

Site Selection Chart

No two Thermal Energy Network (TEN) projects are alike, so there are many possibilities for good sites and successful systems.

The four charts below match categories listed in [Site Selection](#) and can help you inventory local buildings, identify thermal resources, and assess opportunities for a TEN.

- **What to look for** points out factors that can contribute to a good potential TEN site.
- **What to know** offers more detail that could help identify a site with even stronger potential.
- **Your notes** gives you space to track which factors apply to your potential site, add specifics, and collect questions.

Potential Thermal Energy Resources and Networks

Potential Buildings	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
	► Facilities and buildings that can be thermal energy resources and/or customers	See TEN Opportunities Chart . May include IT centers, grocery stores (refrigeration), ice rinks, water infrastructure, and more	
	► Buildings that require heating and cooling within ¼ mile or less of thermal energy resources and/or potential borefields		
	► Compatible heating and cooling systems	Buildings that use oil or propane are a good value economically and environmentally to switch to a TEN. Steam systems in need of high-grade heat require more retrofitting. See Compatible HVAC Systems: vctn.org/s/Compatible-HVAC-Systems.pdf	
	► Building conditions	Energy efficient building construction and weatherization Electrical capacity available at panels, meters, and service	
	► Resilience priority	Spaces that serve as emergency shelters and/or provide essential services, e.g. municipal building, school, grocery store, library, senior or other congregate housing	

	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
Street Conditions and Rights of Way	<p>► Capacity to lay pipe between buildings and to building mechanical rooms</p>		
	<p>► Rights of way available for street work and/or street crossings</p>	<p>Work with Town staff and leadership to identify:</p> <ul style="list-style-type: none"> • Planned street or rights of way openings for other/related infrastructure work. • Rights of way free of conflicts with existing infrastructure. • Particular rights of way like railroad easements, state highways or interstates, or transmission corridors. 	
Complementary Projects	<p>► Town plans to add or improve water and/or wastewater systems</p>	<p>Check your Town Plan, Capital Improvement Plan, Local Hazard Mitigation Plan, and website.</p> <p>Check in with your selectboard or Planning Commission or other committees.</p>	
	<p>► Current and future plans for residential or commercial development projects</p>	<p>Check your Town website, talk with municipal staff/leadership like a zoning administrator, planning staff, selectboard, planning commission, and/or development review board.</p> <p>Talk to local developers and land owners.</p>	
	<p>► Projects already in line for street openings, such as: Road or sidewalk repair, electric, cable, or other utility work</p> <p>("Dig once" principle is most efficient, cost-effective)</p>	<p>Check your Town website.</p> <p>Call municipal staff.</p> <p>Review selectboard and other Town committee minutes (better yet, attend a meeting and ask in person during public comment).</p> <p>Check VTrans Construction Projects Mapviewer.</p>	

* This guide uses the term *water source heat pump* to refer to equipment that uses heat recovered from buildings as well as from shallow boreholes. Often called *ground source* heat pumps or even *geothermal* heat pumps, these terms describe the same equipment. In most cases, *water source heat pump* is used here as the most accurate and inclusive term.

Existing Infrastructure	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
	► Places where branch sewer mains are collected into a larger main before entering the public right of way	<i>Offers higher, more consistent flow and volume for heat recovery</i>	
	► Transportation facilities nearby that may serve as easily accessible rights of way or heat sinks or sources	<i>e.g. vehicle tunnels, bridges, stormwater channels, etc. Using rights of way for multiple purposes can save money and reduce the need to acquire dedicated TENs rights of way.</i>	
	► Other renewable energy present and in use on-site	<i>Can be supportive of thermal energy storage and TEN development including but not limited to chilled water piping, cooling towers, water tanks, solar, or battery electric storage.</i>	

Geothermal Potential

Land Use and Feasibility	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
	► Ownership and availability of land for geothermal boreholes and/or borefield(s)	<i>Municipally owned land, e.g. park, recreation field, or parking lot (check your Town Plan) Land owned by potential TEN customers</i>	
	► Permitting and land use regulations	<i>Consider consulting the Permit Navigator (tiny.cc/vtpermit-nav) and contacting a Community Assistant Specialist (dec.vermont.gov/assistance/permits/specialists).</i>	
	► Areas of environmental concern <i>These areas don't rule out a TEN, but do require additional planning and permitting.</i>	<i>Sensitive areas include wetlands, brownfields, or contamination areas. Check state map viewers like ANR Map Hub, DHCD Planning Atlas.</i>	

Geology & Hydrology	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
	<p>► State or regional geologic data and reports for the project location that show generally attractive geological conditions</p> <p><i>A driller can provide a local assessment and general knowledge.</i></p>	<p><i>Existing test borings and geologic reports showing low depths to bedrock</i></p> <p><i>The presence of other high thermally transmissive rock strata, e.g. granite or other bedrock</i></p> <p><i>Underground water flow and other hydrologic conditions like aquifers</i></p> <p><i>The technically inclined can find this kind of detailed geologic information by region or town in the Vermont Department of Environmental Conservation's geologic maps and spacial data.</i></p>	

Community Factors and Opportunities

Participants	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
	<p>► Building owners willing to provide thermal energy</p>		
	<p>► Building owners willing to become TEN customers</p>		
	<p>► Current residents and/or businesses willing to engage in a TEN process</p>		

	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
Housing and Neighborhoods	▶ Range of housing unit sizes, as well as age, heating source, etc.	<i>For more information and guidance about your area, consult your Town or regional planner.</i>	
	▶ Inclusion of rental and affordable housing		
	▶ Potential for equitable distribution among different populations		
	▶ Mix of income levels in order to benefit a wide range of residents and businesses		
Workforce	▶ Availability of professionally certified workforce	<i>Drillers, installers, inspectors, and maintenance workforce</i>	
	▶ Worker compensations that qualify for prevailing wage incentives in the Inflation Reduction Act	<i>Unlocks additional tax incentives for a project</i> <i>See IRA Incentives for TENs.</i>	

Gas Service Territory

	WHAT TO LOOK FOR	WHAT TO KNOW	YOUR NOTES
Opportunities to Replace Gas Service	▶ Gas main and service lines in need of repair or replacement	<i>A TEN could displace fossil fuel use and avoid further investment in the gas distribution system.</i>	
	▶ Sites at or near the end of local gas distribution pipelines	<i>A TEN could be part of a strategy to decommission the gas system by working backwards from the distal ends to replace gas distribution without disrupting service across the system.</i>	