

# Green Technologies in Building Envelopes

## Books and Research Reports

Banting, D., H. Doshi, J. Li, P. Missios et al.

*Report on the Environmental Benefits and Costs of Green Roof Technology for the City of Toronto*

OCE-ETech:

2005

“The City of Toronto in partnership with OCE-ETech and the Federation of Canadian Municipalities engaged a team of Ryerson researchers to develop further understanding of : the types of available green roof technology, the measurable benefits of green roofs to the city’s environment, potential monetary savings to the municipality through use of green roofs, and minimum thresholds of green roofs that could be used for part of any incentives or programs. This report presents the findings in the following sections: Section I-historical background of the work; Section II-literature review on research related to green roofs; Section III-survey of types of green roofs and standards; Section IV-quantification of benefits of city-wide implementation of green roofs; Section V-recommendations, the minimum thresholds and guidance for future work. The benefits quantified in this report show that there is a case for development of public programs and the promotion of green roofs. Questions remain to be answered regarding the uncertainty of the benefits, impact of less than 100% green roof coverage, impact of building specific constrains, the quantification of program costs leading to a complete cost benefit analysis, quantification of other social benefits and consideration of the effect of alternative technologies that may be able to perform one or more of the functions of a green roof.”

Available at: BCIT, [http://commons.bcit.ca/greenroof/publications/banting\\_et\\_al.pdf](http://commons.bcit.ca/greenroof/publications/banting_et_al.pdf)

Bass, B. and B. Baskaran

*NRC, IRC, progress report*

Ottawa: National Research Council, Institute for Research in Construction, Canada

2003

“The performance of green roof infrastructure was studied by field monitoring of an experimental field site, the Field Roofing Facility (FRF), at the National Research Council (NRC) campus in Ottawa. The FRF consisted of two roof sections, a green roof and a modified bituminous roof that is representative of what typically found on flat roofs in Canadian cities. The green roof was found to reduce the summer cooling load and the surface temperature of the roof. The green roof delayed runoff, reduced the rate and volume of runoff. These results corresponded with the simulation models. The vertical gardens were also shown to reduce summer cooling load, even more dramatically than the green roof. Both technologies reduced surface temperatures sufficiently to suggest that significant reductions of the urban heat island would be attainable if these technologies were adopted on a widespread basis.”

Available at: HPO, NRC-IRC

Canada Mortgage and Housing Corporation

*Initial Material Characterization of Straw Light Clay*

Ottawa: Canada Mortgage and Housing Corporation  
2001

“Straw Light Clay (SLC) is a contemporary variant of earth building techniques used by advanced civilizations for thousands of years. The purpose of the research is to assess the viability of this material for Canadian climates and to specifically investigate fire resistance, shrinkage and swelling, compression and bending and density. Initial results indicate SLC has many worthwhile properties.”

Available at: CMHC

Canada Mortgage and Housing Corporation  
*The BREEAM Green Leaf Environmental Assessment Protocol for Multi-Residential Buildings*  
Ottawa: Canada Mortgage and Housing Corporation  
2001

“BREEAM Green Leaf is an environmental assessment protocol that was developed in response to the need in the marketplace for a less expensive methodology that could be partially conducted in-house. In its scope, BREEAM Green Leaf covers issues including Energy Efficiency, Resource Efficiency, Environmental Responsibility, Occupant Health and Affordability. In addition, BREEAM Green Leaf addresses operation and management issues. This research project conducted a comprehensive energy and environmental assessment for managers of six multi-residential buildings. The participants received a report for each of the individual buildings with practical recommendations on how to improve the performance of their buildings with respect to the issues outlined above. The reports can serve as a guide for the participants on how to structure and prioritize an action plan for dealing with energy and environmental issues.”

Available at: CMHC

Canada Mortgage and Housing Corporation  
*Energy Use in Straw Bale Houses*  
Ottawa: : Canada Mortgage and Housing Corporation  
2002

“While straw bale houses therefore have a theoretical advantage over conventional houses, there is little good data on how they actually perform. This research conducted a survey to compare the space heating energy consumption of straw bale homes to conventional homes. The measured space heating consumption of the straw bale houses was compared to the modelled energy consumption of conventional 2001 British Columbia (BC) building code houses of the same dimensions as the straw houses. The comparison indicates that the straw bale houses in this survey require significantly less space heating energy than comparable conventional houses.”

Available at: CMHC

Canada Mortgage and Housing Corporation  
*Wood Usage in Straw Bale House Construction*  
Ottawa: Canada Mortgage and Housing Corporation  
2002

“There have been many claims made that the use of straw bales for house construction will result in less wood usage, and consequent environmental advantages. CMHC commissioned this small research

project to see whether these claims could be substantiated. The house tested had load-bearing straw bale walls. This type of straw bale house offers potentially the greatest savings in wood usage when compared to stick-built housing. This study supports the claim that straw bale structures can save lumber over conventional stick frame buildings. A stick frame building of equivalent interior size and style would have required 47.5 per cent more lumber than the bale building constructed. If we were to compare wood use for houses with many interior rooms, the decrease in straw bale house wood use would probably be more in the range of 20-40 per cent.” Available at: CMHC

Canada Mortgage and Housing Corporation

*CMHC, Innovative Buildings*

Ottawa: Canada Mortgage and Housing Corporation

2004

“Soka-Bau is a useful case study because it demonstrates several aspects of green roof design and maintenance, including, a range of greening types, such as extensive green roofs and vertical plantings, the use of plant structure to optimize interior and exterior environments, novel design features, which should inspire designers of green roofs, lessons learned”.

Available at:

<http://www.cmhc-schl.gc.ca/en/inpr/bude/himu/inbu/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=6045>

Canada Mortgage and Housing Corporation

*Green Phoenix Integrated Design Charrette for Sustainable Affordable Housing*

Ottawa: Canada Mortgage and Housing Corporation

2006

“This design charrette elicited the views of community workers and design experts to develop sustainable design solutions as a step in an integrated design process for an addition to ‘Phoenix Place’, a supportive housing project in the Parkdale area of Toronto. The project included retrofit measures to improve the sustainability of the highrise and a heritage building on the same site. Inclusion in the social fabric of the neighborhood was also an important goal.”

Available at: CMHC, HPO, UBC

Connelly, M., K. Liu and J. Schaub

*BCIT Green Roof Research Program, Phase 1: Summary of Data Analysis*

Ottawa: Canada Mortgage and Housing Corporation

2005

“To address a lack of climate-specific performance data and demonstrated feasibility of green roof systems within our region, the British Columbia Institute of Technology (BCIT) constructed and commissioned a dedicated field test site, the Green Roof Research Facility (GRRF), in 2003. The main research objective was to investigate the performance and practical application of extensive green roof systems in Canada’s west coast climate. The GRRF features three roof sections separated by parapets – two green roof sections and one nongreen section for reference (REF). Both green roof systems include a root barrier, non-reservoir drainage board and independent filter cloth, and the same growing medium composition. Green Roof 1 contained 75 mm of growing medium planted with sedum species while Green Roof 2 contained 150 mm of growing medium planted with a mix of

fescues and grasses. The roof sections were fully instrumented to measure stormwater runoff characteristics and energy efficiency. The roof was monitored and performance data were collected for one full year (January 1 to December 31, 2005). The first year of observation showed that, within the temperate climate of Vancouver, a green roof system with appropriate plant species in 75 mm of growing medium can provide a similar level of stormwater mitigation and thermal benefits as a green roof system with 150 mm of growing medium. The preliminary findings suggested that buildings in Vancouver could benefit from lighter weight extensive green roof systems.” Available at: BCIT, HPO, [http://commons.bcit.ca/greenroof/publications/cmhc\\_report.pdf](http://commons.bcit.ca/greenroof/publications/cmhc_report.pdf)

Dinsdale S., B. Pearen and C. Wilson

*Feasibility Study for Green Roof Application on Queen’s University Campus*

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2006

“This report is prepared for Queen’s Physical Plant Services. This study covers a summary on research related to green roofs, benefits provided by green roof on the physical and biological environment, the costs associated with materials and installation, and any financial incentives for green roof implementation. A case study was performed to assess the financial feasibility of a hypothetical green roof. The results showed a Net Present Value of \$-33,838 and a Return on Investment of 100% with a break-even point of about 21 years. A sensitivity analysis was also performed and showed that the NPV and ROI were very dependent on the percent reduction in energy cost, the initial capital investment required, and the cooling energy required annually. It is recommended that Queen’s University install an extensive green roof onto the new Queen’s Center and the green roof cover a minimum of 50% of the roof span in order to reap the full benefits of the green roof as well as to achieve one LEED point for the building”.

Available at: HPO, <http://www.queensu.ca/pps/reports/greenroof.pdf>

Greater Vancouver Regional District

*Green Roof Inventory: Preface Report Greater Vancouver Regional District*

Vancouver: GVRD report

2002

“The inventory focused on multi-family residential, commercial, industrial, and institutional buildings, particularly those in the urban core and city/municipal centers and was conducted from June to September 2002”.

Available at: HPO,

<http://www.metrovancouver.org/buildsmart/BuildSmartDocuments/gvrdgreenroofinventory.pdf>

Kibert, C. J.

*Sustainable Construction: Green Building Design and Delivery*

Hoboken, N.J.: John Wiley

2005

“Focusing on green building as it applies to larger commercial, institutional buildings, Sustainable Construction provides a complete introduction to the design and construction of high-performance green buildings. By providing a thorough grounding on the subject, this insightful guide encourages readers to realize the ecological and economic benefits of green

building. Sustainable Construction uses the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) suite of standards to explain the best practices in building procurement and delivery systems. Providing a detailed overview of the entire process of green building, this book covers the theory, history, state of the industry, and best practices in green building.”

Available at: BCIT, UBC

Liu, K and B. Baskaran

*Green Roof Infrastructure-Technology Demonstration, Monitoring and Market Expansion Project*  
Ottawa: National Research Council Canada, Institute of Research in Construction

2003

“Market penetration of green roof technology has been low in Canada. There is a general lack of awareness among building professionals and the general public on the benefits of this technology. Technical data (e.g. energy efficiency and urban heat island) specific to Canadian climates are not available for cost-benefit analysis. Although green roofs offer public benefits such as stormwater retention and improvement in air/water quality, there are currently no public policies that recognize these benefits and support their implementation. This project aimed to address the above market barriers by providing objective technical data and analyses”.

Available at: HPO, NRC-IRC

Miller, David E.

*Toward A New Regionalism: Environmental Architecture in the Pacific Northwest*

Seattle: University of Washington Press

2005

“Throughout the world architects are producing sustainable buildings in an attempt to preserve the environment and our globe’s natural resources. However, current strategies for forming sustainable solutions are typically too general and fail to take advantage of critical geographical, environmental, and cultural factors particular to a specific place. By focusing on the Pacific Northwest, this book provides essential lessons to architects and students on how sustainable architecture can and should be shaped by the unique conditions of a region. This book illuminates the history of a "green trail" in the work of key architects of the Northwest. It discusses environmental strategies that work in the region, organized according to nature’s most basic elements--earth, air, water, and fire--and their underlying principles and forces. The book focuses on technologies, materials, and methods, with a final section that examines thirteen exceptional Northwest buildings in detail and in light of their contributions to sustainable architecture.”

Available at: BCIT, VPL

Ngan, G.

*Green Roof Policies: Tools for Encouraging Sustainable Design*

: Landscape Architecture Canada Foundation

2004

“This report describes policy used in Germany to encourage the construction of green roofs. The underlying purpose of the report is to offer practical and attainable solutions for sustainable

urban development. Specifically, it will assist Canadian municipalities in incorporating green roofs into their official plans, policies, and operating procedures. Since green roof policy in Germany is widespread and varies, this report gives a general description of the different types of policy and focuses on four examples to demonstrate how the policies may be implemented. The last chapter contains recommendations for Canadian policy makers who want to develop green roof policies”

Available at: <http://www.gnla.ca/assets/Policy%20report.pdf>

Ngan, G.

*Stormwater Source Control Design Guidelines 2005*

: Greater Vancouver Sewerage & Drainage District

2005

“To reduce information barriers that stand in the way of effective implementation of stormwater source controls in the Greater Vancouver Regional District, the Greater Vancouver Sewerage and Drainage District initiated this research work to develop preliminary guidelines for the GVRD. This report focuses on the technical details of practices in landscape areas that treat stormwater through plant materials and soils by infiltration, retention, detention and evapotranspiration.”

Available at: <http://www.waterbucket.ca/rm/sites/wbcrn/documents/media/65.pdf>

Oberlander, C. H., E. Whitelaw and E. Matsuzaki

*Introductory Manual for Greening Roofs for Public Works and Government Services Canada*

Ottawa: Public Works and Government Services Canada

2002

“This manual provides an introductory to green roofs including benefits, barriers to implementation, design and construction consideration, and details. This manual also assembles a list of suppliers and resources for further information.”

Available at: HPO, GVRD,

[ftp://ftp.tech-env.com/pub/SERVICE\\_LIFE\\_ASSET\\_MANAGEMENT/PWGSC\\_GreeningRoofs\\_wLinks.pdf](ftp://ftp.tech-env.com/pub/SERVICE_LIFE_ASSET_MANAGEMENT/PWGSC_GreeningRoofs_wLinks.pdf)

Peck, S. and M. Kuhn

*Design Guidelines for Green Roofs*

Ottawa: Canada Mortgage and Housing Corporation

2003

“This article provides an introduction to green roof infrastructure and describes how to implement and market a green roof, looks at costs, and presents three case studies.”

Available at: CMHC, HPO

Snell, Clarke and Tim Callahan

*Building Green: a Complete How-to Guide to Alternative Building Method: Earth Plaster, Straw Bale, Cordwood, Cob, Living Roofs*

New York: Lark Books

2005

“This guide provides environmentally-minded readers with a photo-packed start-to-finish guide to ‘green’ housebuilding. This manual not only covers eco-friendly building techniques, but actually

"shows" every step. More than 1,200 close-up photographs, along with in-depth descriptions, follow the real construction of an alternative house from site selection to the addition of final-touch interior details. It provides thorough discussions of the fundamental concepts of construction, substitutes for conventional approaches, and planning a home that's not only comfortable and beautiful, but environmentally responsible. The book documents the process of assembling a guest house that incorporates four different alternative building methods: straw bale, cob, cordwood, and modified stick frame. The images show every move: how the site is cleared, the basic structure put together, the cob wall sculpted, the bales and cordwood stacked, a living roof created, and more. Most important, the manual conveys real-world challenges and processes, and offers dozens of sidebars with invaluable advice."

Available at: VPL

## Articles

A. Mutlu, A. N. T.. 2010. Photovoltaic Attached Low-Slope Roof Systems. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*

Available at: BCIT, CMHC, HPO

Agoudjil, Boudjemaa; Benchabane, Adel; Boudenne, Abderrahim; Ibos, Laurent; Fois, Magali. 2011. Renewable materials to reduce building heat loss: Characterization of date palm wood. *Energy and Buildings* 2-3: 491-497

Available at: BCIT, UBC

Agrawal, Basant; Tiwari, G. N.. 2010. Optimizing the energy and exergy of building integrated photovoltaic thermal (BIPVT) systems under cold climatic conditions. *Applied Energy* 2: 417-426

Available at: UBC

Akbari, Hashem; Matthews, H. Damon. 2012. Global cooling updates: Reflective roofs and pavements. *Energy and Buildings* 0: 2-6

Available at: BCIT, UBC

Aldrich, Robb A; Vijayakumar, Gayathri. 2007. Green, Affordable Housing Moving Toward "Zero Energy". *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*

Alexandri, E. and P. Jones . 2007. Developing a one-dimensional heat and mass transfer algorithm for describing the effect of green roofs on the built environment: Comparison with experimental results. *Building and Environment* 42(8): 2835-2849

Available at: BCIT, UBC

Alexandri, E. and P. Jones . 2008. Temperature decreases in an urban canyon due to green walls and green roofs in diverse climates. *Building and Environment* 43(4): 480-493

Available at: BCIT, UBC

Almajali, M.; Lafdi, K.; Prodhomme, P. H.. 2013. Effect of copper coating on infiltrated PCM/foam. *Energy Conversion and Management* 0: 336-342

Alvarez, Servando; Cabeza, Luisa F.; Ruiz-Pardo, Alvaro; Castell, Albert; Tenorio, Jose Antonio. 2013. Building integration of PCM for natural cooling of buildings. *Applied Energy* 0: 514-522

Available at: UBC

Ammar, Mohsen Ben; Chaabene, Maher; Elhajjaji, Ahmed. 2010. Daily energy planning of a household photovoltaic panel. *Applied Energy* 7: 2340-2351

Available at: UBC

Ansuini, Roberta; Larghetti, Roberto; Giretti, Alberto; Lemma, Massimo. 2011. Radiant floors integrated with PCM for indoor temperature control. *Energy and Buildings* 11: 3019-3026

Available at: BCIT, UBC

Arthur, S. and G.B. Wright. 2005. Recent and future advances in roof drainage design and performance. *Building Services Engineering Research and Technology* 26(4): 337-348

Available at: Public Libraries of B.C.

ASTM E 2396-05. 2005. Standard test method for saturated water permeability of granular media (falling-head method) for green roof systems. *ASTM International West Conshohocken, Pa*

Available at: [www.astm.org](http://www.astm.org)

ASTM E 2397-05. 2005. Standard practice for determination of dead loads and live loads associated with green roof systems. *ASTM International West Conshohocken, Pa*

ASTM E 2398-05. 2005. Standard test method for water capture and media retention of geocomposite drain layers for green roof systems. *ASTM International West Conshohocken, Pa*

Available at: [www.astm.org](http://www.astm.org)

ASTM E 2399-05. 2005. Standard test method for maximum media density for dead load analysis of green roof systems. *ASTM International West Conshohocken, Pa*

ASTM E 2400-06. 2006. Standard guide for selection, installation, and maintenance of plants for green roof systems. *ASTM International West Conshohocken, Pa*

Available at: [www.astm.org](http://www.astm.org)

Attia, Shady; Hamdy, Mohamed; OBrien, William; Carlucci, Salvatore. 2013. Assessing gaps and needs for integrating building performance optimization tools in net zero energy buildings design.

*Energy and Buildings* 0: 110-124



Available at: BCIT, UBC

Aubert, J. E.; Fabbri, A.; Morel, J. C.; Maillard, P.. 2013. An earth block with a compressive strength higher than 450 MPa!. *Construction and Building Materials* 0: 366-369

Available at: UBC

B. Weller, C. H., S. Unnewehr. 2010. Innovative Developments in Building Integrated Photovoltaics. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*

Available at: BCIT, CMHC, HPO

Balaras, C. A., E. G. Dascalaki, et al.. 2010. High Solar Combi Systems in Europe. *ASHRAE Transactions* 116(1): 408-415

Available at: BCIT, UBC

Banyay, L.. 2005. It's not easy being green - Or is it?. *Public Works* 136(10): 120

Baouendi, R. and R. Zmeureanu. 2005. Energy and emission estimator: A prototype tool for designing Canadian houses. *Journal of Architectural Engineering* 11(2): 50-59

Available at: UBC

Barrio, E.P.D.. 1998. Analysis of green roofs cooling potential in buildings. *Energy and Buildings* 27: 179-193

Available at: UBC

Bass, B., E.S. Krayenhoff, A. Martilli, R. B. Stull, and H. Auls. 2003. The impact of green roofs on Toronto's urban heat island. *In Proc. of 1st North American Green Roof 10 Conference: Greening Rooftops for Sustainable Communities Chicago*

Batista, N. C.; Melicio, R.; Matias, J. C. O.; Catalao, J. P. S.. 2013. Photovoltaic and wind energy systems monitoring and building/home energy management using ZigBee devices within a smart grid. *Energy* 0: 306-315

Available at: UBC

Bayod-Rujula, Angel A.; Ortego-Bielsa, Abel; Martinez-Gracia, Amaya. 2011. Photovoltaics on flat roofs: Energy considerations. *Energy* 4: 1996-2010

Available at: UBC

Beattie, D., R. Berghage, A. R. Jarrett, and H. B. Manbeck. 2003. Green roof plants mitigate stormwater and clean the environment. *Proc. Intl. Plant Prop. Soc.* 53: 609-611

Beattie, D.J. and R. Berghage. 2004. Green roof media characteristics: the basics. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Portland, OR* June: 411-416

- Bengtsson, L.. 2005. Peak flows from thin sedum-moss roof. *Nordic Hydrology* 36: 269-280
- Bengtsson, L., L. Grahn, and J. Olsson. 2005. Hydrological function of a thin extensive green roof in southern Sweden. *Nordic Hydrology* 36: 259-268
- Berggren, Bjorn; Hall, Monika; Wall, Maria. 2013. LCE analysis of buildings â€™ Taking the step towards Net Zero Energy Buildings. *Energy and Buildings* 0: 381-391  
Available at: BCIT, UBC
- Berghage, R.D., D.J. Beattie, A.R. Jarrett, F. Rezaei, and A. Nagase. 2005. Quantifying evaporation and transpirational water losses from green roofs and green roof media capacity for neutralizing acid rain. In *Proc. World Green Roof Congress/ Welt Gründach- Kongress Basel, Switzerland* Sept./15-16: 200-207
- Bianchi, Marcus V A; Miller, William A; Desjarlais, Andre O; Petrie, Thomas W. 2007. Cool Roofs and Thermal Insulation: Energy Savings and Peak Demand Reduction. *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*
- Bianco, L; Serra, V; Larcher, F; Perino, M. 2012. Experimental assessment of a green wall modular system: effects on heat transfer and on surface temperature control. *5th International Building Physics Conference (IBPC) Kyoto, Japan*
- Bibee, Douglas V; Johnson, Katherine L; Nelson, Donald R. 2010. Air Sealing Existing Homes with Foam-in-a-Can Rivals Energy Cost Benefits of CFLs. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference*
- Blanusa, Tijana; Vaz Monteiro, M. Madalena; Fantozzi, Federica; Vysini, Eleni; Li, Yu; Cameron, Ross W. F.. 2013. Alternatives to Sedum on green roofs: Can broad leaf perennial plants offer better â€™cooling serviceâ€™?. *Building and Environment* 0: 99-106  
Available at: BCIT, UBC
- Boe, A.A., R.B. Stewart, and T.J. Banko. 1972. Effects of Growth regulators on root and shoot development on Sedum leaf cuttings. *HortScience* 7: 404-405
- Broniek, John. 2010. Detailed Modeling Study on How Different Assemblies Affect Comfort Conditions in Zero-Energy House Designs. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference Clearwater Beach, Florida*
- Bucheli, T.D., S.R. Müller, A. Voegelin, and R.P. Schwarzenbach. 1998. Bituminous roof sealing membranes as major sources of the herbicide (R,S)-Mecoprop in roof runoff waters: 4 potential contamination of groundwater and surface waters. *Environ. Sci. Technol* 32(22): 3465-3471
- Bucheli, T.D., S.R. Müller, S. Heberle, and R.P. Schwarzenbach. 1998. Occurrence and behavior of

pesticides in rainwater, roof runoff, and artificial stormwater infiltration. *Environ. Science Technol* 32(22): 3457-3464

Buratti, C.; Moretti, E.. 2012. Glazing systems with silica aerogel for energy savings in buildings. *Applied Energy* 0: 396-403  
Available at: UBC

Buratti, Cinzia; Moretti, Elisa. 2011. Lighting and Energetic Characteristics of Transparent Insulating Materials: Experimental Data and Calculation. *Indoor and Built Environment* 4: 400-411  
Available at: UBC

Burger, K.. 2010. Living Roofs: Integrity Testing of Roof Membranes and Leak Alarm Systems. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

C. Cianfrone, R. R. D. P.. 2010. Using Solar Dynamic Buffer Zone Walls to Increase Performance of Air Source Heat Pumps in Cold Climates. *Proceedings of Building Enclosure Science and Technology (BEST2) Conference Portland, USA*  
Available at: HPO, BCIT

Candanedo, J. A. and A. K. Athienitis. 2010. Investigation of Anticipatory Control Strategies in a Net-Zero Energy Solar House. *ASHRAE Transactions* 116(1): 246-259  
Available at: BCIT, UBC

Candanedo, Jose A.; Athienitis, Andreas K.. 2010. Investigation of Anticipatory Control Strategies in a Net-Zero Energy Solar House. *ASHRAE Transactions* 1: 246-259  
Available at: BCIT, UBC

Candanedo, L. M., A. K. Athienitis, et al.. 2010. Transient and Steady State Models for Open-Loop Air-Based BIPV/T Systems. *ASHRAE Transactions* 116(1): 600-612  
Available at: BCIT, UBC

Cappelli, M., C. Cianfrini and M. Corcicone. 1998. Effects of vegetation roof on indoor temperatures. *Heat Environ* 16(2): 85-90

Carey, P.K.. 2004. Residential green roof policy, strategies, and tactics. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Portland, OR*. June: 73-87

Carter, T.L. and T.C. Rasmussen. 2006. Hydrologic behavior of vegetated roofs. *Journal of the American Water Resources Association* 42(5): 1261-1274  
Available at: UBC

Castellon, C; Medrano, M; Roca, J; Nogues, M; Castell, A; Cabeza, L F. 2007. Use of Microencapsulated Phase Change Materials in Building Applications. *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*

Castleton, H. F.; Stovin, V.; Beck, S. B. M.; Davison, J. B.. 2010. Green roofs; building energy savings and the potential for retrofit. *Energy and Buildings* 10: 1582-1591  
Available at: BCIT, UBC

Cavanaugh, L. M. . 2008. Redefining the green roof. *Journal of Architectural Engineering* 14(1): 4-6  
Available at: BCIT, UBC

Ceron, Isabel; Neila, Javier; Khayet, Mohamed. 2011. Experimental tile with phase change materials (PCM) for building use. *Energy and Buildings* 8: 1869-1874  
Available at: BCIT, UBC

Cetin, Engin; Yilanci, Ahmet; Ozturk, H. Kemal; Colak, Metin; Kasikci, Ismail; Iplikci, Serdar. 2010. A micro-DC power distribution system for a residential application energized by photovoltaic-wind/fuel cell hybrid energy systems. *Energy and Buildings* 8: 1344-1352  
Available at: BCIT, UBC

Chen, Yichao; Fazio, Paul; Athienitis, Andreas. 2012. Investigation of High-performance Envelope for High-Latitudes: Integrating Solar Skin on Structural Insulated Panel (SIP) wall. *5th International Building Physics Conference (IBPC) Kyoto, Japan*

Cheney, C.. 2002. Greening Gotham's rooftops. *Green Roof Infrastructure Monitor* 4(2): 9-10

Cheney, C. and C. Rosenzweig. 2003. Green roofs and environmental restoration: Towards an ecological infrastructure for New York City. *In Proc. of 1st North American Green 11 Roof Conference: Greening Rooftops for Sustainable Communities Chicago May*: 63-74

Cheng, C. Y., K. K. S. Cheung, et al.. 2010. Thermal performance of a vegetated cladding system on facade walls. *Building and Environment* 45(8): 1779-1787  
Available at: BCIT, UBC

Cheng, C. Y.; Cheung, Ken K. S.; Chu, L. M.. 2010. Thermal performance of a vegetated cladding system on facade walls. *Building and Environment* 8: 1779-1787  
Available at: BCIT, UBC

Chiasson, A. D., C. C. Yavuzturk, et al.. 2010. Optimization of the Ground Thermal Response in Hybrid Geothermal Heat Pump Systems. *ASHRAE Transactions* 116(1): 512-524  
Available at: BCIT, UBC

Chou, Huann-Ming; Chen, Chang-Ren; Nguyen, Vu-Lan. 2013. A new design of metal-sheet cool roof

using PCM. *Energy and Buildings* 0: 42-50  
Available at: BCIT, UBC

Chow, Stanley K. H.; Lee, Eric W. M.; Li, Danny H. W.. 2012. Short-term prediction of photovoltaic energy generation by intelligent approach. *Energy and Buildings* 0: 660-667  
Available at: BCIT, UBC

Chow, Tin-Tai; Li, Chunying; Lin, Zhang. 2011. The function of solar absorbing window as water-heating device. *Building and Environment* 4: 955-960  
Available at: BCIT, UBC

Compton, J.. 2006. Rethinking the green roof. *BioCycle* 47(9): 38-40

Connelly, M. and K. Liu. 2005. Green roof research in British Columbia-an overview. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC.*

Currie, B.A. and B. Bass. 2005. Estimates of air pollution mitigation with green plants and green roofs using the UFORE model. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC.* May: 495-511

Curriero, F.Cl, K.S. Heiner, J.M. Samet, S.L. Zeger, L. Strug, and J.A. Patz. 2002. Temperature and mortality in 11 cities of the eastern U.S.. *American Journal of Epidemiology* 155: 80-87

Czemiel Berndtsson, J., T. Emilsson, and L. Bengtsson. 2006. The influence of extensive vegetated roofs on runoff water quality. *Science of the Total Environment* 355: 48-63

D'Antonio, P.C.. 2004. Energy star, LEED, and commercial buildings. *HPAC Heating, Piping, Air Conditioning Engineering* 76(5): 2-12

D.H.Choi, K. S. C., J.S.Kang S.E.Lee. 2010. The Performance Evaluation on Multi-Function Dual Sliding & System Window. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

Dagdougui, Hanane; Minciardi, Riccardo; Ouammi, Ahmed; Robba, Michela; Sacile, Roberto. 2012. Modeling and optimization of a hybrid system for the energy supply of a "Green" building. *Energy Conversion and Management* 0: 351-363

De Sousa, C.. 2002. Measuring the public costs and benefits of brownfield versus greenfield development in the Greater Toronto area. *Environmental and Planning B: Planning and Design* 29: 251-280

DeBlois, Justin; Bilec, Melissa; Schaefer, Laura. 2013. Simulating home cooling load reductions

for a novel opaque roof solar chimney configuration. *Applied Energy* 0: 142-151  
Available at: UBC

Deepak Ahuja; Marco A. DeLeon; Gregory G. Schober; B. Matthew Smith. 2012. Potential Pitfalls of a Green Building Material: A Case Study of Cellulose Insulation. *Forensic Engineering 2012 San Francisco, California*

Del Barrio, E.P.. 1998. Analysis of the green roofs cooling potential in buildings. *Energy and Buildings* 27(2): 179-193  
Available at: UBC

DeNardo, J.C., Jarrett, A.R., Manbeck, H.B., Beattie, D.J. and Berghage, R.D.. 2003. Stormwater detention and retention abilities of green roofs. *World Water and Environmental Resources Congress Philadelphia, PA*

DeNardo, J.C., A.R. Jarrett, H.B. Manbeck, D.J. Beattie, and R.D. Berghage. 2005. Stormwater mitigation and surface temperature reduction by green roofs. *Transactions of ASAE* 48(4): 1491-1496

Desmarais, Guylaine; Trempe, Richard; Goncalves, Mario. 2010. Why Do Green Building Enclosures Fail and What Can Be Done about It ?. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference*

Diaconu, Bogdan M.; Cruceru, Mihai. 2010. Novel concept of composite phase change material wall system for year-round thermal energy savings. *Energy and Buildings* 10: 1759-1772  
Available at: BCIT, UBC

Diarce, Gonzalo; Urresti, Aitor; Garcia-Romero, Ana; Delgado, Alejandra; Erkoreka, Aitor; Escudero, Cesar; Campos-Celador, Alvaro. 2013. Ventilated active façades with PCM. *Applied Energy* 0: 530-537  
Available at: UBC

Dick, K. J. and M. G. Britton. 2004. Design and instrumentation of a post-frame - Strawbale infill building.

Dimoudi, A. and M. Nikolopoulou. 2003. Vegetation in the urban environment: microclimatic analysis and benefits. *Energy and Buildings* 35: 69-76  
Available at: UBC

Dixon, E; Richman, R; Pressnail, K D; Touchie, M. 2010. NTED TM : An Innovative Design Using Nested Thermal Envelopes to Achieve Significant Reductions in Energy Use. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference Clearwater Beach, Florida*

Duncan, B.. 2006. Taking an upside-down approach to roofs. *Construction Specifier* 59(9): 32-38  
Available at: Public Libraries of B.C.

Dunnett, N. and N. Kingsbury. 2004. Planting options for extensive and semi-extensive green roofs. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Portland, OR*. June: 221-236

Dunnett, N., A. Nagase, R. Booth, and P. Grime. 2005. Vegetation composition and structure significantly influence green roof performance. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC*.

Eder, Katharina; Steininger, Christian; Bednar, Thomas. 2012. Enhancing the performance of a cooling ceiling by an innovative façade system. *5th International Building Physics Conference (IBPC) Kyoto, Japan*

Emilsson, T. and K. Rolf. 2005. Comparison of establishment methods for extensive green roofs in southern Sweden. *Urban Forestry & Urban Greening* 3: 103-111

Enck, J.. 2002. Preserving our natural resources through design, maintenance, and commissioning. *Engineered Systems* 19(5): 58-64  
Available at: BCIT, UBC

Eumorfopoulou, E. and D. Aravantinos. 1998. The contribution of a planted roof to the thermal protection of buildings in Greece. *Energy and Buildings* 27(1): 29-36  
Available at: UBC

Eumorfopoulou, E. A. and K. J. Kontoleon . 2009. Experimental approach to the contribution of plant-covered walls to the thermal behaviour of building envelopes. *Building and Environment* 44(5): 1024-1038  
Available at: BCIT, UBC

Fallahi, Ali; Haghghat, Fariborz; Elsadi, Hafía. 2010. Energy performance assessment of double-skin façade with thermal mass. *Energy and Buildings* 9: 1499-1509  
Available at: BCIT, UBC

Feng, Chi; Meng, Qinglin; Zhang, Yufeng. 2010. Theoretical and experimental analysis of the energy balance of extensive green roofs. *Energy and Buildings* 6: 959-965  
Available at: BCIT, UBC

Finch, Graham; Ricketts, Dave; Knowles, Warren. 2010. The Path toward Net-Zero High-Rise Residential Buildings : Lessons Learned from Current Practice. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference*

Fishburn, D.C.. 2001. Roof gardens: The waterproofing challenge. *Interface* 19(11): 25-30

Francesca Olivieri, R. G. A., César Bedoya, Javier Neila. 2010. Analysis of the Thermal

Performance of a Life-Size Prototype of Vegetal Façade. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

Friedrich, C.R.. 2005. Principles for selecting the proper components for a green roof growing media. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC* May: 262-273

Gaffin, S., C. Rosenzweig, L. Parshall, D. Beattie, R. Berghage, G. O’Keefe, and D. Braman. 2005. Energy balance modeling applied to a comparison of white and green roof cooling efficiency. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC* May: 583-597

Gan, G. 2009. Effect of air gap on the performance of building-integrated photovoltaics. *Energy* 34(7) : 913-921  
Available at: UBC

Gan, G. . 2009. Numerical determination of adequate air gaps for building-integrated photovoltaics. *Solar Energy* 83(8): 1253-1273  
Available at: UBC

Garg, Mridul; Minocha, A. K.; Jain, Neeraj. 2011. Environment hazard mitigation of waste gypsum and chalk: Use in construction materials. *Construction and Building Materials* 2: 944-949  
Available at: UBC

Getter, K.L. and Rowe, D.B.. 2006. The role of extensive green roofs in sustainable development. *HortScience* 41(5): 1276-1285

Ghazi Wakili, K.; Stahl, T.; Brunner, S.. 2011. Effective thermal conductivity of a staggered double layer of vacuum insulation panels. *Energy and Buildings* 6: 1241-1246  
Available at: BCIT, UBC

Gokmen, Nuri; Karatepe, Engin; Silvestre, Santiago; Celik, Berk; Ortega, Pablo. 2013. An efficient fault diagnosis method for PV systems based on operating voltage-window. *Energy Conversion and Management* 0: 350-360

Graham, P. and M. Kim. 2003. Evaluating the stormwater management benefits of green roofs through water balance modeling. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities Chicago* May: 390-398

Graham, P., Maclean, L., Medina, D., Patwardhan, A., and Vasarhelyi, G.. 2004. The role of water balance modelling in the transition to low impact development. *Water Quality Research Journal of Canada* 39(4): 331-342



Green Roofs for Healthy Cities. 2006. . *Bibliography of green roof articles in English*

Hachem, Caroline; Athienitis, Andreas; Fazio, Paul. 2011. Investigation of solar potential of housing units in different neighborhood designs. *Energy and Buildings* 9: 2262-2273  
Available at: BCIT, UBC

Haddad, Kamel. 2011. Solar Energy Utilization of a Residential Radiant Floor Heating System. *ASHRAE Transactions* 1: 79-86  
Available at: BCIT, UBC

Haglund, K.. 2010. Decision-making Methodology & Selection Tools for High Performance Window Systems in U.S. Climates. *Proceedings of Building Enclosure Science and Technology (BEST2) Conference Portland, USA*  
Available at: HPO, BCIT

Haillet, Didier; Franquet, Erwin; Gibout, Stephane; Bedecarrats, Jean-Pierre. 2013. Optimization of solar DHW system including PCM media. *Applied Energy* 0: 470-475  
Available at: UBC

Hansen, Sanne. 2012. Economical optimization of building elements for use in design of nearly zero energy buildings. *5th International Building Physics Conference (IBPC) Kyoto, Japan*

Hassanain, A. A.; Hokam, E. M.; Mallick, T. K.. 2011. Effect of solar storage wall on the passive solar heating constructions. *Energy and Buildings* 2: 737-747  
Available at: BCIT, UBC

He, J. and A. Hoyano. 2010. Experimental study of cooling effects of a passive evaporative cooling wall constructed of porous ceramics with high water soaking-up ability. *Building and Environment* 45(2): 461-472  
Available at: BCIT, UBC

Herman, R.. 2003. Green roofs in Germany: yesterday, today and tomorrow. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities Chicago* May: 41-45

Hoffman, L.. 2006. Combating combined sewer flow: Green roof storm water modeling. *BioCycle* 47(2): 38-40

Holm, A., S. Herkel, et al.. 2010. Innovative Concepts for a Set of Net-Zero Energy Houses in the Middle East (Dubai). *Proceedings of Thermal Performance of Exterior Envelopes of Whole Buildings XI Florida, USA*  
Available at: Public Libraries of B.C., ASHRAE

Huckemann, V., E. Kuchen, et al.. 2010. Empirical thermal comfort evaluation of single and double skin facades. *Building and Environment* 45(4): 976-982

Available at: BCIT, UBC

Hunt, B., A. Moran, and G. Jennings. 2004. North Carolina green roof stormwater quantity and quality field evaluation. *In Proc. of 2nd North American Green Roof Conference: 14 Greening Rooftops for Sustainable Communities Portland, OR* June/2-4: 446-460

Hutchinson, D., P. Abrams, R. Retzlaff, and T. Liptan. 2003. Stormwater monitoring two ecoroofs Portland, Oregon, USA.. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities Chicago* May/29-30: 372-389

Ip, K., M. Lam, et al.. 2010. Shading performance of a vertical deciduous climbing plant canopy. *Building and Environment* 45(1): 81-88  
Available at: BCIT, UBC

J. Alonso Ojembarrena, M. C., P. Vidal Rivas, F. Olivieri, R. Guerra Aragones. 2010. Thermal and Illuminance Performance of a Translucent Green Wall Systema as an Extra Flat Green House Space With Vegetation. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

J. Alonso, F. O., F.J. Neila, C. Bedoya. 2010. Vegetated Shutter as Solar Protection. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

J.C. Vaglio, M. P., S. Hooper, D. Noble. 2010. Emerging Trends and Applications of Double-Skin Facades in the United States. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

Jae-Sik Kang, B.-H. C., Gyoung-Seok Choi, Seung-Eon Lee. 2010. Energy Performance Evaluation of Multifamily Housing in Case of Applying a Blind Integrated Window System. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

Jang, Choonghyo; Kim, Jongmin; Song, Tae-Ho. 2011. Combined heat transfer of radiation and conduction in stacked radiation shields for vacuum insulation panels. *Energy and Buildings* 12: 3343-3352  
Available at: BCIT, UBC

Jeanjean, Anais; Olives, Regis; Py, Xavier. 2013. Selection criteria of thermal mass materials for low-energy building construction applied to conventional and alternative materials. *Energy and Buildings* 0: 36-48

Available at: BCIT, UBC

Jeong, Su-Gwang; Jeon, Jisoo; Seo, Jungki; Lee, Jeong-Hun; Kim, Sumin. 2012. Performance evaluation of the microencapsulated PCM for wood-based flooring application. *Energy Conversion and Management* 0: 516-521

Jim, C. Y.; Tsang, S. W.. 2011. Biophysical properties and thermal performance of an intensive green roof. *Building and Environment* 6: 1263-1274  
Available at: BCIT, UBC

Jin, Xing; Medina, Mario A.; Zhang, Xiaosong. 2013. On the importance of the location of PCMs in building walls for enhanced thermal performance. *Applied Energy* 0: 72-78  
Available at: UBC

aklauskas, Arturas; Rute, Jevgenija; Zavadskas, Edmundas Kazimieras; Daniunas, Alfonsas; Pruskus, Valdas; Bivainis, Juozas; Gudauskas, Renaldas; Plaky. 2012. Passive House model for quantitative and qualitative analyses and its intelligent system. *Energy and Buildings* 0: 7-18  
Available at: BCIT, UBC

Kaldellis, John; Zafirakis, Dimitrios. 2012. Experimental investigation of the optimum photovoltaic panels' tilt angle during the summer period. *Energy* 1: 305-314  
Available at: UBC

Kapsalaki, M.; Leal, V.; Santamouris, M.. 2012. A methodology for economic efficient design of Net Zero Energy Buildings. *Energy and Buildings* 0: 765-778  
Available at: BCIT, UBC

Karlsson, H.. 2010. Embedded Water-based Surface Heating Part 1: Hybrid 3D Numerical Model. *Journal of Building Physics* 34(2): 357-391  
Available at: UBC

Karlsson, H.. 2010. Embedded water-based surface heating part 2: experimental validation. *Journal of Building Physics* 34(2): 143-162  
Available at: UBC

Kassab, M. and R. Zmeureanu. 2003. Life-cycle analysis of improvements to an existing energy-efficient house in Montreal. *Architectural Science Review* 46(4): 341-352  
Available at: UBC

Kenney, Thomas; Wiehagen, Joseph. 2007. Zero Energy Homes ' The Potential of Large-Scale Implementation. *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*

Kesik, T. and I. Saleff. 2005. Impacts of differential durability on building lifecycle and

sustainability. *Proceedings of 10th Canadian Conference on Building Science and Technology Ottawa, Canada*

Available at: HPO, BCIT

Khalifa, Abdul Jabbar N.; Suffer, Kadhim H.; Mahmoud, Mahmoud Sh. 2013. A storage domestic solar hot water system with a back layer of phase change material. *Experimental Thermal and Fluid Science* 0: 174-181

Available at: UBC

Khalil, Dalia E.; Khalil, Essam E.. 2012. Energy Efficient Green Buildings: A Realizable Dream. *5th International Building Physics Conference (IBPC) Kyoto, Japan*

Kilkis, Siir. 2012. A net-zero building application and its role in exergy-aware local energy strategies for sustainability. *Energy Conversion and Management* 0: 208-217

Kim, Gon; Schaefer, Laura; Kim, Jeong Tai. 2013. Development of a Double-Skin Façade for Sustainable Renovation of Old Residential Buildings. *Indoor and Built Environment* 1: 180-190

Available at: UBC

Kim, J. T. and G. Kim. 2010. . *Building and Environment* 45(2): 256-269

Available at: BCIT, UBC

Kim, Jeong Tai; Kim, Gon. 2013. Optical Daylighting Performance of an Active Mirror System for Visual Sustainability of Residential Environment. *Indoor and Built Environment* 1: 212-225

Available at: UBC

Kim, Sean Hay. 2013. An evaluation of robust controls for passive building thermal mass and mechanical thermal energy storage under uncertainty. *Applied Energy* 0: 602-623

Available at: UBC

Knowles, R. L.. 2003. The solar envelope: Its meaning for energy and buildings. *Energy and Buildings* 35(1): 15-25

Available at: UBC

Koehler and M. U. Porsche. 2003. Life cycle costs of green roofs a comparison of Germany, USA, and Brazil. In: *Rio3.com: Proc. Krauter (ed.): World Climate & Energy Event*.

Koehler, M., M. Schmidt, F.W. Grimme, M. Laar, and F. Gusmao. 2001. Urban water retention by greened roofs in temperate and tropical climate. *Proc. 38th World Congress IFLA, Singapore*

Koehler, M., M. Schmidt, F.W. Grimme, M. Laar, V.L. De Assuncao Paiva, and S. Tavares. 2002. Green roofs in temperate climates and in the hot-humid tropics. *Environmental and Health* 13(4): 382-391

Koehler, M.. 2004. Green roof technology – from a fire protection system to a central instrument

in sustainable urban design. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Portland, OR June/2-4: 373-386*

Koehler, M.. 2004. Energetic effects of green roofs on the urban climate near to the ground and to the building surfaces. *Proc. Intl. Green Roof Conf.*

Koehler, M.. 2005. Green facades and green roofs with a long tradition in Berlin, Germany. *Journal of the British Columbia Soc. of Landscape Architects Canada 7(1): 22-25*

Kongshaug, R. and V. Bhatt. 2004. The role of green roofs in cost-effective city greening. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Portland, OR June/2-4: 107-129*

Kontoleon, K. J. and E. A. Eumorfopoulou. 2010. The effect of the orientation and proportion of a plant-covered wall layer on the thermal performance of a building zone. *Building and Environment 45(5): 1287-1303*

Available at: BCIT, UBC

Kontoleon, K. J.; Eumorfopoulou, E. A.. 2010. The effect of the orientation and proportion of a plant-covered wall layer on the thermal performance of a building zone. *Building and Environment 5: 1287-1303*

Available at: BCIT, UBC

Kosny, Jan; Yarbrough, David; Miller, William; Petrie, Thomas; Childs, Phillip; Syed, Azam Mohiuddin; Leuthold, Douglas. 2007. Thermal Performance of PCM-Enhanced Building Envelope Systems. *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*

Kosny, Jan; Kossecka, Elizabeth. 2013. Understanding a Potential for Application of Phase-Change Materials (PCMs) in Building Envelopes. *ASHRAE Transactions 1: 1-11*

Available at: BCIT, UBC

Krayenhoff, S. and B. Bass. 2003. The impact of green roofs on the urban heat island: A Toronto case study. *Report to National Research Council Institute for Research in Construction*

Krishnan, G.. 2004. Green building rating systems: an overview. *ASHRAE Journal 46(11): 56*

Available at: BCIT, UBC

Kula, R.. 2005. Green roofs and the LEED green building rating system. *In Proc. Of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities Washington, DC. May/4-6: 141-153*

Kumar, R. and S.C. Kaushik. 2005. Performance evaluation of green roof and shading for thermal protection of buildings. *Building and Environment 40(11): 1505-1511*

Available at: UBC

Kurkinen, E.-L. W.. 2010. Low-Energy House with Heat Storage in the Ground Using Solar Collectors. *Proceedings of Thermal Performance of Exterior Envelopes of Whole Buildings XI Florida, USA*  
Available at: Public Libraries of B.C., ASHRAE

Kuznik, Frederic; Virgone, Joseph; Johannes, Kevyn. 2010. Development and validation of a new TRNSYS type for the simulation of external building walls containing PCM. *Energy and Buildings* 7: 1004-1009  
Available at: BCIT, UBC

Kyung-Soo Yoon, D.-W. K., Cheol-Soo Park. 2010. On-Line Real-Time Integrated Optimal Control of Building Environmental Systems Using Wired/Wireless Sensor Network. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*  
Available at: BCIT, CMHC, HPO

La Roche, P.. 2006. Green cooling: Combining vegetated roofs with night ventilation. *International Solar Energy Conference*

Lazzarin, R.M., Gasparella, A. and D'Ascanio, A.. 2003. Analysis of a green roof application to an industrial building. *International Journal of Ambient Energy* 24(1): 35-43

Lazzarin, R.M., F. Castellotti, and F. Busato. 2005. Experimental measurements and numerical modeling of a green roof. *Energy and Buildings* 37(12): 1260-1267  
Available at: UBC

Leckner, Mitchell; Zmeureanu, Radu. 2011. Life cycle cost and energy analysis of a Net Zero Energy House with solar combisystem. *Applied Energy* 1: 232-241  
Available at: UBC

Lemieux, D. J. and P. E. Totten. 2004. The importance of building envelope commissioning for sustainable structures. *Proceedings of Performance of Exterior Envelopes of Whole Buildings IX Clearwater, Florida, USA*  
Available at: Public Libraries of B.C.

Levy, M.. 2005. Plastics as a sustainable building element for today's construction industry. *Society of Plastics Engineers*

Li, Jian-feng; Wai, Onyx W. H.; Li, Y. S.; Zhan, Jie-min; Ho, Y. Alexander; Li, James; Lam, Eddie. 2010. Effect of green roof on ambient CO<sub>2</sub> concentration. *Building and Environment* 12: 2644-2651  
Available at: BCIT, UBC

Liang, Ruobing; Ma, Liangdong; Zhang, Jili; Zhao, Liang. 2013. Performance analysis of a new-design filled-type solar collector with double U-tubes. *Energy and Buildings* 0: 220-226

Available at: BCIT, UBC

Lingo Jr, Lowell E.; Roy, Utpal. 2013. A Ground-Coupled Dynamic Wall System for New and Existing Structures. *ASHRAE Transactions* 1: 1-11

Available at: BCIT, UBC

Liptan, T.. 2003. Planning, zoning and financial incentives for ecoroofs in Portland, Oregon. In *Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* May/29-30: 113-120

Liu, K.. 2002. Energy efficiency and environmental benefits of rooftop gardens. *Construction Canada* 44(2): 20-23

Available at: BCIT, UBC, VPL

Liu, K.. 2003. Engineering performance of rooftop gardens through field evaluation. *RCI 18th International Convention and Trade Show Tampa, Florida* Mar./13-18: 1-15

Liu, K. and B. Baskaran. 2003. Thermal performance of green roofs through field evaluation. In *Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* Chicago May/29-30: 273-282

Liu, K.. 2004. Engineering performance on rooftop gardens through field evaluation. *Journal of Roof Consultants Institute* 22(2): 4-12

Liu, K.. 2004. Sustainable building envelope - garden roof system performance. *2004 RCI Building Envelope Symposium New Orleans, LA*, Nov/4-5: 1-14

Liu, K.. 2005. Using garden roof systems to improve performance. *Solplan Review* Nov./125: 17-18  
Available at: VPL

Liu, K and B. Baskaran. 2005. Performance of green roof systems. *Cool Roofing Symposium Atlanta, GA*. May/12-13: 1-18

Liu, K and B. Baskaran. 2005. Thermal performance of extensive green roofs in cold climates. *World Sustainable Building Conference Tokyo, Japan* Sept./27-29: 1-8

Liu, K and A. Baskaran. 2005. Using garden roof systems to achieve sustainable building envelopes. *IRC Construction Technology Update No.65 Ottawa*

Liu, K and J. Minor. 2005. Performance evaluation of an extensive green roof. *Greening Rooftops for Sustainable Communities* Washington, D.C. May/5-6: 1-11

Lstiburek, J.. 2002. Using wood efficiently: from optimizing design to minimizing the dumpster. *Building Science Corporation*

Lucuik, M. and J. Meil. 2004. A full life-cycle environmental and cost evaluation of commercial wall envelope systems. *Proceedings of Performance of Exterior Envelopes of Whole Buildings IX Clearwater, Florida, USA*

Available at: Public Libraries of B.C.

M. Chanampa, F. O., J. Neila, C. Bedoya. 2010. System of Vegetal Gabion Façade Used as a Sustainable Option in Architecture. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*

Available at: BCIT, CMHC, HPO

Madurwar, Mangesh V.; Ralegaonkar, Rahul V.; Mandavgane, Sachin A.. 2013. Application of agro-waste for sustainable construction materials: A review. *Construction and Building Materials* 0: 872-878

Available at: UBC

Mahbub, A. S. K., Harn-Wei; Lee, Siew-Eang. 2010. A total building performance approach to evaluating building acoustics performance. *Architectural Science Review* 53(2): 213-223(11)

Available at: UBC

Manioglou, Gulden; Wouters, Joris; De Meulenaer, Veerle De; Hens, Hugo. 2007. Thermal Performance of a Passive House: Measurements and Simulation. *Thermal Performance of Exterior Envelopes of Whole Buildings X International Conference Florida, U.S.A.*

Marszal, A. J.; Heiselberg, P.; Bourrelle, J. S.; Musall, E.; Voss, K.; Sartori, I.; Napolitano, A.. 2011. Zero Energy Building – A review of definitions and calculation methodologies. *Energy and Buildings* 4: 971-979

Available at: BCIT, UBC

Maruejols, Lucie; Ryan, David L.; Young, Denise. 2013. Eco-houses and the environment: A case study of occupant experiences in a cold climate. *Energy and Buildings* 0: 368-380

Available at: BCIT, UBC

Mason, Y., A.A. Ammann, A. Ulrich, and L. Sigg. 1999. Behavior of heavy metals, nutrients, and major components during roof runoff infiltration. *Environmental Science and Technology* 33(10): 1588-1597

Mazzali, Ugo; Peron, Fabio; Romagnoni, Piercarlo; Pulselli, Riccardo M.; Bastianoni, Simone. 2013. Experimental investigation on the energy performance of Living Walls in a temperate climate. *Building and Environment* 0: 57-66

Available at: BCIT, UBC

McClelland, Michael; Stewart, Graeme; Ord, Asrai. 2011. Reassessing the Recent Past: Tower Neighborhood Renewal in Toronto. *APT Bulletin* 2/3: 9-14



Available at: UBC

McDonough, W., M. Braungart, P. Anastas, and J.B. Zimmerman. 2003. Applying the principles of green engineering to cradle-to-cradle design. *Environmental Science and Technology* 37(23): 434A-441A

Meng, Q. and W. Hu. 2005. Roof cooling effect with humid porous medium. *Energy and Buildings* 37: 1-9

Available at: UBC

Mentens, J., D. Raes, and N. Hermy. 2003. Effect of orientation on the water balance of green roofs. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* May: 363-371

Mentens, J., Raes, D. and Hermy, M.. 2006. Green roofs as a tool for solving the rainwater runoff problem in the urbanized 21st century?. *Landscape and Urban Planning* 77(3): 217-226

Metcalf, D. W.. 2010. Automated and Intelligent Facades. *Proceedings of International Conference of Building Envelope Systems and Technology (ICBEST) Vancouver, British Columbia*

Available at: BCIT, CMHC, HPO

Meyer Boake, T.. 2005. LEED: Evaluating the impact potential on building envelope design. *Proceedings of 10th Canadian Conference on Building Science and Technology Ottawa, Canada*

Available at: HPO, BCIT

Michaelides, I. M.; Eleftheriou, P. C.. 2011. An experimental investigation of the performance boundaries of a solar water heating system. *Experimental Thermal and Fluid Science* 6: 1002-1009

Available at: UBC

Miller, C.. 2003. Moisture management in green roofs. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Miller, C.. 2004. Performance based approach to preparing green roof specifications. *In Proc. of 2nd North American Green Roof Conference: Greening Rooftops for Sustainable Communities* June: 338-352

Miller, C. and D. Narejo. 2005. State of the green roof industry in the United States. *Geotechnical Special Publication. American Society of Civil Engineers*

Mingotti, N., T. Chenvidyakarn, et al.. 2011. The fluid mechanics of the natural ventilation of a narrow-cavity double-skin facade. *Building and Environment* 46(4): 807-823

Available at: BCIT, UBC

Mirzaei, P. A. and F. Haghighat. 2010. A novel approach to enhance outdoor air quality: Pedestrian

ventilation system. *Building and Environment* 45(7): 1582-1593  
Available at: BCIT, UBC

Mlakar, Jana; Strancar, Janez. 2011. Overheating in residential passive house: Solution strategies revealed and confirmed through data analysis and simulations. *Energy and Buildings* 6: 1443-1451  
Available at: BCIT, UBC

Mlecnik, E.; Schutze, T.; Jansen, S. J. T.; de Vries, G.; Visscher, H. J.; van Hal, A.. 2012. End-user experiences in nearly zero-energy houses. *Energy and Buildings* 0: 471-478  
Available at: BCIT, UBC

Moody, Seth S.; Sailor, David J.. 2013. Development and application of a building energy performance metric for green roof systems. *Energy and Buildings* 0: 262-269  
Available at: BCIT, UBC

Moran, A.C., Hunt, W.F., and J.T. Smith. 2005. Green roof hydrologic and water quality performance from two field sites in North Carolina. *Proceedings of the 2005 Watershed Management Conference - Managing Watersheds for Human and Natural Impacts*

Mosaffa, A. H.; Infante Ferreira, C. A.; Talati, F.; Rosen, M. A.. 2013. Thermal performance of a multiple PCM thermal storage unit for free cooling. *Energy Conversion and Management* 0: 1-7

Nemati, O., M. R. Collins, et al.. 2010. Experimental and Numerical Investigation of a Mechanically Ventilated, Multiple Skin Façade with Between-the-Panes Venetian Blinds. *ASHRAE Transactions* 116(1): 382-391  
Available at: BCIT, UBC

Niachou, A., K. Papakonstantinou, M. Santamouris, A. Tsangrassoulis, and G. Mihalakakou. 2001. Analysis of the green roof thermal properties and investigation of its energy performance. *Energy and Buildings* 33(7): 719-729  
Available at: UBC

Nyman, M., and C. J. Simonson. 2005. Life cycle assessment of residential ventilation units in a cold climate. *Building and Environment* 40(1): 15-27  
Available at: UBC

Oliver, Alicia. 2012. Thermal characterization of gypsum boards with PCM included: Thermal energy storage in buildings through latent heat. *Energy and Buildings* 0: 1-7  
Available at: BCIT, UBC

Onmura, S., M. Matsumoto and S. Hokoi. 2001. Study on evaporative cooling effect on roof lawn gardens. *Energy and Buildings* 33(7): 653-666  
Available at: UBC

Ouldboukhitine, Salah-Eddine; Belarbi, Rafik; Djedjig, Rabah. 2012. Characterization of green roof components: Measurements of thermal and hydrological properties. *Building and Environment* 0: 78-85  
Available at: BCIT, UBC

Pantalone, J.. 2005. Toronto green roof study sets stage for a cleaner and greener city. Green Roof Infrastructure Monitor. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* 7(2): 1,5

Pantic, S.; Candanedo, L.; Athienitis, A. K.. 2010. Modeling of energy performance of a house with three configurations of building-integrated photovoltaic/thermal systems. *Energy and Buildings* 10: 1779-1789

Available at: BCIT, UBC

Peck, S. and I. Wieditz. 2003. Key steps to developing local green roof infrastructure roof markets. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Peck, S. and D. Goucher. 2005. Overview of North American policy development and the policy development process. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Peck, S.. 2006. The greening of North America. *Building Envelope Forum Online Newsletter*

Perez, Gabriel; Rincon, Lidia; Vila, Anna; Gonzalez, Josep M.; Cabeza, Luisa F.. 2011. Green vertical systems for buildings as passive systems for energy savings. *Applied Energy* 12: 4854-4859  
Available at: UBC

Peri, Giorgia; Traverso, Marzia; Finkbeiner, Matthias; Rizzo, Gianfranco. 2012. The cost of green roofs disposal in a life cycle perspective: Covering the gap. *Energy* 1: 406-414  
Available at: UBC

Perini, Katia; Ottele, Marc; Fraaij, A. L. A.; Haas, E. M.; Raiteri, Rossana. 2011. Vertical greening systems and the effect on air flow and temperature on the building envelope. *Building and Environment* 11: 2287-2294

Available at: BCIT, UBC

Perry, M.D.. 2003. Green roofs offer environmentally friendly alternative. *Plant Engineering* 57(8): 54-56

Piccolo, A.. 2010. Thermal performance of an electrochromic smart window tested in an environmental test cell. *Energy and Buildings* 9: 1409-1417

Available at: BCIT, UBC

Prazak, J., M. Sir, and M. Tesar. 1994. Estimation of plant transpiration from meteorological data

under conditions of sufficient soil moisture. *Journal of Hydrology* 162(3-4): 409-427

Principi, Paolo; Fioretti, Roberto. 2012. Thermal analysis of the application of pcm and low emissivity coating in hollow bricks. *Energy and Buildings* 0: 131-142  
Available at: BCIT, UBC

Ray, Stephen; Glicksman, Leon. 2010. Potential Energy Savings of Various Roof Technologies. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference*

Renno, Carlo; Petito, Fabio. 2013. Design and modeling of a concentrating photovoltaic thermal (CPV/T) system for a domestic application. *Energy and Buildings* 0: 392-402  
Available at: BCIT, UBC

Reynders, G.; Nuytten, T.; Saelens, D.. 2013. Potential of structural thermal mass for demand-side management in dwellings. *Building and Environment* 0: 187-199  
Available at: BCIT, UBC

Richman, R. C.. 2010. Introduction to DBZ Concepts. *Proceedings of Building Enclosure Science and Technology (BEST2) Conference Portland, USA*  
Available at: HPO, BCIT

Richman, R. C., C. Cianfrone, et al.. 2010. More Sustainable Masonry Façades: Preheating Ventilation Air Using a Dynamic Buffer Zone. *Journal of Building Physics* 34(1): 27-41  
Available at: UBC

Rodriguez-Ubinas, Edwin; Ruiz-Valero, Letzai; Vega, Sergio; Neila, Javier. 2012. Applications of Phase Change Material in highly energy-efficient houses. *Energy and Buildings* 0: 49-62  
Available at: BCIT, UBC

Rostamizadeh, Mohammad; Khanlarkhani, Mehrdad; Mojtaba Sadrameli, S.. 2012. Simulation of energy storage system with phase change material (PCM). *Energy and Buildings* 0: 419-422  
Available at: BCIT, UBC

Rowe, D.B., C.L. Rugh, N. VanWoert, M.A. Monterusso, and D.K. Russell. 2003. Green roof slope, substrate depth, and vegetation influence runoff. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Rowe, D.B., M.A. Monterusso, and C.L. Rugh. 2006. Assessment of heat-expanded slate and fertility requirements in green roof substrates. *HortTechnology* 16(3): 471-477

Rowlands, Ian H.; Kemery, Briana Paige; Beausoleil-Morrison, Ian. 2011. Optimal solar-PV tilt angle and azimuth: An Ontario (Canada) case-study. *Energy Policy* 3: 1397-1409  
Available at: BCIT, UBC

Royon, Laurent; Karim, Laurie; Bontemps, Andre. 2013. Thermal energy storage and release of a new component with PCM for integration in floors for thermal management of buildings. *Energy and Buildings* 0: 29-35

Available at: BCIT, UBC

Sadineni, Suresh B.; Atallah, Fady; Boehm, Robert F.. 2012. Impact of roof integrated PV orientation on the residential electricity peak demand. *Applied Energy* 0: 204-210

Available at: UBC

Sailor, D. J. . 2008. A green roof model for building energy simulation programs. *Energy and Buildings* 40(8) : 1466-1478

Available at: BCIT, UBC

Sailor, D. J.; Hagos, M.. 2011. An updated and expanded set of thermal property data for green roof growing media. *Energy and Buildings* 9: 2298-2303

Available at: BCIT, UBC

Saiz, S., Kennedy, C., Bass, B. and K. Pressnail. 2006. Comparative life cycle assessment of standard and green roofs. *Environmental Science and Technology* 40(13): 4312-4316

Saiz-Alcazar, S. and B. Bass. 2005. Energy performance of green roofs in a multi storey residential building in Madrid. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Sakulich, A. R.; Bentz, D. P.. 2012. Incorporation of phase change materials in cementitious systems via fine lightweight aggregate. *Construction and Building Materials* 0: 483-490

Available at: UBC

Sartori, Igor; Napolitano, Assunta; Voss, Karsten. 2012. Net zero energy buildings: A consistent definition framework. *Energy and Buildings* 0: 220-232

Available at: BCIT, UBC

Shahsavari, A.; Salmanzadeh, M.; Ameri, M.; Talebizadeh, P.. 2011. Energy saving in buildings by using the exhaust and ventilation air for cooling of photovoltaic panels. *Energy and Buildings* 9: 2219-2226

Available at: BCIT, UBC

Shea, Andy; Lawrence, Mike; Walker, Pete. 2012. Hygrothermal performance of an experimental hemp-lime building. *Construction and Building Materials* 0: 270-275

Available at: UBC

Sherman, L. M.. 2004. Polyurethanes foams go 'green' at ever-lower cost. *Plastics Technology* 50 (12): 58-62

Sherman, R.. 2005. Compost plays key role in green roof mixes. *BioCycle* 46(3): 29-34.

Silva, Tiago; Vicente, Romeu; Soares, Nelson; Ferreira, Victor. 2012. Experimental testing and numerical modelling of masonry wall solution with PCM incorporation: A passive construction solution. *Energy and Buildings* 0: 235-245

Available at: BCIT, UBC

Singleton, P.. 2004. Green roofs. *Building Engineer* 79(8): 14-16

Slone, D.K. and D.E. Evans. 2003. Integrating green roofs and low impact design into municipal stormwater regulations. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Snell, J. and K. Neuhauser. 2005. Dynamic interactions and competing objectives in multi-family green building design. *Proceedings of 10th Canadian Conference on Building Science and Technology Ottawa, Canada*

Available at: HPO, BCIT

Snodgrass, E.. 2005. Extensive green roofs: Lessons learned. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Song, Uhram; Kim, Euijae; Bang, Jeong Hwan; Son, Deok Joo; Waldman, Bruce; Lee, Eun Ju. 2013. Wetlands are an effective green roof system. *Building and Environment* 0: 141-147

Available at: BCIT, UBC

Sonne, J.. 2006. Evaluating green roof energy performance. *ASHRAE Journal* 48(2): 59-61

Available at: BCIT, UBC

Spomer, L.A.. 1998. Water retention of light expanded clay amendment. *Communications in Soil Science and Plant Analysis* 29(9&10): 1265-1276

Stahl, Th; Brunner, S.; Zimmermann, M.; Ghazi Wakili, K.. 2012. Thermo-hygric properties of a newly developed aerogel based insulation rendering for both exterior and interior applications.

*Energy and Buildings* 0: 114-117

Available at: BCIT, UBC

Stazi, Francesca; Mastrucci, Alessio; di Perna, Costanzo. 2012. The behaviour of solar walls in residential buildings with different insulation levels: An experimental and numerical study.

*Energy and Buildings* 0: 217-229

Available at: BCIT, UBC

Stecher, Dave; Allison, Kate. 2012. Maximum Residential Energy Efficiency: Performance Results from Long-Term Monitoring of a Passive House. *ASHRAE Transactions* 1: 127-134

Available at: BCIT, UBC

Sun, Ting; Bou-Zeid, Elie; Wang, Zhi-Hua; Zerba, Eileen; Ni, Guang-Heng. 2013. Hydrometeorological determinants of green roof performance via a vertically-resolved model for heat and water transport. *Building and Environment* 0: 211-224

Available at: BCIT, UBC

Susorova, Irina; Angulo, Melissa; Bahrami, Payam; Brent, Stephens. 2013. A model of vegetated exterior facades for evaluation of wall thermal performance. *Building and Environment* 0: 1-13

Available at: BCIT, UBC

Tabares-Velasco, Paulo Cesar; Christensen, Craig; Bianchi, Marcus. 2012. Verification and validation of EnergyPlus phase change material model for opaque wall assemblies. *Building and Environment* 0: 186-196

Available at: BCIT, UBC

Takakura, T., S. Kitade, and E. Goto. 2000. Cooling effect of greenery cover over a building. *Energy and Buildings* 31: 1-6

Available at: UBC

Tan, P.Y., N.H. Wong, Y. Chen, C.L. Ong, and A. Sia. 2003. Thermal benefits of rooftop gardens in Singapore. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities*

Tenpierik, Martin J.; Hasselaar, Evert. 2013. Reflective multi-foil insulations for buildings: A review. *Energy and Buildings* 0: 233-243

Available at: BCIT, UBC

Terziotti, L. T.; Sweet, M. L.; McLeskey Jr, J. T.. 2012. Modeling seasonal solar thermal energy storage in a large urban residential building using TRNSYS 16. *Energy and Buildings* 0: 28-31

Available at: BCIT, UBC

Theodosiou, T.G.. 2003. Summer period analysis of the performance of a planted roof as a passive cooling technique.. *Energy and Buildings* 35(9): 909-917

Available at: UBC

Toppi, Tommaso; Mazzarella, Livio. 2013. Gypsum based composite materials with micro-encapsulated PCM: Experimental correlations for thermal properties estimation on the basis of the composition. *Energy and Buildings* 0: 227-236

Available at: BCIT, UBC

Touafek, Khaled; Haddadi, Mourad; Malek, Ali. 2013. Design and modeling of a photovoltaic thermal collector for domestic air heating and electricity production. *Energy and Buildings* 0: 21-28

Available at: BCIT, UBC

Traugott, A.. 2005. Take lead role in green design. *HPAC Heating, Piping, AirConditioning Engineering* 77(7): 13-14

Tzempelikos, A., A. K. Athienitis, et al.. 2010. Integrated Design of Perimeter Zones with Glass Facades. *ASHRAE Transactions* 116(1): 461-477  
Available at: BCIT, UBC

Van Renterghem, Timothy; Hornikx, Maarten; Forssen, Jens; Botteldooren, Dick. 2013. The potential of building envelope greening to achieve quietness. *Building and Environment* 0: 34-44  
Available at: BCIT, UBC

VanGeem, M. and M. Marceau. 2001. Partial environmental life-cycle inventory of single-family houses. *Proceedings of Performance of Exterior Envelopes of Whole Building VIII Clearwater, Florida, USA*  
Available at: Public Libraries of B.C.

VanWoert, N.D, D.B. Rowe, J.A. Andresen, C.L. Rugh, and L. Xiao. 2005. Watering regime and green roof substrate design affect sedum plant growth. *HortScience* 40(3): 659-664

VanWoert, N.D, D.B. Rowe, J.A. Andresen, C.L. Rugh, R.T. Fernandez, and L. Xiao. 2005. Green roof stormwater retention: Effects of roof surface, slope, and media depth. *J. Environ. Quality* 34(3): 1036-1044

Velazquez, L.S.. 2003. Modular greenroof technology: an overview of two systems. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* May: 204-214

Venkatarama Reddy, B.V. and K.S. Jagadish. 2003. Embodied energy of common and alternative building materials and technologies. *Energy and Buildings* 35(2): 129-137  
Available at: UBC

Vila, A.; Perez, G.; Sole, C.; Fernandez, A. I.; Cabeza, L. F.. 2012. Use of rubber crumbs as drainage layer in experimental green roofs. *Building and Environment* 0: 101-106  
Available at: BCIT, UBC

Villarreal, E. L., A. Semadeni-Davies, and L. Bengtsson. 2004. Inner city stormwater control using a combination of best management practices. *Ecological Engineering* 22(4-5): 279-298.

Villarreal, E. L. and L. Bengtsson. 2005. Response of a Sedum green-roof to individual rain events. *Ecological Engineering* 25(1): 1-7

Wark, C.G. and W.W. Wark. 2003. Green roof specifications and standards establishing an emerging technology. *Construction Specifier* 56(8): 76-82  
Available at: Public Libraries of B.C.



White, J.W. and E. Snodgrass. 2003. Extensive green roof plant selection and characteristics. *In Proc. of 1st North American Green Roof Conference: Greening Rooftops for Sustainable Communities* May: 166-176

Wong, N.H., D.K.W. Cheong, H. Yan, J. Soh, C.L. Ong, and A. Sia. 2003. The effects of rooftop garden on energy consumption of a commercial building in Singapore. *Energy and Buildings* 35: 353-364  
Available at: UBC

Wong, N.H., S.F. Tay, R. Wong, C.L. Ong, and A. Sia. 2003. Life cycle cost analysis of rooftop gardens in Singapore. *Building and Environment* 38(3): 499-509  
Available at: UBC

Wong, E.. 2005. Green roofs and the Environmental Protection Agency's heat island reduction initiative. *In Proc. of 3rd North American Green Roof Conference: Greening Rooftops for Sustainable Communities* May: 32-44

Wong, N.H., Wong, S.J., Lim, G.T., Ong, C.L., and Sia, A.. 2005. Perception study of building professionals on the issues of green roof development in Singapore. *Architectural Science Review* 48(3): 205-214  
Available at: UBC

Wong, N. H., A. Y. Kwang Tan, et al.. 2010. Thermal evaluation of vertical greenery systems for building walls. *Building and Environment* 46(5): 663-672  
Available at: BCIT, UBC

Wong, N. H., A. Y. Kwang Tan, et al.. 2010. Acoustics evaluation of vertical greenery systems for building walls. *Building and Environment* 45(2): 411-420  
Available at: BCIT, UBC

Wong, Nyuk Hien; Kwang Tan, Alex Yong; Chen, Yu; Sekar, Kannagi; Tan, Puay Yok; Chan, Derek; Chiang, Kelly; Wong, Ngian Chung. 2010. Thermal evaluation of vertical greenery systems for building walls. *Building and Environment* 3: 663-672  
Available at: BCIT, UBC

Xingjuan, Zhang; Bojie, Song; Qingyuan, Bai; Chunxin, Yang. 2013. Performance analysis on a new type of solar air conditioning system. *Energy and Buildings* 0: 280-285  
Available at: BCIT, UBC

Xu, Biwan; Li, Zongjin. 2013. Paraffin/diatomite composite phase change material incorporated cement-based composite for thermal energy storage. *Applied Energy* 0: 229-237  
Available at: UBC

Yang, Hong Seok; Kang, Jian; Choi, Min Sung. 2012. Acoustic effects of green roof systems on a

low-profiled structure at street level. *Building and Environment* 0: 44-55  
Available at: BCIT, UBC

Ye, Xingwang; Luo, Yingwu; Gao, Xiang; Zhu, Shiping. 2012. Design and evaluation of a thermochromic roof system for energy saving based on poly(N-isopropylacrylamide) aqueous solution. *Energy and Buildings* 0: 175-179  
Available at: BCIT, UBC

Yoon, S.-H., C.-S. Park, et al.. 2011. On-line parameter estimation and optimal control strategy of a double-skin system. *Building and Environment* 46(5): 1141-1150  
Available at: BCIT, UBC

Yudelson, J.. 2005. Understanding the marketplace for green buildings and green building products - 2004 update. *Construction Specifier* 58(1): 49-56  
Available at: Public Libraries of B.C.

Zari, Maibritt Pedersen. 2010. Biomimetic design for climate change adaptation and mitigation. *Architectural Science Review* 2: 172-183  
Available at: UBC

Zhang, Shuo; Niu, Jianlei. 2012. Cooling performance of nocturnal radiative cooling combined with microencapsulated phase change material (MPCM) slurry storage. *Energy and Buildings* 0: 122-130  
Available at: BCIT, UBC

Zirkelbach, D; Schafaczek, B; K&Auml;nzel, H. 2010. Long-Term Hygrothermal Performance of Green Roofs. *Thermal Performance of the Exterior Envelopes of Whole Buildings XI International Conference*

Zirkelbach, D., B. Schafaczek, et al.. 2010. Long-Term Hygrothermal Performance of Green Roofs. *Proceedings of Thermal Performance of Exterior Envelopes of Whole Buildings XI Florida, USA*  
Available at: Public Libraries of B.C., ASHRAE

Zobrist, J., S.R. M&uuml;ller, A. Ammann, T.D. Bucheli, V. Mottier, M. Ochs, R. Schoenenberger, J. Eugster, and M. Boller. 2000. Quality of roof runoff for groundwater infiltration. *Water Research* 34(5): 1455-1462