

# ELECTRIFYING TRANSPORTATION

CALGARY HERITAGE PARK, JUNE 3 & 4, 2011

*Demystifying and Advancing  
the Commercialization of Clean Technologies  
for Electrifying Transportation*



P R E S E N T E D B Y

THE ALBERTA COUNCIL OF TECHNOLOGIES  
THE ALBERTA CLEANTECH INDUSTRY ALLIANCE  
ELECTRIC MOBILITY CANADA &  
THE CALGARY COUNCIL FOR ADVANCED TECHNOLOGIES

CALGARY  
PROGRAM

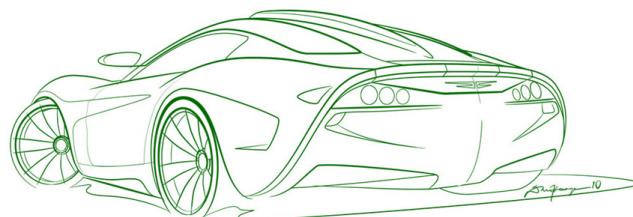
## Sessions

- EV Features & Performance
- Prospects for Cleaner Electricity
- Hi-speed Electric Rail
- "et 2050" - Youth's Perspective
- Commercializing CleanTech
- Intelligent Transportation
- Charging Stations & Storage Options
- Smart Grid & Electrification
- ABCampus Tech-Connecting AB's Campuses

## TABLE OF CONTENTS



3	Mayor's Welcome
4	Co-hosts Welcome
6	Event Plan & Session Schedule
8	Keynotes & Moderated Session Descriptions
10	Presentation Descriptions
12	Keynote's and Presenter's Professional Biographies
22	Strathcona County Mayor's Letter & Event Sponsors
24	About The Alberta Council of Technologies



*Image courtesy of Darren McKeage, Motive Industries*

## MAYOR'S WELCOME

  
THE CITY OF  
**CALGARY**  
OFFICE OF THE MAYOR

NAHEED K. NENSHI

May 2011

A MESSAGE FROM MAYOR NENSHI

On behalf of my City Council colleagues and the citizens of Calgary, it is my pleasure to welcome you to et2011.

Calgary has a well-earned reputation for being the energy capital of Canada. While traditionally this has been due to our strong oil and gas sector, it also recognizes that alternative energy sources will play a big role in meeting our society's needs. I'm proud to say that Calgary companies are at the forefront of developing the technologies that will drive us - literally - into the future.

I hope that those of you visiting Calgary to attend et2011 will have an opportunity to get out and enjoy everything our city has to offer. Whether you are dining at one of our world-renowned restaurants or exploring one of our many urban parks, you will experience our special brand of western hospitality. This is particularly true at Heritage Park, which is a fitting venue to host this event.

I commend the organizers and volunteers who helped bring et2011 together. The discussions you have here could have tremendous influence on how we meet our future transportation needs.

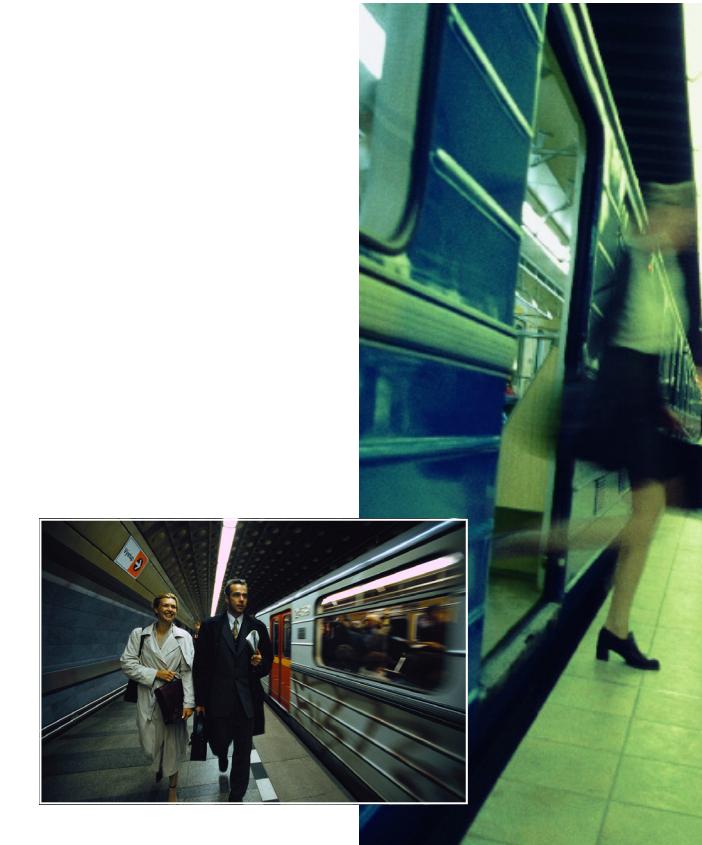
Sincerely,

  
Naheed K. Nenshi  
MAYOR

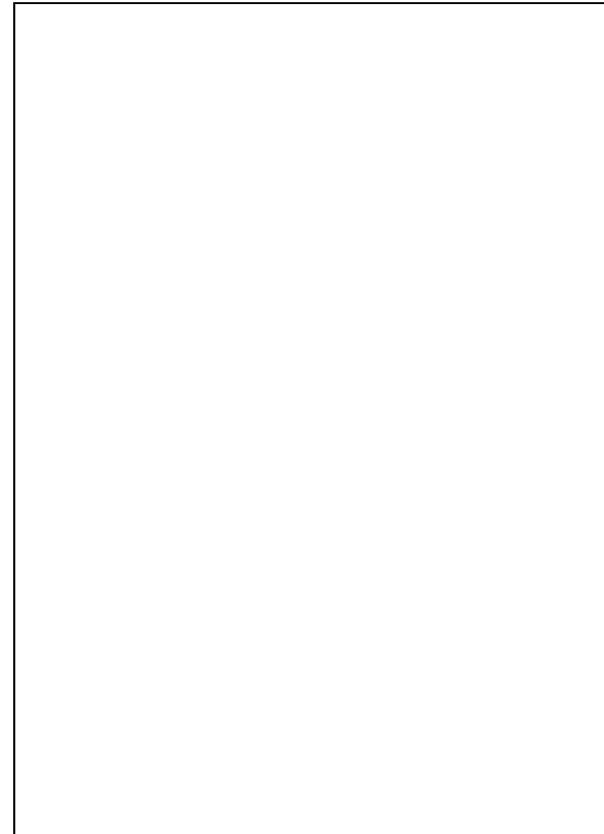
Historic City Hall, 700 Macleod Trail South, #8069, Calgary, AB, Canada T2P 2M5  
T 403.268.5622 F 403.268.8130 E themayor@calgary.ca

*Proudly serving a great city*

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies



## CO-HOSTS WELCOME



## ELECTRIC MOBILITY CANADA



Electric  
Mobility  
Canada  
Méobilité  
électrique  
Canada

May 18, 2011

To **et2011** delegates

Electric Mobility Canada is proud to partner with the Alberta Council of Technologies and its affiliates in the organization of "**Electrifying Transportation 2011**" a unique event designed to raise awareness about the global emergence of electric technologies in many modes of transport and the potential economic and environmental benefits of this trend.

Alberta, Canada and many other jurisdictions stand to gain from this transformation in transportation in ways not possible with the internal combustion engine technologies. This transformation brings together the transport and energy sectors, two giants of the global and local economies and creates business opportunities not before thought of.

It is important to be ready for the arrival of electric vehicles. This event will identify the opportunities and actions necessary to be ready and how to benefit from electric vehicles.

We look forward to a successful event and valuable take away actions.

Yours truly,

Al Cormier, CAE  
President and CEO

Bureau du Québec Quebec office  
128, rue de la Gare  
Saint-Armand (Québec) J7Z 2L2  
Canada

www.emc-mec.ca

Direction générale Head Office  
Suite 309

9-1975 Meadowvale Town Centre Circle

Mississauga, ON L5N 2V7 Canada

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies



Electric  
Mobility  
Canada  
Méobilité  
électrique  
Canada



## EVENT PROGRAM

<b>FRIDAY</b>	6:00 pm	Registration
	6:30 pm	Reception
	7:30 pm	Dinner:
	8:30 pm	KEYNOTE: Al Cormier: Why “et” and why now?
	9:00 pm	Wrap-Up
<b>SATURDAY</b>	8:00 am	Continental Breakfast
	8:30 am	KEYNOTE: Anthony Perl: Western Canada as a Possible EV Manufacturing Centre
	9:00 am	Moderated Presentations (Four 1.5 hour seminars (A-D) repeated at 1:45 pm)
	10:45 pm	Presentations (Four 1 hour seminars repeated at 3:30 pm)
	Noon	Luncheon Buffet
	1:00 pm	KEYNOTE: Rus Matichuk: Commercializing CleanTech
	1:45 pm	Moderated Presentations (Four 1.5 hour seminars (A-D) repeated from 9:00 am)
	3:30 pm	Presentations (Four 1 hour sessions repeated from 10:45 am)
	4:30 pm	Concluding Summary: Perry Kinkaide: Creating a Voice for Technologies with Audience Q&A
	5:30 pm	Prize Draw and Wrap-Up



ET2011 SESSION SCHEDULE

# ET2011—ELECTRIFYING TRANSPORTATION

advancing the commercialization of electric vehicle technologies



Upstairs Wainwright Hotel

## Upstairs—Town Hall

## Small Tent

 Hayloft Gunn Dairy

9:00 am - 10:30 am

## SESSION A: "EV" FEATURES AND PERFORMANCE

SESSION B: PROSPECTS FOR CLEANER ELECTRICITY – RENEWABLES, FUSION, OTHER

SESSION C: HI-SPEED ELECTRIC RA

SESSION D: "ET IN 2050" - YOUTH'S PERSPECTIVE

1:45 pm - 3:15 pm

## SESSION A: "EV" FEATURES AND PERFORMANCE

SESSION B: PROSPECTS FOR CLEANER ELECTRICITY – RENEWABLES, FUSION, OTHER

SESSION C: HI-SPEED ELECTRICAL RAIL

## SESSION D: "ET IN 2050" - YOUTH'S PERSPECTIVE

10:45 am - 11:45

SMART GRID & ELECTRIFICATION

COMMERCIALIZING CLEAN TECH

INTELLIGENT TRANSPORTATION

3:30 pm – 4:30 pm

## CHARGING STATIONS & STORAGE OPTIONS

ABCAMPUS TECH: CONNECTING AB CAMPUSES

INTELLIGENT TRANSPORTATION

COMMERCIALIZING CLEAN TECH

R

## KEYNOTE SESSIONS



### *Why "et" and why now? —Al Cormier*

An examination of the emerging green-transportation economy; the forces driving a rapid adoption of electric vehicles (EV's), their benefits, global, North American and Canadian trends in EV activity and, what Canada must do to prepare for the transition. Mr. Cormier will be Moderating EV Features & Performance Sessions.

### *Transport Revolutions: Western Canada's Opportunity to Profit From Electric Mobility —Anthony Perl*

World energy use will soon enter a transition phase in which alternatives to oil will power an increasing share of global mobility. Western Canada could benefit from this transition by investing in electric mobility, which will generate profitable opportunities to introduce post-carbon technology. Mr. Perl will be Moderating High Speed Electric Rail Sessions.

### *Commercializing CleanTech —Rus Matichuk*

Mr. Matichuk will be Moderating ET in 2050—Youth's Perspective Sessions.

### *Creating a Voice for Technology —Perry Kinkaide*

Dr. Kinkaide has been engaged to create Alberta's "voice of technologies." The presentation will highlight the rationale for the "voice," what to expect as the new association evolves in contributing to a more sustainable Alberta economy. Dr. Kinkaide will be moderating Prospects for Cleaner Electricity Sessions.

## MODERATED SESSIONS

### EV FEATURES AND PERFORMANCE 9:00 am & 1:45pm

**EV Design—Nathan Armstrong, President, Motive Industries.** A glimpse of current and future EV technologies, related technologies such as fuel cell, supercaps, etc., and a discussion of the challenges the Canadian environment poses to EV performance.

**Nissan LEAF—Ian Forsyth,** A new fuel and a new way of mobility – zero gas, zero emissions, no tailpipe. Zero is worth much more today than ever, so what does the Nissan LEAF bring to the Canadian market: the vehicle; the launch; the customer.

### PROSPECTS FOR CLEANER ELECTRICITY 9:00 am & 1:45 pm

**Fusion energy and our electrical future—Allan Offenberger, Fusion Energy Alliance** The expected increase in electrical energy demand worldwide (for stationary as well as mobile use) will require significant new generation capability and evolution to cleaner, sustainable sources. Fusion energy has the potential to meet such demands. This presentation is intended to stimulate thinking about a fusion future that may come much sooner than heretofore thought possible.

**Renewable Energy to Green Alberta's Grid—Tim Weiss, Pembina Institute** Alberta is home to Canada's most polluting electricity system. Important decisions about the long-term direction of Alberta's electricity system are being made today as many of the oldest (and dirtiest) coal plants are nearing the end of the design lives. This presentation will discuss how other countries and provinces are harvesting renewable energy and what potential it has in Alberta to green its electricity grid.

### HI-SPEED ELECTRIC RAIL 9:00 am & 1:45 pm

**High-Speed Rail Service in the Calgary-Edmonton Corridor—Rod Thompson** The presentation summarizes the results of a market demand analysis for four high-speed rail technologies, ranging in speed from 200 to 500 kph, in the Calgary-Red Deer-Edmonton corridor. The analysis identifies the total travel demand in the corridor, the potential size of the market for high-speed rail, expected revenues and the possible economic impact of the project.

**Calgary, Red Deer and Edmonton Express—John Chaput, VP Operations, AHSR (2005) Inc.** An electrified, 300 km/hr passenger railway service between Calgary, Red Deer and Edmonton proposed by Alberta High Speed Rail (2005) Inc. will be outlined and discussed in this session.

### “ET IN 2050” - YOUTH'S PERSPECTIVE 9:00 am & 1:45 pm

**Ryan Saunders, Co-Founder, ABCampus of Technologies** A presentation to explore the role of electrified transportation in our society on the journey towards the year 2050. Challenges and opportunities resulting from the potentially rapid changes in transportation will be explored from the perspective of Alberta's students

## PRESENTATION DESCRIPTIONS

### INTELLIGENT TRANSPORTATION 10:45am & 3:30pm

Customer-Led Intelligent Transportation Services—Dewar Donnithorne-Tait, President & CEO, Canadian Centre for Unmanned Vehicle Systems. Efficient, effective and economically sustainable transportation delivers benefit all round. There is market demand to move from product-driven to customer-led transportation services with synchronized intermodality. Artificial intelligence applied to appropriate areas of transportation architectures can deliver efficient mass customization.

Chris MacNab

### CHARGING STATIONS AND STORAGE OPTIONS 10:45am & 3:30pm

Storing Electrical Energy—Craig Eastman, Co-founder and President of Principle Energy Solutions, The next few decades will see the large scale implementation of sustainable technologies which utilize energy sources, i.e. wind, solar, tides, etc., that are not in sync with electrical demand. According to present trends the implementation of electrical production via solar cells appears to be the dominate technology. Therefore, methods need to be developed and implemented in storing electrical energy that are effective environmentally, convenient and efficient.

Using LEED to Drive the Installation of EV Charging Stations —Andrew Bond The Leadership in Energy and Environmental Design (LEED) Green Building Rating System® measures the 'sustainability' of new and existing buildings and now allows the provision of Electric Vehicle charging stations to contribute. Using the example of over 70 installations on the Bird-Graham ASAP Schools project, the lecture demonstrates how clients, engineers and design teams can promote and deliver the facilities.

### ABCAMPUS TECH 3:30pm

Connecting Alberta's Campuses for Entrepreneurship & Innovation—Chris LeRohl and Ryan Saunders ABCampus Tech is a student social networking group linking Alberta's post-secondary campuses and technology alliances under the ABCtech organizational umbrella. ABCampus Tech's mandate is to build a provincial post-secondary student body to create entrepreneurial opportunities and forge relationships with the technology industry. The platform envisioned will bring together Alberta's students to foster technological innovation, interdisciplinary collaboration, and entrepreneurship. This session will describe the current ABCampus Tech platform and how it can be leveraged to benefit students and technology interests. Campus representation and enthusiastic students will be asked to lend their support of the ongoing development of ABCampus of Technologies.

### SMART GRID & ELECTRIFICATION 3:30pm

Smart Cars on Smart Grid—an Electric System Perspective—Rick Cowburn How might electric transportation vehicles interact with a smart grid to yield economic benefits for an electric power system? A former industry executive with an independent mind looks towards the new world with patient optimism.

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies

**COMMERCIALIZING CLEANTECH 10:45 am & 3:30 pm**



Page 11

## KEYNOTE SPEAKERS & SESSION MODERATORS



*AL CORMIER, President & CEO,*

Mr. Cormier is founding director of Electric Mobility Canada, a Canadian organization dedicated exclusively to the promotion of electric mobility in Canada. During his long career in transportation, Mr. Cormier has been President and CEO of the Centre for Sustainable Transportation for 6 years, and President and CEO of the Canadian Urban Transit Association for 18 years. He also worked in the Ontario Ministry of Transportation as a Manager of urban transit programs.

He has extensive contacts across Canada and internationally and has advocated for sustainable transportation programs for many years.

Mr. Cormier is a member of several advisory committees to various levels of government in Canada as well as to several not-for-profit organizations.



*RUS MATICHUK, President,  
Sumex Inc.*

Russel Matichuk is the President of Sumex Inc. an investment advisory services company. He has a BEd. Business/Science and has recently been awarded the Accredited Mortgage Professional designation. Recently Russel has partnered with Urban Mortgage and Urban Properties to provide commercial mortgages and business financing services to their clients through there 80+ associates in Alberta. Russel also has investment interests in, and is an advisor or board member for, a number of private companies. Sumex continues to provide valuable financing and divestiture services that range in value from \$50,000 to \$75,000,000. He is also the Chairman of a Clean-Tech startup that will convert wood waste to power.

Prior to Sumex Russel launched and grew, or had senior management consulting responsibilities with, a number of traditional and some high growth companies. He also has been involved in the genesis of a number of industry organizations and events including Banff Venture Forum, Deal Generator, VenturePrize, and InfoTech.



*ANTHONY PERL, Author & Professor*

Anthony Perl is Professor of Urban Studies and Political Science at Simon Fraser University.

His research crosses disciplinary and national boundaries to explore the policy decisions that affect transportation, cities and the environment. He has published in numerous scholarly journals, has produced five books and his work has been awarded prizes for outstanding papers presented at the World Conference on Transport Research and the Canadian Transportation Research Forum.

Perl has advised governments in Australia, Belgium, Canada, France, and the US on transportation and environmental research and policy development. He is a member of the Board of VIA Rail and chairs the Rail Group of the U.S. Transportation Research Board, a division of the National Research Council. He has served on the Selection Committee of Transport Canada's Urban Transportation Showcase Program. Perl is a Fellow of the Post-Carbon Institute.

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies



*PERRY KINKAIDE, President,  
The Alberta Council of Technologies*

Perry Kinkaide is the founder and President of the Alberta Council of Technologies, President and Chairman of the Board of Kinkaide Enterprises Inc., former Managing Director of KPMG Consulting in Edmonton and Assistant Deputy Minister with the Alberta Government and Director of Funding Reform and Privatization. As founder of ABCtech, Perry is instrumental in establishing industry Alliances for demystifying and advancing emerging technologies.

Upon retirement in 2001, Perry established KEI, for allocating venture capital and assigning operating officers to emerging technology-based, enterprises in Western Canada. Perry continues to provide consulting and advisory services to both the public and private sectors. Perry was recognized in the July 2007 Alberta Venture magazine as one of the 50 "most influential" Albertans.



## PRESENTER BIOGRAPHIES



*Nathan Armstrong,  
EV Features & Performance*

Nathan Armstrong is President of Motive Industries. He has nearly twenty years of engineering experience; fifteen concentrated on automotive design engineering. Prior to founding his own company in 2004, Mr. Armstrong was VP of Engineering at Metalcrafters, the world's premier coachbuilder, and VP of Engineering and Lead Project Engineer for the Aria Group. He then gained several years experience in aerospace engineering working for Boeing and Arrowhead Products. His projects included work on the International Space Station and Delta Rockets.

As a design engineer, Mr. Armstrong worked on an array of design projects including 30 production vehicles, over 200 concept vehicles and close to 1000 clay models, interior models and scale models. He recently became a member of the Lethbridge Technology Commercialization Centre Pilot Advisory Panel, is the co-founder of Project Eve, his company has been recognized as an ASTech Honouree and recently he became advanced manufacturing's lead on the Aviation Alberta Space Industry Panel.



*Mark Blackwell,  
"ET in 2050" – Youth's Perspective*

A recent graduate of the energy mgmt program at the Haskayne School of Business at the University of Calgary. He worked collaboratively with the Institute for Sustainable Energy, Environment & Economy (ISEEE) to form the ISEEE Students' Assoc and is currently chairing the organization's Board of Advisors after four terms as President and was Project Chair for the 2009 Alberta Solar Decathlon Team which finished 6<sup>th</sup> place in 20 teams from around the world to design, build and operate a fully functional solar powered house. Mark is currently the acting Chair of the World Petroleum Council Youth Committee in Canada which is working to develop a comprehensive outreach strategy to engage young professionals across the country on issues related to Canada's energy sector.

For his passion and determination in the area of energy and the environment he earned himself Canada's Top 20 Under 20 Award and was inducted in the Order of the UofC in 2011. Mark also was the recipient of the Inaugural University of Calgary Future Alumni Award and the outstanding graduating student of the Haskayne School of Business.



*Andrew Bond,  
Charging Stations & Storage Options*

Andrew Bond, is LEED AP BD&C, and Partner with CFMS Alberta.

As a part of Bird-Graham Schools ASAP projects Andrew was responsible for ensuring the sustainability & LEED compliance for 28 new schools in the Province of Alberta. A specialist in the LEED rating system he has built great experience in delivering systems and protocols to ensure projects exceed goals whilst meeting client, performance and financial requirements.

As a Board member of the Alberta CaGBC Chapter and guest lecturer, Andrew is working to paint Alberta a little greener.

<http://ca.linkedin.com/in/andrewbondleedap>

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies



*John Chaput,  
Hi-Speed Electric Rail*

Mr. Chaput, P. Eng. Is VP of Operations, Alberta High Speed Rail (2005) Inc. Mr. Chaput graduated from Queen's University in 1972. After two years of early experience maintaining mining equipment in Labrador City, Nfld, with the Iron Ore Company of Canada, he entered the transit industry with Halifax Transit Corp. as supervisor of Operations and Maintenance. In 1978 he joined the City of Calgary. Over the next 26 years he took on a series of increasingly responsible positions becoming Manager of LRT (Light Rail Transit) Construction, Superintendent of Transit Engineering and Maintenance, and then General Manager of Transportation Infrastructure Construction. In the latter position he was responsible for developing the proposal for purchase of the second generation of LRT cars as well as managing infrastructure construction in LRT and roadwork projects. He was Project Manager for the 2002 International G8 Conference. His final position with the City was as Chief of Staff, working with the CEO on all aspects of the City's business. Mr. Chaput has been with AHSR for 7 years.



*Rick Cowburn,  
Smart Grid and Electrification*

Rick Cowburn is President of Vidya Knowledge Systems Corp and a 28 year utility industry veteran. Having been engaged in metering and billing operations throughout that time, he initiated and led one of Canada's first large-scale interval metering programs to take advantage of opportunities in Alberta's competitive electricity market. His personal submission to the Alberta Utilities Commission's Advanced Metering Inquiry recommended a pragmatic middle way—"Go Slow - But Go"—a phrase that has even been taken up by the Minister of Energy. Mr. Cowburn Holder of BA, MA and MBA degrees, he enjoys real-time risk management in areas as diverse as regulatory consulting, ice climbing with his two sons, and exploring unfashionable perspectives on complex questions in public forums.



*Frank Der,  
High-Speed Electric Rail*

Mr. Der began his career in the oil and gas industry at gas and chemical plants. In 1986 he joined the City of Calgary Electric System as project engineer for Calgary's North West LRT project. Mr. Der continued with the Electric System as a design engineer where he managed various projects including the Brentwood LRT Extension, LRT traction power maintenance, and various street lighting projects. Mr. Der was recruited to ENMAX to create a new business unit responsible for the design, construction and maintenance of the Traction Power, Signal and Communication Systems for the LRT System in Calgary. He was involved in all areas of management, engineering, construction, maintenance and customer service.

Mr. Der left ENMAX in late 2005 to establish a private consulting company, Platinum Engineering Ltd. Mr. Der holds a degree in Electrical Engineering and has been with AHSR for 6 years.

## PRESENTER BIOGRAPHIES



*Dewar Donnithorne-Tait*  
*Intelligent Transportation*

MA MBA FRAeS FIoD, President & CEO, Canadian Centre for Unmanned Vehicle Systems.

His involvement with unmanned systems started in 1983 with research into UGV sensors. Since then he has worked with a range of UGV and UAS research, development and acquisition projects. He was President of the Association for Unmanned Vehicle Systems International (AUVSI, [www.auvsi.org](http://www.auvsi.org)) and is retained by AUVSI as a consultant to work on UAS standards. He was Vice President and International Director AFCEA (an association for communications, electronics and information systems professionals, [www.afcea.org](http://www.afcea.org)) and was awarded the Admiral Jon L. Boyes Medal in 2004. He also has a long-standing private interest and record of achievement in wildlife conservation. An experienced commercial UAS operator, in his current role in Canada he is leading a wide range of initiatives to commercialize unmanned systems technolo-



*Craig Eastman,*

Dr. Craig Eastman is Co-founder and President of Principle Energy Solutions, a company working on the commercialization of sustainable energy technology.

Dr. Eastman is a technical contributor to several patents involved with the production of alternative fuels and the design of novel solar cells.

Prior to Principle Energy, Dr. Eastman worked in fuel cell research at the University of Alberta as product development manager in relation to advanced oil and gas instrumentation (DBR-Schlumberger). He was also involved in the commercialization of fuel cell technology (Electrochemique Corporation) and as the supervisor of a high speed CMOS microchip manufacturing facility (Alberta Microelectronic Centre).

Dr. Eastman strives to bridge the gap between research and development and the commercialization of technology.



*Jim Floyd,*  
*Smart Grid & Electrification*

President, PowerOn Ltd., a company that is aimed at the power industry with a focus on supporting utilities and developers. Jim has 30 years experience in the power and engineering services industries and has a proven record of accomplishments in both technical and management areas.

PowerOn is currently working to develop shallow utility systems for subdivisions that have greater functionality and will handle the expected changes in technology and the long-term requirements of the people that live and work in them. One of the features currently being developed is a smart grid system that will accept micro generation, co-generation and energy storage technology.

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies



*Ian Forsyth,  
EV Features & Performance*

As Director of Corporate Planning and Business Strategy for Nissan Canada Inc., Ian Forsyth is responsible for market analysis, business planning and consumer research. Forsyth has been in this position since 2010 and has been with Nissan Canada since 1983.

Throughout his career at Nissan, Forsyth has enjoyed the planning and launch of new products, especially if the vehicle is unique to Canada such as the Nissan X-trail which was launched in Canada in 2004. But each vehicle is special in its own way whether it's the Versa or the GT-R. Working on the introduction of the new Nissan visual identity and brand identity program in 2001 was also a significant career highlight for Forsyth.

Forsyth holds a Masters of Business Administration from the University of Toronto. He has spoken at Georgian College, McMaster University, George Brown College and York University on automotive business and Nissan's role in the Canadian automotive marketplace.



*Chris Lerohl,  
ABCampus Tech: Connecting AB Campuses*

Chris is a passionate individual with a strong interest in sustainability for all aspects of society. He envisions that the intersection between sustainability and energy will be the most challenging and opportunistic career challenges in his future.

Having had jobs in oil and gas, forestry, the service industry, and as a research assistant in power systems, he has developed a diverse and holistic perspective from which to bring to challenges faced in the work place environment. Furthermore, he has gained a fundamental and comprehensive understanding of challenges faced by current energy systems. This has blossomed into a passion for energy, as it is a major driving force behind society. His volunteer activities have been a large part of his life as they have helped him to develop some of his strongest attributes, as he has had to both adopt and acquire new skills in terms of leadership, public speaking, and to create and contribute to new and innovative organizations.

Chris believes his technical expertise combined with his managerial and business skills gained in the MBA program at the Alberta School of Business will allow him to carve his own path into the future.



## PRESENTER BIOGRAPHIES

*Chris MacNab,*

*Brian Moukperian, SAIT*



*Allan Offenberger,*

Professor Emeritus of Electrical & Computer Engineering at the University of Alberta. Electing to take early retirement in 1995 to concentrate on research, he maintained an active laboratory at the UofA for many years as well as connections with the major international centres in laser fusion R&D. This involvement has led to the Alberta/Canada Fusion Energy initiative – to build a national capability in this important future energy technology based on strong working linkages with international centres.

Allan received his BSc. and MSc. degrees from the University of British Columbia and Ph.D. degree from MIT. His research program over the past 40 years has been focused on the development of high power lasers and their application to plasma and inertial fusion research.

He is a Past President of the Canadian Association of Physicists; has served on many international scientific advisory & research grant committees, editorial boards, as a consultant to university, government & industrial institutions and, as an international reviewer for research proposals, research publications, university appointments & promotions.

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies

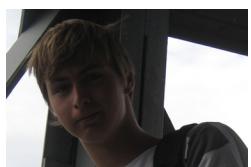


*Ryan Saunders,  
Future of ET—Youths Perspective*

He is also the graduate representative to the Office of Sustainability Academic Advisory Committee, which is a group dedicated to creating more sustainability learning, and research at the University of Alberta. Ryan is currently pursuing his Ph.D in Mechanical Engineering from the University of Alberta, specializing in Nanotechnology and Microelectromechanical Systems (MEMS).

His research involves microfluidic components for fluidic regulation of lab-on-a-chip devices. Ryan received his BSc. in Mechanical Engineering from the UofA in 2005.

Ryan co-founded the University of Alberta Energy Club in 2007/08, served as the graduate co-President for three terms, and is currently a member of the Energy Club's Advisory Council. During his service he helped to establish engaging panel discussions and a weekly distinguished speaker series, hosting industry leaders, academics, students, and members of the community to discuss global and local energy issues or technologies.



*Mathew Sponiar,*

Project Manager of EcoCar Team and is a third year Mechanical Engineering student at the University of Alberta.

A summer research term working on fuel cell technology and his involvement with the Calgary Solar Team initially sparked Mathew's interest in alternative technologies and their applications in the transportation industry. This initial interest has grown over the past two years culminating in the formation of a new student group to pilot a vehicle project known as the University of Alberta EcoCar team. The goal of this team is to increase awareness about alternative technologies through community outreach and the development of a zero emission vehicle.

Matthew believes that the students of today have the power to begin shaping the world the way they want it and that it is never too early to become involved.



## PRESENTER BIOGRAPHIES



*Tim Weiss,  
Prospects for Cleaner Electricity*

Mr. Weiss is Director, Renewable Energy and Efficiency Policy, at the Pembina Institute and a professional engineer. Tim has written numerous technical reports and development manuals on renewable energy and energy efficiency on issues at national, provincial and municipal levels as well as issues specific to First Nations' and northern contexts. He has assisted more than 20 communities at various stages of development of renewable energy projects. Tim has also worked as a renewable energy consultant examining wind energy challenges in northern communities.

Mr. Weiss is currently completing his PhD at the Universite du Quebec a Rimouski studying wind energy development in remote Canadian communities and has a master's degree in mechanical engineering from the University of Alberta.

*Pat Whitten,*

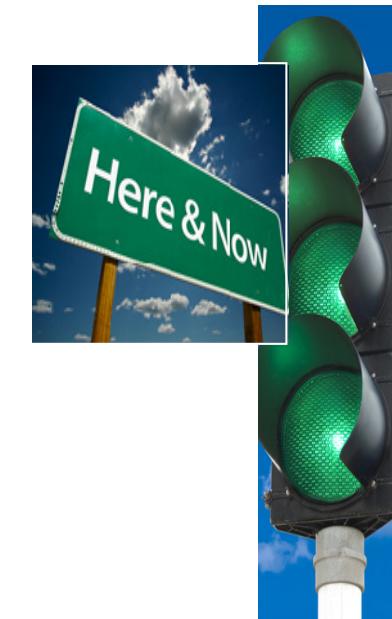
*Rod Thompson,*

Dr. Thompson is Executive Director of Alberta Infrastructure & Transportation and has over 30 years of experience, mostly in the field of transportation. He has lead the Strategic Policy Branch for the past 13 years and been with the Government of Alberta for 25 years. Prior to this, he had his own consulting company for ten years and worked for North American and international clients. Dr. Thompson received his doctorate from the University of Calgary and did undergraduate studies at the University of Western Ontario and the University of Sao Paulo, Brazil. Formerly, Dr. Thompson managed the Strategic Policy Branch which provides policy advice to the Ministers on a wide variety of areas covering both infrastructure and transportation, or vertical and horizontal infrastructure. In addition, the Branch is responsible for strategic business planning. Currently, Dr. Thompson is heading up two major initiatives; a 40-year strategic transportation plan for Alberta; and a high-speed rail between Calgary-Red Deer and Edmonton.

ET2011—ELECTRIFYING TRANSPORTATION  
advancing the commercialization of electric vehicle technologies

*Place Holder,*

*Place Holder,*



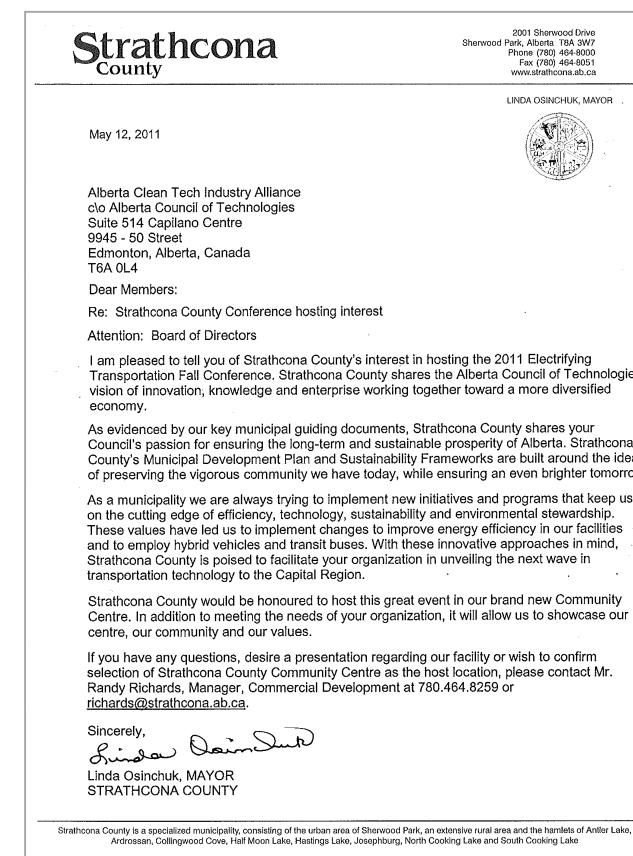
## LETTER FROM STRATHCONA COUNTY'S MAYOR



Register now for the "ET 2011" Fall Conference and  
the Alberta CleanTech Industry Convention  
October 14 & 15, 2011  
Festival Centre Sherwood Park

- Get informed
- Moderated Panels & Keynotes
- Nominate & elect industry sector representation
- Help shape industry & policy
- Network

REGISTRATION: [www.ABCtech.ca](http://www.ABCtech.ca)



## ET2011—ELECTRIFYING TRANSPORTATION

advancing the commercialization of electric vehicle technologies

### CORPORATE & MARKETING SPONSORS

#### CORPORATE

Chubb  
Calgary Economic Dev



**EMC MEC** Electric Mobility Canada  
Mobilité électrique Canada



Faculty of  
**SCIENCE**  
University of Alberta  
Strathcona County  
ECONOMIC DEVELOPMENT & TOURISM

#### MARKETING



This event is  
**bullfrogpowered™**  
with 100%  
green electricity



Consulting Eng of AB



# ET 2011

## Electrifying Transportation

### ABOUT THE ALBERTA COUNCIL OF TECHNOLOGIES

Diversifying Alberta's economy through technology. ABCtech encourages the formation of local technology-enterprise networks and conducts research and public forums for demystifying science and technology; to help advance the commercialization of emerging and potentially disruptive technologies.

ABCtech is a nonprofit organization that

relies almost solely on volunteer efforts.

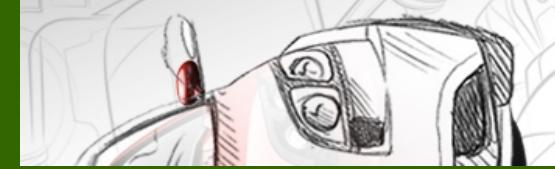
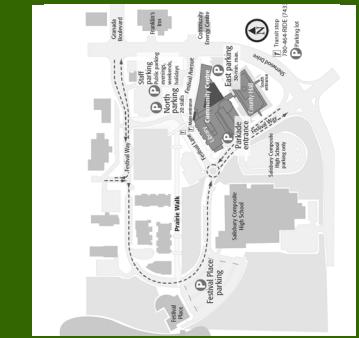
We invite you to subscribe to our website and receive announcements regarding upcoming public forums and continue to stay informed and engaged.

### ABOUT THE ALBERTA COUNCIL OF TECHNOLOGIES

The Alberta Council of Technologies  
Suite 514 Capilano Centre  
9945 - 50 Street  
Edmonton, Alberta, Canada  
T6A 0L4  
Phone: 780-990-5874  
Toll Free: 1-866-241-7535  
E-mail: info@ABCtech.ca

### HOW DID WE DO?

Please fill out and return your  
Feedback Form to the registration  
desk as you exit.



#### About Car Designer

##### Darren McKeage

Darren McGeage is part owner and VP of Design of Calgary based, Motive Industries. McGeage is a graduate of the Alberta College of Art and Design and the Automotive Design Masters Course with Distinction at Coventry University in the UK. Besides designing the Myers Motor Duo, McGeage has also designed the Motive Kestrel and Switch. Darren has kindly allowed the use of his sketches to dress the "et 2011" program. Thanks Darren!

Program Design: Susan Bry 2011 All Rights Reserved