<table>
<thead>
<tr>
<th>City of Ely</th>
<th>Alternative Energy Task Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Bioenergy</td>
<td>Progress Report</td>
</tr>
</tbody>
</table>
## Benefits of community bio-energy

<table>
<thead>
<tr>
<th>Stabilize and reduce long term energy costs</th>
<th>By assisting the major users, stabilize costs for the community as a whole</th>
<th>Keep energy dollars in the local economy</th>
<th>Vitalization of community infrastructure</th>
<th>Cooperative Approach for previously polarized business interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve forest management including wildfire mitigation efforts</td>
<td>Net reduction in carbon emissions</td>
<td>Reduced dependence on imported fossil fuels resources</td>
<td>District Heating and cooling is proven and efficient technology</td>
<td>New and existing business energy savings</td>
</tr>
<tr>
<td>Source of Community Pride and Security</td>
<td>Sustainable Job Creation</td>
<td>Prototype or catalyst for other communities</td>
<td>Insurance against unstable fuel prices</td>
<td></td>
</tr>
</tbody>
</table>

Is a community able to realize these benefits >
The most important ingredients to have a community conversation around biomass:

- Collaborative approach
- Realistic Options to access before community decisions are made
- Ask how a community can ensure a positive environmental and social outcome for years to come.
Ely Community Biomass can be looked at in THREE ways:

**PROCESS**

What has brought us to this point.

**PROJECT**

What is needed to build a District Heating Facility?

**PRODUCT**

What is needed to for sustainable supply of biomass?

We know it is available, how do we harvest it sustainably, transport it and put it to use.

Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Process</th>
<th>Project</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2001</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2003</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where do we go from here?

What is the next step?
Phase 1

Community Conversation

Formation of City Task Force

Feasibility Studies

Biomass Availability

Environmental Impact

Economic Impact

Data Collection

Financial Engineering Phases

Information Sharing

Phase 2

Phase 3
Sustainable forest product production

- Biomass Supply Analysis
- Supply and Demand
- Local Logging contracts
- Delivery and Storage
- Forest Product Industry
- Equipment Technology transfer

www.dovetail.org
DISTRICT HEATING PHASE I:

1. Institutions
2. Homes
3. Business’s in Ely
4. Major Energy users
5. City of ELY
6. AETF*
7. E3
   - Energy Efficient Ely
   - 1980’s Study
8. MN Dept. of Energy
9. Clean Energy Resource Teams
10. Blandin Foundation
11. IRRRB
12. LCCMR
13. $50,000
14. $5000
15. $5000
16. $4000
17. $150,000
18. Engineering Study
19. Economic Model
20. Biomass Availability
21. Life Cycle Analysis
22. Local Coordinator Position
23. Dovetail Partners

Studies can be viewed at: www.ely.org

*City of Ely Alternative Energy Task Force
What are the economic benefits of a community bio-energy project?

Is there a sufficient supply of wood for project of this nature?

Is this project environmentally responsible?

Gloria Erickson
gjerickson@frontiernet.net

*Legislative Citizen Commission on Minnesota Resources
DISTRICT HEATING PHASE II (cont):

- US Forest Service
  WERC - Wood Education And Resource Center

- USDA Forest Service
  Northeastern Area State and Private Forestry

- Wilson Engineering

- Feasibility Report
  Ely, MN Biomass District Heating System

- OPTIONS

  2 Current Proposed options for District Heat - Wilson Engineering

- FACILITY

  ISD 696

  EBCH

  Sheridan Street

  Camp Street

  Business Loop Scenario
As a community of Stakeholders, Ely is positioned to move into PHASE III
Collaborative process that brings all the keys players in the community to think through the best options.

Where, How, Who; importance of having a strong local coordinator role to buffer objective information about what is being learned.

Contrast conventional system by looking at a variety of options. Don’t look at one option as assume there is money available for it.

Important to identify the most efficient option
Must be scaled appropriately
Where is the demand density?
Widely adopted in Europe
Ground foundational information is needed for communities to use that information to move forward
A few local opinions:

“It is not, for the most part, a political "green" issue, but a smart thing to do.”

“Woody Biomass is plentiful, but make sure there are contracts with large property owners, USFS, State and County lands”

“The Economic Development possibilities with a District Heating System are very attractive.”