



Eric Camirand, Eng. President

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EDUCATION AND MEMBERSHIPS

Bachelor of Engineering, Electrical Engineering, McGill University, 1993

Renewable Energy Training, RETScreen International, National Resources Canada, 2004

Member of Quebec engineering association : *l'Ordre des ingénieurs du Québec* (OIQ # 145774)

Founding president of *Biogaz Québec*, 2008

Member of the Canadian Society of Bioengineering (CSBE, SCGAB)

Member of the *American Society of Heating, Refrigerating & Air-Conditioning Engineers*

Founding Member of Open DVD Association, 1998-2001

Chairman Open MPEG consortium, 1995-2000

Member of SWANA (Solid Waste Association of North America)

Member of Agrienergy producers' association of Ontario

SELECTED EXPERIENCE

Electrigaz Technologies Inc.	Trois-Rivieres, QC	2004 – present
Engineering firm specialized in the development of biogas projects.		

President

Task description

Manage all Electrigaz projects, staff and sub-contractors.

In charge of sales force and client management.

Establish business relationships with designers, equipment dealers and biogas researchers here and abroad.

Stay informed about new technology development in anaerobic digestion, biogas processing and organic waste management.

Present at conferences and workshops on technical, environmental, economical and political issues regarding the development of anaerobic digestion projects in Canada and USA.

Stay in touch with new biogas projects as well as national and international policies development on biogas.

Perform economical analysis and development of financial model for various biogas projects.

Develop sophisticated tools (spreadsheets) allowing quick evaluation of technical and economical feasibility of biogas projects.

Realization

Research and development of proprietary online software for preliminary evaluation of biogas projects.

<http://www.electrigaz.com/kefir/index.php>

Gaz Métro Montreal, QC

Analysis of all potential biomethane projects in Quebec. Recommendation of approach to qualify and answer potential biomethane producer concerns.

BC Bioenergy Network, Vancouver, BC
Feasibility Study – Due Diligence Review: Agricultural Waste to Green Energy and fertilizer project.

Happy Acres, Eastsound, WA
Preliminary design of an anaerobic digestion process for wastewater sludge and grease trap treatment.

Zhang Project, Hebei Province, China
Organic waste survey and analysis for the construction of a centralized biogas plant. On site visit of waste producers and operator. Preliminary design of an anaerobic digestion plant.

Earthreanu, Vancouver, BC
Analysis of organic waste material and bioenergy potential for industrial and agricultural material.

Ashworth Farm, New-Brunswick
Preliminary engineering and economical analysis for a farm based anaerobic digester using manure and silage as feedstock.

Concordia University, Montreal
Preliminary engineering and cost assessment of an anaerobic digester to be located downtown Montreal on the University campus.

Guelph University, Ontario
Development and presentation of a course on the principles and design of anaerobic digesters.

Centre Local de Développement Repentigny
Conceptual, environmental and economical analysis for the construction of a coop food waste treatment plant where biogas is being reused on site.

British Columbia Innovation Council, Vancouver
Technical review and economical analysis of biogas upgrading technologies to meet natural gas pipeline specifications.

HSF Foods, New Brunswick
Economical analysis and preliminary engineering of an anaerobic digester for potatoes process industry.

BLT Farms, Ste-Catharine, Ontario
Technical and economical comparative study of anaerobic digestion systems for a poultry producer.

BC Bioproducts Association, British Columbia
Evaluation of the potential for a biogas industry in BC and development of policy recommendations to enable its development in the Fraser Valley.

Champêtre cheese factory, Repentigny
Technical and economical feasibility study for a lactoserum digester and usage possibility of biogas produced.

Frito-Lay, North America
Preliminary evaluation of waste management of potatoes chips plant sludge using anaerobic digestion.

McLeod Agronomics, New Brunswick
Study for the development of an ethanol pilot plant using biogas energy in the distillation process.

Mobilogaz, Harrington
Design and construction of a 3 m³ mobile biogas plant (10kW).

École des énergies alternatives du Québec (EEAQ), Montreal
Workshop presentation on biogas technologies and possible applications.

Messier Farm, Ham Nord
Technical research to convert heating system « LB White » to use raw biogas.

SEG Engineering, Gan-Yavne, Israël
Preliminary evaluation and carbon financing study for a centralized biogas plant in dairy complex housing 30,000 dairy cows.

Geonomic BT, Bangalore, India
Research and development of a waste treatment solution for a southern India temple housing 100 elephants.

C3FE Corp, Maine, Etats-Unis
 Comparative study of various technologies for treatment of manure for a 4.5 millions chicken egg layers farm.

Global Advisors Ltd, New Delhi, Inde
 Carbon financing study for 7,500 family digesters in rural India.

Katani Ltd, Tanzanie, Afrique
 Research for the implementation of an R & D pilot plant for the production of bio-hydrogen from Sisal fiber plant waste.

Camirand Consultant/Consulting	Montreal, Qc	2002 – 2004
Environmental consultant.		
Director		

Task description

Market research on renewable energy and in depth understanding of the energy and waste management sectors.

Aeolus Consulting, Vancouver. C-B
 Economical analysis for renewable energy projects: wind, solar, biogas and bioenergy.

Building data base and relationship with energy development promoters and renewable technology providers.

Morgan Farm, Weir, Qc
 Waste management study of an organic farm: plastic combustion energy utilization, animal remains composting and anaerobic digestion of manure.

Development of financial models allowing a quick analysis of project potential.

Study, planning and project design for clients.

CANWEA (ACÉEÉ), Montreal, Qc
 Active member of the Quebec section of the Canadian Wind Energy Association.

Realization

Wind and solar energy prototype, Montreal
 Design, assemble and start up of a wind-solar energy generator for marine application.

Ravisent Technologies Inc.	Vancouver, BC	2000 – 2001
Audio/video software development company.		
Vice-president business development		

Task description

General manager of Ravisent Canada.

Business plan development of the merged company (Ravisent and Cinax).

Project management of Ravisent software integration with Cinax Design product.

Realization
Software integration
 Integration of audio/video compression software of Ravisent technologies into Cinax products.

Asian market business development of Ravisent technologies.

MediaLock business development

Promotion of MediaLock technologies to asian partners. Integration technique discussion.

Cinax Design Vancouver, BC 1994 – 2000
Audio/video software development company.

Founding president

Task description

General manager of a team of 15 software developers producing compressed audio/video software MPEG/MP3/DVD.

Business partnership development for international markets.

In charge of market research and identification of client's needs.

Report to the company board and shareholders.

Project management, staff management and project timelines.

Financing research and promotion of the company to potential investors.

Realization

iFilmStudio software development
Project manager of a complex interactive film making software for CD and DVD.

iFilmEdit software development
Project manager of an uncompressed digital film production software.

MediaPalette software development
Project manager of an audio-video format conversion software

MediaLock software development
Project manager of copyrights management system for networked audio and video files distribution.

OTHER EXPERIENCE

Petro-Canada Montreal, Qc 1992
Junior engineer/software developer

Task description

Perform analysis and software development to update existing database.

Realization

Project manager in developing a database to facilitate the maintenance team to easily access specifications of broken equipment and to locate replacement material on site.

CONFERENCES, PUBLICATIONS, COURSES AND WORKSHOPS

Courses and workshops

Biogas training course
Guelph University, 2008

Introduction to renewable energy technologies.
Institut des technologies agro-alimentaires (ITA) Ste-Hyacinthe, 2008

Workshop on renewable energy and anaerobic digestion
Director of energy policies for Quebec ministry of agriculture
MAPAQ, 2008

Biogas : Introduction to biomass energy
École des énergies alternatives du Québec (http://www.eeaq.ca/Ateliers_Cours/ateliers_cours.html), 2007

Perspectives for biogas energy in BC
Biogas workshop, Abbotsford, BC, 2007

Biogas energy workshop
Taos, New Mexico, 2006

Conferences and publications

Biomethane development and operational challenges, Canadian Gas Association Biomethane Workshop, Vancouver, November, 2010

Biogas project development cycle, Biogas USA, San Francisco, October 2010

Biomethane production cost from various sources, Biocycle, Des Moines, October 2010

Electric cars economical analysis as a solution for renewable energy in Quebec, Salon des technologies environnementales du Québec, Quebec, March 2010

Mandatory biomethane mix in the Canadian natural gas network, Growing the margins conference, London, ON, March 2010

Technical and economical challenges of building a mobile biogas plant
Biocycle conference, California, 2009

Economical viability of upgrading farm biogas to sell energy directly to consumers over the natural gas grid
Growing the margins, London, ON, 2008,

Prospects of anaerobic digestion potential of organic materiel and biogas energy valorization for various Canadian markets
Salon TEQ, 2008, Quebec

Anaerobic digestion technologies
Quebec Liberal Party congress, 2008

Perspectives for biomethane production and resell in the Fraser Valley
Agricultural BC show, 2008

Farm based biogas projects in Ontario
Toronto International Agricultural show 2008

Biogas investment opportunities
Biofinance conference, Toronto, 2008

On farm energy production
Conférence énergie à la ferme, St-Jean-Richelieu, 2008

Economical viability of upgrading farm biogas for thermal or automotive applications
Biocycle conference, Wisconsin, October, 2008

Biogas principles
CRAAQ, Journée sur la méthanisation, 2007

Climat change and anaerobic digestion
APCAS, Air et changements climatiques, 2007

Economical viability of biogas production from energy crops
Growing the margins, 2007, London, On