



House Energy and Technology Committee

**District Energy
March 12, 2019**

**Darren Springer
General Manager**



What is District Energy?

- ❑ District energy is an “underground infrastructure asset where thermal energy is provided to multiple buildings from a central plant, or plants.” – International District Energy Association
- ❑ Benefits can include improved efficiency, reduced emissions, and fuel flexibility
- ❑ Very common on college campuses and in cities, examples in Vermont include Montpelier and UVM



What is District Energy?





District Energy in Burlington

- ❑ The idea of using energy from the McNeil biomass plant to provide heating and/or process energy to customers has been studied multiple times over past several decades
- ❑ Active citizen-led effort – BURDES Committee - to support this in Burlington
- ❑ In 2016 BED issued RFP, and selected Corix Utilities to partner on bringing district energy to Burlington



Current Status

- ❑ **Initial feasibility study** - showed district energy is technically feasible, and could be cost-competitive with business as usual scenario
- ❑ **Initial plan** - uses three energy sources: 1) “waste” heat from McNeil; 2) steam heat from McNeil turbine; 3) natural gas generators for peaking and backup
- ❑ Potential customers are reviewing individual economic assessments from Corix



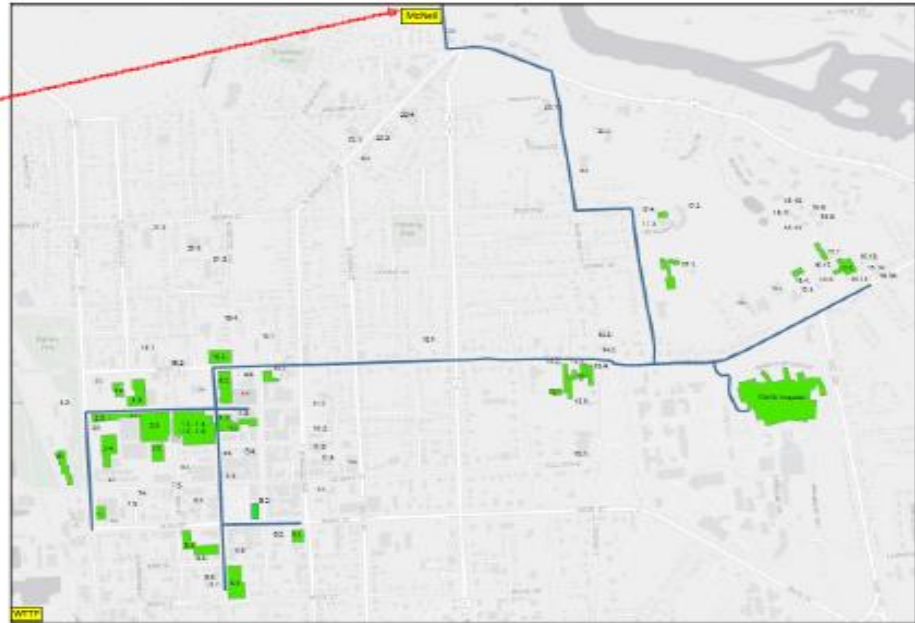
Potential Route

CORIX

Scenario S1A - McNeil



McNeil Proposed Central Energy Center Location

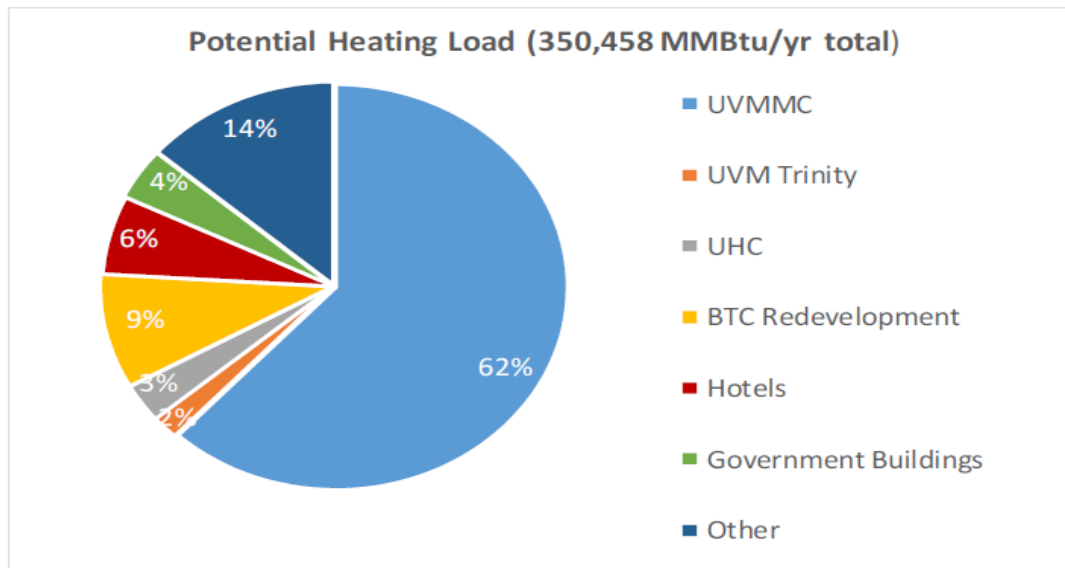




Initial Study Results



Potential Heating Load





Potential Benefits

- ❑ **Emissions** – District Energy system offers approximately 13-15% greenhouse gas emissions reduction in heating sector in Burlington
- ❑ **Cost Effective** – The District Energy System offers the potential for fuel diversity and stable/predictable costs for customers
- ❑ **Flexible Platform** – The infrastructure can accommodate growth and new fuel sources, including from wastewater treatment facility
- ❑ **Support Forest Economy** – McNeil purchases from over 50 different suppliers, vast majority relatively small Vermont-based



Proposal for H. 133 District Energy Language

- ❑ **Act 102** - Last year the Legislature passed and Governor signed Act 102 (H.616) which changed 30 VSA 209 to permit use of TEPF funds for biomass-led district heating systems. In PUC order dated 1/11/2018 PUC reserved BED approximately \$1.8 million, of which \$1.2 million is for district energy.
- ❑ **Updated Language** - In order to move the project forward, BED may need to access some of those funds for engineering and design work, which would require the following minor language change:
30 VSA 209 (e) Thermal energy and process fuel efficiency funding.

(1) Each of the following shall be used to deliver thermal energy and process fuel energy efficiency services in accordance with this section for unregulated fuels to Vermont consumers of such fuels. In addition, the Commission may authorize an entity appointed to deliver such services under subdivision (d)(2)(B) of this section to use monies subject to this subsection for engineering and design work for a district heat system where the majority of the district's energy would come from biomass sources, and for the conversion of thermal energy customers using fossil fuels to district heat, if the majority of the district's energy is from biomass sources, the district's distribution system is highly energy efficient, and such conversion is cost effective.