

faculty of  
environmental  
studies

# Sustainable Energy Initiative at York University



Advancing sustainable energy  
through research

Educating and training the new cohort

Building sustainable energy partnerships

Enhancing learning opportunities  
for professionals

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redefine THE POSSIBLE.



## Sustainable energy education and research for a sustainable future

Energy conservation, demand management, combined heat and power, and low-impact renewable energy technologies are widely recognized as foundations of effective climate change mitigation strategies, essential to advancing environmental, economic and social sustainability of energy systems. New renewable power capacity continues to grow rapidly and represents nearly 50% of the total generating capacity added to the world's energy grids since 2008.

In Ontario, the provincial government has committed to areas of energy efficiency and renewable energy, particularly through the adoption of the **Green Energy and Green Economy Act**. The province's **Long-Term Energy Plan** further reiterates a strong emphasis on energy conservation and renewable energy. In other provinces, including Nova Scotia, Prince Edward Island, Quebec and British Columbia, ambitious strategies are also being pursued to expand the roles of energy conservation and renewable energy.

At York University, the **Faculty of Environmental Studies (FES)** is already a major centre for research and teaching on sustainable energy, including energy conservation, energy efficiency and renewable energy. FES' **Sustainable Energy Initiative (SEI)** takes this commitment further in assembling a group of experts specifically focused on supporting sustainable energy in Ontario.

Through creating programs, collaborative arrangements and innovative partnerships, SEI works to:

- **Advance sustainable energy solutions through research**
- **Educate and train the new cohort** of sustainable energy practitioners needed to respond to the demand created by Ontario's **Green Energy Act** and similar initiatives in other jurisdictions
- **Build sustainable energy partnerships** among educational institutions, government agencies, business and industry, and non-governmental organizations
- **Enhance learning opportunities for professionals** working in the sustainable energy industry

# Sustainable Energy Initiative

faculty of environmental studies

## Educating future leaders

Student interest in sustainable energy has grown dramatically, paralleling the momentum at the regional, provincial and global levels. SEI aims to connect this interest with relevant and practical knowledge and hands-on experience.

### ...at the undergraduate level

Bachelor of Environmental Studies (BES) students have the option of pursuing a specialty **Certificate in Sustainable Energy**. This certificate program formally recognizes and integrates a suite of courses which offer BES students applied skills in the field of sustainable energy, providing a unique qualification to York University graduates in the growing market for sustainable energy practitioners.

FES has also introduced an **internship option** in the BES program. Consequently, Certificate in Sustainable Energy students have the option of completing an internship placement with an organization in the sustainable energy field.

### ...at the graduate level

Master in Environmental Studies (MES) **students develop their own unique areas of original research**, meaning that MES students pursuing sustainable energy research are passionate, resourceful and on the cutting edge of current knowledge.

PhD students also define their research areas. With FES' expanding reputation as a major centre for sustainable energy research and teaching, we see **increasing interest among doctoral student applications in conducting research on sustainable energy topics**.

**Student internships** are emerging as key educational elements for sustainable energy students. Our graduate students have been fortunate to secure internships with both public and private organizations spanning the globe. From Germany to California, Ontario and beyond, many of our students have been hired permanently by their internship employers. Through the experiential learning and collaboration of an internship opportunity, internships have repeatedly demonstrated mutual benefits for students and employers.

Organizations that have hosted recent internships for our students include:

- Enbridge Inc.
- California Center for Sustainable Energy
- The International Renewable Energy Agency (IRENA)
- International Training Centre, Freiburg, Germany
- Ontario Power Authority

## World-class experts

Led by internationally-recognized energy policy experts **MARK WINFIELD** and **JOSE ETCHVERRY**, SEI has built a team of more than a dozen full-time faculty members, adjunct professors and associated professionals, including Ontario's former Chief Energy Conservation Officer, **PETER LOVE**. Their expertise ranges from energy conservation and efficiency, to renewable energy, to climate change, and continues to expand with the development of SEI.

## Current research

Faculty members are continually advancing research programs and conduct presentations on sustainable energy to provincial and international audiences. Examples include:

- **Ontario's Road Map to Prosperity: Developing Renewable Energy to its Full Potential** by Jose Etcheverry with Lynda O'Malley (MES '10) and Jennifer Taylor (MES '11)
- **Applying the Total Resource Cost Test to Conservation and Demand Management Initiatives of Local Electricity Distribution Companies in Ontario** by Mark Winfield with PhD student Tatiana Koveshnikova
- **An Analysis of the Ontario Power Authority's Consideration of Environmental Sustainability in Electricity System Planning** by Mark Winfield with Jennifer Taylor (MES '11) and colleagues from University of Waterloo's Faculty of Environment – published in **Energy Policy, August 2010**

### Recent student research on sustainable energy in Ontario includes:

- Ontario's MicroFIT Program: An Evaluation
- Renewable Energy Law and Policy in Ontario: Keeping the Lights on for Community Energy Development
- Carbon Finance in Ontario: Cap-and-Trade as an Efficient, Effective and Legitimate Environmental Governance Institution
- Understanding Local Opposition to Off-Shore Wind Development in Ontario
- Energy Conservation and Demand Management Policy in Ontario

## Engagement and dialogue

Through the **Sustainable Energy Initiative Seminar Series**, researchers and partners come together with public and private sector decision-makers and professionals to discuss and share their experiences in implementing sustainable energy projects and programs.

Seminars have included keynote speakers such as **HARRY LEHMANN** (Chair of the World Council for Renewable Energy) and **FREDE HVELPLUND** (Professor of Development and Planning, Aalborg University), with session topics ranging from the impact of recent elections on sustainable energy policy to the future of community power initiatives and district energy systems and planning.

## Advisory council

We are currently developing an SEI advisory council, which will include members of partner organizations, corporations and foundations. Council members will include:

### MILAN BOLKOVIC

Executive Vice-President Renewable Generation and Conservation, PowerStream

### MARION FRASER

Energy consultant and former Senior Policy Advisor to Ontario's Minister of Energy and Infrastructure

### BRUCE LOURIE

President, Richard Ivey Foundation

### HUGO LUCAS

Program Manager, International Renewable Energy Agency

### PREBEN MAEGAARD

Senior Vice-President Eurosolar and Director, Nordic Folkecenter for Renewable Energy

### DR. JOSEP PUIG

Vice-President, Eurosolar and Ecofys, Specialist on Renewable Energy & Spanish Market

### DR. TOM RAND

Advisor and Practice Lead - Cleantech, MaRS Discovery District

### MELANIE STEINER

Market Leader, Advisory Services, Ernst & Young LLP, Chartered Accounts

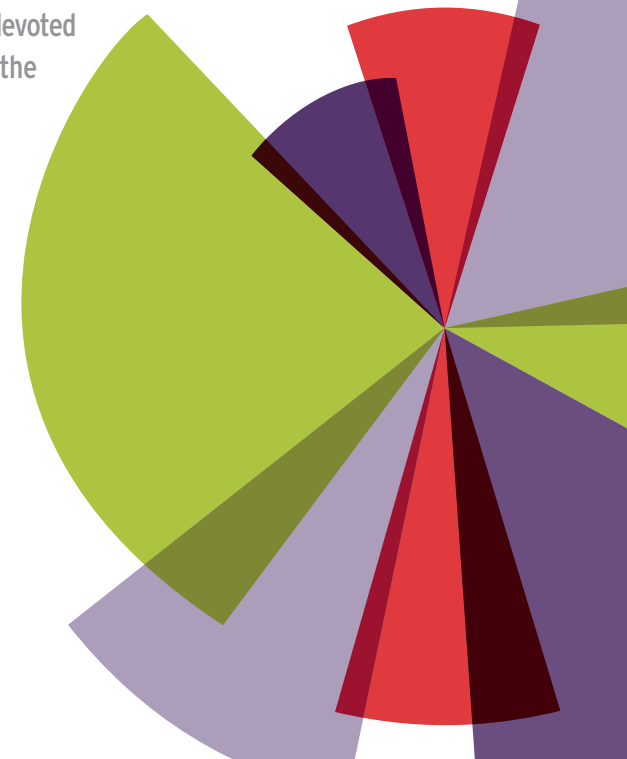
### DR. DAVID SUZUKI

David Suzuki Foundation and Host of The Nature of Things



## Housed in the Faculty of Environmental Studies

As Canada's first university faculty devoted entirely to environmental studies, the Faculty of Environmental Studies (FES) was founded in 1968 with a handful of master's students. Since then, it has grown into Canada's pre-eminent research and educational institution for interdisciplinary approaches to environmental studies, and is home to the Sustainable Energy Initiative.



# Partners with SEI

Our institutional, corporate and individual partners and donors are key contributors to the efforts of SEI, and we thank them for their support. Through collaboration with our partners, resources can be shared to support common initiatives, reaching wider audiences and further disseminating knowledge on current and critical issues relating to sustainable energy in Ontario. We are able to help train tomorrow's leaders in sustainable energy, thanks to support from partners and donors such as:

Aalborg University, Denmark

Canadian Wind Energy Association

Centennial College Energy Institute

Centre for German and European Studies, York University

CISCO

Deloitte Canada

International Renewable Energy Agency (IRENA)

Ministry of Foreign Affairs in Denmark, The Trade Council

Nordic Folkecenter for Renewable Energy, Denmark

Ontario Network for Sustainable Energy Policy (ONSEP)

Ontario Sustainable Energy Association

The Pembina Institute

PowerStream

RETScreen International/Canmet ENERGY/Natural Resources Canada

Ryerson University Centre for Urban Energy

Toronto Region Conservation Agency/Kortright Centre for Conservation

Town of Markham

University of Freiburg, Germany

Windfall Centre

World Green Building Council

**The Sustainable Energy Initiative** is actively seeking connections with individuals and organizations interested in supporting sustainable energy in Ontario and beyond. If you are interested in working with us to develop partnerships, establish internship opportunities, hire students or provide funding support for one of our many initiatives, please contact:

**MARK WINFIELD** [marksw@yorku.ca](mailto:marksw@yorku.ca)

Associate Professor & Project Chair, Sustainable Energy Initiative

**JOSE ETCHEVERRY** [rejose@yorku.ca](mailto:rejose@yorku.ca)

Assistant Professor & Project Co-Chair, Sustainable Energy Initiative

**SANDY TIEMAN** [tieman@yorku.ca](mailto:tieman@yorku.ca)

Chief Development Officer

