APPROACHING SUSTAINABILITY AS A DISTRICT

STUDIES AND IMPLEMENTATION IN SEATTLE AND BOTHELL
What is District Energy?
Benefits of DE Systems

- Improved energy efficiency, and associated carbon benefits
- Enhanced environmental protection
- Fuel flexibility
- Ease of operation and maintenance
- Reliability

- Comfort and convenience for customers
- Decreased life-cycle costs
- Decreased building capital costs
- Improved architectural design flexibility
The Value of a Flexible Infrastructure Platform

Source: Swedish Energy Agency
Seattle’s History with District Energy is One of . . .

. . . legacy systems and . . .

. . . missed opportunities
District Energy Planning

- Two-Pronged Approach
  1. Identify areas with a high potential for district energy
  2. Develop strategies and policies to encourage district energy

- Pre-Feasibility Study
- Tailored Study and/or Engagement
- Policy Recommendations
- Policy Development & Implementation
Pre-Feasibility Study

- Studying feasibility based on:
  - Current and future thermal load
  - Hydronic heating is not precluded
  - Nearby thermal source identified

Most Promising
Promising with Further Development
Not Currently Promising
DE Barriers for Seattle

- Vision, understanding and trust
- Capital intensive / uncertain loads
- Coordination among multiple stakeholders
- Long-term vs. short-term perspectives
- Public vs. private benefits
- Installation costs for piping in Seattle
- Consensus on sustainability of resource types
Study Recommendations

1. Strategic DE Partnership starting with First Hill
2. City Policy Reform / Development
3. Additional Feasibility Work on other Promising Neighbourhoods
1) Strategic DE Partnership for First Hill

- Hospitals + Yesler Terrace
  - Synergies of current and future heat load
  - Expansion to new areas (e.g., Capitol Hill)
- No City ownership/equity (initially)
- City involvement:
  - Coordinate interests / perspectives
  - Support common DE vision
  - Ensure community objectives for GHG and other outcomes
  - Support modernization and expansion of DE
  - Increase transparency
1) Strategic DE Partnership for First Hill

- Wholesale Energy Supply
- First Hill Strategic Community Partnership
  - City as Partner
  - New 3rd Party Retail Provider

- Retail Customer Relationship
  - Existing Customers (Hospitals, etc)

- System expansion and/or new system development
  - New Customers (Yesler Terrace)