

# ENERGY STRATEGY



Blatchford

Edmonton

The Blatchford approach to district energy sets the course for a truly sustainable community. The strategy positions city council as the steward of the vision, responsible for developing an energy system that prioritizes the use of renewable energy and continuously reduces greenhouse gas (GHG) emissions until carbon neutrality and 100 per cent renewable energy is achieved.

*The strategy has been broken down into three linked components: energy conservation, energy efficiency, and renewable energy.*

## ENERGY CONSERVATION

### *High Performance Building Envelopes*

Blatchford will implement an energy **conservation** strategy by mandating the construction of high performance buildings. The total energy demand will be minimized in the community by requiring all buildings in Blatchford significantly exceed the performance requirements of the Alberta building code. In subsequent phases, more aggressive targets for building energy usage will be applied.

Achieving higher performance levels through the implementation of more aggressive building envelope requirements will reduce the overall demand for energy, and help balance the overall demand for heating and cooling in the buildings.

## ENERGY EFFICIENCY

### *District Energy Sharing System*

The second component of the Blatchford energy strategy is a high **efficiency** energy delivery system. An ambient temperature district energy sharing system (DESS) is recommended to meet the current and future needs of the community.

One of the main advantages of an ambient DESS is that it allows for greater flexibility to directly tie in renewable energy sources.

Many renewables, such as geo-exchange and sewer heat recovery, provide low-temperature energy that can be used directly by the DESS. Another key benefit to implementing a DESS in Blatchford is the unique ability to share energy between buildings. In a neighbourhood the size of Blatchford with a large diversity of building types and occupancies, energy sharing can reduce overall energy consumption by 15 to 20 per cent. The more energy sharing that occurs, the less external energy is needed.

## RENEWABLE ENERGY

### *Geo-exchange, Sewer Heat Exchange & Solar PV*

The third component of the proposed Blatchford district energy strategy includes incorporating **renewables** as the primary source of thermal energy. We've identified two major sources of renewable thermal energy that leverage existing on-site resources: geo-exchange and sewer heat exchange. This approach, if combined with renewable electricity generation, through sources such as solar PV and the ongoing greening of the Alberta electricity grid, will ensure 100 per cent renewable and completely carbon-neutral heating, cooling and domestic hot water at Blatchford.