

# Curriculum Vitae for Stephen J. Salter, PEng

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**Education** BAsc (Mechanical Engineering), University of British Columbia, 1982  
International Baccalaureate, United World College of the Atlantic, 1976

**Professional Qualifications** Registered Professional Engineer and member, APEGBC

**Employment History**

1991 - Present	<i>President</i> <b>Farallon Consultants Limited</b> , Victoria
1989 to 1991	<i>Quality Assurance Manager</i> <b>Scott Paper Limited</b> , Vancouver
1986 to 1989	<i>Quality Assurance Manager</i> <b>Microtel Limited</b> , Burnaby
1984 to 1986	<i>Manufacturing Engineering Manager</i> <b>Microtel Limited</b> , Burnaby
1982 to 1984	<i>Manufacturing Engineer</i> <b>Babcock &amp; Wilcox</b> , Cambridge

**Areas of Specialty** Farallon ([www.farallon.ca](http://www.farallon.ca)) helps companies and communities find practical ways to reduce their environmental impacts, through conservation of resources and by recovering value from waste streams. Farallon offers environmental consulting services in three areas:

## **Industrial Ecology**

Consulting in this area is based on principles of The Natural Step process, in which "waste" energy and materials from one organization become resources for others. Examples of industrial ecology include using waste heat from factories to replace fossil fuels for heating greenhouses, and converting municipal waste into biofuels.

## **Greenhouse Gas Inventory Management Systems**

GHG Inventory Management Systems help organizations measure their greenhouse gas emissions, as a first step toward making meaningful reductions. The Management Systems are based on the ISO 14064 standard and Intergovernmental Panel on Climate Change and World Resources Institute guidelines, and the consulting work includes identifying and quantifying the benefits of greenhouse gas reduction projects within the firm.

## **Environmental Management Systems**

Farallon has worked with over ninety organizations in Canada, the USA and Chile to help them improve the quality of their management and environmental practices. The emphasis in this area is on integrating environmental management into existing business practices, and on using the EMS to improve the financial as well as the environmental performance of the organization.

### **Recent Representative Projects**

**Quesnel Community and Economic Development Corporation**, 2008: Farallon completed a study (*Resource Recovery Options for the Sustainable Community of Quesnel*) to identify and evaluate opportunities to recover energy and water from industrial and community waste streams, including wood residues from timber killed by the Mountain Pine Beetle. The study evaluated the economic, social, and environmental costs and benefits of resource recovery options such as mining industrial landfills for wood waste, gasification of wood waste to produce green electricity and heat for district heating, anaerobic digestion of industrial and community organic waste to biomethane, and recovering industrial waste heat for district heating. The final report recommended a shortlist of projects for development by a Municipal Energy and Resource Recovery Corporation to be owned by the City of Quesnel. Farallon subsequently managed the subconsultants responsible for feasibility studies for these projects.

In April 2009, the Ministry of Small Business, Technology and Economic Development awarded a \$4.1 million grant to the community electricity and heat project under the Innovative Clean Energy Fund.

**Royal Roads University**, 2008: In collaboration with WorleyParsons and Richard Iredale Architects, identified and evaluated opportunities for making the University self-sufficient with respect to electricity, heat, and water (*Sustainable Organization of Energy, Water and Material Flows for Royal Roads University*). Opportunities included water reuse, biogas production from community waste, and gasification of wood residues from the community to provide green electricity and heat for the campus and adjacent residential developments through a district heating system. Worked with Douglas Enns & Associates to develop business cases for the biogas and gasification facilities.

**Ministry of Community and Rural Development**, 2008: Co-authored *Resources from Waste: Integrated Resource Management Phase I Study Report* which details the environmental, social, and economic costs and benefits of recovering resources from municipal waste streams. Farallon is currently helping the Ministry with its efforts to encourage municipalities to incorporate resource recovery planning into their infrastructure decisions. The report is available at [www.cd.gov.bc.ca/ministry/docs/IRM\\_report.pdf](http://www.cd.gov.bc.ca/ministry/docs/IRM_report.pdf)

**Ministry of Community Services**, 2009: Wrote the *Resources from Waste: A Guide to Integrated Resource Recovery* in collaboration with Dr. Jon O'Riorden. This guide is intended to introduce individuals involved in planning municipal infrastructure to the technologies for recovering resources from waste. The guide is available at [www.cd.gov.bc.ca/lgd/infra/library/resources\\_from\\_waste.pdf](http://www.cd.gov.bc.ca/lgd/infra/library/resources_from_waste.pdf)

**Vantreight Farms**, 2008: Completed a feasibility study for this 300 hectare farm for the option of converting farm and community waste into biomethane and residual fertilizer by means of an anaerobic digester. Biomethane produced by the digester can produce electricity and heat for the farm via cogeneration, and excess heat can be provided to the community through a district heating system.

**City of Colwood**, 2008: Co-authored a pre-feasibility study (*Towards "Grid Positive, Carbon Neutral and Water Smart"*) for this city of 15,000. The study examined the potential for recovering resources from distributed wastewater treatment plants.

**Catalyst Paper Corporation**, 2007: Developed a Greenhouse Gas Inventory Management System for the corporation's six operations, including four pulp and paper mills, a paper recycling division, and a fibre supply operation. The system was certified by Det Norske Veritas to the ISO 14064 standard for greenhouse gas inventory management systems.

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***Presentations and Articles*** I have taught public and in-house workshops on environmental management, and given numerous public presentations, radio, and television interviews on recovering resources from waste streams. Conference presentations have included:

- *Water in the City* in Victoria in 2006
- *Pacific Organic Residuals Symposium* at UC Davis in 2008
- *Puget Sound Ecosystem Conference* in Seattle in 2009
- *International Energy Agency Biofuels Conference* at UBC in 2009

Workshop presentations have been presented at University of Victoria, UBC, the BC Sustainable Energy Association, the Fraser Basin Council, and Pearson College. I have also written articles on environmental management and industrial ecology, including a chapter in the book *Reusing the Resource*.

***Volunteer Commitments*** Since 2004, I have volunteered with environmental non-governmental organizations, including the Georgia Strait Alliance, the TBuck Suzuki Environmental Foundation, and Ecojustice Canada.

Since 2003, I have served on the Canadian Selection Committee for the United World Colleges, based at Pearson College in Victoria.