



norden

Nordic Energy Research



CanNord 2011



CANADA & NORDIC
SUSTAINABLE SOLUTIONS
FOR NORTHERN CITIES

CanNord 2011

Sustainable solutions for Northern cities



CANNORD 2011 PARTNERS

CanNord 2011 was organized by the embassies and trade commissions of Sweden, Norway and Denmark, in close cooperation with Nordic Energy Research, Nordic Innovation and the City of Toronto.

Nordic Energy Research

Nordic Innovation

The City of Toronto

Sweden Trade Council

Innovation Norway

Ministry of Foreign

Affairs of Denmark

The Nordic countries and Canada are increasing their collaboration on environmental issues, founded on the many parallels that can be drawn between Canada and the Nordic region. Similar climate conditions, population density issues and energy concerns, and not least the vast opportunities that lie in making their green economies grow, have brought the six countries together.

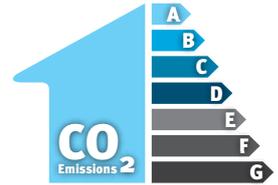
This strengthened collaboration led to the first CanNord event in March 2011, gathering more than 180 delegates from governments, municipalities and cleantech businesses from throughout Canada and the Nordic region.

The objective was to discuss mutual challenges, experiences and future opportunities in creating the sustainable solutions needed in Northern cities with main focus on **transport, energy and housing**.

The two-day programme featured a long list of interesting presentations and discussion sessions on how Northern city life can become more sustainable, through progressive and innovative approaches to urban city planning, building construction and refurbishment, greener transportation systems and the all-important energy issues.



Building wisely for a sustainable future



One of the main challenges in shaping more sustainable societies is to improve energy efficiency in buildings. Holger Dahl, Head of Communications at Danish Arkitema Architects, addressed the need for more rapid innovation in the construction industry, in order to develop the new materials and construction methods needed to reduce energy consumption.

To demonstrate the scale of the challenge, Dahl explained that more than 40% of the total energy consumption in Denmark, along with a large share of the country's CO₂ emissions, derives from constructing and operating buildings.

Dahl presented a high-strength concrete building system, Connovate, developed by Arkitema and its partners. The approach has been to innovate not only on the product, but the whole process.

The development efforts have resulted in light, highly insulating concrete elements that reduce CO₂ emissions in production, transportation and assembly, as well as the energy need after being put in place. The product is suitable for demanding weather conditions, which therefore has a large business potential in the Canadian and Nordic markets.





“The most significant differentiating feature is energy costs, as energy is much cheaper in Canada than in Europe. This creates a bigger incentive for Europe to change to environmental solutions and makes the transition more difficult for Canada.”

We need to boost environmental technologies and share knowledge to improve quality of life, and at the same time reduce the footprint of industrial countries all around the world. The resources have an expiry date!”

SEAN MONCLÚS
 ENVAC SYSTEMS CANADA

Electric vehicles

Green thinking creates common opportunities

“The event and the following meetings were a good networking opportunity and provided us with valuable information on ways to identify collaboration partners and programmes for entering the Canadian market.”

KARSTEN LUMBYE JENSEN

— INSERO E-MOBILITY



Holistic approach to urban sustainability

“The Nordic countries are treating sustainable cities very holistically with advanced reflection taking place on sustainable city design, as opposed to separately viewing issues such as transportation, buildings, energy and water. CanNord allowed us to get acquainted with leading edge knowledge from the Nordic region.”

ANTOINE BELAIEFF — METROLINX



According to Karsten Lumbye Jensen from Insero E-Mobility in Denmark, there are a lot of opportunities for Nordic e-mobility companies and knowledge centres in Canada.

“Setting up a Nordic network would be a good start in order to address the North-American market as a strong cluster with a wide range of competences. The Nordic region has experience with regulation and incentives, such as environmental zones and special conditions for green cars, which could also be applied in Canada,” he says.

Canada’s largest cities have expanded rapidly in recent years, resulting in a growing need for urban goods distribution. Lumbye explains that city logistics represent 20% of road traffic today. He states that both Canada and the Nordics can reduce the environmental impact of this traffic considerably with an increase in electric transportation.

Promoting the use of electric vehicles for this type of transport, characterized by many starts and stops and frequent loads, would reduce pollution, noise and CO₂ emissions, and create common opportunities and new value chains in the two regions.

District heating

An attractive addition to the energy mix

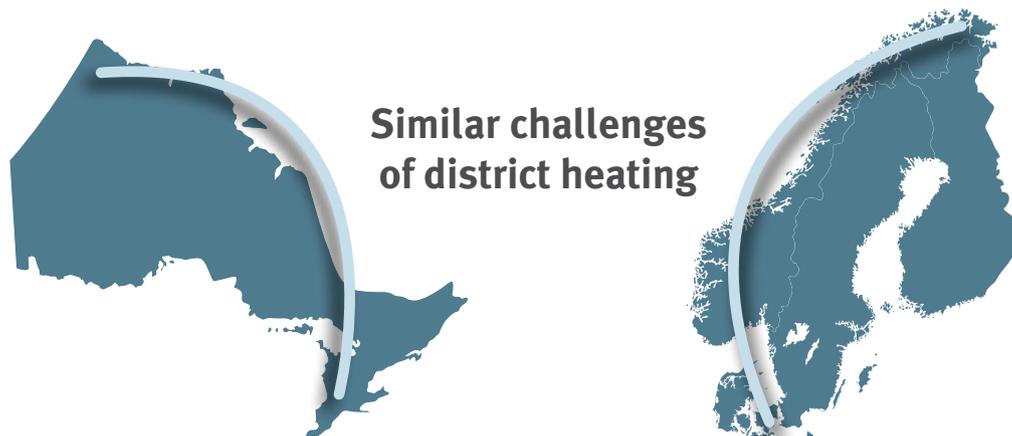
There is a long tradition for using district heating systems in the Nordic countries. In Copenhagen, Denmark, over 98% of the heat demand is met this way, and in Sweden, more than 600 district heating systems cover 50% of the total heat market. As shown in the graph on the right, investment in district heating has contributed to a considerable decrease in CO₂ emissions in Sweden, while the global tendency has been the direct opposite.

District heating is therefore an attractive and environmentally friendly addition to the Canadian energy mix and has already been included in various community energy plans throughout the country.

Key success factors

Successful integration of district heating requires a systematic approach, with active support from local and national governments, driving initial investment, integrating district heating in urban planning, applying energy and CO₂ taxes, and creating other incentives to encourage further use of the method. These were some of the key development factors, as presented by Sten Grahn from ÅF Industry in Sweden at CanNord 2011.

Furthermore, he emphasized economic and environmental competitiveness, pricing that makes combination with other heat sources profitable, and providing services and statistics to improve energy efficiency as being important factors in the implementation- and marketing process.



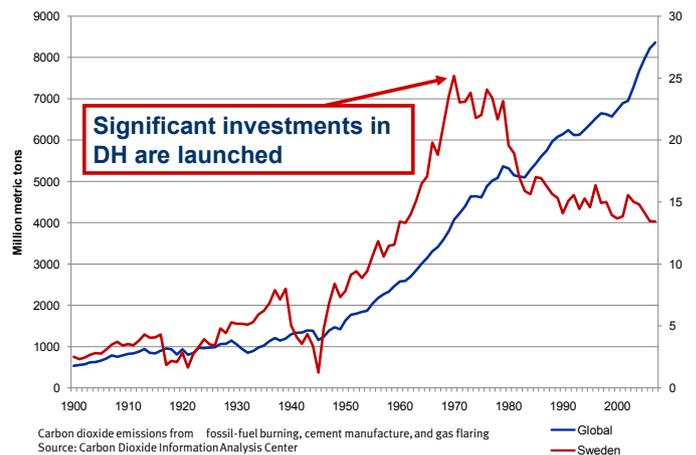
A multi-fuel energy system

“One of the unique advantages of district heating is that it lends itself to an endless range of fuels. All energy sources, present or future, can be used in the district energy system.”

MICHAEL KAARE JENSEN

DANFOSS, AT CANNORD 2011

Evolution of CO₂ emissions globally and in Sweden



The variations within

Krista Damgaard Friis from the Trade Council of Denmark in Toronto highlights similar cultural components and comparable regional variations as some of the main strengths of the collaboration.

“We have a similar business culture and a political structure with a strong sense of social and environmental responsibility. Innovation and R&D are politically prioritized and new methods of collaboration, knowledge sharing and innovation exchange are encouraged on several levels,” she explains.

The regional variations are found in the amalgamation of natural resources, the energy mix and population density. *“Accordingly, policies for cleantech, energy, environment and innovation vary across Canada – just like they do in the Nordic countries – and challenges as well as opportunities must be seen in this light,”* Friis concludes.

In their closing remarks, Anne Cathrine Gjørde, Director of Nordic Energy Research and Ivar H. Kristensen, Director of Nordic Innovation, stated that there are obvious synergies in increasing the Nordic-Canadian cooperation, in order to find effective solutions to challenging environmental issues in Northern cities.





Networking was a big part of the CanNord 2011 experience. The event was an outstanding opportunity to initiate collaboration.

International network of industry peers

“With its international reach, CanNord is an excellent platform to gain insight into the many developments from a broad network of industry peers. It is an outstanding opportunity to source new solutions and initiate collaboration, trade and innovation with people who have been or are faced with similar environmental challenges.”

Krista Damgaard Friis – Trade Council of Denmark, Toronto.

Visits at the University of Toronto and Ontario Centres of Excellence

CanNord 2011 attendees were invited to visit two of Ontario’s leading institutions in the field of sustainability issues and green technologies, the University of Toronto and the Ontario Centres of Excellence.

The University of Toronto presented its environment and sustainability programmes, which conduct research into natural resources, environment and society, climate change, sustainability and energy.

The objective of the Ontario Centres of Excellence is to nurture a creative and innovative research environment and ensure that new ideas and technologies reach the market and achieve their full economic and environmental potential. The centres were established in 1987 and have since attracted considerable investment to convert visionary innovation ventures into new jobs and economic growth in the region.



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