

## **A7 - LEEDing Green Interventions 2: Bright Ideas for Making Effective Use of Community Energy**

**Presentation # 1 title:** Lighting Urban Uses in a Rural Environment

### **Presenters:**

Audrey Rogers - Municipality of North Cowichan

Lori Garcia-Meredith - Healthy Green Buildings Consultants Ltd.

### **Abstract**

Rural and small town municipalities are often challenged by the integration of certain commercial/industrial land uses - for example malls or car lots - with adjacent rural uses such as agriculture, conservation areas, or rural residential. One concern is lighting the site; that is, determining the right amount, control, and quality of light especially in contrast to the dark rural setting. The issues created are one, contrasting urban/rural land use characteristics, needs and expectations; second, limiting energy use; and third, limiting the amount of light pollution. Utilizing a case study approach we hope to present the issue of light in the context of the surrounding uses and environment. We will provide information from the Illuminating Engineering Society of North America (IESNA) and the Dark Skies Association with respect to a "zonal" lighting methodology (expected to be released in 2008), implications of these standards, and alternative standards such as LEED (Leadership in Energy and Environmental Design) Green Building Rating System. Further we intend to discuss whether or not the various standards go far enough, and the potential options for implementation of lighting standards. The case study is a 42 acre site consisting of large format retail (over ½ million square feet of built space), smaller buildings and a motor vehicle sales lot located in North Cowichan. To reduce the impact on the surrounding area, an attempt was made to control lighting with respect to the amount of light, glare, and light trespass utilizing a LEED standard.

### **Speaker Biography**

Lori Garcia-Meredith LC, LEED AP is currently the lighting consultant for Healthy Green Buildings Consultants Ltd., a small consultancy in Victoria focusing on sustainable building practices. Previously, she was the Senior Technical Advisor for Lighting for BC Buildings Corporation and later for Shared Services BC improving the lighting and energy efficiency of existing provincial government buildings, and improving the designs and creating technical standards for new buildings. Lori also worked for an electrical engineering consulting firm in Burnaby BC and a lighting manufacturer near Boston Massachusetts. Lori received her degree of BSc in Architectural Engineering from the University of Colorado. She carries the LC (Lighting Certified) designation through the National Council on Qualifications for Lighting Professions, and is a LEED Accredited Professional. Her goal is to balance efficient lighting designs, lighting quality, and good value. Her philosophy is one of sustainability.

Audrey Rogers MEDes, MCIP enjoyed other careers before choosing planning as a profession, including the preparation of electrical energy efficiency studies, lighting re-design and, as project manager, overseeing the implementation to achieve the efficiencies. She obtained a Masters from EVDS from the University of Calgary and has completed the requirements for SFU's City Program, Urban Design Certificate. Audrey's planning experience includes current, urban design and policy planning in the pristine environment of Canmore (an early adopter of Natural Step program) and is now focused on current, urban design and policy planning in the transitioning resource based environment of North Cowichan on Vancouver Island.

**Presentation # 2 title:** Community Energy 101: An introduction to how we use energy, and a framework for advancing sustainable community energy systems

**Presenter:**

Robyn Wark – BC Hydro

**Abstract**

Have you been tasked with improving your community's greenhouse gas and energy performance? Are you looking for guidance on strategic actions your community might take? Come and listen to Robyn Wark from BC Hydro's Sustainable Community Group as she reveals latest trends on how we are using energy in BC communities, and some suggestions on how we can dramatically improve performance. Robyn will outline how BC emits more energy as waste heat than all the electricity energy used in the Province. She will challenge us to recapture this waste resource, to dramatically decrease "virgin" energy use and improve our energy sustainability. Robyn will present a framework for communities to strategize around community energy use, including the 4 Rs: Reduce Energy Consumption - through community design, green buildings, and efficient technologies. Reuse Waste Heat - including capture of industrial and commercial waste heat through district energy systems to use for heating buildings and hot water throughout the community. Renewable Heating - such as solar thermal and geo-exchange. Renewable Electricity - such as biomass/biogass combined heat and power, micro-hydro, solar, wind, geothermal, and tidal. This hierarchy is important to ensure effective use of investment dollars. Robyn will refer to case studies from throughout BC and the world, showing how these strategies are helping communities halve their energy use and greenhouse gas emissions. She will refer to ongoing research studies from the QUEST collaborative that measures financial and environmental benefits from integrated community energy systems. Looking forward, Robyn will discuss new technologies used elsewhere in the world that could help BC advance to be an energy leader in North America. She will describe how technologies such as smart grid, smart meters, and smart community design could transform communities' relationship to energy. Finally, Robyn will articulate potential roles for planners and community designers to advance sustainable energy. Energy planning has typically been the domain of provincial planners and technology experts. She will argue that municipal and regional government leadership is critical to gaining significant advances in energy sustainability, particularly in the context of a growing population. Robyn will provide examples of how energy planning can be integrated into design charrettes, community plans, neighbourhood plans, and community engagement.

**Speaker Biography**

Robyn Wark, MRM, MCIP is a Senior Key Account Manager in the Sustainable Communities Group at BC Hydro. The Sustainable Communities Group was created in 2008, with a mandate to support and encourage BC communities to make a fundamental shift in the way they plan for and use energy. The vision is to ensure we meet the energy supply needs of current and future generations, while also protecting ecological, social, and economic resources. Robyn works with local governments and communities to encourage the creation and implementation of integrated, community-wide energy strategies and the advancement of mixed-use, compact communities that can dramatically decrease energy consumption. Prior to her work with BC Hydro, Robyn consulted extensively throughout BC, and worked as the City of Burnaby environmental planner. She has lectured extensively on community design, public engagement and environmental planning through University, College, and professional development courses. Robyn is a professional planner, and holds a Masters degree in Resource and Environmental Management, and a Certificate in Urban Design.