreation
Jen	Crothers	UBC Sustainability Initiative
Kyle	Cupido	UBC Athletics & Recreation
Neil	Dobson	SOW Consulting
Matt	Dolf	UBC CSS
Michael	Doyle	Vancouver Canucks
Ann	Duffy	Ann Duffy Group
Jaci	Edgeworth	Lululemon
Ben	Finkelstein	BC Climate Action Secretariat
Wendy	Frisby	UBC CSS
Susan	Grossman	UBC Community Learning Initiative
Alden	Habacon	UBC Intercultural Understanding Strategy Development
Kathleen	Hatch	Washington State University
Kasun	Hewage	UBC School of Civil Engineering
Scott	Jenkins	Seattle Mariners
Laura	Kean	UBC Right to Play
Irving	Lau Fang	Simon Fraser University
Shawna	Lawson	UBC Graduate Student
Mike	McFaul	BC Place
Janet	Mee	UBC Access & Diversity
Cathy	Mills	UBC Graduate Student
Patricia	Mirwaldt	UBC Wellness Initiative
David	Muller	Green Sports Alliance
Ethan	Nelson	City of Eugene
Hannah	Owings	University of Washington
Kenneth	Porter	BC Climate Action Secretariat
Tim	Reeve	Reeve Consulting
Rehan	Sadiq	UBC School of Civil Engineering
Toran	Savjord	Quest University

Ryan	Smith	UBC Faculty of Science
Owen	Sondergeld	Independent
Bob	Sparks	UBC CSS
Michael	Tan	UBC Intramurals and Recreation
James	Tansey	UBC Sauder School of Business + Offsetters
Daniel	Thorpe	UBC CSS
Kavie	Toor	UBC Athletics & Recreation
Martin	Tull	Green Sports Alliance
Douglas	Vandor	Olympian
Joanna	Verweel	Special Olympics British Columbia
Gavin	Weedon	UBC Graduate Student
Tess	White	Township of Langley
Michael	Woodman	PNE
Sandra	Yallop	Vancouver Canucks
Liv	Yoon	UBC Graduate Student

Appendix B — Detailed Program

THINK TANK 3: SPORT AND SUSTAINABILITY — UNIVERSITIES AS AGENTS FOR CHANGE

Location: Liu Institute for Global Issues, UBC Vancouver Campus

DAY 1 – THURSDAY SEPTEMBER 26TH, 2013

08:45 - 09:00 Opening Remarks

- Bob Sparks, Professor & Director, School of Kinesiology & CSS, UBC

09:00 - 10:30 Session 1: Strategy

- John Robinson, Associate Provost, UBC Sustainability (Video)
- Ken Baker, Principle, SEE Solutions & Advisor, UBC CSS
- Ann Duffy, President, Ann Duffy Group

10:30 - 10:45 Break

10:45 - 12:15 Session 1: Engagement (cont.)

- Martin Tull, Executive Director, Green Sport Alliance
- Ethan Nelson, Waste Prevention and Green Building, City of Eugene
- Trevor Barry, Social Media & Outreach Officer, BC Climate Action Secretariat (CAS)

12:15 – 13:00 Lunch + Keynote

- Jaci Edgeworth, Lululemon

13:00 - 14:45 Session 2: Human Wellbeing

- Wendy Frisby, Professor & Co-Director, CSS, UBC
- Paula Carr, Community Strategist, Collingwood Neighborhood House
- Kathleen Hatch, NIRSA President & E.D. of WSU Recreation & Wellbeing
- Michael Tan, Associate Director, UBC Intramurals and Recreation, UBC
- Alden Habacon, Director, UBC Intercultural Understanding Strategy Develop
- Susan Grossman, Director, UBC Community Learning Initiative
- Laura Kean & Derek Flint, Executive, Right to Play UBC
- Patricia Mirwaldt, Project Lead, UBC Wellness Initiative
- Janet Mee, Director, UBC Access & Diversity

14:45 - 15:30 UBC Green Buildings Tour

- CK Choi Building
- Centre for Interactive Research on Sustainability (CIRS)

15:30 - 16:30 Break + Travel to Downtown

16:30 - 19:00 Reception + Keynote hosted by BC Climate Action Secretariat at Coast Coal Harbour Hotel (Downtown)

- Keynote: Mary Polak, Minister of Environment
- Keynote: Ryan Cochrane, Olympic Silver & Bronze Medalist
- Keynote: Scott Jenkins, Board Chair, GSA & VP Ballpark Operations, Seattle Mariners

19:00 - 20:30 Canucks vs. Rangers at Rogers Arena hosted by Canucks

DAY 2 – FRIDAY SEPTEMBER 27TH, 2013**08:45 - 09:00 Opening Remarks**

- Bob Sparks, Director, Centre for Sport and Sustainability

09:00 - 10:30 Session 3: Buildings & Venues – Arenas & Stadiums

- Scott Jenkins, Board Chair, GSA & VP Ballpark Operations, Seattle Mariners
- Michael Doyle, Executive Vice President & GM Rogers Arena, Canucks
- Mike McFaul, Director, Engineering and Maintenance, BC Place

10:30 - 10:45 Break**10:45 - 12:15 Session 3: Buildings & Venues – Operations & Behaviour**

- Kavie Toor, Associate Director, UBC Athletics & Recreation
- Tess White, Solid Waste Coordinator, Township of Langley
- Jennifer Bruce, Independent

12:15 - 12:45 Lunch**12:45 - 14:30 Session 4: Measurement & Planning**

- Matt Dolf, Director, Special Olympics Initiatives & Manager, CSS, UBC
- Colleen Barta, Director of Development, IERE
- Kasun Hewage, Assistant Professor, UBC & Rehan Sadiq, Professor, UBC (Video)
- Kenneth Porter, Policy Analyst, BC CAS
- James Tansey, Professor & E.D., ISIS, Sauder School of Business & Founder, Offsetters

14:30 - 14:45 Break**14:45 – 16:00 Session 5: Business Case**

- Ryan Smith, Senior Associate Director Faculty of Science, UBC
- Rob Abbott, Executive Director, Carbon Neutral Government and Outreach, BC CAS

16:00 - 16:30 Final Thoughts

- Bob Sparks, Professor & Director, School of Kinesiology & CSS, UBC