



# Con Mine Community Energy System

*Securing our Energy Future*



Living Future Conference  
April 29, 2011





## Overview

- Yellowknife 101
- Project introduction
- Stakeholders
- Lessons learned

14 slides



## Yellowknife

- Population – 18,500
- Founded on mining – 1930's
- Avg. annual temp. -4C
- \$115 million spent on energy – 2004
- 70% of energy needs is for space heating
- No natural gas



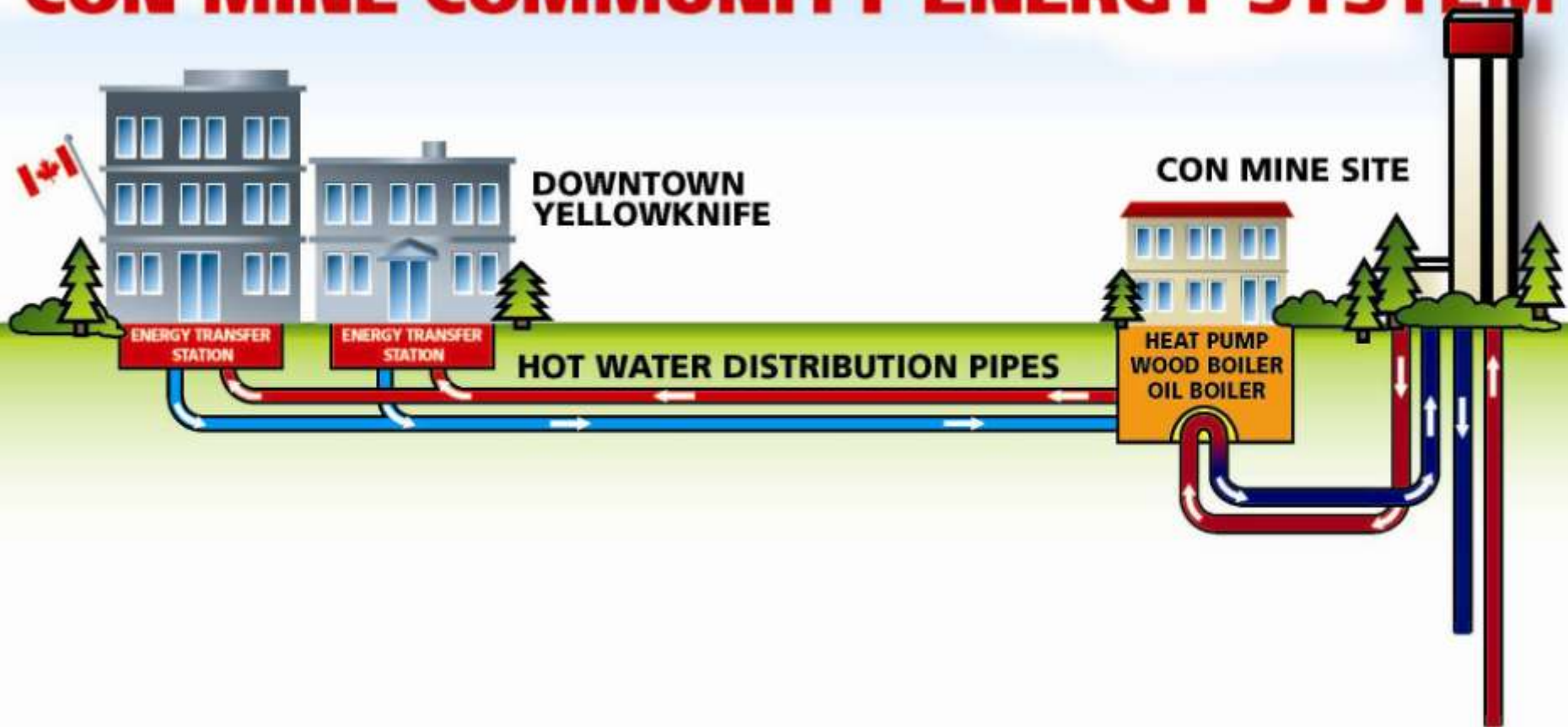
## Project - History

- Community Energy Plan – 2006
- Feasibility study – 2009
- **Investment grade business analysis – 2010**
- Council direction - 2010
- Partner selection – on going
- Public referendum on municipal financing 2011



# Project

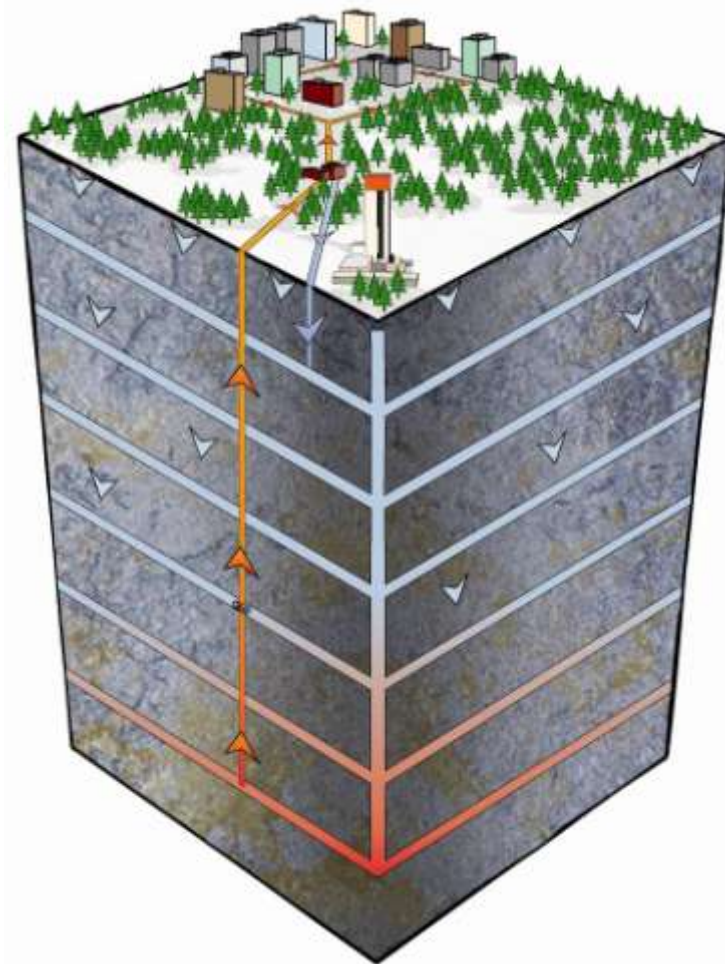
## CON MINE COMMUNITY ENERGY SYSTEM





## Project - Mine Resource

- How is the resource sized?
  - Temperature
  - Void space
  - Rate of heat replenishment
- 1900 m deep
- 80+ km of tunnels
- Temp. 25C to 40C





## Project - Business Structure

### Partner

- Design/Build/Operate
- Share in Financing
- Compensated from ROE

### Municipality

- Own the asset, set pricing
- Purchase energy for distribute to buildings



## Project - Development Timeline

- Partnership agreement – Fall 2011
- Investment decision confirmed – Winter 2011
- Buildings connected – 2013-2018
  - 4 Phase approach



## Stakeholders

- Utility regulator
- Environmental regulator
- Power and biomass suppliers
- Government funding
- Mine Owner
- Partnership
- Residence
- **Municipality – staff & politicians**
- **Customers – building owners**

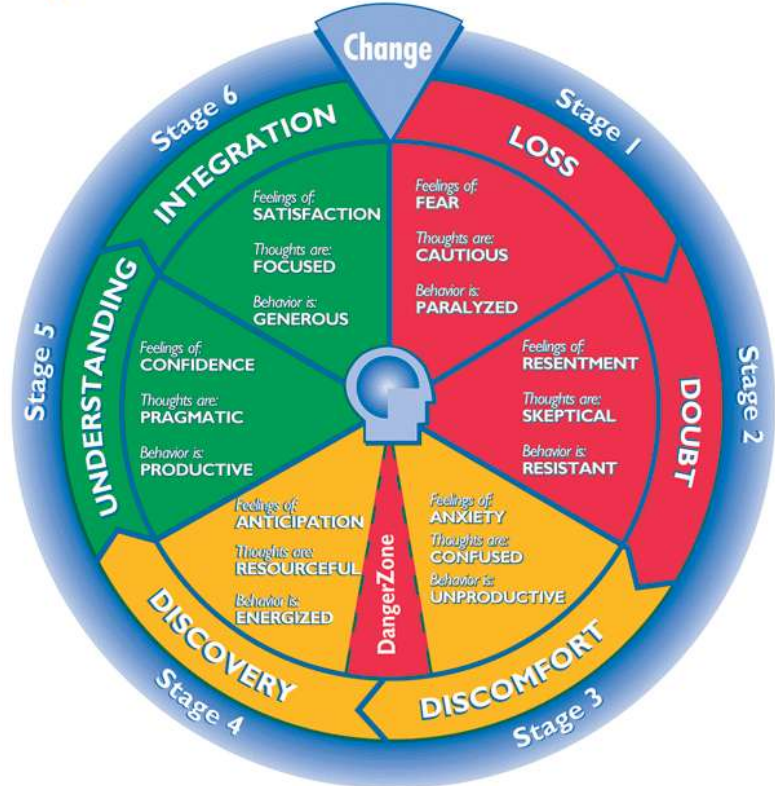


## Municipal – Staff/Politicians

- Overarching policy – Community Energy Plan
  - District Energy avenue to meet goals
  - District Energy part of politicians objectives
- Primed for *Change Process*



# Change Cycle





## Customers

### Process

- Information exchange
- Managing expectations
- Moving to energy purchase agreements

### Key Questions

- What will it cost to connect?
- What will the end price be?
- What if it doesn't work?



## Customers - Feedback

- What they like:
  - Convenience
  - Price stability
  - Supporting project that benefits community
  - Green portfolio
    - Efficiency of DE
    - Flexible platform to fuel switch



## Lessons Learned

1. Customers need education on district energy model
2. Don't rush stakeholders
3. Support process with overarching energy policy
4. Hire multi disciplined district energy expertise