ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS

September 22, 2025

Ministry of Energy and Mines
Strategic Energy Policy Division
77 Grenville Street, 6th Floor
Toronto, ON M7A 2C1

Reference: ERO 025-0923 – Future of the Natural Gas Expansion Program (NGEP)

Sent via ERO Consultation Website

The Ontario Society of Professional Engineers (OSPE) appreciates the opportunity to provide feedback on the future of the Natural Gas Expansion Program (NGEP).

While NGEP discussions have focused on expanding access to natural gas, OSPE urges the Ministry to broaden the scope of this consultation to include **district thermal energy systems** (also called district heating and cooling or thermal energy networks). Many communities are committed to decarbonization and maximizing local energy resources; exclusive reliance on gas service risks **locking in** a carbon-based pathway and creating future stranded-asset risk. Thermal networks are a **fuel-agnostic, future-proof platform** that can complement or replace gas expansion where technically and economically viable, particularly in rural, northern, and Indigenous communities seeking affordable, reliable, resilient thermal services.

Why Thermal Energy Networks Belong in the Conversation

Local Resources & Resilience

Networks can integrate **multiple heat sources** over time: waste heat (industry, data centres, wastewater/sewage plants), solar **thermal**, geothermal fields, CHP, large heat pumps, and (as they mature) **nuclear heat/CHP** — cutting GHGs, diversifying supply, and improving resilience against price and supply shocks.

Thermal Storage (STES) = Peak Shaving & Reliability

Thermal networks can integrate **seasonal and short-duration thermal energy storage (STES)** to manage peaks, improve reliability, and shift summer heat collection (e.g., solar thermal) to winter demand, a **cost-effective, durable** form of energy storage.

Electrical Grid Relief

Networked thermal solutions reduce the need for mass, simultaneous heating electrification, **freeing electrical capacity** for EV charging, industry, and reliability, and deferring costly grid upgrades.

Avoiding Carbon Lock-In (with a Practical On-Ramp)

Thermal networks let communities start with what's available and upgrade sources over time without rebuilding customer-side systems. Central plants can evolve from existing diesel gensets (where present) to high-efficiency natural-gas turbines/CHP, and later to emerging nuclear heat/SMR options, large heat pumps, or other low-/no-carbon sources. The network stays constant; the heat source swaps behind the scenes.

Energy Efficiency & Cost Savings

By shifting heating/cooling to centralized plants and shared infrastructure, thermal networks can displace most at-building equipment, improving community-scale efficiency and lowering lifecycle costs across residential, commercial, institutional, and light-industrial loads.

Economic Development

Like gas pipelines, thermal infrastructure is a long-lived community asset that creates skilled jobs, supports domestic manufacturing (steel, piping, exchangers, controls), and drives made-in-Ontario innovation in design, construction, operations, and controls.

Community Involvement & Ownership (All Communities)

Beyond Indigenous energy sovereignty and partnership models, thermal networks enable **municipal, co-op, and community investment/ownership** structures; create **local employment** (construction, O&M); and support **community representation** in planning, governance, and decision-making.

Unique Strategic Opportunity — Pickering Nuclear CHP

As Ontario considers retrofits for the four units at Pickering Nuclear Generating Station B, designing these retrofits to be **CHP-ready** could supply large volumes of low-carbon thermal energy to a GTA-scale network — heating much of Toronto, **doubling the value** of the units, and accelerating decarbonization at lower system cost. Missing this window

could close the door on one of Canada's most significant low-carbon integration opportunities.

Role of Gas Utilities — From Gas to "Heat" Utilities (Maximizing Existing Assets)

Ontario's gas LDCs already serve **millions of customers**, with rights-of-way, planning expertise, emergency response, metering/billing, and customer service capabilities. Rather than expanding new, long-lived gas connections — often requiring substantial per-connection subsidies in rural contexts — policy can enable LDCs to **pivot from selling gas to selling measured thermal services (heat/cooling)**. This preserves customer relationships, **re-uses utility strengths**, and positions LDCs as **lead agencies for decarbonization** via planning, building, and operating multi-source thermal networks and storage.

Recommendations

1. **Broaden NGEP Scope (IEP Lens):**
   Explicitly include **district thermal energy systems** as complementary or alternative options to gas expansion wherever they deliver superior long-term economic, environmental, and system benefits. Apply a **true Integrated Energy Planning (IEP)** approach that evaluates **non-pipe alternatives** alongside conventional expansion.

2. **"No-Regrets" Guardrails to Avoid Lock-In:**
   a. Prioritize **fuel-agnostic thermal networks** and interconnection standards to enable source switching over time.
   b. Where gas is introduced, favour **CHP-capable central plants** and shared thermal infrastructure instead of new one-off building gas connections.
   c. Avoid **high, long-lived per-connection subsidies** that increase future decarbonization costs.
   d. Use **performance-based** targets (GHG intensity, peak reduction, affordability) rather than prescriptive technologies.

3. **Enable LDC Evolution to Heat Utilities (Maximize Existing Assets):**
   a. Update statutes/regulation so LDCs can plan, own, and **rate-base thermal networks and STES** as eligible **non-pipe alternatives**.
   b. Permit **thermal-as-a-service** offerings with consumer protections aligned to electricity and gas.
   c. Leverage existing LDC **rights-of-way, customer service platforms, metering, and workforce** to minimize transition costs.

4. **Pickering Nuclear CHP-Readiness:**
   Pursue **CHP-readiness** in Pickering B retrofits and plan for integration into a **GTA-scale thermal energy network**.

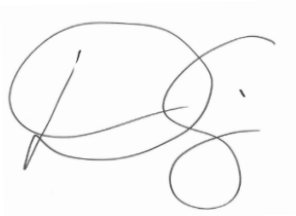
5. **Finance & Governance Framework (with Community Options):**
    a. Treat thermal networks as **core public infrastructure**, with access to long-term, low-cost capital and clear cost-recovery.
    b. Support **municipal, Indigenous, and community investment/ownership** models (including co-ops and concession structures).
    c. Standardize **contracts, data, and interop** (open protocols for metering/billing, thermal interconnection).

6. **Strategic Pilots & Market Building:**
    a. Fund near-term pilots that integrate **waste heat recovery, CHP, large heat pumps, and STES**, prioritized for rural, northern, and Indigenous communities.
    b. Expand eligibility of existing **geothermal/thermal incentives** to support **large community-scale geothermal fields** and district interconnections.
    c. Build **workforce and supplier pipelines** (design, commissioning, operations, controls).

Ontario's commitment to rural, northern, and Indigenous communities requires considering **all viable energy pathways,** not only expanding natural gas. Strategic investment in district thermal networks can deliver affordable, reliable, and sustainable services; stimulate economic growth; strengthen resilience; and accelerate progress to net-zero, while giving gas utilities a durable role in Ontario's clean-energy future.

OSPE would be pleased to meet with you to discuss these opportunities and can arrange for representatives from the Boltzmann Institute to join. Please contact **Paola Cetares, Director of Public Affairs, OSPE**, at **416-223-9961 ext. 225** or **pcetares@ospe.on.ca**.

Yours sincerely,



David Carnegie, P.Eng., MBA
President and Chair
Ontario Society of Professional Engineers

Sandro Perruzza
Chief Executive Officer
Ontario Society of Professional Engineers