



The Sheltair Group

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Sustainable Urban Pathways for Energy Resources in BC (SUPER BC)

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The Concept

SUPER BC will explore how new regional energy councils, combined with new planning processes and methods, can facilitate the transition to more sustainable, resilient and competitive energy systems for urban regions within BC.

The exploration will begin with a pilot exercise that focuses on a cross-section of community-based activities within the high-profile corridor stretching from downtown Vancouver (False Creek) through North Vancouver, Bowen Island, Squamish and Whistler. This extended 'Vancouver- Whistler' corridor encompasses a diverse range of communities, all of whom are grappling with difficult choices related to the design of new energy systems and the interaction between energy and land use, buildings and transportation, air quality and waste management. Moreover the corridor already encompasses many examples of innovation, and is an ideal location for growing BC's leadership position in urban energy and resource planning. With time the focus of the pilot will expand to include the remainder of the lower mainland and BC. Those aspects of the pilot that are found to be successful will be offered as a template for urban regions elsewhere, providing a working example of effective governance, new planning tools, and 'leading edge' practices.

A central element to the pilot will be the creation of a prototype **Regional Energy Council**, designed to build upon the many energy and climate-change activities within the corridor, and to foster innovation and shared learning across BC's energy and urban sectors. At the moment, no one group has the mandate to develop a regional energy plan that integrates and optimises the mix of energy resources, and that ensures positive synergies between the emerging energy technologies and the urban systems which drive energy demands. However energy systems are cross-cutting by nature, are geographically specific, and have long lead times. System-wide solutions are only possible if groups can meet in a collaborative fashion to establish consensus on how they might fit together as a whole system. And if such meetings occur at the scale of the urban region, it becomes possible to translate visions into specific strategies, plans and policies. The energy and urban sectors can contribute to each other's demonstration projects and innovations, align their respective plans, and in general use their unique mandates and resources to contribute to a common long-term pathway for energy sustainability.

To be successful, the pilot Regional Energy Council will need to include representatives from all levels of government and from the major energy corporations. The council should also include the region's centres of academic expertise in urban design and energy systems modelling, as well as civil and private sector players with expertise in community energy education and planning. The council's activities will need to strike a balance between long-term integrated



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research and planning, on the one hand, and the identification of specific 'catalyst' projects and policies on the other. Catalyst projects refer to on-the-ground activities that are consciously designed (or modified) to represent a collaborative approach, and that are intended to stimulate the types of changes most needed at this time in this location. Workshops and design charettes will be needed to add depth to specific catalyst projects, and to add colour and energy to the integrated planning process. The Council may want to present their many isolated activities as part of a coherent package, so as to help brand the region as a leader in energy technology, and decision support systems. And the Council should, in itself, represent an innovation in energy governance and planning that can be showcased on the world stage.

The Key Building Blocks

Preliminary meetings with stakeholders suggest that a critical mass of supportive people and ideas is now available to make SUPER BC possible, and to create a truly effective pilot. Local municipalities, and the Ministry of Environment, will play a key role. Other major players include:

Power Technology Task Force

SUPER BC specifically addresses the Premier's **Power Technology Task Force** vision for growing a world-class power technology cluster in a smart, sustainable British Columbia. 'Sustainable Urban Practices' is one of four key themes identified within the vision. This theme will consolidate leadership in sustainable community planning, urban growth management, green buildings, DSM and distributed 'grid-tied' energy generation. Strategically, the **Task Force** has emphasised the value of branding the region, establishing collaborative leadership and working teams, coordinating research activities around a common vision, and supporting centres of innovation. **SUPER BC** embodies all these attributes.

Sustainable Region Initiative

The GVRD launched the **Sustainable Region Initiative** (SRI) in 2001 to identify public values regarding regional sustainability, principles that should guide regional development, and key actions required. Today, the **SRI** is the overarching framework for all GVRD activities, and includes a number of partnerships with private sector and NGOs. In January 2004 the **SRI** established terms of reference for a collaborative **Energy Task Force** that would include a range of partners similar to what is proposed for the Regional Energy Council. The launch of the **Energy Task Force** was delayed to accommodate the work of the **PTTF**. Johnny Carline, CAO of the GVRD, has proposed that the Regional Energy Council substitute for **SRI** Task Force and adopt some of the terms of reference of the **Energy Task Force**¹.

¹ Terms of Reference for the SRI Energy Task Force include: "creating a region that is energy-efficient and maximizing its production and use of sustainable energy. Top priorities requiring broader partnership group are:



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BC Hydro and Terasen

In the lower mainland the two major energy corporations are BC Hydro and Terasen. Both of these utilities are engaged in long-term forecasting, and are exploring alternative energy technologies. Both are committed to exploring regionally specific approaches to energy system design, and both have a strong commitment to sustainability. Both are also facing new competitive and institutional arrangements, which ultimately will require a more collaborative, strategic and adaptive approach to energy planning. Bruce Sampson and Karen Leach, on behalf of BC Hydro, and Doug Stout and David Bodnar on behalf of Terasen, have agreed to co-chair **SUPER BC's Regional Energy Council**.

Bridging to the Future

Bridging to the Future (BttF) is an international project that will demonstrate how urban regions can manage the transition to sustainable energy systems. The project is the second phase of the industry-led International Gas Union's **Sustainable Urban System Design** competition, that took place between 2001-2003 and that focused on the creation of 100-year designs for nine existing metropolitan areas world wide. Team Canada's **cities^{PLUS}** submission won the competition. Canada's team leaders were invited by the IGU to create Phase II: **BttF**. This second phase of work entails a collaborative effort by some of the most enthusiastic and highly qualified teams including Canada, India, the Netherlands and China. Instead of a competition, the project will be a collaborative exercise to develop an international approach to integrated, long-term urban energy planning. The tools, and all of the learning, are being shared with interested parties through the project web site: www.bridgingtothefuture.org. The four core teams will meet periodically and will adopt a core set of analytical models, indicators and visualisation tools. Each regional team will be a collaborative made up of local governments and utilities, universities and local businesses. The final results will be presented to 6000 energy industry leaders at a 2-hour plenary session of the World Gas Conference in Amsterdam, next June. The BttF project is being managed for IGU by Sebastian Moffatt, CEO of the **CONSENSUS Institute**, a Vancouver-based not-for-profit. We are proposing that **SUPER BC's Regional Energy Council** become the *de facto* Team Canada, and the work of the council be informed and enriched by input from **BttF's** international teams, and by exposure to the energy industry world-wide.

Federal Departments and Programs

SUPER BC's Regional Energy Council provides a means for the region to benefit more directly from the array of Federal programs and resources that exist to assist with energy systems planning and with local energy efficiency and conservation. Key

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1. Demonstrate new technologies for energy conservation, energy recovery, energy generation, and facilitate their implementation in Greater Vancouver (e.g. partnership between Hydro, Terasen and municipalities to reach existing buildings; developing cogeneration and district heat systems);
 2. Strengthen the institutional framework to foster sustainable energy systems (e.g. municipal energy plans and bylaws; provincial building code amendments; fleet and vehicle standards); and
 3. Increase the demand for and use of clean energy in Greater Vancouver."



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federal departments include Natural Resources Canada, Environment Canada , Transport Canada and Industry Canada, as well as the Canada Housing and Mortgage Corporation (CMHC). The ***cities^{PLUS}*** exercise brought all these federal players together as part of a regional planning exercise. Western Diversification and Industry Canada have offered to assist with involving a similar partnership for SUPER BC. Some federal involvement are already committed to assisting the region. NRCan's PATHWAYS division has partnered with the CONSENSUS Institute for the purpose of developing better Decision Support Systems, using a combination of software tools to enhance the region's plans and catalyst projects. CMHC has indicated they may support a regional charette (as they did for ***cities^{PLUS}***), particularly if we explore the potential for net zero housing in the corridor, using a combination of DSM and smart grid technology.

UBC and SFU

Groups of academics within both major universities in the region have agreed to support the SUPER BC Regional Energy Council. At UBC, the ***Centre for Community Design*** (Patrick Condon and Elisa Campbell) have agreed to participate in the Council, and more specifically to integrate their existing plans for a regional planning charette, if appropriate. In preparation, they have added an energy theme to the work they are doing on community design with students and colleagues. At SFU the ***Energy and Materials Research Group*** (EMRG) has agreed to support the Council's development of a long-term integrated energy plan for the region. Mark Jaccard has agreed to serve as an expert advisor to the Council.

FCM

A potential participant in the Council, FCM has recently revised its Green Funds to include a focus on community sustainability planning and integrated projects. The Council would appear to be a good example of such an initiative and may qualify for funding. Regardless, FCM has already agreed to participate with the Regional Energy Council in hosting a proposed World Urban Forum networking session in Vancouver in June 2006. Such a session would showcase the SUPER BC experience, along with other ***BttF*** teams, and explore with delegates the state-of-the-art in regional energy planning.

Community Energy Association

The ***Community Energy Association*** (formally BC's Energy Aware Committee) is a non-profit society promoting energy conservation, energy efficiency and green energy supplies through community energy planning and project implementation. Recently CEA received substantial funding from Infrastructure Canada to enhance awareness and knowledge of energy best practices within BC's municipalities. CEA is already working closely with the Union of BC Municipalities (UBCM) for this purpose. They have agreed to participate in the Regional Energy Council, and where appropriate to help in transferring the insights and learning to other urban regions within BC.



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Funding and Administration

The scope of the SUPER BC pilot project requires a one to three-year commitment by participants. The first year will be the most intensive in terms of time and expense, due to the combination of background research, workshops and events. Funding and operations for years two and three should be contingent upon successful outcomes in year one, and on the willingness of participants. Core funding is needed to cover the costs of a secretariat that will organise and facilitate meetings of the Council and expert advisors, and prepare the background information papers and communiqués.

It is anticipated that the Council will also require research support for developing a consensus-driven regional energy pathway, and for applications of Decision Support Systems (DSS) on the catalyst projects. The Council may also want to host several 'integration' workshops and a regional charette, and contribute to the World Gas Conference and the World Urban Forum. The Secretariat can support all of these requirements by augmenting the core funding. There are two options for dealing with these as yet undetermined needs; they could be treated as separate projects, each predicated on a separate fund-raising strategy; or a pool of funds for research and events can be created at the outset and accessed once tasks are defined and approved. In both approaches, specific budgets and deliverables must be developed.

The Council will meet bi-monthly to guide the project and supervise expenditures. A circle of senior advisors will need to meet more frequently as research and planning activities commence. One or more core team leaders will be selected by the Council to manage the Secretariat's work day-to-day. For the first year the secretariat functions will be contracted to The Sheltair Group - essentially employing the same consultancy and subcontractors that supported the *cities^{PLUS}* exercise.

Estimated Core Budget for SUPER BC Secretariat

Function	Secretariat Tasks	Fees ²
Administration & Communications	<ul style="list-style-type: none"> ✍ Organize meetings, take minutes, track decisions, distribute agendas, etc. ✍ Maintain contact database and documentation 	\$25,000
Facilitation	<ul style="list-style-type: none"> ✍ Facilitate Regional Council meetings 	\$15,000
Total Core Funding		\$40,000

Additional Funds Required for Selected Research and Events

Research support	<ul style="list-style-type: none"> ✍ Write papers (e.g. assessment of energy-related plans, projects, and mandates) ✍ Develop a Pathway & DSS on catalyst projects 	\$75,000 +
Participatory process	<ul style="list-style-type: none"> ✍ Organize key events for stakeholders including Workshops, charette and conferences 	\$50,000 +
Total Extra Funding		\$125,000

² Fees based upon favoured client rates: \$45/hr admin, \$65 to \$125/hr for event facilitation & research by core team or outside experts.