

FIRM PROFILE

GF Shymko & Associates is an award-winning multi-disciplinary building engineering firm specializing in energy and environmental performance.

A Canadian leader in sustainability engineering, GF Shymko & Associates brings creativity and innovation to design teams working on next-generation high performance buildings. We have provided design facilitation and energy engineering for some of Canada's most advanced buildings, including LEED® Gold and Silver projects. We are also well-known for our international policy and committee work.

Our objective at GF Shymko & Associates is well-designed, highly efficient and cost effective sustainable buildings. Our basis is technical, but our focus is on design – we believe that money is better spent on careful design than on the latest technological trend. Our philosophy is that technology should support the fundamental design process, not lead it.

Conventional buildings are the result of design processes which are usually less than ideal. Each design discipline tends to work strictly within its own realm, seeking design solutions according to its own paradigm. The pursuit of higher building performance then takes the form of an expensive layering of technological fixes which really do not address performance issues at the fundamental level.

GF Shymko & Associates has the broad technical foundation in all disciplines necessary to understand how building systems work together and how to integrate the pieces into an optimized whole building. We provide two services to the design team: technical expertise in energy and environmental issues, and facilitation of better design integration between all the disciplines. The common term for this approach is Integrated Design Process, or IDP.

SERVICES

New Building Design

We provide a full range of multi-disciplinary advisory services in advanced or sustainable design. We are pioneers in using computer simulation as a dynamic design tool.

- Developing project performance goals
- IDP design facilitation
- Energy and sustainability engineering
- Advanced building simulation
- LEED® design and coordination
- Green Globes™ consultation and certification
- Assistance with government and utility green building incentive programs
- Geothermal system design
- Innovative HVAC research and design
- Renewable energy technologies

Improvements to Existing Buildings

We examine facilities for cost savings opportunities or for problem resolution, including:

- Energy analysis and retrofit planning
- Environmental performance assessments
- Indoor air quality diagnosis and remediation

Energy Performance Contract (EPC) Advice

Our direct experience in EPC allows us to offer independent review and advice at all phases of an EPC project, from concept to monitoring and verification.

For Government and Utility Groups

We are highly experienced in all aspects of demand-side management, sustainability planning, and program development and deployment.

GORDON F. SHYMKO, P. ENG.

With over 24 years of experience in energy conservation and analysis, energy performance contracting, alternative energy development, and sustainable building engineering, Gord Shymko is a recognized leader in energy and sustainability engineering. His unusually thorough and broad knowledge of all building systems is backed by many years of experience as an accomplished and creative mechanical designer. This enables him to bring a true multi-disciplinary perspective to all of his projects.

Gord began his career in 1983, after receiving a mechanical engineering degree from the University of Manitoba, where he also completed advanced business studies. He joined the Winnipeg consulting engineering firm E. J. Faraci & Associates and immediately developed an interest in energy efficiency. He formed a research division to examine energy conservation, solar energy, groundwater/groundsource heat pumps and other leading technologies. He became Manager of Special Projects in 1989, directing engineering efforts for large and complex projects with energy or environmental goals.

Gord formed his own consulting firm, GF Shymko & Associates, in 1991 and eventually relocated to Vancouver. In 1993, he scaled back his independent consulting operation in order to join D. W. Thomson Consultants of Vancouver. His mandate at DWT was the development of a new Energy and Environmental Division. This group quickly developed a reputation as one of North America's pre-eminent consultants for advanced building design. Gord became a partner in DWT in 1994.

In 1995, D. W. Thomson and Engineering Interface Ltd. / Tesco Energy Services Inc. (Toronto) formed a joint venture company called Tesco Pacific, with Gord Shymko as President and General Manager. In addition to absorbing and continuing the services of DWT's Energy and Environmental group, Tesco Pacific's prime business focus was Energy Performance Contracting (EPC). Gord's responsibilities

expanded to regional management of Tesco's western national operations in BC, Alberta, Saskatchewan and Manitoba.

In early 1998 Gord re-activated his consulting firm GF Shymko & Associate to more directly pursue interests in sustainable design, and in late 1998 he relocated his main company office to Calgary. From this base Gord services projects nationally and internationally.

Notable achievements include design facilitation and energy engineering of the majority of CANMET C-2000 Advanced Building projects in Canada, including two of Canada's three entries in the 2002 international Green Building Challenge. Gord's projects have received awards at the national level, and he holds current and past advisory appointments to the Canadian Ministry of Energy Mines and Resources, the United States Department of Energy, the National Research Council of Canada, the Canadian Standards Association, the US and Canadian Green Building Councils, the ANSI Green Building Initiative, and several provinces and municipalities. He is a LEED® Accredited Professional and was a pre-approved Design Facilitator for C-2000 for the ten year duration of the program. Gord was also appointed to the Canadian National Committee for the international Green/Sustainable Building Challenge in 2000, 2002, and 2005, is continuing that role for SBC in 2008.

Gord is a registered engineer in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and the Yukon. His project portfolio represents several billion dollars in construction value.

As an active member of the design community, Gord continuously performs educational and other technology transfer services for the building industry. He is a frequently invited guest speaker and often consulted as an expert in the field by the media.

REPRESENTATIVE PROJECTS

Innovative Design and Analysis

- **Life Sciences Centre, University of BC, Vancouver BC**
A CBIP and LEED® Gold Project. BOMA Earth Award, 2005. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Government of Canada Building (Greenstone), Yellowknife, NT**
A LEED Gold Project. Canadian Poster Project Entry, International Green Building Challenge, 2005. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Red River College, Princess Street Campus, Winnipeg MB**
A CANMET C-2000/CBIP Project. One of three Canadian Entries in the International Green Building Challenge, 2002. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems of a redevelopment of a historical site.
- **Bentall V Office Tower, Vancouver BC**
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Mayo Replacement School, Mayo YT**
A CANMET C-2000/CBIP Project. One of three Canadian Entries in the International Green Building Challenge, 2002. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Mexican National Library, Mexico City**
Concept design of building energy and sustainability systems.
- **Yukon Energy Corporation Head Office, Whitehorse YT**
A CANMET C-2000/CBIP Project. Canadian National Energy Efficiency Award, 1999. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Alice Turner Public Library, Saskatoon SK**
A CANMET C-2000/CBIP Project. Finalist, Canadian National Energy Efficiency Award, 1999. Design facilitation and engineering under the C-2000 program, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Hinton Municipal Complex, Hinton AB**
A CANMET C-2000/CBIP Project. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Building 8, Crestwood Commercial Park, Richmond BC**
A CANMET C-2000 Demonstration Project. Finalist, Canadian National Energy Efficiency Award, 1999. BC Hydro Award of Excellence, 1996. Conceptualization, design development, and energy optimization of advanced-technology architectural and building systems for an office complex.
- **Whitehorse Multiplex Phase 2, Whitehorse, YK**
A CBIP Project (under construction). Design facilitation and engineering under CBIP, addressing all aspects of energy performance of the architectural and building systems including innovative integrated ice plant and HVAC systems.
- **John G. Diefenbaker Air Terminal, Saskatoon SK**
A CANMET C-2000/CBIP Project. Design facilitation and engineering under CBIP, addressing all aspects of energy performance of the architectural and building systems including post-design C-2000 evaluation.

- **College of Kinesiology, University of Saskatchewan, Saskatoon SK**
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Broadway Technology Centre, Vancouver BC**
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a multi-building office complex.
- **IBM Beltline Office Campus, Calgary AB**
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Intuit Software Building, Edmonton AB**
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Richmond City Hall, Richmond BC**
A CBIP project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Grandin Green Condominium Complex, Edmonton AB**
A CMHC/CBIP Project. Energy and environmental engineering of a green high-rise housing complex under the CBIP program.
- **Agriculture Canada PARC Research Facility, Agassiz BC**
Expert review and concept design of a groundwater heat pump system utilizing Aquifer Thermal Energy Storage (ATES) (under construction)
- **Boeing of Canada, Murray Park Plant, Winnipeg MB**
Conceptualization, design development and energy optimization of largest groundwater heat pump HVAC system in North America at time of installation.
- **Nova Scotia Power Corporation Computer Centre, Sidney NS**
Conceptualization, design development and energy optimization of specialized HVAC system for the main computerized electrical grid control system for Nova Scotia.
- **NRC Science Place Canada, Winnipeg MB**
Passive solar design and general energy optimization of building systems. First major project in Canada to utilize DOE computer energy simulation.
- **Keystone Centre Expansion, Brandon MB**
Design of mechanical systems and energy-efficient ice plant for the largest combined multi-use sports, convention and agri-expo complex in Canada, including the first supercharged ammonia heat recovery ice plant designed and installed in Canada.

Energy Auditing and Energy Conservation Retrofits

- **City of Saskatoon Pilot EPC Projects, Saskatoon SK**
Technical, financial, and contractual advisory services to the City of Saskatoon for a pilot EPC project for five recreational facilities.
- **Regina Public School District EPC, Regina SK**
- **Brandon General Hospital, Winnipeg MB**
- **Concordia General Hospital, Winnipeg MB**
- **Price Waterhouse Building, Vancouver BC**
- **Fairview Centre Office Complex, Vancouver BC**
- **Prime Capital Building, Vancouver BC**

- **Fairview Point Office Tower, Vancouver BC**
- **Department of National Defence Base, North Bay ON**
- **Department of National Defence Base, Cold Lake AB**

Geothermal and Other Alternative Energy Projects

- **Douglas Border Crossing, Peace Arch BC (under construction)**
Groundwater heat pump.
- **Agriculture Canada PARC Facility, Agassiz BC**
Groundwater heat pump with ATES.
- **Bristol Aerospace Plant, Winnipeg MB**
Groundwater heat pump.
- **Boeing of Canada, Murray Park Plant, Winnipeg MB**
Groundwater heat pump.
- **Concordia Hospital, Winnipeg MB**
Groundwater heat pump.
- **Over 20 Public Schools, Manitoba, Ontario and BC**
Groundwater and groundsource heat pumps.

Specialized Projects

- **Green Building Challenge, GBTool**
Development of the energy performance assessment criteria for an international competition and showcase of sustainable building projects.
- **Thompson General Hospital, Thompson MB - Functional and Energy Performance Assessment**
Assessment of functional and energy performance using advanced building simulation techniques.
- **Development of Energy Efficiency Programs - Province of Alberta Climate Change Central**
Development of a suite of energy efficiency programs for the province of Alberta (in conjunction with the Pembina Institute, 2002-2003).
- **BEPAC**
Pilot testing, final development and national implementation of the Building Environmental Performance Assessment Criteria program for commercial buildings. National and BC sponsors.
- **Grandin Green Energy Performance Reconciliation**
Post-construction reconciliation and verification of energy performance relative to design energy simulations
- **MNECB Compliance Software Beta Testing and Development**
Testing and development of DOE-based compliance software for the Model National Energy Code for Buildings.
- **Environmental Guidelines: University, college and institutional facilities**
Wrote HVAC sections and supported all other sections for this design and performance guideline manual for the province of British Columbia, 1995.
- **Canadian Model National Energy Code Evaluation**
Detailed micro and macro analysis of projected energy savings for new BC buildings, over a 20-year period, due to proposed implementation of the National Energy Code for Buildings.