



Canadian Academy of Engineering
1100 - 180 Elgin Street, Ottawa, ON K2P 2K3

2010 Annual General Meeting, Induction of New Fellows & Symposium

June 3 & 4, 2010

The Sutton Place Hotel & MaRS Collaboration Centre — Toronto, Ontario

Schedule of Events

Thursday, June 3

Stop 33 — The Sutton Place Hotel

5:30—7:00 p.m.	Registration
6:00—7:00 p.m.	Reception
7:00—10:00 p.m.	Dinner & Induction of New Fellows

Friday, June 4

Auditorium — MaRS Collaboration Centre

7:00 a.m.—3:30 p.m.	Registration
7:30—9:00 a.m.	CAE Fellows only — Breakfast & Annual General Meeting
9:30—9:45 a.m.	Symposium Opening Welcome & Introductory Background
9:45—10:55 a.m.	Session 1 — “Low Emission Electricity Generation”
10:55—11:15 a.m.	Coffee break
11:15 a.m.—12:30 p.m.	Session 2 — “Electricity Supply and Interconnecting Canada”
12:30—1:15 p.m.	Lunch
1:15—2:30 p.m.	Session 3 — “Electrification of Transport”
2:30—3:15 p.m.	Session 4 — “An Ultimate Solution for the Supply of Electricity?”
3:15—3:30 p.m.	Symposium Closing Summary



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The Sutton Place Hotel & MaRS Collaboration Centre - Toronto, Ontario

Locations

Thursday, June 3, 2010

*Reception, Dinner and Induction of New Fellows
The Sutton Place Hotel - Toronto, Ontario*



The Sutton Place Hotel

955 Bay Street
Toronto, Ontario M5S 2A2

www.toronto.suttonplace.com



Guests calling in to the hotel's reservations department must specify the **Canadian Academy of Engineering** when reserving to access negotiated rates.

Guests can contact the hotel locally at **416-924-9221** or toll free at **1-866-378-8866**.

Friday, June 4, 2010

*Annual General Meeting & Symposium
MaRS Collaboration Centre - Toronto, Ontario*



MaRS Collaboration Centre

101 College Street
Toronto, Ontario M5G 1L7

www.marsdd.com



The MaRS Centre is next door to Canada's leading teaching hospitals and three major universities. A 700,000 square foot home for research labs, offices and event facilities — plus, an ever-expanding virtual space.



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2010 Symposium

Low Emission Electricity Generation, Distribution, and Use in Transportation

Friday, June 4, 2010

Auditorium, MaRS Collaboration Centre - Toronto, Ontario

Sessions & Speakers

Opening Welcome

Axel Meisen, FCAE, CAE President, Alberta Innovates - Technology Futures
Michael Charles, FCAE, CAE Symposium Chair, University of Toronto

Canada's economy continues to be predominantly based in natural resources, with much emphasis on the supply of energy in the form of fossil fuels and electricity. This is reflected in the Energy Pathways Project carried out under the auspices of the Academy, which made important recommendations for the further development of this industry.

With a growing trend towards electrification, the focus of the Symposium is on low emission generation, distribution and deployment of electricity, both in the near- and long-term.

The presentations are designed to appeal to engineers with diverse backgrounds and to those involved in energy financing and in developing public policy. The Symposium provides a unique opportunity for experts from these areas to advance their knowledge, exchange views and to initiate collaboration.

Introductory Background: Present Sources of Electricity in Canada

*Robert Evans, FCAE, Professor of Mechanical Engineering;
Director, Clean Energy Research Centre, University of British Columbia*

Session 1 — Low Emission Electricity Generation

Moderator: Robert Evans, FCAE, University of British Columbia

This session will contrast the Alberta approach of continuing to use coal-fired power plants incorporating carbon dioxide capture and storage (CCS) with the Ontario approach of phasing out coal plants and looking to alternate sources of electricity.

"The Alberta Approach, incorporating CCS"

Jim Carter, FCAE, Chairman, Alberta Carbon Capture and Storage Development Council

"The Ontario Approach, including the Green Energy Act"

Amir Shalaby, Vice President of System Power Planning, Ontario Power Authority



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Sessions & Speakers

Session 2 — Electricity Supply and Interconnecting Canada

*Moderator: Douglas Reeve, FCAE, Chair,
Department of Chemical Engineering and Applied Chemistry, University of Toronto*

Canada's electricity system was designed and built largely on a province by province basis. Historically, hydro-electricity has featured prominently as a renewable source with built-in storage, and no carbon dioxide emissions. However, its further development is complicated by intergovernmental and environmental issues. And, whatever the source of supply, with massive infrastructure investments required in the decades to come, strategic inter-provincial connections deserve consideration.

“Whence Electricity Supply: Politics, Public Policy and the Environment”

Sean Conway, Special Advisor to the Principal (External Relations), Queen’s University,
and Queen's Institute for Intergovernmental Relations

“Electricity: Interconnecting Canada — A Strategic Advantage”

Clem Bowman, FCAE, Founding Chairman, Alberta Oil Sands Technology & Research Authority (AOSTRA)
Richard Marceau, FCAE, Provost, University of Ontario Institute of Technology
(Co-Chairs of the Canadian Academy of Engineering's Canada Power Grid Task Force)

Session 3 — Electrification of Transport

Moderator: Peter Frise, FCAE, Executive Director of Automotive Research and Studies, The University of Windsor and Scientific Director and Chief Executive Officer, AUTO21 Network of Centres of Excellence

The electrification of transport systems, particularly vehicles and trains, is increasingly regarded as having substantial benefits in reducing the need for petroleum-based fuels and concomitant emissions of carbon dioxide and particulates to the atmosphere, provided, of course, the sources of the electricity are “clean”.

“Powering Vehicles: Hybrids, Batteries and Fuel Cells”

David Pascoe, Vice President of Electric Vehicle Technology, Magna E-Car Systems

“Prospects for the Electrification of Train Travel in Canada ”

Salwa Fouda, Product Manager of Energy Management, Bombardier



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Sessions & Speakers

Session 4 — An Ultimate Solution for the Supply of Electricity?

Moderator: Michael Charles, FCAE, University of Toronto

Although the prospect of nuclear fusion-based electrical energy has long been seen to be a distant reality, recent developments at the National Ignition Facility, Lawrence Livermore National Laboratory, U.S.A. and Laser MegaJoule, CEA, France suggest that the demonstration of fuel ignition could be close at hand.

"Prospects for Inertial Fusion Energy: Recent Developments"

Allan Offenberger, Professor of Electrical and Computer Engineering, University of Alberta

Symposium Closing Summary

Axel Meisen, FCAE, CAE President, Alberta Innovates - Technology Futures

Michael Charles, FCAE, CAE Symposium Chair, University of Toronto

We wish to thank and recognize the generous support of our sponsors:



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In addition to the corporate and institutional sponsors, the Canadian Academy of Engineering also acknowledges with appreciation the financial support for the Annual General Meeting & Symposium by Pierre Lassonde, FCAE

Symposium Program Committee

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 - Michael A. Ball, FCAE, Executive Director of the Academy
 - Robert Evans, FCAE, Professor, Clean Energy Research Centre, Department of Mechanical Engineering, University of British Columbia
 - Peter Frise, FCAE, Scientific Director and Chief Executive Officer, AUTO21
 - Richard Marceau, FCAE, Provost, University of Ontario Institute of Technology
- Douglas Reeve, FCAE, Chair, Department of Chemical Engineering and Applied Chemistry, University of Toronto
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