



WorkGreen BC

BOMA REPRESENTS THE COMMERCIAL BUILDINGS INDUSTRY and has undertaken a leadership role in helping the existing buildings transform towards energy efficiency and environmental responsibility. BOMA has established voluntary energy standards and energy reduction targets for its industry.

This document outlines a conceptual overview of a proposed 'WORKGREEN BC' program, which will help BOMA provide encouragement and support to building owners in their efforts to reduce energy, water and waste, and provide environmentally friendly work space to tenants. The WORKGREEN BC program is a holistic approach to achieving long term resource conservation. It is tailored for small- to medium-sized buildings.

The WORKGREEN BC program would consist of **five major components**, all housed under one web site... www.WorkGreenBC.ca ...as follows:

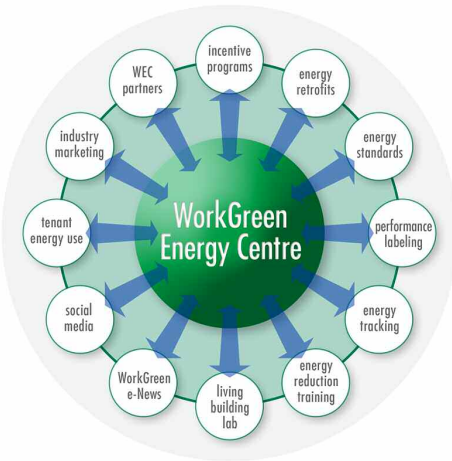
1. **WORKGREEN Energy Centre** – a one-stop online portal for building owners, managers, leasing agents, operating personnel and tenants dedicated solely to energy reduction strategies and information.
2. **WORKGREEN Energy Audits** – a program that offers on-site energy audits, reports and implementation strategies for small- to medium-sized buildings.
3. **WORKGREEN Energy Reduction Incentives** – a program that provides specialized financial incentives administered by BOMA and tailored to meet the needs of small- and medium-sized buildings.
4. **WORKGREEN Environmental Stewardship Centre** – also a one-stop online portal for property managers to access information specific to building environmental matters, and carbon aggregation and credits.
5. **BOMA BEST™** – provides third party verified certification and branding for existing commercial buildings achieving industry standards and performance measurement.



The Bottom Line...

BOMA is requesting provincial government funding support of \$13.5 million over 5 years to help create and finance a new 'WORKGREEN BC' program and help achieve 356 GWh of energy savings by 2016.

PROGRAM OVERVIEW 1 WORKGREEN Energy Centre



The single largest barrier to building participation in energy conservation is the absence of a **one-stop source of information**. This – aside from funding – was identified in BOMA/BC Hydro stakeholder meetings specific to existing office, institutional, retail and industrial buildings. Currently most energy information is typically provided with utilities or agencies offering specific program information to a wide and general audience and cliental base. BOMA, with a long and established direct connection to the select target group of commercial building owners, is a known and trusted information source.

The WORKGREEN Energy Centre (WEC) would create a targeted and specialized online hub for building owners and tenants that would incorporate utility, government and industry sources of information on incentive programs, operations training and performance measurement. It would include building comparison data in a simple and easy to navigate platform. The WEC portal would be located on the web site... www.WorkGreenBC.ca ...and would include features such as:

- Detailed info on utility and government incentive programs specific to the commercial real estate industry with trained support staff to provide direct assistance. Our research shows that ongoing precise info will significantly increase small-medium building owner participation with energy retrofits.
- Database of all provincial BOMA BEST™ (or equivalent) certified buildings with energy performance based branding (labeling) tied into EnergyStar standards for the benefit of public and tenant awareness. The competitive advantage to branded buildings will increase participation.
- Online building energy tracking tool that presents usage profile and highlights areas of potential savings. A benefit to both building managers and WEC for performance measurement and, with smart metering, real time utility tracking.
- Specialized energy reduction training for building operations personnel including individual certification through professional licensing agencies.
- A living building lab project that documents successful transformation of a building to become an energy efficient and green space. Web platform to function as a one-stop information portal on retrofit projects and to share innovative solutions.
- Ongoing WORKGREEN e-Newsletters that highlight energy efficiency trends and other industry news to a database of all commercial building stakeholders to help maintain energy awareness.
- Social media platforms that facilitate discussion and information sharing on relevant energy and environmental topics for the industry and the profiling of success stories.
- Comprehensive tenant energy use engagement programs. Up to 15% energy savings can be attributed to engaged building tenants.



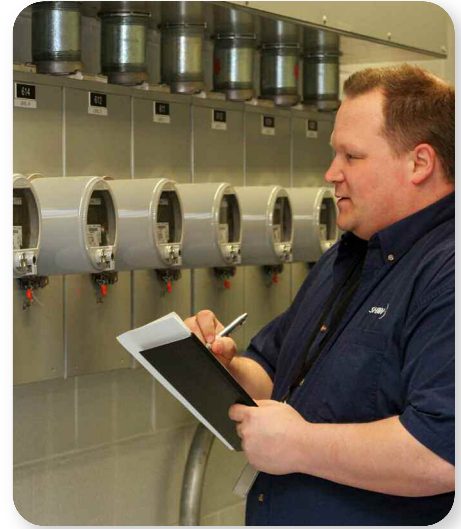
Get them thinking...
WORKGREEN BC
 ...as 'top of mind'!

An aggressive industry marketing campaign would promote the WORKGREEN Energy Centre and its benefits to all BC building owners, managers and tenants. Research has demonstrated that 'ongoing' energy conservation support is critical for sustained success. Funding is required to create and maintain the WEC for a minimum five years. After five years, the WEC will continue indefinitely on a self-sufficient basis with support funding from BOMA BC as required.

2 WORKGREEN Energy Audits

The WORKGREEN Energy Audit Program would offer subsidized on-site energy audits of small- to medium-sized office and retail buildings under 100,000 square feet. Energy audits are a mandatory requirement for BOMA BEST™ certification. Obtaining an energy report and plan is the critical first step toward achieving energy efficiency and creating an implementation strategy to achieve energy and carbon savings.

Step one would be a walk-through assessment, similar to ASHRAE Level 1, delivered in-house through BOMA at no cost to the building. An assessment report would include utility bill analysis and a preliminary survey of energy savings opportunities. The next step, if energy saving opportunities have been identified and the company is committed to full energy management, is a comprehensive energy audit and report. These audits would be provided as a BOMA service at a subsidized rate and using BOMA-appointed consultants. The audit reports would include reference to potential incentive programs and meet national BOMA BEST™ certification requirements.



3 WORKGREEN Energy Reduction Incentives

Helping building management to achieve ongoing performance improvement and higher levels of BOMA BEST™ certification is an important part of industry transformation.

BOMA will administer a WORKGREEN Energy Reduction Incentive Program that provides financial incentives tailored to meet the needs of small- and medium-sized buildings. The program will be tied directly to BOMA BEST™ performance and recertification. Incentives will encourage building managers to increase BOMA BEST™ levels of certification by improving their overall energy performance. Incentives administered by BOMA would target projects that are currently not covered by existing utility and government incentives.

A committee comprised of BOMA, utilities and government officials would establish the scope and parameters for products and services eligible for this specialized incentive program. Examples of potential incentives could be projects such as introducing HVAC sensors, elevator retrofits and smart metering opportunities. HVAC sensors, for example, can optimize operations resulting in 20 – 40% gas and electrical savings.

BOMA would also explore establishing a 'Revolving Green Fund' to provide interest free capital investment for energy efficient upgrades. Energy savings would then be used to pay back the initial investment over the lifetime of the project.



BOMA BEST buildings...

...perform 12% better in
energy intensity



BOMA BEST buildings...
 ...divert almost half of
 their waste from landfills

4 WORKGREEN Environmental Stewardship Centre

The WORKGREEN Environmental Stewardship Centre would be another dedicated **one-stop online portal** for all environmental matters (other than energy) located on the www.WorkGreenBC.ca web site. It would include two subcomponents focusing on building environmental performance and carbon credits.

A. Environmental Performance

National environmental standards, voluntarily accepted by the industry, are in place. These 'best practice' standards incorporate resource reduction (energy and water); waste reduction and recycling; building materials and hazardous substances; indoor environmental quality; and, tenant communications. This standard is inherent in the BOMA BEST™ certification program, which includes performance measurement and comparison.

Identified initiatives include:

- Develop indoor air quality tools specific to office buildings.
- Provide 'zero waste management' program for all tenant and building recycling products.
- Develop and promote green leases specific to BC commercial buildings.
- Provide water reduction awareness and demonstration projects.
- Provide environmental e-newsletters that highlight relevant environmental trends in buildings to a targeted database of all commercial building stakeholders.
- Establish online social media and discussion forums for building operating personnel for sharing success stories and soliciting industry support advice on specific environmental challenges or topics.

B. Carbon Aggregation

The commercial building industry has the opportunity to align itself with the Province's carbon reduction targets through a carbon-aggregating program. The Province is in need of 1 million tonnes of carbon offsets. Commercial and institutional buildings account for over 5% of the Province's annual GHG emissions. BOMA has an excellent opportunity to aggregate offsets on behalf of BC commercial buildings.

The WORKGREEN Carbon Aggregation Program would include the following:

- Partner with consultants and Pacific Carbon Trust to help develop performance-based carbon credit protocols for commercial buildings.
- Develop and administer a program to aggregate carbon credits on behalf of commercial real estate owners and managers.
- Provide an online building carbon tracking tool that presents carbon offset analysis.
- Provide knowledge and promotion of a viable buildings carbon offset market.

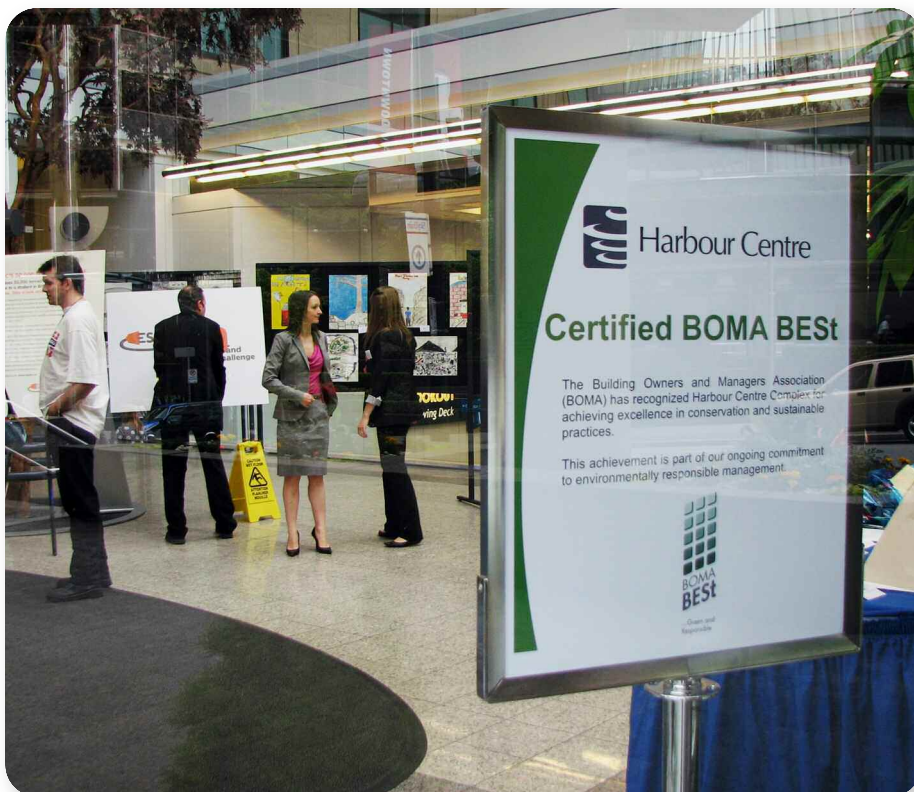
5 BOMA BEST™

Already successfully in place, **BOMA BEST™** is BOMA’s proactive voluntary approach to recognizing buildings that have achieved an industry-accepted energy and environmental standard. **BEST** stands for **B**uilding **E**nvironmental **S**tandards. BOMA BEST™ uses the Green Globes platform, is currently housed in the BOMA ‘**Green Buildings Foundation**’ web site and would be shifted to the www.WorkGreenBC.ca site.

Salient characteristics of BOMA BEST™:

- BOMA BEST™ program requires completion of comprehensive energy and water audits for every building applying to become certified.
- BOMA BEST™ has four levels of certification based on about 250 performance indicators.
- Both energy and environmental performances are continuously tracked, benchmarked, measured, verified and reported.
- To maintain BOMA BEST™ certification and brand, each building must undergo third party verification every three years.
- All office, retail, industrial, institutional buildings and facilities, as well as residential rental buildings, are eligible to participate regardless of size, location, age or use.
- BOMA aggressively brands and promotes the program and certified properties to the public and stakeholder groups.
- National program in place for over 5 years with more than 2,000 buildings certified to date. It is the largest database of building performance stats in North America.

For detail information, visit... www.bomabest.com



Proposed 5-Year Program Budget

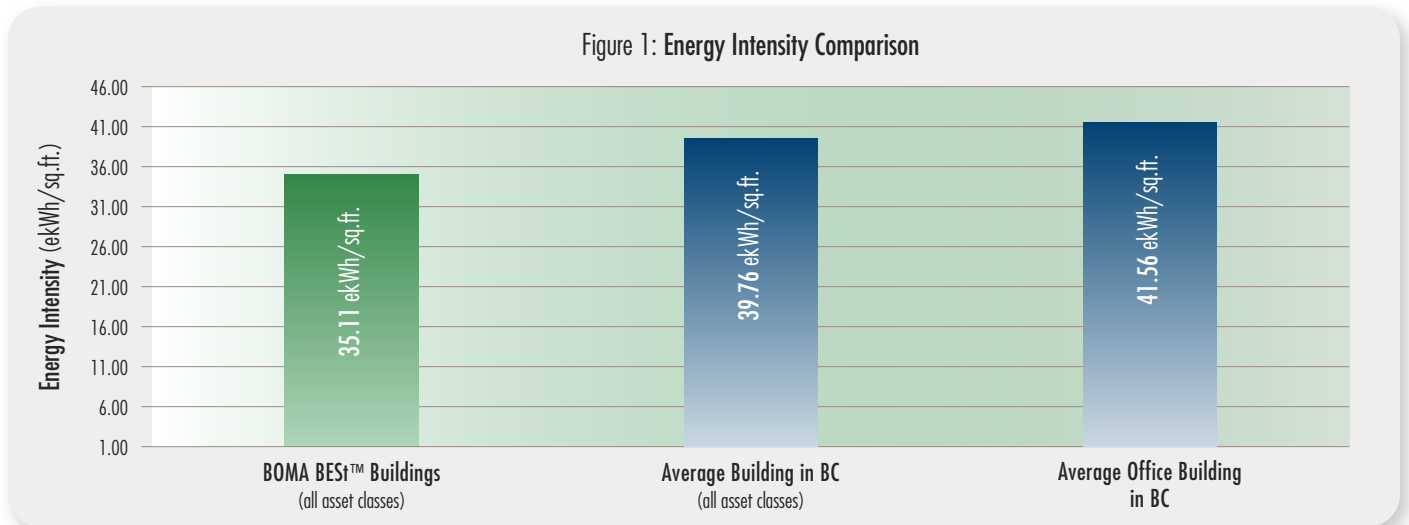
- The BC commercial building industry has already committed \$65 million over the past five years to transform 8% of commercial space toward energy efficiency and sustainability, consistent with BOMA BEST™ standards.
- To accelerate the transformation of a targeted additional 300 certified buildings (equating to approx. 12% of commercial space), BOMA proposes a cost-sharing split of an **additional** \$65 million from the commercial building industry, \$2 million from the Association and \$13.5 million from the BC government.
- The BC government’s \$13.5 million contribution, amortized over 5 years, would finance the energy conservation component of the WORKGREEN program. Detailed plans would be developed as funding partnerships are confirmed. The WORKGREEN proposal is scalable dependent upon financial support available.
- It is proposed that WORKGREEN BC be managed, under the auspices and oversight of BOMA BC, by one Executive Director, two program managers, support staff and technical consultants as required.

		Commercial Building Industry and BOMA Contribution (\$ millions)	BC Government Contribution (\$ millions)	Forecast Number of BOMA BEST™ Certified Buildings	Forecast Increased Energy Savings (GWh/year)
2012	• BOMA BEST™ program	13			
	• Establish Energy Centre with resources and web site (one-time payment)		1.0		
	• Marketing initiative (one-time payment)		0.5		
2013	• BOMA BEST™ program	13		75	91
	• Energy Centre operations		0.5		
	• Energy Audits (50 per year)		0.5		
	• Energy Incentives		2.0		
	• Environmental initiatives	0.5			
2014	• BOMA BEST™ program	13		75	91
	• Energy Centre operations		0.5		
	• Energy Audits (50 per year)		0.5		
	• Energy Incentives		2.0		
	• Environmental initiatives	0.5			
2015	• BOMA BEST™ program	13		75	91
	• Energy Centre operations		0.5		
	• Energy Audits (50 per year)		0.5		
	• Energy Incentives		2.0		
	• Environmental initiatives	0.5			
2016	• BOMA BEST™ program	13		75	92
	• Energy Centre operations		0.5		
	• Energy Audits (50 per year)		0.5		
	• Energy Incentives		2.0		
	• Environmental initiatives	0.5			
TOTALS		\$ 67	\$ 13.5	300	365

Energy Savings from BOMA BEST™ Buildings

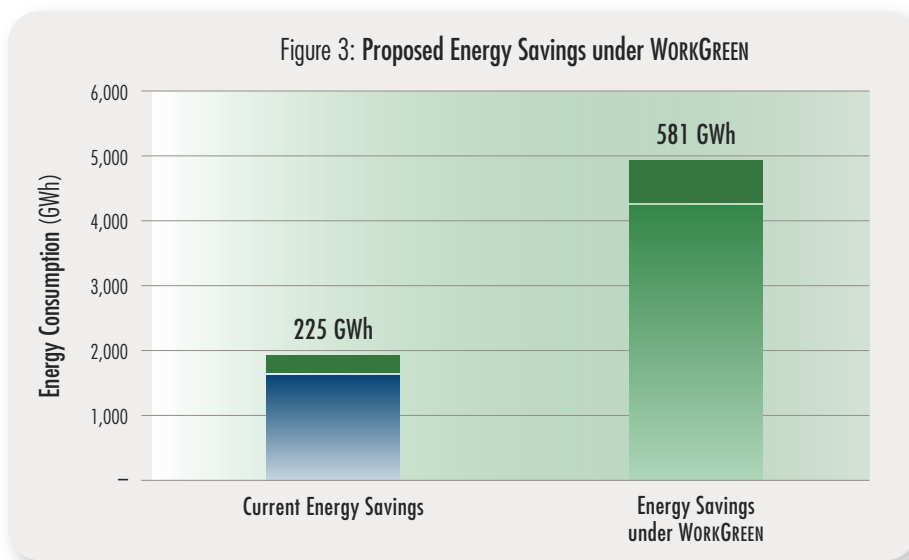
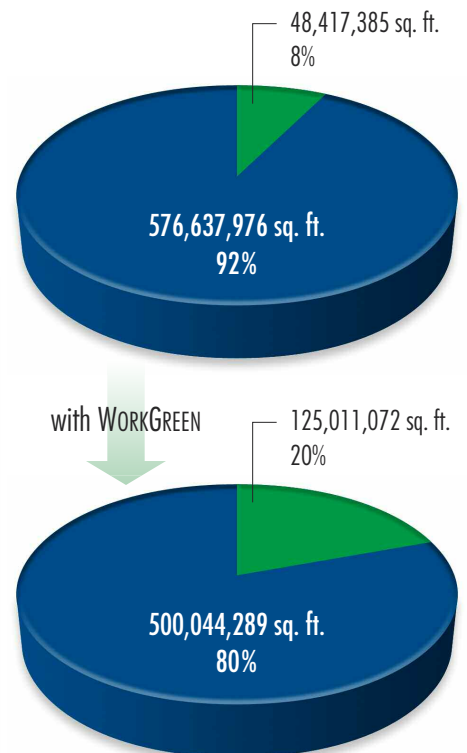
There were 269 buildings certified under the BOMA BEST™ program, effective December 2010. Figure 1 shows a comparison of the average energy intensity of BOMA BEST™ buildings with the provincial average energy intensity for commercial and institutional buildings in BC.

BOMA BEST™ buildings in BC **perform 12% better in energy intensity** than the average commercial and institutional building in BC, and **15% better** than the average office building specifically in BC. Energy intensity for BC commercial and institutional buildings is taken from NRCan CICES Summary Report, 2005.



Currently, 8% of all commercial and institutional space in BC is certified under the BOMA BEST™ program (Figure 2). These certified buildings currently save 225 GWh annually when compared to the BC average energy intensity (Figure 3). Under WORKGREEN, BOMA proposes to increase the amount of BOMA BEST™ certified buildings to 20% of total buildings in BC. All BOMA BEST™ buildings under the WORKGREEN program would save a total of 581 GWh annually. This means that under the WORKGREEN program, the Province can expect to see additional energy savings of 356 GWh in commercial and institutional buildings.

Figure 2: Certified vs Uncertified Buildings in BC



Triple Bottom Line Benefits :: Environmental ~ Economic ~ Social



WORKGREEN BC... is the commercial buildings industry solution to transforming office, retail, industrial and institutional facilities, where BC employees spend most of their working day, toward energy efficiency and environmental responsibility.

WORKGREEN BC... will help accelerate the achievement of industry and government mutually-agreed-to energy and carbon targets.

WORKGREEN BC... will support new jobs and economic growth with an \$80.5 million investment in the green economy.

WORKGREEN BC... will benefit small- to medium-sized buildings and, in particular, their business tenants by reducing operating costs, and providing healthier and more efficient workplace environments for British Columbians.

For more information, please contact: **Paul LaBranche**
 Executive Vice President
 BOMA BC
 pdl@boma.bc.ca
 604.684.3916 ext 224



BOMA BRITISH COLUMBIA

REPRESENTING THE COMMERCIAL REAL ESTATE INDUSTRY SINCE 1911

Suite 556 – 409 Granville Street • Vancouver, BC Canada V6C 1T2