Welcome

Ryerson University and the Natural Sciences and Engineering Research Council of Canada (NSERC) are proud to lead a five-year, $5 million pan-Canadian network of 15 universities and 26 industry and government partners focused on the future of energy storage — an essential technology in the global transition to clean energy.

The NSERC Energy Storage Technology Network (NESTNet) collaboratively explores many different types of energy storage, including flywheels, lithium-ion batteries and compressed air, while determining how best to integrate these technologies into electricity grids. In addition, researchers consider the implications arising from the increasing adoption of energy storage and how consumers will perceive, adopt and interact with these technologies. By partnering with the private sector, NESTNet enables directed progress — without duplication of efforts — towards a strong domestic Canadian energy storage industry that is also competitive in the global marketplace.

As our energy systems transform to integrate storage technologies, cooperation from all sections of society is required. With that in mind, we welcome you to the second annual *Leading the Charge* conference. This event provides a platform for stakeholders — including technology providers, local distribution companies, government and academia — to come together and share their perspectives on the promise and progress of energy storage.

We would like to offer our sincere thanks for joining us today and gratefully acknowledge the support from our partners, without whom this event would not have been possible.

ryerson.ca/nestnet

The Centre for Urban Energy at Ryerson University is an academic-industry partnership that explores and develops sustainable solutions to urban energy challenges such as the advancement of smart grid technologies, energy storage, electric vehicles, net-zero buildings and renewables.

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Speakers

In order of appearance:

Bala Venkatesh
Professor, Electrical and Computer Engineering, Ryerson University and Academic Director, Centre for Urban Energy at Ryerson University

Steven Liss
Vice-President, Research and Innovation, Ryerson University

Hon. Glen Murray, MPP
Ontario Minister of the Environment and Climate Change

Patricia Phillips
Executive Director, Energy Storage Canada

Scott Dodd
Director of Business Development, Enbridge

Jayesh Shah
Interim Vice-President, Engineering and Operations, Oshawa Power and Utilities Corporation

Vinay Sharma
Chief Executive Officer, London Hydro and Chair, Electricity Distributors Association

Neetika Sathe
Director, Advanced Planning, Alectra

Sunita Chander
Director, Distribution and Agency Policy, Ontario Ministry of Energy

Michel Losier
Executive Director, Energy Efficiency and Customer Engagement, NB Power

Robert Wilhite
Managing Director, Navigant Energy

Bob Delaney, MPP
Parliamentary Assistant to the Ontario Minister of Energy

Mark Henderson
Senior Vice-President, Energy Solutions and Services, Alectra Energy Solutions

Bob Singh
IESO Distinguished Research Fellow, Centre for Urban Energy at Ryerson University

Tim Curtis
President, Niagara-on-the-Lake Hydro

Paul Malozewski
Manager, Reliability and Governance, Hydro One

Michael Melisek
General Manager, Toronto Hydro

Cole Tavener
Director of Engineering, London Hydro

Notes

NSERC Energy Storage Technology Network

Leading the Charge

Conference Program
Friday, June 23, 2017
Sears Atrium

#LeadingTheCharge

Ryerson University | Centre for Urban Energy | NSERC CRSNG

Agenda

8:30 am ET **Breakfast and registration**

9:00 **Welcome and opening remarks**

Bala Venkatesh
Steven Liss

9:15 **Keynote 1: Wind and solar energy's roles in the low-carbon economy**

Glen Murray was first elected to the Ontario legislature in 2010 as the MPP for Toronto Centre. He was re-elected in 2011 and 2014. Murray currently serves as Ontario Minister of the Environment and Climate Change. Prior to this, he served as the Minister of Infrastructure and the Minister of Transportation.

He has had a lifetime of activism in urban planning, sustainable development and community health. He served as mayor of Winnipeg from 1998 to 2004. As chair of the Big City Mayors' Caucus, he led the successful campaign to transfer the equivalent of five cents per litre of the federal gas tax to municipalities for infrastructure renewal and construction.

9:45 **Break and networking**

10:00 **Panel 1: Pathways to research, development and innovation in the energy sector**

The energy sector has evolved over the last century. Electricity systems have expanded to span continents. Fossil fuel-based energy systems have come a long way with efficient natural gas-based heating systems. We need to pave the way for next-generation energy systems — considering all sources and means — to have reliable, efficient, cost-effective and clean energy systems.

R&D, pilot projects and demonstrations all play an important role in helping our energy systems evolve. However, many projects have longer-term returns than immediate rate-filing cycles typically accommodate. While these investments ultimately benefit customers and have the potential to offer cost-effective, reliable and clean energy solutions, how can we instill a culture of innovation in energy system development?

Featuring:

Scott Dodd
Jayesh Shah
Vinay Sharma
Patricia Phillips (Moderator)

11:00 **Break and networking**

11:15 **Panel 2: Challenges and opportunities in energy storage — the utility and government perspective**

Energy storage is transforming the way we generate, deliver and consume electricity. Energy storage promises multiple value propositions, including traditional infrastructure deferral, energy arbitrage, locational resiliency and more. During this panel session, learn more about how government and utilities are working together to make energy storage solutions a viable, mainstream option.

Featuring:

Sunita Chander
Michel Losier
Robert Wilhite
Neetika Sathe (Moderator)

12:15 pm **Lunch**

1:00 **Keynote 2: Ontario's vision for clean energy**

Bob Delaney was first elected to the Ontario legislature in 2003 as the MPP for Mississauga West. In 2007, he was elected as the MPP for Mississauga-Streetsville, then re-elected in 2007, 2011 and 2014.

He was appointed as Parliamentary Assistant to the Minister of Energy in February 2013. He has also been Parliamentary Assistant to the Minister of Education, the Minister of Revenue, the Minister of Tourism, the Minister of Research and Innovation and the Minister Responsible for Seniors.

1:30 **Keynote 3: Business as unusual — new language for the innovation agenda**

Mark Henderson is Senior Vice-President, Energy Solutions and Services for Alectra Energy Solutions. Alectra is the largest municipally owned utility in Ontario and the second largest in North America. Alectra and its affiliate companies serve close to one million customers across the greater Toronto and Golden Horseshoe region, providing a wide range of LDC utility services and other energy solutions.

Formerly, he was executive vice-president and COO of PowerStream and, prior to that, president and CEO of Barrie Hydro Distribution.

2:00 **Break and networking**

2:15 **Panel 3: Success stories and learnings — technology and LDCs**

The electric utility industry is going through a period of dramatic change with many drivers, including environmental regulations, customer choice and a multitude of new technologies. The panelists will discuss how utilities are making use of new technologies, such as energy storage, not only to address existing system and customer needs, but also to provide non-traditional energy-related services to their customers.

Featuring:

Tim Curtis
Paul Malozewski
Michael Melisek
Cole Tavener
Bob Singh (Moderator)

3:15 **Closing remarks**

Bala Venkatesh