Edmonton’s Example: District Energy Sharing System in Blatchford

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Once in a lifetime opportunity

Blatchford will be home to 30,000 residents all living sustainably together on 536 acres in the heart of the city
Blatchford will be home to up to 30,000 Edmontonians living, working and learning in a sustainable community that uses 100 percent renewable energy, is carbon neutral, significantly reduces its ecological footprint, and empowers residents to pursue a range of sustainable lifestyle choices.
Community Overview
Energy for Homes and Buildings

Heating, Cooling and Domestic Hot Water

Plug Loads
(energy for anything plugged in - lights, computers, appliances)
Blatchford Energy Strategy

How did we design a community the size of Blatchford to set us on the path to being a 100% renewable energy, carbon neutral community for 30,000 people?

Step 1

Build energy-efficient buildings to first reduce the amount of energy needed for heating, cooling (air conditioning) and hot water.
Step 2

Make sure that the energy you still need is used as efficiently as possible by using a District Energy Sharing System (DESS).

Very simply, a DESS allows the same unit of energy to be re-used multiple times between buildings and between seasons.
The result? 74% fewer greenhouse gases than a business as usual community.
Blatchford Renewable Energy Utility

• New Utility was established to:
  • Achieve Council’s vision of a sustainable development
  • Carbon neutral, being powered by 100% Renewable Energy
  • Initially build around the District Energy Sharing System
  • Consider other emerging renewable energy technologies
DESS – Phase 1
Geo Exchange Field under SWMF
Energy Centre

![Energy Centre Diagrams]

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Distribution Piping System
Financial Model and Rate Setting

Detailed financial model tailored to Utility’s needs

Key objectives:

1. Business as usual / customer business case (bills comparison and NPV)
2. Long-term utility cash flow using City’s performance metrics
3. GHG emissions reduction
The Blatchford energy strategy will lead to approximately a 74% reduction in greenhouse gas emissions generated from heating, cooling and producing hot water for buildings compared to a typical community.
Next Steps...Sewer Heat Exchange

Currently in Planning and Design Phase
Where are we today....

Construction start for Phase 1 of the District Energy Sharing System

Planned construction of the first residential buildings

Municipal Utility is formed to provide heating, cooling and domestic hot water through DESS System

Construction on site including installation of storm, sanitary and water services and DESS piping

2016  2017  2018  2019
Thank you

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