Unlocking Wastewater Energy Transfer in Canada

Economic pathways, funding strategies, and project de-risking

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Disclaimer

Markham District Energy's Wastewater Energy Transfer system at the Warden Energy Centre in Markham, Ontario adds 18.75 MW of thermal energy and 3,600 tonnes of cooling capacity into the facility's District Energy System. It is the largest Wastewater Energy Transfer system in North America.

Executive summary

Wastewater Energy Transfer (WET) is a proven low carbon energy solution that can help Canadian communities reduce emissions, improve energy resilience, and support building decarbonization goals. While the technology itself is mature, experience across Canada demonstrates that project success is determined less by technical feasibility and more by policy support, funding availability, market conditions, and risk tolerance. Projects that align strong governance structures with long-term demand certainty and blended financing models are significantly more likely to advance from concept to implementation.

Key takeaways

Economics are driven by policy and market conditions, not technology alone.

The strongest WET markets in Canada have emerged where regulatory frameworks, municipal policies, and energy market conditions align to support development. British Columbia has become the national leader because clear thermal energy regulations, supportive municipal climate policies, and favourable energy economics have reduced uncertainty for developers and investors. In contrast, jurisdictions with lower natural gas prices or less developed regulatory frameworks have experienced slower adoption despite possessing the same technical potential.

Access to capital and project de-risking remain the primary barriers to scale.

Although WET systems offer long-term operational benefits and emissions reductions, their high upfront capital costs and 20- to 30-year payback periods create significant implementation challenges. Successful Canadian projects consistently combine multiple funding sources, including municipal investment, provincial and federal funding programs, private capital, and utility revenue models. Long-term off-take agreements, anchor customers, and adaptive planning approaches are critical tools for reducing risk and creating investable projects.

WET performs best when integrated into broader community and energy planning.

The most successful projects are located in dense urban environments where district energy systems (DES), major redevelopment projects, or large institutional energy users create predictable long-term demand. Case studies across Canada demonstrate that WET is most effective when incorporated early into land-use, infrastructure, and energy planning rather than retrofitted as a stand-alone technology solution. Communities that treat wastewater as an energy asset and coordinate planning across utilities, developers, and government stakeholders are better positioned to realize both economic and environmental benefits.

Introduction

As Canada advances toward net zero and intensified climate adaptation goals, there is growing recognition that achieving deep emissions reductions will require optimizing existing infrastructure alongside deploying new clean energy systems. Wastewater Energy Transfer (WET) systems are an emerging component of Canada's clean energy and low carbon infrastructure landscape. By capturing thermal energy contained in raw or treated wastewater, WET systems can deliver high efficiency, low carbon heating and cooling to residential and commercial buildings through thermal energy networks. Wastewater temperatures remain relatively stable throughout the year, offering a reliable, renewable energy source that can supplement or displace more carbon intensive heating and cooling technologies. As communities seek cost effective pathways to reduce greenhouse gas emissions and decarbonize buildings, WET systems represent a practical and scalable solution.

The widespread adoption of WET systems has been constrained by high upfront capital costs and overall project complexity. Access to appropriate funding, effective risk sharing mechanisms, and a clear economic business case remain decisive factors in determining whether projects move from concept to implementation. Current funding and financing mechanisms are not always well matched to the characteristics of WET systems. Clean energy funding frequently assumes private sector leadership, short payback periods. Some current funding and financing mechanisms are not inclusive towards the technology. This fragmentation can leave WET projects falling between policy and funding silos, despite their strong alignment with multiple government objectives. Improved alignment across funding sources, clearer eligibility criteria, and innovative risk sharing models could significantly enhance project feasibility, with blended finance approaches, long term service agreements, and utility enabled delivery models offering promising pathways to bridge the gap between public value and private investment.

Recognizing both the potential and the persistent barriers facing WET systems, Canadian Water Network (CWN) is undertaking this work to support more informed and confident decision making by wastewater utility leaders and decision-makers. By clarifying the economic value proposition of WET, identifying key cost and risk drivers, and exploring pathways to scale projects through coordinated funding and governance approaches, CWN aims to help utilities, governments, and partners move from interest to implementation. This work builds on CWN's role as a neutral convener across the water, energy, and infrastructure sectors. By bringing together diverse perspectives and synthesizing practical insights, CWN seeks to accelerate learning, reduce duplication of effort, and support the responsible expansion of WET as a contributing element of Canada's low carbon infrastructure future.

WET projects across Canada

Regional policy frameworks, energy markets, and utility structures have shaped WET project developments across Canadian provinces. The following section will illustrate how these factors have influenced the established and planned deployment of WET systems in British Columbia, Ontario, Alberta, and Nova Scotia. Reviewing key aspects of each project, such as the type of technology being deployed, scale, ownership and partnership arrangements, and how the energy is ultimately used. Taken together, the cross provincial comparisons underscore how regional policy settings, market structures, and system constraints vary across Canada, and how these differences shape project economics, risk profiles, and development pathways.

British Columbia

British Columbia has long been a leader, both in the district heating space and in adopting WET technology. This has enabled the development of comprehensive thermal energy system (TES) regulations under the Utilities Commission Act (UCA)[1], which includes the development of WET systems. These regulations have been developed by the British Columbia Utilities Commission (BCUC) and guide the development of TESs and govern the rates charged to customers. The development of these regulations and guidelines help to create a simplified path for the development of the projects. As shown in Figure 1, thermal energy systems are categorised into five different categories based on their ownership structure and capital costs.[2]

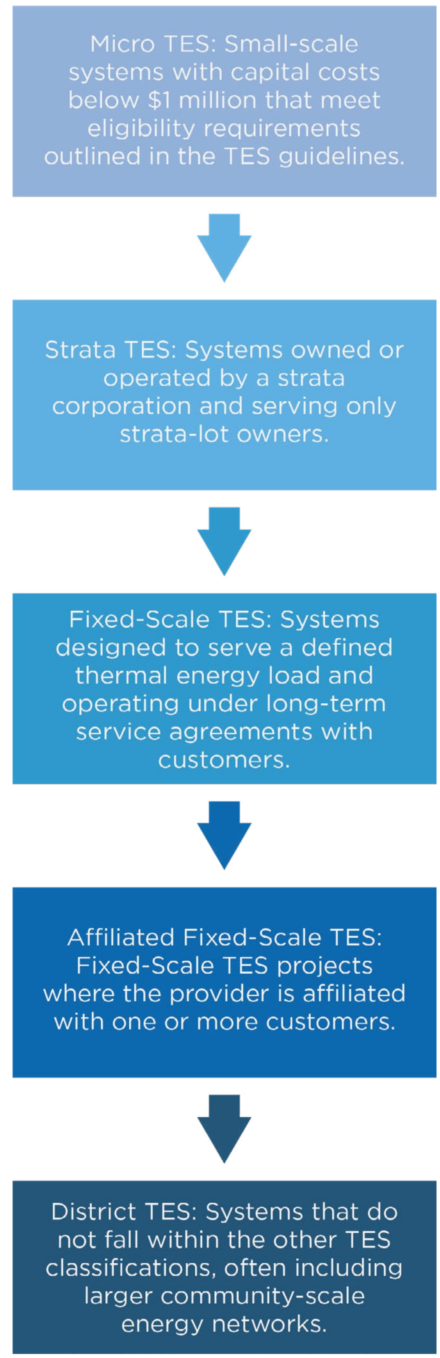

Figure 1. BCUC Thermal Energy System Categorization.[2]

Within these categories, specific categories may be exempt from regulations in the UCA, which enables projects to be built without receiving approval from BCUC for construction and rate setting for consumers. This is most applicable to smaller projects that fall into the Micro and Stata TES classification, along with projects which are developed by municipalities.

Metro Vancouver and the greater Vancouver area have seen the highest rate of WET system deployment of WET systems, with project scales ranging from small campus-scale projects to large neighbourhood-scale projects. A large contributing factor to this high adoption rate in municipalities of the Lower Mainland is Vancouver's commitment to mitigating climate change and displacing the use of fossil fuels. This policy direction supports the use of waste heat wherever it is technically and financially feasible, while still ensuring that wastewater and sewer services are not compromised.[3] British Columbia's policy, market, and regulatory conditions help support a strong economic business case for WET developments in the province. In provinces where natural gas prices are higher, recovered wastewater heat becomes more competitive relative to conventional natural gas heating.

British Columbia's electricity supply is largely hydroelectric, providing relatively low carbon and stable electricity for heat pumps that are central to WET systems. This combination supports strong emissions performance while helping manage long term operating costs. British Columbia, specifically Vancouver, also benefits from favourable urban development patterns for district energy.

From a financial perspective, developers connecting to sewer infrastructure are responsible for all costs associated with establishing and maintaining access. The wastewater itself is not treated as a free resource; instead, its value is assessed on a case by case basis using a business case approach. Factors such as the volume of heat recovered and the overall project economics are considered and reflected in sewage access agreements. This approach ensures that public infrastructure assets are appropriately valued while still allowing projects with strong fundamentals to proceed.

Pictured: Toronto, Ontario.

Ontario

After British Columbia, Ontario has the second highest number of WET projects deployed in Canada. However, unlike British Columbia, Ontario does not have province wide regulations or policies that are specifically focused on wastewater heat recovery. As a result, the sector has developed largely through municipal action rather than provincial direction.

In the absence of provincial rules, municipalities have taken the lead in setting policies and frameworks for WET projects. In 2025, the City of Toronto advanced this approach by releasing a report that clarified how revenues from wastewater energy projects would be collected and how City staff would be authorized to negotiate agreements with external partners.[4] Its report helped reduce uncertainty for developers and investors by defining roles, responsibilities, and financial arrangements. In addition to releasing this report, the City of Toronto has also published a Wastewater Energy Map that shows sewer flow and temperature data.[5] By making wastewater thermal resource information readily accessible, Toronto's

Wastewater Energy Map can catalyze WET project development and provide a best-practice approach that other municipalities should adopt to support wastewater-based heating and cooling systems.

Ontario also differs from British Columbia and several other provinces in how wastewater energy systems are owned and operated. Rather than acting as the direct provider of thermal energy, municipalities typically use a hybrid model that separates infrastructure ownership, energy production, and energy use.

- Municipalities own and regulate the sewer infrastructure and control access to wastewater.
- Municipally owned corporations or private energy service providers develop, finance, build, and operate the WET facilities.
- End users include anchor tenants, district energy networks, or large mixed use developments that purchase the recovered thermal energy.

This structure shifts most construction, operational, and performance risk away from municipalities and taxpayers. Private or municipally owned entities take on upfront capital costs and operational risk, while municipalities maintain control over critical public infrastructure. From an economic perspective, this reduces public financial exposure but requires private developers to recover costs and earn returns through long term energy sales.

Ontario's broader energy market plays an important role in shaping the economics of WET projects. The province already has a low carbon electricity system, with nuclear and hydroelectric power accounting for roughly 79 percent of total electricity generation.[6] Natural gas represents a much smaller share, at approximately eight percent. While this means Ontario produces relatively clean electricity, it also affects the economics of heating. Electricity prices in Ontario are generally higher than in provinces with abundant low cost gas or hydro, making operating costs for electrically driven systems, such as heat pumps used in WET systems, an important design and planning consideration.[7] Natural gas prices in Ontario tend to be higher than in provinces such as Alberta. Yet, within Ontario,

Pictured: Edmonton, Alberta.

natural gas remains an affordable fuel option for thermal energy systems.[8] As society moves towards decarbonization, an abundant third option of waste heat is available and otherwise lost. The high electricity prices in Ontario open the door to utilize cheap waste heat sources to support cost-effective decarbonized energy systems.

Urban density and development patterns further influence project economics. Ontario's large urban centres, particularly in Toronto and surrounding municipalities, offer favourable conditions due to high development density and significant, consistent heat demand. Integrating WET systems into new developments or major redevelopments is generally more cost effective than retrofitting existing buildings, reinforcing the importance of early planning and coordination with land use decisions.

Alberta

WET, including wastewater heat recovery, is not regulated as a separate or specialized sector in Alberta. Like Ontario, there is no provincial level legislation to incentive adoption. Market conditions also affect how attractive these projects are. Alberta's low natural gas prices make it harder for recovered heat to compete with conventional heating sources. As a result, there is less motivation to invest in alternative energy options for district energy systems (DES), even when they offer environmental benefits. As a result, many projects rely on government funding to move forward.

At the same time, Alberta is in the process of changing how its energy markets work.[9] These changes are meant to improve system reliability and make the market more attractive to investors. Recent investment in electricity has been driven more by policy incentives than by market prices, especially for wind and solar power. Policymakers have recognized the need for both renewable energy and reliable, controllable energy sources that can operate when wind or solar are not available. Thermal energy systems, including heat recovery, fall into this controllable category. However, there are currently not enough incentives to encourage investment in these types of systems, which has led to much more development of wind and solar compared to dispatchable energy solutions.

Nova Scotia

In Halifax, WET used in DES is treated very differently than in other provinces. It is considered a regulated public utility and is governed under Nova Scotia's Public Utilities Act.[10] This makes it the only publicly regulated utility of its kind in Canada. As a result, the pricing of heat and related services is regulated rather than left to market forces.

Oversight is provided by the provincial utility board, which is responsible for approving customer rates and terms of service. The utility board also reviews and approves major capital investments and plays a role in resolving disputes between the utility and its customers. This regulatory structure is designed to protect customers while allowing long term infrastructure investments to proceed.

A key example of this approach is the Cogswell district energy project in Halifax, which is owned and operated by Halifax Water.[11] As part of the development, buildings within the designated service area are legally required to connect to the system.[12] This requirement effectively gives Halifax Water a monopoly over the provision of thermal energy services in the project area. While mandatory connection creates a monopoly, regulation ensures that this monopoly operates in a transparent and

Pictured: Halifax, Nova Scotia.

accountable way. Rates, investment plans, and service conditions are all subject to independent review and approval. This oversight helps balance the public interest with the need for stable financing and long term planning, and it provides confidence that customers are paying fair rates while supporting essential low carbon infrastructure.

Avenues of funding and project de-risking

Once facilities are operational, the operational costs are low. Assets also have a long asset lifespan. However, the high initial costs associated with WET projects pose a significant barrier to entry, especially in communities where district heating networks are nonexistent. Most of these costs are incurred prior to the system coming online, such as major civil works, heat exchange infrastructure, permanent connections, and the development of district energy pipe networks. As a result, the way projects are financed is equally as important as the technical design itself. In Canada, WET projects that have moved forward have typically relied on layered funding approaches that reduce early capital exposure, spread risk across partners, and align repayment with long term, utility style revenues. The following section outlines how existing Canadian WET projects have been funded in practice and which financing tools have been used to deliver them.

Avenues of funding

Across Canada, funding vehicles at various levels of government and within the private sector have been developed to provide access to financial resources that enable sustainable infrastructure development. In most cases, projects rely on multiple funding vehicles, known as capital stacking, to become financially viable. These programs are designed to complement municipal, utility, and private-sector investment. The use of these vehicles, however, varies significantly across jurisdictions, driven by differing policy objectives, eligibility criteria, risk appetites, and institutional capacity, and depends on effective coordination and planning to turn available capital into bankable, impactful projects.

Federal funding

Federation of Canadian Municipalities’ Green Municipal Fund

The Federation of Canadian Municipalities’ (FCM) Green Municipal Fund (GMF) is a national funding vehicle that supports Canadian municipalities and their partners in advancing sustainable infrastructure initiatives.13 Delivered by the FCM and funded by the Government of Canada, GMF provides a combination of grants, low interest loans, and capacity building support to help communities plan, pilot, and implement projects that reduce environmental impacts and improve long term resilience. Projects can receive funding to cover up 80 percent of eligible project costs, up to a specific value. They are also eligible to receive a grant that covers up to 15 percent of the loan amount. By targeting areas such as energy efficiency, climate adaptation, waste, water, and transportation, GMF helps bridge financing gaps and de risk early-stage innovative projects, enabling municipalities to move from planning to implementation.

Canada Investment Bank

The Canada Infrastructure Bank (CIB) is a federal Crown corporation designed to accelerate the development of large-scale, revenue-generating infrastructure projects across Canada.[14] The CIB provides long-term, low-cost financing to help derisk projects that deliver public benefits, particularly in areas such as clean power, district energy, transit, broadband, and trade-enabling infrastructure. For WET and district energy projects, the CIB can play a key role by supporting capital-intensive investments, attracting private and institutional capital, and enabling municipalities and utilities to scale proven low carbon solutions through commercially viable project models. However, currently CIB has a $100-million project floor, which would exclude many municipal DES developments. The International District Energy Association (IDEA) is currently seeking to lower this project floor to $25-million to better support DES.[15]

Tax credits

Beyond direct funding and financing programs, tax credits have taken an increasingly important role in enabling sustainable infrastructure in Canada.[16] Unlike grants or loans, tax credits reduce project costs by offsetting capital expenditures. When used in conjunction with other funding vehicles, tax credits can strengthen the business case of developing WET facilities. The removal of the carbon tax and the resulting carbon tax rebates in 2025 have presented some challenges to the financial viability of projects. While WET projects are not currently eligible, the Clean Technology Investment Tax Credit (ITC) would provide a refundable tax credit up to 30 percent for investments in clean technology properties.[15,17]

Provincial funding avenues

British Columbia

British Columbia's emergence as the national leader for WET deployment has been enabled through the CleanBC Communities Fund (CCB). The fund is financed through the Green Infrastructure steam of the Investing in Canada Infrastructure Program. The provincial government oversees program administration and eligibility screening. CleanBC aims to support community infrastructure projects, reduce reliance on fossil fuels, and transition to cleaner energy systems.[18] Most of the WET deployments in British Columbia have received funding support from the CleanBC fund. Since 2022, the fund has remained closed to intake, with ongoing funding commitments limited to previously approved projects.

Alberta

Emissions Reduction Alberta (ERA), funded through the Government of Alberta's Technology Innovation and Emissions Reduction (TIER) funds, de-risks innovative emissions-reduction technologies by providing investment support. Eligible projects can receive up to 50 percent of total project costs through ERA. The Government of Alberta's Renewable and Alternative Energy Program also offers funding opportunities for technologies which provide net-zero energy systems.[19]

Private capital

The use of Public–Private Partnerships (P3s) is a common strategy for both financing and de-risking project development.[20] One of the most comprehensive forms of these arrangements is the Design–Build–Finance–Operate–Maintain (DBFOM) model. Under this model, the private partner assumes responsibility for development, financing, and operations over a fixed contractual period. At the end of this term, the agreement may be renegotiated, with ownership of the asset either transferred to the public sector or retained by the private entity.

This approach shifts much of the investment risk from the public sector to the private partner, which typically recovers costs through user fees. An example of this model is the Seńákw residential development in Vancouver, where Creative Energy serves as the private entity responsible for developing and managing the WET system.

One key advantage of this model is the speed of project delivery. Since private entities are incentivized to begin cost recovery as soon as possible, projects can reach commissioning more quickly. For example, such projects may be completed within a few years after securing agreements (e.g., for sewer access), whereas publicly delivered projects often take longer to become operational.

Project de-risking

Developing large-scale infrastructure projects inevitably brings inherent risk, both technical and financial. To mitigate these challenges, a variety of strategies are available to help developers reduce exposure and improve project certainty from the start. Effective de-risking involves not only identifying potential points of failure, but proactively addressing them through planning, validation, and strategic partnerships. This section will focus on two key approaches: adaptive planning, which integrates flexibility and responsiveness as project conditions evolve, and securing anchor loads, which helps establish early demand certainty and stable revenue foundations.

Adaptive planning

While developing major infrastructure projects, such as WET and DES, the decision to build for the current demand or scale to meet anticipated future demand presents risk. If a facility is built to match the current demand, there is potential for it to become outdated soon after completion. Conversely, if development is designed to meet a probable future demand, that demand might not materialize, or the future context might not match what was originally planned. The use of adaptive planning helps to mitigate risk exposure by evaluating plausible future conditions and developing flexible plans which can be adjusted by monitoring for changing conditions. By beginning on a path of low-to-no-impact decisions, projects can be developed in stages, where the development of one stage will not prevent future development and is based on the most up-to-date information available.

The modularity of DES strongly complements adaptive planning principles, where technologies and energy sources can be "turned on" or developed when market conditions validate investment decisions. This is exemplified with the development of the Blatchford DES in Edmonton, Alberta, and the Peel Lakeview Village DES in Mississauga, Ontario. In these cases, WET systems are planned to meet future market conditions and energy demands.[21, 22] To learn more about Adaptive Planning, explore CWN's work in this area.

Anchor loads

In solidifying the business case for WET projects, the role of an anchor load is important: an entity that signs a long-term agreement to purchase a significant portion or majority of the produced energy through an off-take agreement. These agreements work to de-risk projects as they guarantee a major revenue source once the project comes online. Examples of anchor tenants for WET projects in Canada include hospitals, such as the Toronto Western Hospital, and Halifax's Cogswell development that has a mandated connection to a WET system through governmental policy. The additional benefit of having off-take agreements — long-term contractual agreements between energy providers and end users — and anchor loads during the project design phase is the ability to more accurately predict energy demands.

Economic forecasts of WET

WETs are capital intensive projects, with economic performance and viability largely determined based on scale, utilization, the local policy context and demand certainty. These projects are considered as long term assets (25 to 50 years), and generate value by providing stable, low-cost energy, emissions reduction, and avoided electrical grid costs. Within Canada, WET systems are financially viable in specific contexts, where wastewater infrastructure, such as a sewage main, are near the facility, in higher density populated areas, and where there are governance structures which incentives and enable the development of alternative energy solutions.

Capital expenditures

Capital expenditures (CAPEX) for DES incorporating WET technologies typically require significant upfront investment requirements, particularly during initial project development and future expansion phases. These costs are incurred prior to the facility being operational. Costs include heat exchangers, heat pumps, filtration systems, and the network of pipes that distributes energy between buildings.[23] In addition to these primary components, projects also incur significant costs to connect the system to existing urban infrastructure, such as installing sewer access points, energy transfer stations, and other supporting civil works required to capture and move heat from wastewater. All of this together represents a substantial portion of the total capital cost. Based on available public data, it is estimated that on average, the total capital development costs of projects in Canada average to around $3 million CAD per megawatt thermal (MWt) of energy.

Operating expenses

Operational expenditures for wastewater-integrated DES primarily consist of ongoing costs required to operate, maintain, and optimize system performance. These typically include energy consumption (especially electricity for heat pumps), labour, routine maintenance, and system monitoring activities.[23] WET systems have relatively low operating costs compared to conventional heating systems, driven by the high efficiency of heat pumps and the use of wastewater as a stable, low-cost thermal energy source. This can significantly reduce reliance on fossil fuels such as natural gas, lowering both fuel costs and greenhouse gas emissions.

As Canada's longest operational WET system, the False Creek Neighbourhood Energy Utility (NEU) provides the most complete picture of annual operating expenses, as shown in Table 1. Annual operating expenses for the WET and DES system include energy costs (natural gas and electricity) as well as staffing, maintenance, and overhead. These total approximately $4.6 to $4.8 million per year based on recent budgets.[24] In addition to direct operating costs, ongoing financing-related expenditures such as interest payments, return on equity, and asset depreciation also factor into the annual financial performance of the asset.

Table 1: 2025 False Creek NEU revenues and expenses. Budget compared year-end forecasts based on the commercial utility rate model ($ in millions). (City of Vancouver, General Manager of Engineering Services, 2025).[24]

	2025 Budget ($)	2025 Forecast ($)	Variance ($)	Variance (%)	2026 Proposed($)
Revenues and recoveries					
Capacity levies	5.2	5.4	0.2		5.4
Energy use charges	4.0	4.0	0.0		4.0
Total revenues	**9.2**	**9.4**	**0.2**	**2**	**9.4**
Operating expenses					
Natural gas and electricity	2.8	2.8	0.0		2.4
Staff, maintenance, overhead & other	1.8	1.8	0.1		1.9
Total operating expenses	**4.6**	**4.7**	**0.1**	**3**	**4.3**
Financing expenses					
Interest expense	1.4	1.2	(0.2)		1.5
Return on equity	2.1	1,7	(0.3)		1.9
Depreciation	1.7	1.5	(0.2)		1.6
Total financing expense	**5.2**	**4.5**	**(0.7)**	**(-14)**	**5.1**
Total expenses	**9.8**	**9.2**	**(0.6)**	**-6**	**9.3**
Operating (shortfall) / surplus	**(0.6)**	**0.2**	**0.8**	**-132**	**0.1**

Vancouver's False Creek NEU uses rate design to systematically recover development and operational costs while supporting ongoing system performance and expansion.

Return on investment

WET systems are long-term investments that take time to pay off. They involve high upfront costs, with returns recouped gradually through stable, utility-style pricing. Instead of generating quick profits, these systems rely on steady cost recovery over many years, while also delivering environmental benefits such as reduced emissions.

Payback periods

WET projects have relatively long payback periods compared to conventional district energy powered systems, typically in the range of 20 to 30 years. However, WET systems have a long asset lifespan which allows for long term cost recovery frameworks to still be feasible. This reflects the high upfront capital investment required to develop thermal recovery systems and associated infrastructure, combined with steady, utility-style revenue streams that accrue gradually over time. As such, financial viability depends on stable, long-term cost recovery frameworks that align infrastructure investment with consistent user payments. These systems are designed to recover both capital and operating costs over extended periods through structured rate models, rather than short-term returns.

Vancouver's False Creek NEU provides a clear example of this approach. It uses rate design to systematically recover development and operational costs while supporting ongoing system performance and expansion.
To provide competitive and stable rates for NEU customers, pricing is established using a levelized rate approach, as shown in Figure 2. Under this model, rates are intentionally set below the full cost of service in the early years of operation, when the customer base is still developing. As the system expands and more customers connect, rates adjust to recover previously incurred costs. This approach allows infrastructure expenses to be distributed more equitably between early adopters and customers who connect in later years. Levelized rate structures are commonly used by privately owned utilities regulated by the British Columbia Utilities Commission.

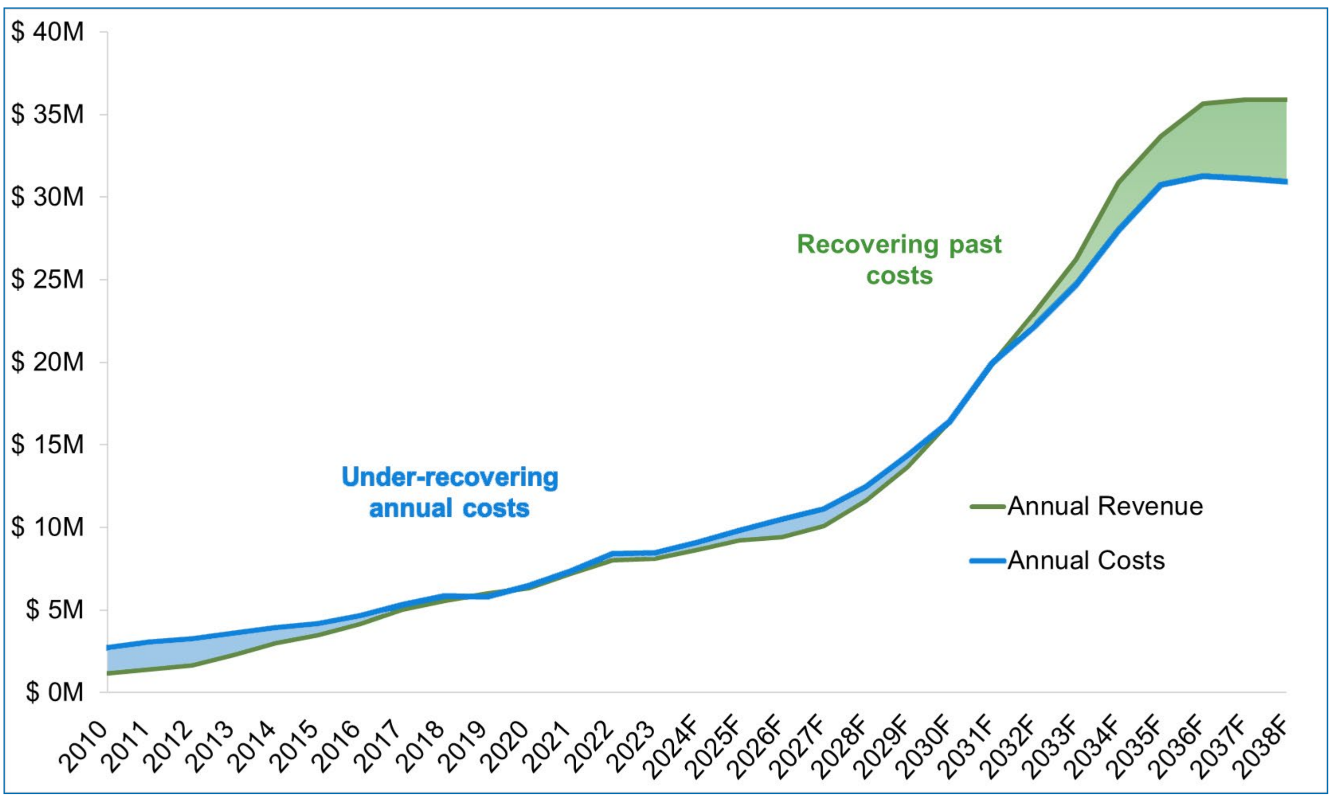

Figure 2: Levelized rate approach taken by False Creek NEU.[24]

As part of this model, the False Creek NEU has implemented gradual rate increases to support financial sustainability, as shown in Table 2. In 2026, rates increased by 3.2 percent; they rose from $1,125 to $1,161 annually for an average-sized apartment unit — consistent with the increase applied in 2025.[24] The 3.2 percent rate increase is consistent with historical rate increases. The utility also employs a structured rate design to ensure equitable cost distribution among users, based on building type and connection timing. Specifically, three distinct rate classes are used:

1. Residential and mixed-use residential buildings within the Southeast False Creek (SEFC) Official Development Plan area that applied for building permits prior to July 1, 2023.

2. Residential and mixed-use residential buildings outside SEFC, as well as SEFC buildings applying on or after July 1, 2023

3. Non-residential buildings.

Table 2: NEU 2025 and recommended 2026 customer rates.[24]

	2025	2026 Proposed	% Change
Class 1 (Residential and mixed use residential within SEFC)			
Fixed capacity levy	0.674 per m^2 per month	0.696 per m^2 per month	3.2
Variable energy use charge	63.151 per MWh	65.172 per MWh	3.2
Net effective rate	137.0 per MWh	141.4 per MWh	3.2
Class 2 (Residential and mixed-use residential outside SEFC) and Class 3 (Non-Residential)			
Fixed capacity levy	$10.141 per KW peak demand per month	$10.466 per KW peak demand per month	3.2
Variable energy use charge	63.151 per MWh	65.172 per MWh	3.2

The Energy Use Charge is a variable monthly fee based on the amount of thermal energy consumed, allowing NEU to recover its variable operating costs directly from users. The low operating costs associated with the WET system help to lower the variable operating costs of the NEU.

The Capacity Levy is a fixed monthly charge based on either building floor area (square meters) or subscribed capacity (kilowatts – kW), depending on the rate class. This charge reflects each building's peak energy demand and is used to recover fixed infrastructure costs, regardless of actual energy consumption. Additionally, the NEU offers consumers credit for energy returned to the energy station at 50 percent of the variable use rate.

Overall, NEU rates are, on average, approximately 4.5 percent higher than comparable BC Hydro energy costs, with a targeted maximum premium of 10 percent. This modest premium reflects the added value of low carbon energy supply and supports the long-term investment model required to sustain and expand WET infrastructure. A comparison of the effective rates of the NEU compared to other energy providers can be found in Table 3.

Table 3: Comparison of NEU's 2026 effective rates with other providers.

Energy provider	Greenhouse Gas Emissions Intensity (kg CO_2/MWh)	Estimated Effective Rate[1] ($/MWh)
NEU Standard Green Heat (Hot Water)	70	≤141
NEU Enhanced Green Heat (Hot Water)	30	≤147
NEU 100 percent RE (Hot Water)	~5	≤151
BC Hydro (Electricity)	9.9	≤134
UBC Neighbourhood DES (Hot Water)	220	≤144[2]
SFU UniverCity Energy (Hot Water)	44	≤220[3]
River District Energy (Hot Water)	220	≤148[2]
Richmond Oval Village District Energy (Hot Water)	220	≤130[3]

Green premiums

Green premiums, additional costs paid by consumers to access higher shares of low and zero carbon energy, are becoming an increasingly common mechanism to support the business case for WET systems and other clean energy technologies. These programs typically introduce tiered, opt-in service classes that allow customers to align their thermal energy supply with their sustainability preferences, while ensuring fairness by assigning the incremental costs of higher-percentage green energy to those who elect to receive it.

Historically, green premiums in DES have been more readily adopted by commercial and institutional tenants, for whom the additional cost is relatively modest and can be justified through enhanced sustainability reporting and emissions reductions. Residential tenants have generally been more price-sensitive and less willing to pay such premiums, despite a growing interest in accessing lower-carbon energy solutions.

In Canada, the Southeast False Creek NEU is exploring the introduction of tiered service offerings in 2026, with options providing approximately 88 percent and up to 100 percent renewable energy supply. At present, the False Creek NEU operates at roughly 70 percent renewable energy, using a combination of sewage heat recovery and renewable natural gas (RNG), which has already achieved significant GHG reductions. However, there is increasing momentum to expand higher-percentage, near-zero-emission offerings, driven by stricter GHG requirements under the City of Vancouver's 2025 *Building By-law (Zero Emissions Building Plan)*, as well as a growing number of customers voluntarily seeking fully decarbonized energy options.[25] The breakdown of the associated costs of green premiums can be found in Table 4.[24]

Table 4: Proposed NEU service class rate riders and projected 2026 monthly costs.[24]

Proposed NEU service classes	Standard Green Heat	Enhanced Green Heat	100% Renewable Energy
Renewable energy blend (%)	70	88	100
Emissions factor (kg CO_2/MWh)	70	30	5
Rate rider ($/MWh)	0	5.78	9.73
Net effective rate ($/MWh)	141	147	151
Existing customers ($/month per suite)	97	100	103
New Customers ($/month per suite)	84	87	89

Canadian projects overview

This section outlines a comparative table linking WET projects to the funding sources they successfully accessed or pursued. The ambition of this table will be to highlight patterns between project characteristics (size, ownership, province, technology) and funding outcomes, making connections explicit and actionable. The goal is to enable readers to quickly identify which funding pathways are most relevant to specific project types and to support early-stage funding strategies. See the table on the next page.

	False Creek NEU[26,27]	Toronto Western Hospital[28,29]	Warden Energy Center[30]	Sen'ákw Energy System[31,32]	Urban Heat Recovery Center[33]	Oval Village District Energy Utility[34,35]	Blatchford[36]	Fishcreek Wastewater Treatment Facility[37]	Cogswell[38]
Location	Vancouver, BC	Toronto, ON	Markham, ON	Vancouver, BC	Vancouver, BC	Vancouver, BC	Edmonton, AB	Calgary, AB	Halifax, NS
Status	Operational (2010)	Under construction	Under construction	Operational	Under construction	Planned	Planned	Under construction	Under construction
Ownership	City of Vancouver	UHN / Noventa	Markham District Energy	Creative Energy / Squamish Nation	Lonsdale Energy Corp.	Lulu Island Energy Company	City of Edmonton	City of Calgary	Halifax Water
Municipal capital	✓	-	-	-	✓	✓	✓	✓	✓
Provincial funding	✓	-	✓	✓	✓	✓	-	✓	✓
Federal funding	✓	✓	✓	-	✓	✓	-	-	✓
Canada Infrastructure Bank (CIB)	-	✓	✓	-	-	-	-	-	-
Green Municipal Fund (FCM)	✓	-	✓	-	-	-	-	-	-
Private equity / Developer capital	-	✓	✓	✓	-	-	-	-	-
Utility rate base / Revenues	✓	-	✓	✓	✓	-	-	-	-
Indigenous-led / Equity investment	-	-	-	✓	-	-	-	-	-

Conclusion

WET systems represent a practical and increasingly proven pathway to support Canada's transition to low carbon, climate-resilient communities. By recovering thermal energy from wastewater, WET systems can provide reliable heating and cooling while reducing emissions and supporting municipal decarbonization goals. Canadian projects continue to demonstrate that the technology is technically viable across a range of contexts; however, deployment is often constrained by financial barriers, including high upfront capital costs, long payback periods, and fragmented policy and funding programs. Experience to date shows that these challenges can be addressed through layered financing, strategic public investment, long-term revenue models, and partnerships that distribute risk among municipalities, utilities, developers, and private investors, helping establish WET as a viable component of Canada's future decarbonized energy infrastructure.

While funding and economics are critical first steps, they represent only one component of successful project development. As interest in WET continues to grow across Canada, CWN will continue to support the sector by creating opportunities for practitioners to learn from one another and build on the experience of projects already underway. A series of case studies will capture the stories behind Canadian WET projects, highlighting not only technical and financial considerations, but also the governance, partnerships, and local champions that have helped move projects from concept to reality. Together, these efforts will help build a growing body of practical knowledge and create a platform for continued dialogue, enabling communities to follow the evolution of WET systems across Canada and contribute to the next generation of low carbon infrastructure solutions.

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