Featured Projects

Energy Services Acquisition Program: Positioning Canada as a Global Leader in Carbon-Neutral Buildings

Ottawa, Ontario

Project Duration: 2019 – 2026
Project Budget: $3.4 billion
Client: Public Services and Procurement Canada
Services: Advisory, Project Management

New boiler plant at Confederation Heights

The Energy Services Acquisition Program (ESAP) will reduce greenhouse gas emissions from the district energy system in Canada's National Capital Region by 92%, compared to 2005 levels.

Public Services and Procurement Canada (PSPC) launched ESAP in 2009 to meet the long-term heating and cooling needs of its building portfolio in the Ottawa area.

Supplying heating and cooling to 80 buildings—spanning 1.8 million m^2 and serving 50,000 public servants—the five aging district energy systems (DES) needed rehabilitation and modernization to support the Government of Canada's sustainability goals, as part of the Paris Agreement on climate change.

The DES serves many high-profile buildings, including the Parliamentary Precinct, the Bank of Canada Building, and the National Arts Centre, as well as several other publicly and privately owned properties. Many components are well beyond their normal life expectancy, with most built between 50 and 100 years ago, posing risks to business continuity and critical federal assets.

The User Building Conversion Plan (UBCP)—Stage 1 of ESAP—will upgrade existing steam and high-temperature hot water (HTHW) infrastructure to more energy-efficient low-temperature hot water (LTHW) systems.
As part of a public-private partnership established between the Government of Canada and Innovate Energy in 2019, Innovate Energy will oversee, operate, and maintain the DES for 35 years.

Scope

Tiree delivered a multidisciplinary and integrated approach by providing dedicated project management, advisory, and specialist resources to support the initiation, planning, design, and implementation of the program.

The project objectives were to:

- Reduce the costs of heating and cooling for the federal government
- Increase the safety and reliability of heating and cooling operations
- Improve the Government of Canada's environmental performance
- Leverage the private sector's innovation, capacity, and expertise

The modernized DES includes new energy centres at Cliff Street, behind the Supreme Court of Canada; at Tunney's Pasture; and in Gatineau. The existing Central Heating and Cooling Plant (CHCP) at Confederation Heights will be modernized, while the National Research Council plant will be decommissioned.

Approach

Tiree supported PSPC on this multi-phased program with Advisory and Project Management services—working in partnership with provincial energy regulatory authorities, the Treasury Board Secretariat, the Privy Council Office, the municipalities of Ottawa and Gatineau, and the National Capital Commission.

Our approach to supporting PSPC in creating cleaner, greener, and more cost-effective district energy systems included:

- Advising on business model development, evaluation, and implementation planning for a new service-oriented business unit
- Leading change management, governance, and stakeholder engagement activities
- Preparing briefing materials for senior executives and supporting interdepartmental coordination
- Conducting financial and economic analyses, including cost-benefit, risk-adjusted, and discounted cash flow assessments to inform investment decisions and procurement options
- Coordinating the preparation of key decision documents, including Treasury Board Submissions, Memoranda to Cabinet, investment analysis reports, and public-private partnership (P3) procurement packages, including Requests for Qualifications (RFQs) and Requests for Proposals (RFPs)
- Contributing strategic and technical input on risk management, lifecycle costing, and value-for-money analysis to support the rehabilitation of six Crown-owned energy plants
- Supporting real property portfolio planning, including asset rationalization strategies, policy and standards development, and technical reviews of building condition and performance
- Managing the integration of technical engineering requirements into procurement and design documentation, including mechanical, electrical, security, and information technology (IT) systems
- Developing tools and processes to support project controls, including planning, approvals, reporting, risk tracking, and communications
- Facilitating executive briefings, workshops, and interdepartmental engagements to align stakeholders and keep the program on schedule as part of our project management role

Outcomes

The ESAP program will generate over half a billion dollars in savings by 2050 and will remain on track to achieve carbon neutrality by 2030, helping the Government of Canada achieve its greening targets.

Upgrades to the Cliff, Tunney's Pasture, Gatineau, and Confederation Heights plants will support the continued delivery of reliable, secure, and sustainable heating and cooling to the National Capital Area. All 80 buildings will be equipped with Smart Buildings technology to collect real-time data on energy use, monitor energy efficiency, and encourage a sustainable mindset among building occupants.

The Tunney's Pasture and Cliff Energy Centres will include immersive features such as a glass curtain wall that offers a view into the equipment areas, and a Visitor Education Centre, which invites the public to learn about this state-of-the-art technology.

Indigenous communities and organizations representing First Nations, Métis, and Inuit peoples were consulted on the program, including the Algonquins of Pikwakanagan First Nation, the Algonquins of Ontario (AOO), the Algonquin Anishnabeg Nation Tribal Council (AANTC), and the Algonquin Nation Secretariat (ANS).

By leveraging private-sector innovation through its partnership with Innovate Energy—and with support from Tiree—PSPC has strengthened the safety and reliability of its heating and cooling operations, demonstrating the Government of Canada's commitment to greening its energy infrastructure.

ESAP has positioned Canada as a global leader in carbon-neutral buildings and sustainable technology, setting a precedent for other countries striving to meet ambitious sustainability targets.

A mock-up of the new Cliff Energy Centre's upper plateau

The Tunney's Pasture Energy Centre remodel