

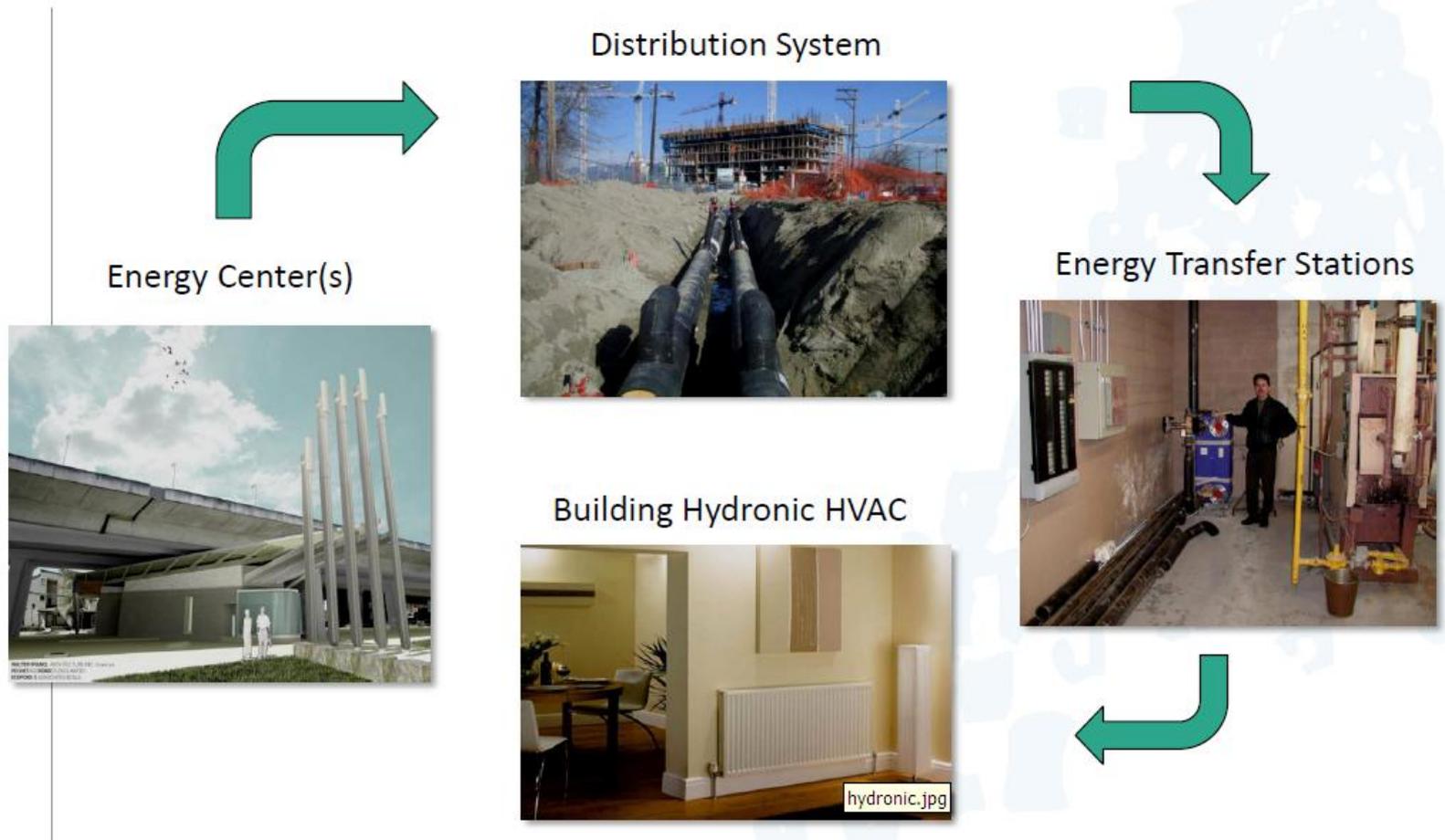
DISTRICT ENERGY PRE-FEASIBILITY STUDY

RESULTS AND RECOMMENDATIONS

July 11, 2011

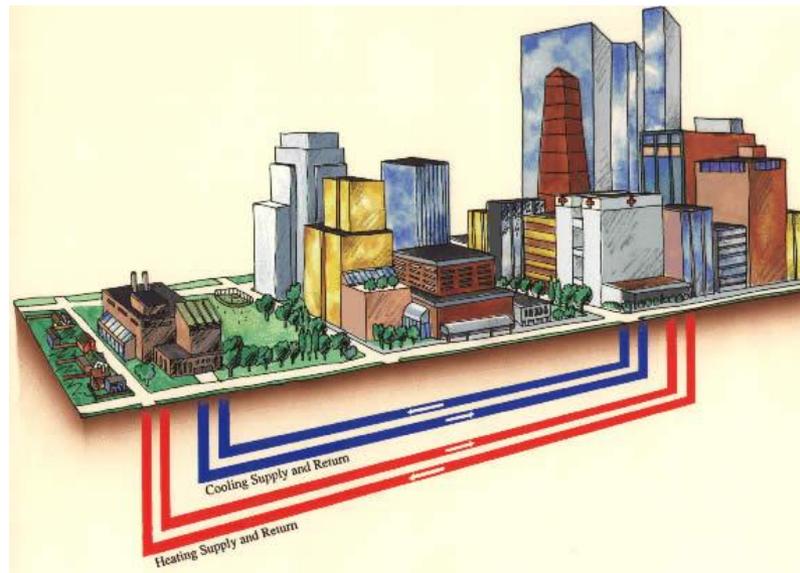
Seattle City Council Briefing

What is District Energy?

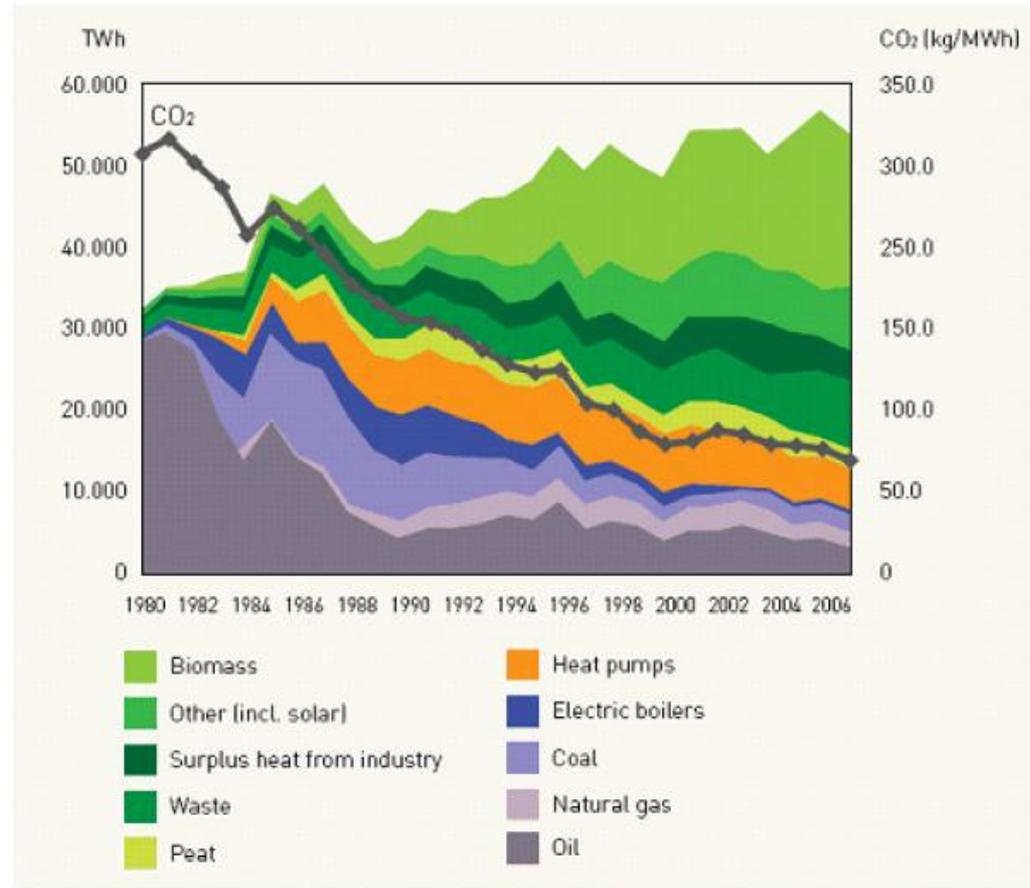


Benefits of DE Systems

- 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



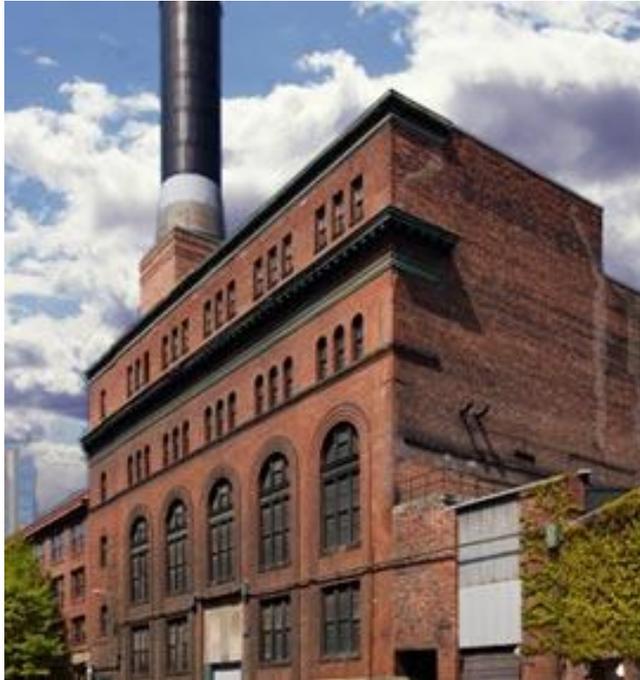
The Value of a Flexible Infrastructure Platform



Source: Swedish Energy Agency

Seattle's History with District Energy is One of . . .

. . . legacy systems and . . .



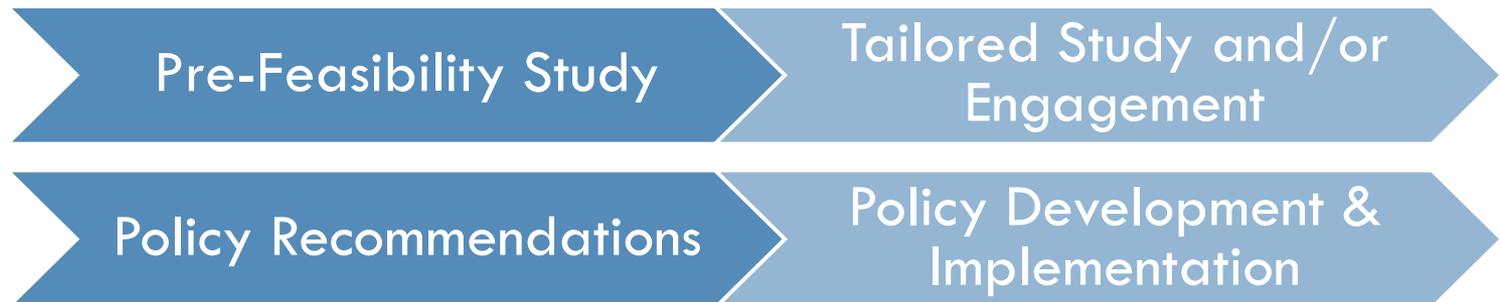
. . . missed opportunities



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

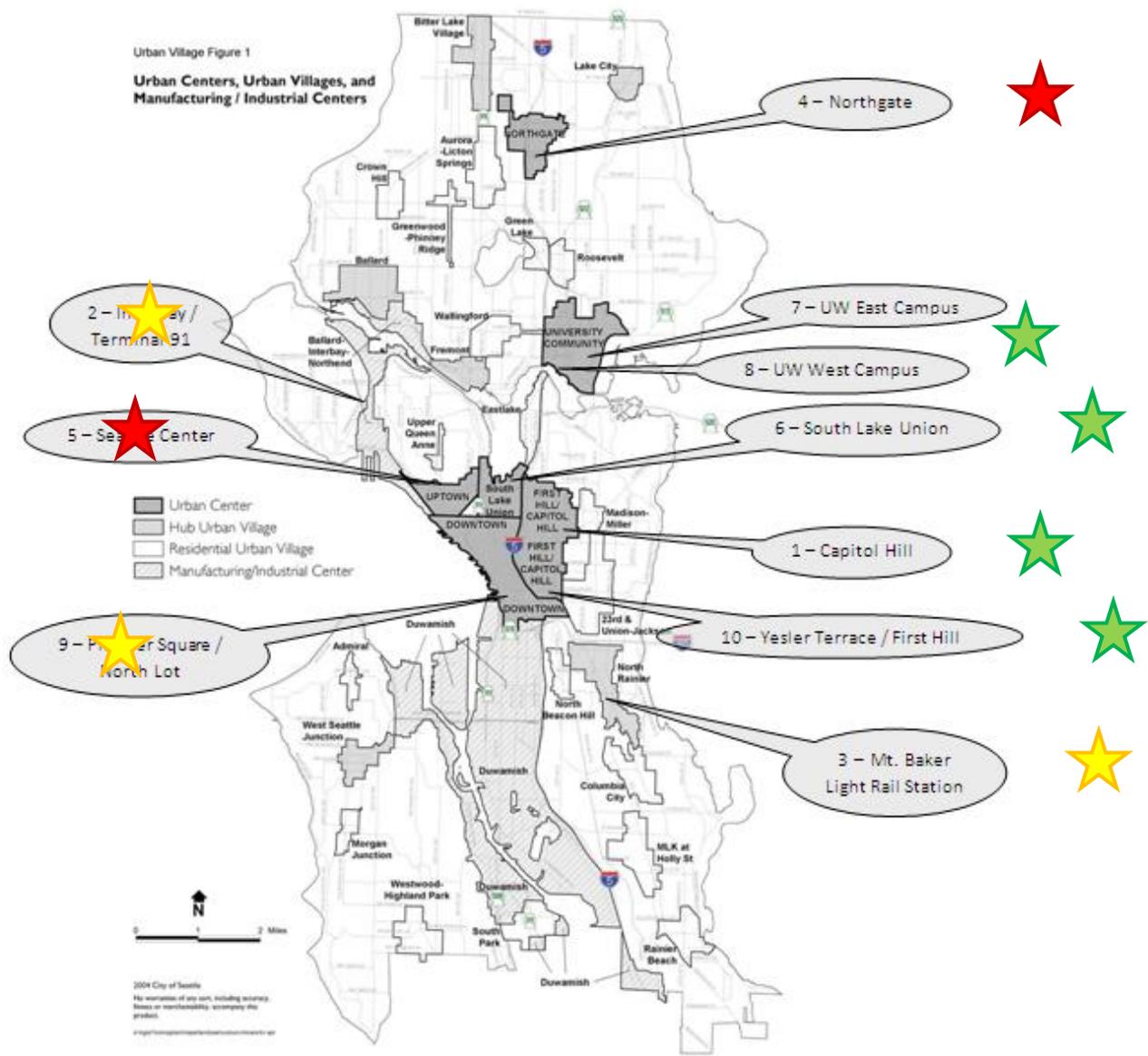


Pre-Feasibility Study

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
- Distortions in current energy prices and incentives.
- Long-term vs. short-term perspectives
- Public vs. private benefits
- Installation costs for piping in Seattle
- Consensus on sustainability of resource types

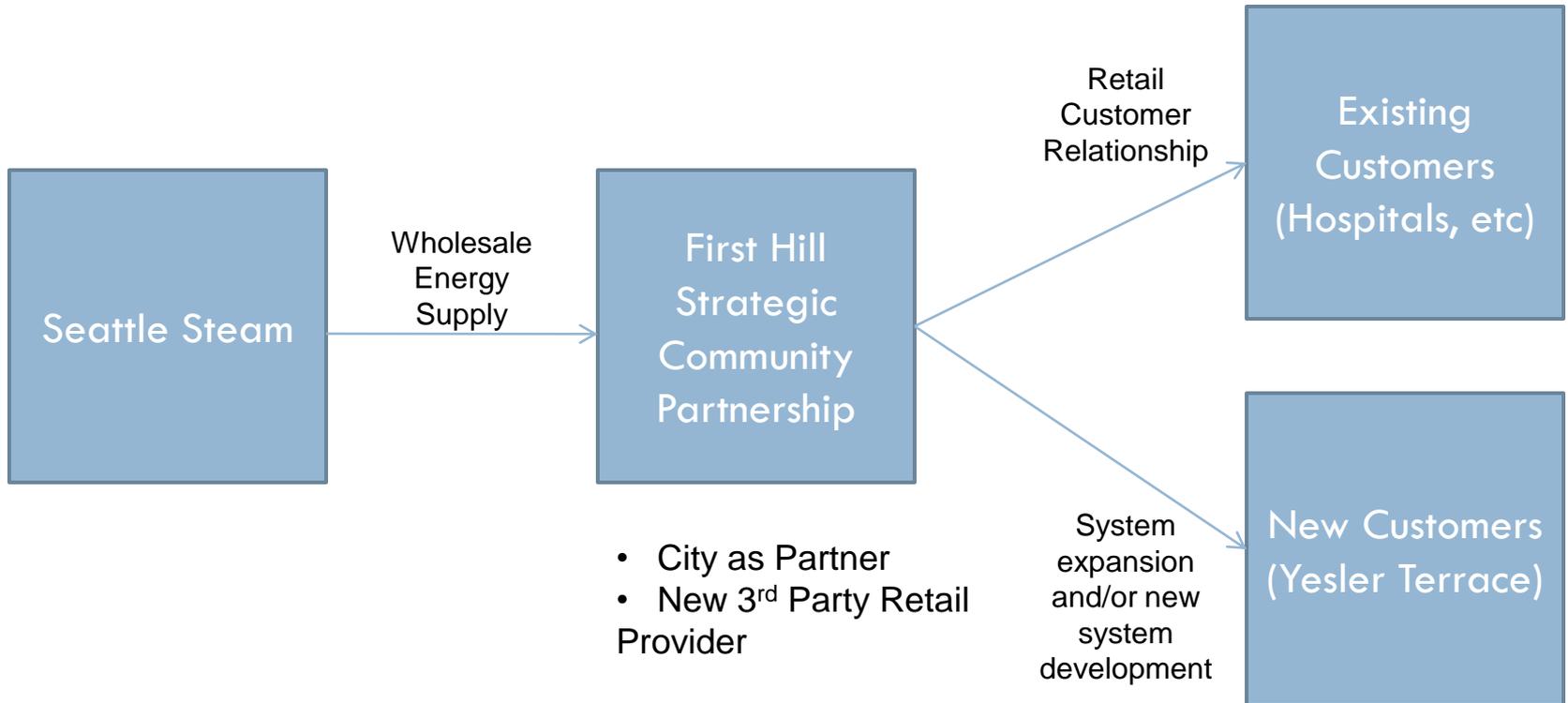
Study Recommendations

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



2) Supporting Policy Development / Reform

A. Infrastructure costs

- ▣ City standards for installation
- ▣ Coordination with other infrastructure plans

B. DPD / Green Building Policy

- ▣ Ensure Sustainable Building Policy provides proper credit for DE solutions
- ▣ Tools / support for building owners to assess costs / benefits of DE
- ▣ Ban electric resistance heat in priority neighborhoods

2) Supporting Policy Development / Reform

- c. State Utility Policy / Incentives
 - ▣ Revise incentives to remove possible barriers against DE
 - ▣ Conservation/Fuel Switching
 - ▣ Combined Heat & Power

3) Additional Feasibility Work

- Further feasibility work required by City on promising areas to determine actual viability / approach
 - Capitol Hill (Partner with First Hill Retail Supplier)
 - South Lake Union (Partner with Vulcan)
 - University of Washington (Partner with UW / King County)