NOVEMBER 2022

BLATCHFORD RENEWABLE ENERGY

2023 - 2026 Business Plan
Attachment 1 - IIS 01397

Blatchford Renewable Energy

Edmonton

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Blatchford

The City of Edmonton is leading the development of a new, centrally located community with a bold and exciting vision set by City Council in 2010:

Blatchford will be home to up to 30,000 Edmontonians living, working and learning in a sustainable community that uses 100% renewable energy, is carbon neutral, significantly reduces its ecological footprint, and empowers residents to pursue a range of sustainable lifestyle choices.

Blatchford is optimising how we live, work and play. This is being achieved by providing an abundance of park spaces, natural habitats, walkways and bikeways for use in all seasons. Transit will be readily accessible. Work, education and amenities will be close and convenient. Public spaces are bringing people together and creating a strong sense of community.

Environmental sustainability is being achieved by minimising heat, power and water consumption. Buildings in Blatchford are built with high energy-efficiency standards and connect to an innovative District Energy Sharing System (DESS) that uses geoexchange, sewer heat exchange and solar as renewable energy sources. Water conservation in the community is managed through low impact development features like bioswales, bioretention areas, tree cells, cisterns, rain gardens and wetlands.

Blatchford is a landmark development for Edmonton and for Canada. As the world grows and changes, so will Blatchford. It will continue to incorporate the best ideas of the day and will be a progressive development that serves as an inspiration to other communities.

Blatchford Renewable Energy

A new public, city-owned utility was established in 2016 to help achieve the City's long term goal of 100 per cent renewable energy and carbon neutrality for Blatchford. Blatchford Renewable Energy owns and operates the neighbourhood's District Energy Sharing System, including future mechanical equipment within certain customer buildings. All buildings in Blatchford, with the exception of net-zero carbon buildings, must be connected to the District Energy Sharing System for all heating, cooling and domestic hot water services.

Buildings seeking to be exempted from connecting to the District Energy Sharing System must be designed, built and certified to a net-zero carbon standard, or better. Within the first two stages of development, no builder has yet applied for the exemption opportunity, however one

builder has started consultations to be exempted from the utility's service.

Blatchford Renewable Energy's goals align with City Council's strategic goals with a special focus on climate resilience. Its operation supports the City Plan and the Community Energy Transition Strategy by significantly reducing greenhouse gas emissions and increasing energy resilience in the heart of Edmonton. District energy, in particular, represents a key strategy of Edmonton's Community Energy Transition Strategy. As outlined in the strategy, 36 per cent of greenhouse gas emission reductions are to come from energy system transformation. This includes both an emissions neutral electricity grid and a "City-wide decarbonized district energy network by 2050".

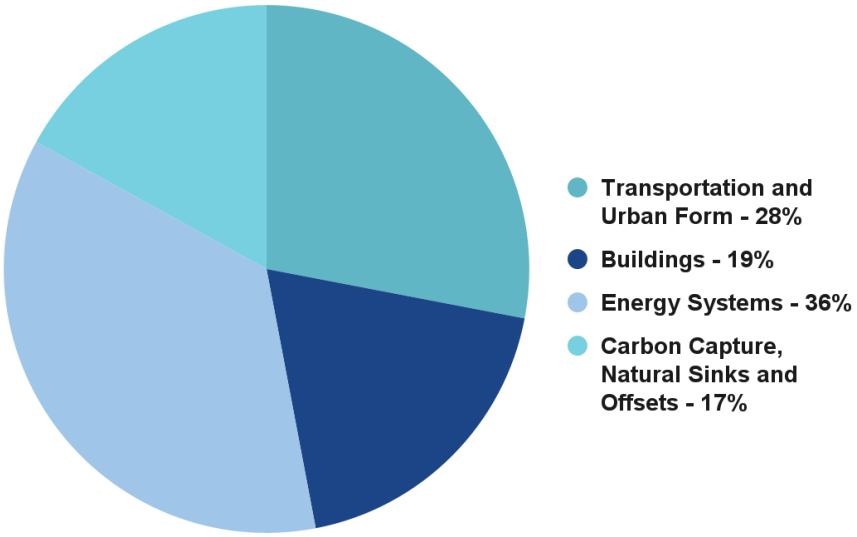


Figure 1: Emission Reduction Profile (for net zero in 2050)

Blatchford's District Energy Sharing System has been operational for over three years , so the utility's focus is on day-to-day operations as well as maintaining and connecting new customers while also planning the extension and development of the first energy centre and the design and construction of the Sewer Heat Exchange Energy Centre, which will be located in the future Blatchford market area.

Coordination with Land Development

The development and operation of the utility is closely connected to the Blatchford Redevelopment Office's land development work. As the land developer, the Blatchford Redevelopment Office is responsible for land use planning, engineering design, construction of public infrastructure and selling fully serviced parcels of land to builders.

Close collaboration between the Blatchford Redevelopment Office and Blatchford Renewable Energy ensures planning and construction are aligned and expedites monitoring and updating the financial performance of both entities. As with any large land development project, Blatchford uses a staging plan. However, the sequence and timing of the stages are subject to change depending on the market conditions and construction progress. The current operational, energy and financial model for the utility is based on the most recent development scenario for Blatchford and will be adjusted as necessary and in alignment with the land development plans.

A show home in the community serviced by Blatchford Renewable Energy.

The community's first geoexchange field is located underneath the stormwater pond in the community.

Business Plan Priorities

Strategic Plan

The strategic objectives of Blatchford Renewable Energy focuses on the growth of the District Energy Sharing System and the integration of emerging technologies into the utility's operation. The overall goal is to reach steady, reliable operation and financial sustainability while achieving Council's vision for a carbon neutral community powered entirely by renewable energy.

Growth of the utility infrastructure is closely aligned with the pace of the land development, builder construction timelines and market uptake. Blatchford Renewable Energy will follow the Blatchford land development schedule and will be adjusted accordingly as housing market considerations change. Overall, a staged approach for the land development and utility is planned in Blatchford, which will include periodic updates to the utility's energy and financial models. Land development needs to be flexible to adjust to market demands and conditions. Any changes to the land development scenario would likely have an impact on Blatchford Renewable Energy's staging and infrastructure needs.

As outlined in last year's Business Plan, a review and update of the initial utility Master Plan was conducted in 2021. This Master Plan includes modelling and forecast tools which will help Blatchford Renewable Energy plan for the infrastructure needed as additional district energy nodes are constructed in the development. It provides a roadmap for the development of district energy infrastructure alongside the land development for Blatchford. The modelling tool will allow district energy planners to understand and respond to changes in land planning and development staging.

The key input variable for the utility Master Plan is land development information, including sale activities and builder construction timelines. Based on this information, the current District Energy Sharing System model includes 1,535,536 ㎡ of connected floor area to be constructed in the next two decades. The resulting net District Energy Sharing System loads based on the Master Plan for 2015 and 2021 are summarised in Table 1 below.

Table 1: Total District Energy Loads in Blatchford

	Master Plan 2015	Master Plan 2021	Delta
Peak Heating [kW]	**34,700**	**34,543**	**0%**
Peak Cooling [kW]	**57,316**	**46,601**	**-19%**
Annual Heating [MWh]	**36,940**	**46,789**	**27%**
Annual Cooling [MWh]	**32,285**	**43,747**	**36%**

These identified changes are due to increased floor space forecasts, coupled with updated energy use intensities and adjusted building types mixes as a result of the overall Blatchford community development forecast.

Future energy centres are currently planned to include geoexchange, sewer heat exchange, and traditional heating sources such as boilers and cooling towers. Energy centre boilers may consist of 'peaking' boilers designed to meet peak heating loads or 'backup' boilers designed to provide backup capacity to sewer heat recovery or geoexchange systems.

The strategy of several smaller, distributed energy centres has benefits compared to having a single, large energy centre designed for the full District Energy Sharing System load.

- Smaller energy centres can be located around the site to make use of various on-site renewable energy sources such as geoexchange, sewer heat recovery, and potentially other sources such as NAIT and LRT waste heat recovery.
- Smaller energy centres can be built sequentially over the life of the project, reducing the initial capital investment.
- As the system grows and customer loads are confirmed, the design basis of future energy centres can be updated to accommodate revised forecast system loads.
- Distributed energy centres provide redundancy by supplying energy into the District Energy Sharing System from various locations. An outage at one energy centre, or in one segment of the distribution piping system, does not need to cause a widespread service outage.

Energy centre service areas have been developed to plan the size of each energy centre based on the expected customer load. Service areas provide target heating and cooling for capacities of energy centres. Each Blatchford energy centre will be designed to service the approximate expected heating and cooling loads of the buildings within its respective service area. The sizing is

approximate because energy can be shared between service areas and around the site. Excess capacity from the energy centre in one service area can be used to make up for shortfalls in capacity in another service area. As such, each energy centre does not need to be sized exactly for the expected District Energy Sharing System load in the service area. Shortage of capacity at one energy centre can be made up for by increasing the sizing and bringing forward the timing of subsequent energy centres. Excess capacity at one energy centre can be used to reduce the size and postpone the construction of future energy centres.

Given the integration of NAIT's Campus Development Plan, they will become a significant customer to the District Energy Sharing System and the utility over the next decades. Current estimates anticipate that the total thermal energy requirement for the NAIT development will be up to 22 per cent of the total District Energy Sharing System capacity. After the development of specific DESS connection and exemption design guides for NAIT, the current focus is on the development of their first two buildings which are expected to come online during the next budget and operational cycle of 2023 to 2026. NAIT has also indicated that they would like to look into the feasibility of connecting buildings on their existing campus to the Blatchford District Energy Sharing System in the future.

Achieving financial sustainability for the utility depends on a number of factors, including external capital injections, stable rate structure and other related utility rates and fees. From an operational perspective, the strategic vision includes an agreement with an external utility service provider to operate and maintain the utility infrastructure while keeping the utility as a municipally owned entity. While still in its infancy, Blatchford Renewable Energy continues to evaluate the timing and opportunities related to engaging an external service provider with plans to further investigate this opportunity in 2023. The utility, with Council's support, continues to advocate for grant opportunities on the provincial and federal level. So far, no external funding has been received; however, Blatchford Renewable Energy continues to apply for grant funding opportunities.

The Next Four Years (2023- 2026)

The focus for Blatchford Renewable Energy over the next four years will be on the continuation of the utility's operational performance, the extension of the distribution piping network and the growth of the existing and new energy centres.

The first Blatchford residents have been connected for almost two years and the District Energy Sharing System has worked without any interruptions or concerns. The variability and flexibility of the utility has provided comfortable heat and cooling energy throughout the initial years of operation.

While the operations and engineering teams are monitoring the performance of the first energy centre, Blatchford Renewable Energy has started the process of planning the anticipated growth in the community. The next four years will include a series of operational activities which are described in more detail below:

1. **Energy Centre One Expansion**

   Current capacity at Energy Centre One is 1 megawatt (MW) of heating and cooling energy respectively, which is enough to service the first few land development stages in Blatchford. The expansion of Energy Centre One is needed to provide energy for land development stages in Blatchford west and east which are anticipated to come online between 2023 and 2026. This also includes larger developments on the east side of Blatchford such as Hangar 11 and the anticipated initial NAIT buildings, which will also be serviced by Energy Centre One. At full capacity, Energy Centre One will be able to generate 4.25 MW of heating and 4 MW of cooling energy. Design effort for the expansion is underway in 2022 and the anticipated capital budget in 2023 and 2024 to extend the capacity is $3.3 million dollars.

2. **Design and Construction of the Sewer Heat Exchange Energy Centre**

   According to the current development scenario, additional energy capacity in the District Energy Sharing System, apart from Energy Centre One, will be needed by 2026. To keep in line with the vision for Blatchford and the original business case for the District Energy Sharing System, the next major renewable energy source would be the heat from the two combined sewer lines which meet under the future Blatchford market area. The expected development in the Blatchford market area will require 12.1 and 10.3 MW of heating and cooling energy respectively. The majority of this energy demand would need to be provided by a new Sewer Heat Exchange Energy Centre. With the project in schematic design development, the utility has learned that updated sewer flow forecasts from EPCOR have reduced the expected future flow and hence the energy potential from the combined sewer system. This reduction in the flow forecast is the principal reason that the utility is adjusting the original business case for the Sewer Heat Exchange Energy Centre. This update will be brought forward during the upcoming 2023 to 2026 budget deliberations. At

current estimations, the Sewer Heat Exchange Energy Centre would be commissioned in 2026 at an approximate cost of $58 million dollars. The updated business case will also look at other alternatives to further grow the Blatchford Renewable Energy Utility in line with Council's vision recognizing prudent fiscal development.

The anticipated service areas for Energy Centre One and the Sewer Heat Exchange Energy Centre is shown in the figure below:

Figure 2: Anticipated Service Areas for Energy Centre One and Sewer Heat Exchange Energy Centre

3. Extension of Distribution Piping Network

The distribution piping network distributes the energy from the energy centres to the buildings and utility customers. As the development grows, so will the piping network. In order to facilitate the anticipated Blatchford development scenario, additional distribution piping is expected to be needed over the next four years in Blatchford west, east and the market area. The total capital forecast for the 2023 to 2026 budget is $4.8 million dollars for the planned extension of the distribution piping network.

Operational Plan

The utility's focus is on the provision of reliable services for customers in the growing Blatchford community.

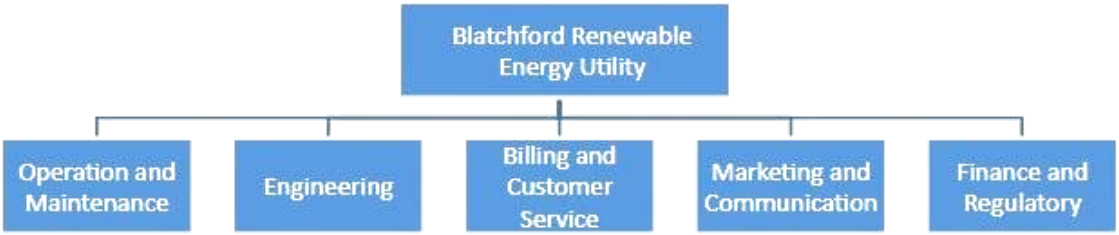
The utility is projected to be connected to 53 townhouse accounts by the end of 2022 based on the sales activities of the Blatchford land development team and the builder's construction activities. The number of expected accounts is anticipated to increase to 143 in 2023 and to 216, 290 and 442 in the years 2024 to 2026 respectively. By 2026, Blatchford Renewable Energy expects to provide thermal energy services to a connected floor space area of approximately 400,000 ㎡, with all of this energy coming from the first energy centre.

Energy Centre One harnesses earth's geothermal renewable energy for use in the community's District Energy Sharing System.

Mechanical equipment in Energy Centre One.

Operation of the District Energy Sharing System will continue to be managed internally by the utility in partnership with other City of Edmonton departments and EPCOR. With the anticipated utility growth, the management of additional energy centre construction and capacity, the extension of the distribution piping network and increased customer connections, the utility will need additional internal resources to provide business planning and engineering support. Two new full-time equivalent positions to provide this support have been added to the 2023 to 2026 operational budget for Blatchford Renewable Energy.

A summary of individual operating units within the utility is presented below:



Maintenance, Operation and Engineering:

Operation and maintenance is provided by the City's Facilities Maintenance Services (FMS) section within the City Operations department. The utility has been working hand-in-hand with FMS to develop operating protocols and maintenance procedures. Operations and maintenance started after commissioning, and engineering and operational support will primarily be provided internally with some support from external technical consultants and contractors. For the future Sewer Heat Exchange Energy Centre the utility is further anticipated to partner with EPCOR in the operation and maintenance of the lift station part of the project.

Billing and Customer Service:

The utility has entered into a service level agreement with EPCOR for billing and customer service support for Blatchford Renewable Energy's customers. EPCOR, along with the City's 311 services, is involved in customer service functions as it relates to billing, technical and emergency communication, and planning. Blatchford Renewable Energy is now fully integrated into EPCOR's automated billing systems upgrade, which will improve the overall process as new customers are coming online.

Finance, Legal and Regulatory:

Financial, regulatory and legal support for the utility is provided by the Financial and Corporate Services department and the City's Legal Services Branch which has significant expertise in utility management. Both areas are heavily involved during the development of the bylaw, the fiscal policy, ongoing rate filing and operating and capital budget development for the utility.

Marketing and Communications:

Marketing and communication support is provided through the Reputation and Brand branch of the Communications and Engagement department. The Blatchford Marketing and Sales team continues to focus on strategic work supporting land sales, sharing the story of the Blatchford land development and utility, and providing customer support to our residents and builders.

All homes in the community are receiving renewable heating, cooling and hot water services from Blatchford Renewable Energy.

Key Measures

Table 2 below provides an updated summary of Blatchford Renewable Energy's key performance measures and targets, including forecasts, actuals and projection, and their alignment with Council's strategic goals.

Table 2: Key Performance Measures of Blatchford Renewable Energy

Utility Strategic Direction	Performance Measure	Forecasts/ Actual/ Projections				Corporate Goal
		2023	2024	2025	2026	
		Forecasts				
Goal: A Healthy Community Well Served						
Blatchford Renewable Energy strives to provide a high level of customer satisfaction by delivering timely and uninterrupted thermal energy.	Thermal Energy Provided by DESS (Cumulative)	8,801MWh	13,992 MWh	22,207 MWh	29,762 MWh	 CLIMATE RESILIENCE
	DESS Operational Uptime	100%	100%	100%	100%	
Goal: Environmental Stewardship						
Blatchford Renewable Energy is committed to staying true to the project vision by complying to the environmental regulations and goals in order to protect the environment and biodiversity.	Environmental Compliance	100%	100%	100%	100%	 CLIMATE RESILIENCE
	Renewable Energy (Utility)[1]	96%	96%	94%	96%	
	Renewable Energy (Community)[2]	54%	54%	52%	54%	 URBAN PLACES
	GHG reduction (Utility)[3]	856 tCO2e	1,239 tCO2e	2,025 tCO2e	2,612 tCO2e	

Utility Strategic Direction	Performance Measure	Forecasts/ Actual/ Projections				Corporate Goal
		2023	2024	2025	2026	
		Forecasts				
Goal: Operational Effectiveness						
Blatchford Renewable Energy is committed to providing a culture of innovation and a strong sense of purpose through a commitment to people, and optimizing systems and resources.	Total floor area connected to the DESS (Cumulative)	123,529 m^2	204,878 m^2	301,272 m^2	403,335 m^2	URBAN PLACES
Goal: Fiscal Sustainability						
Blatchford Renewable Energy strives to become financially sustainable and is committed to be fair and equitable.	Positive net income	no	no	$0.83M	$1.69M	REGIONAL PROSPERITY
	Debt to net asset ratio	0%	0%	0%	0%	
	Positive Cash position	no	no	no	no	URBAN PLACES

[1] Renewable Energy (Utility): Percent of renewable energy used for utility-owned and operated equipment
[2] Renewable Energy (Community): Percent of renewable energy for the whole community
[3] GHG Reduction (Utility): Tonnes of carbon dioxide equivalent reduced from utility operation

Symbol	Corporate Goal	Description
	Climate Resilience	Edmonton is a city transitioning to a low-carbon future, has clean air and water and is adapting to a changing climate.
	Regional Prosperity	Edmonton grows prosperity for our Metro Region by driving innovation, competitiveness and relevance for our businesses at the local and global level.
	Urban Places	Edmonton neighbourhoods are more vibrant as density increases, where people and businesses thrive and where housing and mobility options are plentiful.

Risk Identification

Table 3 below identifies the operational risks associated with the design and construction of the District Energy Sharing System and the development of Blatchford Renewable Energy. The likelihood score is from 1-Rare to 5-Almost Certain. The Impact score is from 1-Minor to 5-Worst Case.

Table 3: Risk Matrix for Blatchford Renewable Energy

Risk Factor	Risk Description	Likelihood (1 to 5)	Impact (1 to 5)	Risk Score	Mitigation Strategy	Risk Owner
Financial	Desire for external investment for the utility. Impact on rate structure and uptake in customers is critical for long term viability.	3 Possibly	3 Major	9 Medium	Communicate and advocate for government funding, update financial model forecast frequently and engage with Council for any changes.	Utility Leadership
Economic	Direct Utility impact on pace of development and uptake of land parcels by builders.	2 Unlikely	3 Major	6 Low	Ensure close collaboration and monitoring of land development and building industry.	Utility Leadership
Project Management	By following Blatchford's vision of sustainability, technical and financial risks are encountered.	2 Unlikely	1 Minor	2 Low	Allow longer schedule for Planning and Engineering of sustainable design. Use Project Develop Deliver Model (PDDM).	Utility Leadership

Financial and Regulatory Impacts

This Business Plan adheres to the principles as established by the Blatchford District Energy Utility Fiscal Policy C597, shown in Appendix 1 of this plan. The Fiscal Policy establishes the framework for how the utility will set its rates, finance capital and manage its cash position. The utility continues to work towards achieving the long term financial indicators as set out in the Fiscal Policy (i.e. Positive Net Income, Positive Cash Position, Debt Financing of Capital). Continued efforts will be made to balance the goals of minimising rate increases while keeping customers' energy bills at Blatchford similar to what they would be outside of Blatchford, identifying operational efficiencies and prioritising capital projects.

A summary of the three financial indicators, as established in the Fiscal Policy, as well as the projected timelines and key milestones for Blatchford Renewable Energy to achieve long term financial sustainability is provided in Appendix 2. Included in Appendix 2 is the desire for a $93 million non-refundable cash infusion to pay for the initial stages of infrastructure development (that number is currently being re-evaluated) and to enable the following two key principles to be achieved:

- Ensure that the Blatchford utility becomes financially sustainable in the long run without any ongoing subsidy; and
- Ensure Blatchford utility customers pay, at most, a comparable fee to what they would elsewhere in the City through their energy utility bills and annual maintenance costs.

Key Financial and Regulatory Updates

This 2023 to 2026 Business Plan continues to follow the regulatory and financial priorities in the first four years (2019 to 2022) as the utility continues to develop and moves towards longer term financial sustainability:

1. Establish the regulatory framework and customer rates based upon a cost of service methodology that ensures Blatchford Renewable Energy customers pay at most a comparable energy fee to what they would elsewhere in the City of Edmonton through their energy utility bills and annual maintenance costs.
2. Obtain a non-refundable cash infusion in order to fund the initial stages of the utility infrastructure development.
3. Obtain short-term bridge financing to be used as working capital for the day-to-day operations of the utility as it continues to mature and begins to generate positive net income and a positive cash position as the number of residents and utility customers increase.

In December 2018, City Council approved the Blatchford Utility 2019 Annual Rate Filing which established the regulatory framework and customer rates for the initial year of operation of the Blatchford utility. For 2019, a “pegged approach” was used to set customer rates under which Blatchford utility customer bills were pegged to what typical utility bills would be elsewhere in the City of Edmonton in 2019 for heating, cooling, and hot water. The utility rates for 2020 to 2022 followed a “levelized approach” to update customer rates by 2.7 percent, consistent with the rate setting methodology reflected in the 2016 business case presented to City Council for the development of the District Energy Sharing System at Blatchford.

For the next four years of rate development, the utility will need to be aware of a changing business-as-usual (BAU) environment than previously assumed. Geopolitical, regional and local pressure on fossil fuel costs for natural gas and electricity commodity pricing will impact the electricity and natural gas rates as well as the now regulated carbon levies on natural gas. In the 2022 Blatchford Rate Filing, the 2022 utility costs for Blatchford residents were shown to be approximately 6 per cent under BAU utility costs for non-Blatchford residents, but the gap during the last months has widened significantly due to increasing electricity and natural gas commodity and delivery costs. Figure 3 shows the comparison of current Blatchford with BAU utility costs. The gap at mid-year 2022 has increased to just over 20 percent.

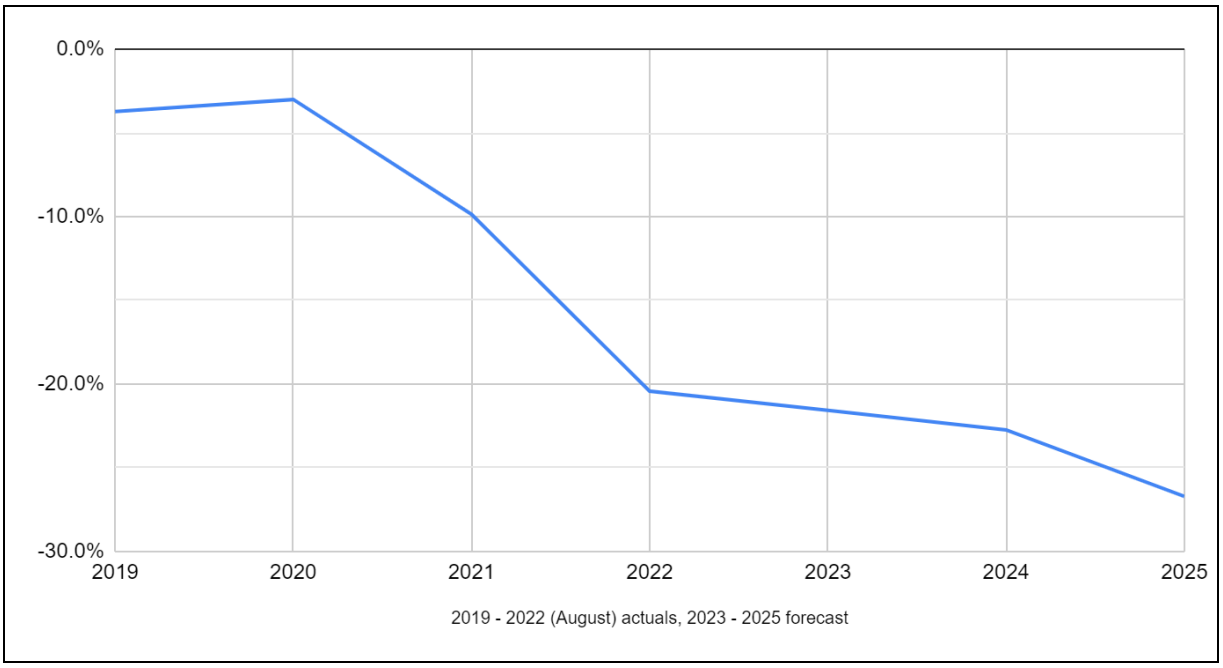


Figure 3: Comparison between Blatchford and BAU Utility Bills for a typical Townhouse

Future rate increases significantly above 2.7 per cent need to be considered to close that gap and to stay in line with the principles of the utility's Fiscal Policy, but to also be in line with industry's accepted rate setting principles. The new suggested rates for Blatchford Renewable Energy will be integrated in the upcoming Blatchford Budget and Rate Filing report and deliberations for Council's review and approval in the fourth quarter.

Several key internal initiatives were started in 2022 which will have a significant impact on the future utility financial and regulatory operation of Blatchford Renewable Energy.

1. **Update of Blatchford Renewable Energy's Financial Model**

   This update is a regular check in on the long term financial health and outlook of the utility given that external and internal project impact conditions need to be adjusted over time. These conditions, in no particular order, include the updated Blatchford development and builder construction scenario (taking into account market conditions), updated capital and operating costs assumptions as well as inflationary forecasts, the price of fossil fuels in developing the business-as-usual rate comparison and any update to carbon levies. The update of the financial model will provide the latest information on the financial health of the utility, including the funding gap needed for capital injection for further growth. The updated information will be integrated in the upcoming four year budget deliberations later this year.

2. **Advanced Rate Structure for Multi-Unit Customers**

   This update is a further next step in the evolution of the development of customer rates for Blatchford Renewable Energy. The development of a new rate for the multi-unit buildings in Blatchford is an important next step in billing larger and different types of buildings in Blatchford. The new rate design and structure will be more aligned to similar end use rates for other district energy and traditional electric and natural gas utilities. The rate design and structure will be fully prepared as part of the Utility's 2023 rate filing which will be presented to Utility Committee and Council in the fourth quarter.

3. **Infrastructure Fee Adjustment**

   The infrastructure fee represents a one-time cost for the builder to connect to the Blatchford Renewable Energy utility. This fee needs to be updated as more larger and diverse multi-unit buildings are currently in the planning stage. The utility is investigating a more fair and consistent approach for multi-unit builders in the development. Any updated infrastructure fee considerations will be integrated in Blatchford Renewable Energy's 2023 rate filing which will be presented to Utility Committee and Council in the fourth quarter.

Table 4 summarises the forecasted 2023-2026 Capital Budget for Blatchford Renewable Energy. It follows the new capital requirements to advance the continued growth of Blatchford Renewable Energy alongside the Blatchford development. This includes the expansion of Energy Centre One, advancing the design and the construction of the Sewer Heat Exchange Energy Centre and the further build out of the Distribution Piping System (DPS) which provides the renewable energy from energy centres to the customers. An advanced business case for the Sewer Heat Exchange Energy Centre will be prepared for the upcoming Blatchford budget and rate filing deliberations.

Table 4: Forecasted 2023-2026 Capital Budget for Blatchford Renewable Energy

Capital Project	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2023-2026 Total	Beyond 2026
EC1 Expansion	$2,697	$483	-	-	$3,180	-
Sewer Heat Exchange	$8,453	$16,146	$16,485	$16,832	$57,916	$13,839
DPS Development	$1,220	$1,220	$1,220	$1,220	$4,880	-
Total:	$12,370	$17,849	$17,705	$18,052	$65,976	$13,839

Table 5 summarises the forecasted 2023-2026 operating revenues and expenditures for Blatchford Renewable Energy.

Table 5: Forecasted 2023-2026 Operating Revenues and Expenditures for Blatchford Renewable Energy

	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
Revenues and Fees				
Rate Revenue	$145	$482	$886	$1,390
Infrastructure Fees	$996	$755	$1,590	$1,933
Total Revenues	**$1,141**	**$1,237**	**$2,476**	**$3,323**
Expenditures and Transfers				
Personnel	$575	$587	$600	$613
Material, Goods and Supplies	$11	$11	$11	$11
External Services	$511	$484	$529	$478
Shared Services	$369	$395	$417	$442
Utilities and Other Charges	$74	$85	$91	$92
Total Expenditures and Transfers	$1,540	$1,562	$1,648	$1,636
Net Operating Requirement	**($399)**	**($325)**	**$828**	**$1,687**

The proposed operating budget allows the utility to continuously provide reliable energy services for customers in the growing Blatchford community and to look at opportunities to grow and partner with external stakeholders encompassing all areas of the Blatchford development and beyond in the next four years. The key opportunity planned to be investigated further is the potential engagement of a third party partner to support the utility's long term growth.

Conclusion

This business plan for Blatchford Renewable Energy provides an updated overview of the strategic and operational activities for the utility. Several key milestones have been achieved or are planned to occur. The utility has successfully provided thermal energy services for over two years. A growing community will see additional connections and utility customers and the growth of existing and new Energy Centres coupled with extending the Distribution Piping System will become critical focus areas over the next four years. The utility has also advanced several key financial and regulatory initiatives which will help accompany its sustainable financial expectations.

The utility's strategic objectives remain the same: growing the District Energy Sharing System and integrating emerging technologies into the utility's operation to reach steady reliable operation, financial sustainability, and to achieve Council's vision for a carbon neutral community powered entirely by renewable energy.

Following this business plan update, the utility will prepare the annual rate filing and budget submissions for Council's consideration during the fourth quarter of 2022.

Appendix 1: Blatchford Renewable Energy Utility Fiscal Policy

Council Policy

Blatchford District Energy Utility Fiscal Policy

Program Impacted	Financial Management *The City of Edmonton's resilient financial position enables both current and long-term service delivery and growth.*
Number	C597A
Date of Approval	December 9, 2020
Approval History	April 10, 2018
Next Scheduled Review	December 9, 2023

Statements

1. The Utility is to be operated in a manner that balances the best possible service at the lowest cost (public utility) while employing private sector approaches to rate setting.
2. Similar to private utilities, the Utility will account for the cost of service under a full cost accounting approach. All customer charges will be based upon cost of service with the end user (customer) paying at most a comparable fee to what they would elsewhere in the City of Edmonton through their energy utility bills and annual maintenance costs.
3. Through a phased approach, the Utility will generate positive net income, cash flow and a rate of return sufficient to cover current year expenses, working capital requirements, and to facilitate the funding for capital infrastructure and rehabilitation and replacement of its capital assets.
4. The Utility is to contribute towards achieving the City's Energy Transition Strategy.

The purpose of this policy is to:

1. Ensure that the Blatchford District Energy Utility is operated in a manner that reflects City Council's overall vision and philosophical objectives for the Utility.
2. Ensure that there is a consistent approach year over year for the financial planning, budgeting, and rate setting for the City managed Utility.
3. Ensure that the Utility is financially sustainable over the long term.

Rate Setting Principles

1. Customer rates will be understandable, practical and cost-effective to implement.
2. Customer rates will fairly apportion the cost of providing service among customers.
3. Customer rates will be stable and predictable from year to year.
4. Customer rates will provide revenue stability for the Blatchford Renewable Energy Utility.
5. Customer rates will promote the efficient use of energy.
6. Customer rates will be based on the forecast cost of providing service.
    a. In the initial years of operation as the customer base continues to grow, a levelized approach may be used to establish rates and recover the forecast costs of providing service over a longer-term basis.
    b. The under-recovery of costs under the levelized approach in the early years of the Utility's operations will be accumulated in a regulatory deferral account to be recovered in later years when the customer base is more fully established.
7. Customer rates based on the forecast cost of providing service will be assessed annually to ensure they remain competitive with other longer-term heating and cooling options.
    a. The Utility will strive for customers to pay at most a comparable fee to what they would elsewhere in the City of Edmonton through their energy utility bills and maintenance costs.
    b. The assessment will take into account the longer-term nature of utility infrastructure being used to provide services to customers, and market fluctuations that may occur annually in the commodity price of gas and electricity relative to the stable cost of providing thermal energy from the Blatchford District Energy Sharing System.

Financial Indicators

Financial indicators are measures that provide financial information about the sustainability of the Utility. Taken collectively, these indicators allow for periodic assessment on whether the Utility is moving towards or away from financial sustainability.

1. **Rate Sufficient to Meet Expenditures and Cash Flow (Positive Net Income and Positive Cash Position)**
    a. The Utility will generate positive net income, cash flow and a rate of return sufficient to cover current year expenses, working capital requirements, and to facilitate the funding for capital infrastructure and rehabilitation and replacement of its capital assets.
    b. The management of the Utility's cash position is the responsibility of Administration, taking into consideration current borrowing rates and current and future cash requirements.
    c. Where the Utility's cash position is insufficient to meet cash flow requirements, the Utility will borrow from the City of Edmonton on a short term basis, with the interest being paid by the Utility

at an interest rate that compensates the City of Edmonton reflecting the Fund Balance where the cash was drawn.

Indicator Targets:

i. Positive Net Income
ii. The target combined Cash Position of the Utility is the Pay As You Go funding required as identified in the Capital Plan.
iii. Stable consistent rate increases.

2. Debt Financing of Capital

a. The Utility will not utilize long-term Debt to finance current operating expenditures.
b. Debt will be considered for Capital Expenditures for:
    i. projects with long-term benefits;
    ii. major rehabilitation or upgrade of existing assets; and
    iii. emerging requirements to support corporate priorities and strategic plans.
c. The Utility will follow the City of Edmonton's process for debt issuance, including the term of the debt and will be consolidated with City debt in determining the City's position relative to the legislated debt limits.

Indicator Target:

The Debt to Net Assets Ratio is a measure of the extent that capital investment is financed through debt, presented on a combined basis and calculated as follows:

Total Long Term Debt
divided by
Net book value of Non-Contributed Assets
= Debt to Net Assets Ratio

The target for the Debt to Net Assets Ratio may vary between 50% and 70%, taking into consideration borrowing rates. Incremental targets, by year, are as follows:

2030 - 98% 2040 - 85% 2050 - 70% 2060 - 60%

Financial Planning

Budget and financial planning follow the general principles of budget, long range planning, and management of capital assets as established by the City of Edmonton and in accordance with Public Sector Accounting Standards defined by the Public Sector Accounting Board.

The Utility will prepare a 4-year Business Plan, to be presented annually to the Utility Committee, prior to the preparation of the multi-year operating and capital budgets or supplemental budget adjustments.

The Utility Committee shall recommend annually to City Council the customer rates for the upcoming year, based on review of an annual rate filing prepared by the Utility subsequent to the preparation and presentation of the 4-year Business Plan.

Definitions

Cash Flow - the ability of the Utility to meet its financial obligations as payments are due.

Capital Assets - assets of the Utility meeting the requirements defined under Public Sector Accounting Standard PS3150.

Capital Investment Outlook - a 10-year forecast of capital required to ensure that appropriate infrastructure are in place to meet service needs, including the replacement of Contributed Assets.

Capital Plan - a 4-year plan for funding capital infrastructure approved by City Council.

Contributed Assets - capital assets of the Utility for which funding was provided from non-rate sources. Examples may include infrastructure constructed by the Blatchford Development, partnership funding, grants, etc.

Debt to Net Assets Ratio - is a measure of the extent to which the net book value of non-contributed assets is being financed by debt.

Financial Indicators - a set of financial measures that provide signals on the financial health of the Utility.

Financial Sustainability - financial sustainability is achieved when all targets set for the Financial Indicators (as recommended by the Utility Committee and approved by City Council) are attained.

Full Cost Accounting - shall include cost allocation from services provided by City Administration and may include administration costs, and other shared services such as Communication, Human Resources, Information Technology, Law, Corporate Procurement and Supply Services, Financial Services, Fleet and Facility Maintenance, and general corporate overhead.

Investment in Utility Financed Assets - Net Book Value of Utility Financed Assets minus associated outstanding debt used to pay for the assets.

Net Book Value - acquisition costs of original costs of capital assets minus their accumulated depreciation.

Pay As You Go - the amount of cash required to implement the Capital Plan; annual amount to be funded from operating revenues.

Rate Revenue - revenue generated through monthly customer rates.

Regulated Activities - are activities that are core to the services provided by the Utility. Examples include, the provision of energy for heating and cooling and domestic hot water.

Utility - refers to the Blatchford District Energy Utility, a self-funded operation that provides energy services for heating, cooling and domestic hot water to customers on a fee for service basis at rates regulated by City Council.

Utility Financed Assets - assets of the Utility for which funding has been provided from rates either through debt or Pay As You Go funding.

Appendix 2: Key Financial Indicators

(as established in the Blatchford Utility Fiscal Policy)

Blatchford District Energy Sharing System Key Financial Indicators - Scenario B								
	2017 - 2021	**2022 - 2026**	**2027 - 2031**	**2032 - 2036**	**2037 - 2041**	**2042 - 2046**	**2047 - 2056**	**At Year 50**
# of Customers	392	3,362	7,653	11,836	14,997	16,643	16,643	16,643
Stages of Utility Buildout*	EC1	EC2 & SHX	EC 3A, 3B, 4	EC 3C & 4	EC5	EC5	Renewal	Full Buildout
Capital Investment								
Cash Infusion	$32M	$61M	-	-	-	-	-	$93M
Contributed by Developer	$3M	$33M	$48M	$31M	$22M	$10M	-	$147M
Non-Contributed	-	$4M	$83M	$19M	$40M	$47M	$227M	$420M
Total Capital	$35M	$98M	$131M	$50M	$62M	$57M	$227M	$660M
Financial Indicators								
1. Positive Net Income	No	**Positive in 2025 ($4M)**	Yes	Yes	Yes	Yes	Yes	$4M
2. Positive Cash Position	No	**Positive in 2025 ($2M)**	Yes	Yes	Yes	Yes	Yes	$12M
3. Debt Financing of Capital (50% - 70%)	n/a	n/a	100% - 98%	98% - 92%	92% - 84%	84% - 74%	**74% - 56%**	56%

Definitions*:
EC - Energy Centre
SHX - Sewer Heat Exchange