Comments of Geoff Bares

Objective 1. Determine appropriate ownership, market, and rate structures for thermal energy networks and whether the provision of thermal energy services by thermal network energy providers is in the public interest;

Ownership – Due to the inherent inefficiencies in long distance transportation of thermal energy, thermal utilities are feasible only on a local (municipal) scale. Multiple ownership models exist currently in the United States. It is difficult to argue that there is a compelling need to define ownership models at the state level.

Market – As stated above, thermal utilities are local. The market and the public right-of-way typically cannot support competing thermal utilities in a single geographic area. Competition comes in the form of self-generation.

Rate structures – Thermal utility rate structures are similar to other utilities: there is a charged rate for actual energy transfer (Btu, kWh), and a demand component for peak usage (Btu/hr, kW). Assisting consumers with cost transparency would be valuable, but possibly difficult to prescribe state-wide.

In the public interest – For driving reliability, carbon reduction, and technology uptake, TENS are in the public interest. This must be managed against the large upfront costs associated with starting up these systems.

Objective 2. Consider project designs that could maximize the value of existing State energy efficiency and weatherization programs and maximize federal funding opportunities to the extent practicable;

Government programs should be technology agnostic to the greatest extent possible, as solutions are often based on local conditions. That being said, many TENS core technologies can qualify for federal (IRA) funding.

Objective 3. Determine whether thermal energy network projects further climate justice and emissions reductions and benefits to utility customers and society at large, including but not limited to public health benefits in areas with disproportionate environmental burdens, job retention and creation, reliability, and increased affordability of renewable thermal energy options;

TENS have been demonstrated to reduce emissions. They can leverage the aggregation of load to deploy carbon reducing technologies that would not be practical for individual homes or businesses, such as Geothermal, Waste Heat Recovery, Combined Heat & Power, etc.

TENS can benefit public health by removing or reducing gas burning appliances from residences, thereby improving Indoor Air Quality.

The reliability of TENS is demonstrably higher than self-generated heating/cooling. The consolidation of thermal energy management into a central location run and maintained by dedicated operators has a proven reliability advantage over individual residence or building systems.

Objective 4. Consider approaches to thermal energy network projects that advance financial and technical approaches to equitable and affordable building electrification, including access to thermal energy network benefits by low and moderate income households; and

TENS are capital intensive to install, and most likely need state assistance to finance in low or moderate income density neighborhoods. TENS would also see increased deployment with long term municipal level service commitments to provide stable customer base.

TENS can be deployed to take advantage of a variety of waste heat sources to increase efficiency and lower operating costs. Because TENS are deployed on a local scale, it would be helpful to identify and map areas in the state with coincident load density and waste heat sources (e.g. wastewater treatment facilities near an urban area). The State could provide help in identifying waste heat sources near density, possibly by leveraging records of existing air & water discharge permits, and electrical and gas utility map data.

As an example, the City of Toronto offers an online map to the public to identify specific building locations that may be amenable to heating by sewer waste heat recovery.

Wastewater Energy Map – City of Toronto