DEC 2020

BLATCHFORD RENEWABLE ENERGY

2021 Rate Filing

Attachment 2 - FCS00126

Blatchford Renewable Energy

Edmonton

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1.0 Overview

This 2021 Blatchford Renewable Energy Rate Filing is the annual filing for approval of end use customer rates and fees for Blatchford Renewable Energy ("BRE" or "Blatchford"). As per Section 3.0 the Blatchford District Energy Utility Fiscal Policy C597 ("Fiscal Policy");

> "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."

This Rate Filing is requesting City Council approval of the following:

- Customer rates and infrastructure fees for 2021, to be set based on the approved 2020 customer rates and fees escalated by 2.7 percent, as provided in Appendix 5.0.

In preparing this Rate Filing, BRE has followed the principles as set out in the Fiscal Policy. In particular, BRE established the forecast 2021 revenue requirement based on a traditional cost of service approach while taking into account a Policy Statement in the Fiscal Policy that end-use customers would pay "at most a comparable fee to what they would elsewhere in the City of Edmonton through their energy utility bills and annual maintenance costs" in establishing the proposed 2021 end use customer rates. This Policy Statement has guided the approach taken to design end use customer rates in Blatchford and will henceforth be referred to as Business as Usual ("BAU").

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 (i.e. BAU).

In December 2019, City Council approved the Blatchford Utility 2020 Annual Rate Filing, whereby a "levelized approach" was then used to update customer rates for 2020 based on escalating 2019 approved rates by 2.7 percent, consistent with the rate setting methodology reflected in the business case presented to City Council on March 16, 2016, for the development of the District Energy Sharing System at Blatchford. Under the levelized approach, customer rates in the business case were increased by 2.7 percent on average each year over the initial 50 years to ensure stable and consistent rate increases, with rates set to under-recover costs in the early years of the Utility's operation when the customer base is small and to gradually

recover past costs in the later years when the customer base is fully established. The levelized approach resulted in customer rates for 2020 that were:

- comparable to the 2020 rates calculated in the updated business case;
- consistent with the Fiscal Policy that requires stable consistent rate increases;
- relatively simple to understand and implement; and
- lower than rates based on the pegged approach, and therefore in accordance with the Fiscal Policy that customers pay at most a comparable fee to what they would elsewhere in the City of Edmonton.

In establishing 2021 customer rates, BRE is proposing to continue to use the levelized approach and escalate the approved 2020 rates by 2.7 percent consistent with the approach utilized in the 2020 Rate filing and the District Energy Sharing System business case. A further discussion of the methodology utilized to establish the proposed 2021 end use customer rates is included in Section 6.

The first customer connections to the BRE system occurred in July of 2020. A total of 17 customers are forecast to be connected to the system by the end of 2020 with a further 58 customers connecting in 2021. Given that customer rates are to be set utilizing the levelized approach, the 2021 forecast customer revenue will not be sufficient to fully recover BRE's 2021 forecast revenue requirement. It is anticipated that this will also be the case for 2022. As a result, BRE has implemented a deferral account whereby the annual revenue shortfall amounts will be accumulated in the deferral account to be recovered in future years when customer revenues exceed BRE's revenue requirement. Consistent with Section 2.1C of the Fiscal Policy BRE will borrow (on a short term basis) from the City of Edmonton in order to meet the insufficient cash flow during its first years of operation. Further details are provided in Section 6.

BRE has provided a set of schedules with details of its 2021 revenue requirement and revenue on proposed rates in Appendix 4. These schedules utilize very similar format and content to the Minimum Filing Requirements format utilized in the electric and gas utility industry in Alberta.

The Rate Filing is organized as follows:

Section 2.0 - Background on the Blatchford Development
Section 3.0 - Blatchford Fiscal Policy
Section 4.0 - Blatchford 2021-2024 Business Plan
Section 5.0 - 2021 Forecast Revenue Requirement
Section 6.0 - Cost of Service, Rate Design, Revenue on Proposed Rates & Bylaw 17943
Section 7.0 - Appendices 1.0 - 5.0

2.0 Background

The Blatchford development is aimed to be one of the world's largest sustainable communities and home to 30,000 residents. Blatchford will be comprised of two primarily residential spaces on the east and west side of the site, along with a town centre, an 80-acre central park and a civic plaza.

Blatchford Renewable Energy is a new public, city owned utility that has been established, to own and operate a District Energy Sharing System ("DESS") and certain mechanical equipment within the customer buildings themselves. All buildings in Blatchford, with the exception of net-zero carbon buildings, must be connected to the DESS for all heating, cooling and domestic hot water services.

The first stage of the District Energy Sharing System is operational (Energy Centre One), so BRE's focus has shifted to include day-to-day operations while still planning future stages, including a sewer heat recovery system. The sewer heat recovery system will incorporate another renewable energy source into the District Energy Sharing System by transferring the thermal energy from the two combined sewer lines that run under Blatchford's east side. The initial planning and design for this system has started. This Energy Center will be located in the Blatchford Market area and is currently expected to be commissioned in 2023. BRE is working with EPCOR and other stakeholders on the development of the project, which would tie renewable sewer heat energy that is in the existing sewers under Blatchford into the District Energy Sharing System. This next Energy Centre would primarily service the Blatchford town centre market area.

Guided by the sales activities of the Blatchford land development team, BRE is expecting to connect to 17 fee-simple townhouse accounts by the end of 2020. The number of expected accounts will increase to 75 in 2021 and to 113, 162 and 212 in the years 2022 to 2024 respectively. In 2024, Blatchford Renewable Energy is anticipated to provide thermal energy services to a connected floor space area of 123,500 square meters, with all energy coming from the first Energy Center. This represents a slower pace of account development than initially anticipated, which was adjusted as is standard in the land development industry to align with current sales, market conditions and builder plans. Future development scenarios will also need to include the medium to long term impact of COVID-19 on the real estate market in Edmonton.

3.0 Fiscal Policy

On April 10, 2018, City Council approved the Blatchford District Energy Utility Fiscal Policy C597. The Fiscal Policy is the prerequisite required to support the first four year Utility Business Plan and Bylaw including rates. As stated in the Fiscal Policy, the purpose of the 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 BRE.
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 BRE is financially sustainable over the long term.

In addition to the three statements noted above, the following four Policy Statements outlined in the Fiscal Policy helped establish the regulatory framework and methodology utilized in this Rate Filing:

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 capital assets.
4. The utility is to contribute towards achieving the City's Community Energy Transition Strategy.

During the review of the 2020 Annual Rate Filing on November 1, 2019, the Utility Committee requested that Administration review the Fiscal Policy to provide more flexibility in setting customer rates going forward. In particular, the Utility Committee raised concerns that the Fiscal Policy as currently written could limit the ability for setting future customer rates if rates under the pegged approach in a given year were less than the levelized approach rates of 2.7 percent per year. At the October 2, 2020 Utility Committee meeting, Administration recommended that specific rate setting principles be added to the fiscal policy which: (1) incorporate industry best practice utility rate setting principles; (2) further explain that customer rates may be set to recover the forecast cost of providing service over a longer term basis under the levelized approach; and (3) clarify that multiple years be used for comparison of Blatchford utility customer rates going forward to ensure they remain competitive. These rate setting principles were subsequently approved by Council on October 17, 2020 and a separate report is being brought forward at the December Utility Committee meeting that will provide the full updated content of the Blatchford Fiscal Policy for final approval by Utility Committee and City Council.

In respect of this 2021 Rate Filing and the end-use customer rates included herein, the second Policy Statement, along with the proposed amendments to the Fiscal Policy discussed above, were instructive in establishing the framework for the setting of the

end-use customer rates, both the rate levels and the rate structure. This will be discussed further in the Rate Design section of this Filing.

A copy of the Fiscal Policy including the proposed rate setting principles has been provided in Appendix 2.0.

4.0 2021-2024 Business Plan

The 2021-2024 Business Plan was presented to the Utility Committee on October 2, 2020 (Integrated Infrastructure Services report CR_8340). A copy of the Business Plan is included in Appendix 3.0.

BRE will fund its operating and capital requirements from a number of sources. The following sources of funding will be required and utilized during the initial years of operation:

- Rate Revenue
  BRE will generate revenue through monthly customer rates. Rates will be designed to be at most comparable to what customers would pay elsewhere in the City through their energy utility bills and annual maintenance costs.

- Infrastructure Fee
  BRE will collect a one time infrastructure fee for units and buildings from the builders that connect to the DESS. For residential units, an infrastructure fee of $1,750 is currently approved for 2020. For each commercial development, the infrastructure fee is $20 per square meter ($m^2$) of floor space. This fee creates an additional source of revenue for BRE that would otherwise need to be funded by Utility rates or the non-refundable cash infusion.

- Non-refundable cash-infusions
  Non-refundable cash infusions are required for the initial years of operation to offset the capital investment required to establish BRE and allow it to grow over time to achieve financial sustainability. The total amount required is anticipated to be $93 million.

- Builder Contributed Capital
  The Builder will pay for central mechanical room equipment in multi-unit buildings, which will then be owned, operated and maintained by BRE. These will be contributed assets on BRE's balance sheet and will not attract a net depreciation expense or a return on rate base.

- Debt Borrowing
  The initial capital expenditures for BRE may be financed with long term debt but will ultimately need to be funded (and the debt servicing costs repaid) by non-refundable cash-infusions to ensure the long-term financial sustainability of the utility.

The 2021-2024 BRE Business Plan provides an updated overview from the strategic and operational level for the utility. Several key milestones have been achieved including connecting the first customers, starting utility operation, building a utility brand, logo and website, and advancing the planning and design of the next utility stages. The strategic objectives of the utility remain the growth of the District Energy Sharing System and the integration of emerging technologies into the utility's operation to reach steady reliable operation, financial sustainability, and achieve Council's vision for a carbon neutral community powered entirely by renewable energy. The growth of the new utility is, and will continue to be, closely connected to the land development activities in Blatchford.

5.0 2021 Forecast Revenue Requirement

5.1 Methodology and Key Assumptions

The 2021 BRE Rate Filing utilizes the methodology first established in the 2019 BRE Rate Filing and adheres to the principles set out in the Blatchford Fiscal Policy, which establishes the framework for how BRE will set rates, finance its capital and manage its cash position. As per the Fiscal Policy, an annual rate filing will be submitted each year requesting City Council approval of end use customer rates for the following year.

The schedules provided in the 2021 Rate Filing include revenue and expenditure amounts for the following years as approved in the 2019 Operating Budget and updated in the 2020 and 2021 Annual Rate Filings: 2019 actuals, 2019 approved budget; 2020 current forecast (with actuals to the end of September), 2020 approved rate filing, 2021 proposed rate filing, and the most recent forecast for 2022. The updated revenues and expenditures included in the 2021 proposed annual rate filing have been incorporated into the 2021 supplementary operating budget adjustment for Utility Committee and City Council approval in December 2020.

This Rate Filing takes into account the most recent land development and sales forecast developed by the Blatchford Redevelopment Office. The first Blatchford customers connected to the system in July 2020. It is expected that fee-simple townhouses will be the only residence type to be connected to the system through to the end of 2021. The airport control tower is forecast to connect to the system in 2021 as well. Other types of residences, such as multi story apartment/condominium buildings, will be connected

starting in 2022. The following table summarizes the forecast connections and energy consumption during the 2021-2022 forecast period.

Table 1: Forecast Customer Connections and Energy Consumption by End Use

Item	2019 Actual	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
New Customer Connections					
Townhouses - Fee Simple	0	52	17	57	31
Townhouses - Strata	0	-	-	-	6
Apartments - 4-6 Story	0	-	-	-	1
Apartments - 7-10 Story	0	-	-	-	-
Commercial/Office	0	-	-	-	-
Other - Control Tower	0	1	-	1	-
Total New Customer Connections	-	**53**	**17**	**58**	**38**
Energy Consumption (MWh)					
Townhouses - Fee Simple	0	273.3	30.6	311.7	648.3
Townhouses - Strata	0	-	-	-	18.8
Apartments - 4-6 Story	0	-	-	-	71.0
Apartments - 7-10 Story	0	-	-	-	-
Commercial/Office	0	-	-	-	-
Other - Control Tower	0	3.3	-	1.7	6.7
Total Energy Consumption	-	**276.6**	**30.6**	**313.3**	**744.8**

Other than the airport control tower, the current customer build-out forecast includes only residential customers during the forecast period. Other than the possibility of small retail establishments in the base of the multi-family units being added during the forecast period, it is anticipated that there will be no larger commercial, office or institutional customer connections until the extension of the Metro Line from NAIT to Blatchford is completed, currently expected to be in 2024/2025.

As stated in previous BRE business plans and rate applications, non-refundable cash infusions are required for the initial years of operation to offset the capital investment required to establish BRE and allow it to grow over time to achieve financial sustainability. The total non-refundable cash infusions required to achieve financial stability are currently expected to be $93 million. For purposes of calculating the revenue requirement and deferral account under Cost of Service in the 2021 Rate Filing, the non-refundable cash contribution for the initial capital investments has been assumed at this time, resulting in no long term interest expense or amortization being incorporated. The 2021 revenue requirement and deferral account under Cost of Service will be amended in future annual rate filings as the availability of the non-refundable cash infusion is further clarified.

In addition, builder contributed capital will be utilized to fund certain assets, specifically equipment in the mechanical rooms of multi-unit buildings. Accordingly, for purposes of this Rate Filing all capital expenditures required during the 2020-2022 forecast period are assumed to be funded through the non-refundable cash infusion or builder contributed capital resulting in BRE having no debt or rate base on its balance sheet during the forecast period.

5.2 Determination of Forecast Revenue Requirement

The total 2021 forecast revenue requirement and revenue for BREU is $1.205 million and $0.138 million respectively, resulting in a revenue shortfall of $1.067 million. The following table provides a summary of the annual revenue requirement and customer revenue during the 2020-2022 forecast period.

Table 2: Forecast Revenue Requirement, Customer Revenue and Revenue Surplus/(Shortfall) ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Revenue Requirement						
Operating Costs	853.2	1,342.4	1,255.7	996.0	1,205.3	1,331.1
Depreciation	-	-	-	-	-	-
Return on Rate Base	-	-	-	-	-	-
Revenue Offsets	-	-	-	-	-	-
Total Revenue Requirement	**853.2**	**1,342.4**	**1,255.7**	**996.0**	**1,205.3**	**1,331.1**
Revenue						
Revenue on Proposed Rates	-	77.2	24.1	3.3	34.2	82.8
Infrastructure Fee	7.0	458.5	75.3	29.8	104.2	206.7
Total Revenue	**7.0**	**535.7**	**99.3**	**33.0**	**138.4**	**289.5**
Revenue Surplus (shortfall)	(846.2)	(806.7)	(1,156.4)	(963.0)	(1,066.9)	(1,041.5)

The revenue requirement for BRE does not include any depreciation or return on rate base as it is expected that all capital additions during the forecast period will be funded by a combination of the non-refundable cash infusion and builder contributions, as noted above. Accordingly, BRE will have no assets on its balance sheet during the 2020-2022 forecast period and no equity, debt, interest expenses, return on equity or depreciation expense.

OPERATING COSTS

Initial operation of the first stage of the DESS, with a relatively small number of connections and accounts, will be managed internally by BRE in partnership with other City departments, external contractors and technical experts. Operation and maintenance is being provided by the City's Facilities Maintenance Services (FMS) section within the City Operations department. BRE has been working 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. Service providers have been engaged for all aspects of utility operation. BRE will determine an opportune time to engage an external partner as per City Council's direction, which will likely occur when the initial stage of operations have matured and during the next planning stages for future infrastructure.

The following table summarizes the forecast Operating Costs by major expense category.

Table 3: Forecast Operating Costs by Major Expense Category ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Operating Costs						
Utilities	15.7	24.2	38.0	83.8	74.9	80.4
Operations & Maintenance	581.7	700.1	820.9	700.7	797.0	939.2
Administration	223.9	369.9	312.3	162.0	225.1	228.4
Customer Billing Services	24.7	175.9	22.1	3.1	31.5	7.9
Corporate Administration/Shared Services	7.1	72.4	62.4	46.5	76.7	75.2
Total Operating Costs	**853.2**	**1,342.4**	**1,255.7**	**996.0**	**1,205.3**	**1,331.1**

The following sections provide further detail in respect of each of the major operating cost categories shown in Table 3 above.

UTILITIES

BRE requires electricity and natural gas utility services in order to operate the first stage of the DESS. The following table summarizes the cost of utilities over the 2020 to 2022 forecast period.

Table 4: Forecast Utilities Cost ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Utility Costs						
Electricity	15.6	21.9	31.5	74.3	55.0	60.0
Natural Gas (incl. Carbon tax)	0.1	2.3	4.1	1.0	5.5	6.0
Telephones	-	-	2.3	1.3	2.4	2.4
Water/Drainage/Sewer	-	-	-	7.3	12.0	12.0
Total Utilities	**15.7**	**24.2**	**38.0**	**83.8**	**74.9**	**80.4**

OPERATION & MAINTENANCE COSTS

The forecast Operation & Maintenance costs for each year are comprised of the following cost categories: (1) Operation & Maintenance for all BRE owned assets, (2) Personnel, (3) Training & Development and (4) Technical Consultants.

The infrastructure built and installed to serve customers at Blatchford requires ongoing maintenance as well as a workforce to manage BRE's day to day operations. The forecast operation and maintenance costs for 2021-2022 are based on a capital maintenance factor (i.e. a percentage of capital) for each class of assets (e.g. ground heat exchange equipment, energy center equipment, distribution piping, etc.) applied to the total capital in service each year for each class of assets and real time experience by FMS based on initial operations. The capital maintenance factors were based on industry standards for similar type of equipment. It also took into account initial warranty considerations for the equipment. Operations and maintenance will initially be provided by the City's Facilities Maintenance Services Branch.

BRE will have up to six direct employees responsible for the managing of day to day operations during the forecast period. The following table provides details of the six direct employees including position title and the portion of each employee's time that will be allocated to BRE (a percentage of some employee's time will be allocated to other renewable energy projects currently being undertaken by the City of Edmonton).

Marketing and communication support is provided through the Communications & Engagement Department. A full-time utility marketing and communication resource is anticipated to be added to the existing Blatchford marketing team in 2021 so essential communication and customer services can continue to be in place as the utility grows.

Table 5: BRE Personnel

	Full Time Equivalent		
Employee Title	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Director - Renewable Energy Systems	0.4	0.4	0.4
Program Manager - Renewable Energy Systems	0.7	0.7	0.7
Project Coordinator - Renewable Energy Systems	0.7	0.7	0.7
Communication and Marketing Position	-	1.0	1.0
Coop Engineering Student	1.0	1.0	1.0
Administrative Assistant	0.3	0.3	0.3

The total forecast cost of BRE personnel was determined by applying the full time equivalent factor in the table above to each employee's current total compensation (base salary plus benefits). An annual escalation factor of 2 percent was applied to determine the forecast Personnel cost for 2021-2022. The cost of all but the communication and marketing position is included in the Personnel cost category in the Operation and Maintenance cost grouping. The cost of the communication and marketing position has been included in the Marketing, Education and Communication cost category described in the Administration Costs section below.

In addition to the operation and maintenance costs and the direct BREU employees, consultants will be retained to assist with technical and operational aspects of running BRE. A cost of $239,290 has been forecast for technical consultants in 2021 escalated by 2 percent for 2022.

Forecast costs for training and development were also included in the Operation and Maintenance Cost Forecast. For 2021 an estimate of $6,968 was included, escalated by 2 percent for 2022.

Costs related to the leasing/rental of equipment has been included in the BRE budget. The 2021 forecast cost includes a total of $5,982 for the lease/rental of computers, escalated by 2 percent for 2022.

The following table summarizes the total Operation and Maintenance Costs over the 2020-2022 forecast period.

Table 6: Forecast Operation & Maintenance Cost ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Operations & Maintenance						
Energy Center 1/Main Distribution System	-	155.2	197.8	106.3	178.4	277.1
Customer Connections and Meters	-	13.9	18.5	-	22.1	53.7
Personnel	329.9	275.9	337.5	348.1	344.3	351.2
Training and Development	9.0	5.8	6.8	1.2	7.0	7.1
Equipment Rental	2.5	19.3	25.6	5.0	6.0	6.1
Technical Consultants	240.3	230.0	234.6	240.0	239.3	244.1
Total Operating Costs	**581.7**	**700.1**	**820.9**	**700.7**	**797.0**	**939.2**

ADMINISTRATION COSTS

The forecast Administration costs each year are: (1) Marketing, Education and Communication, and (2) External Professional Services Costs.

The Marketing, Education & Communication costs include an estimate for time and materials required for marketing, communication and education of the Blatchford Community to utility customers during the forecast period. The cost of a new communication and marketing position has been included in this cost category beginning in 2021.

A cost of $104,867 was forecast for 2021 and $105,764 for 2022 for external professional services to assist with non-technical (e.g. financial) aspects of setting up BRE.

Forecast Administration costs were escalated by 2 percent for 2022.

The following table summarizes the forecast Administration costs over the forecast period.

Table 7: Administration Cost ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Administration						
Marketing, Education & Communication	69.4	298.0	121.7	42.0	120.3	122.7
External Professional Services	154.6	71.9	190.6	120.0	104.9	105.8
Total Administration	**223.9**	**369.9**	**312.3**	**162.0**	**225.1**	**228.4**

CUSTOMER BILLING SERVICES COSTS

BRE 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, will also be involved in customer service functions as it relates to billing, technical and emergency communication and planning. BRE will incur a Monthly Base Services Fee of $6.50 per account per month for billing and customer service

support in 2020 and 2021 plus an Additional Monthly Fee of $45.93 per account per month. This Additional Monthly Fee is required in 2020 and 2021 as EPCOR is currently in the process of replacing its Customer Information/Billing System and will be required to manually bill BRE customers until BRE has been set up in the new billing system, currently expected to be late in 2021. Once the new billing system is in service, BREU will have to establish a new Service Level Agreement with EPCOR.

Table 8: Customer Billing Services Cost ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Customer Billing Services						
Monthly Billing Charges	-	23.5	22.1	3.1	31.5	7.9
One-time Set up Costs	24.7	152.4	-	-	-	-
Total Customer Billing Services	**24.7**	**175.9**	**22.1**	**3.1**	**31.5**	**7.9**

CORPORATE ADMINISTRATION COSTS COSTS

The forecast Corporate Administration costs each year are: (1) Shared Services; (2) Asset Usage Fees, and; (3) Transportation and Insurance costs.

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

The following table summarizes the forecast Corporate Administration Costs over the forecast period.

Table 9: Corporate Administration Cost ($000s)

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Corporate Administration						
Shared Services	1.3	64.4	49.2	33.3	53.2	51.2
Asset Usage Fees	-	8.1	7.5	7.5	16.7	17.1
Other - Transportation and Insurance	5.8	-	5.6	5.7	6.7	6.8
Total Corporate Administration	**7.1**	**72.4**	**62.4**	**46.5**	**76.7**	**75.2**

FRANCHISE FEES AND PROPERTY TAXES

Currently it is anticipated that BRE, as a municipally owned utility, will not be required to pay a franchise fee or property taxes on its facilities to the City of Edmonton during the forecast period. Accordingly there are no franchise fees or property tax amounts included in the 2021-2022 forecast revenue requirement.

DEPRECIATION/AMORTIZATION

BRE's revenue requirement does not include any amounts for depreciation/amortization during the forecast period. It is anticipated that BRE's capital requirements during the initial forecast period will be completely funded through a combination of the non-refundable cash infusion and builder contributions. As a result, contributed assets will be equal to gross assets on the balance sheet resulting in no rate base for BRE for the forecast period.

RETURN ON RATE BASE/INTEREST EXPENSES

As noted above, BRE's assets will be fully funded via the non-refundable cash infusion as well as builder contributions resulting in no rate base during the forecast period. As a result BRE's revenue requirement will not include any return on rate base or interest expenses during the forecast period.

REVENUE OFFSETS

Revenue offsets are miscellaneous revenues earned by a utility and can include items such as late payment penalties, revenue from rental of company owned property and miscellaneous fees and non-rate revenues. No revenue offsets are forecast during the forecast period.

RATE BASE

As noted previously, all required capital for the BRE system during the forecast period is projected to be financed by a combination of the non-refundable cash infusion and builder contributions resulting in no rate base on BRE's balance sheet. The following table provides a summary of the mid year net property, contributions and rate base.

Table 10: Mid-Year Net Property, Contributions and Rate Base ($000s)

	2019	2020	2021	2022
Item	Actual	Current Forecast	Proposed Rate Filing	Current Forecast
Rate Base				
Mid-year Net Property	-	9,669.7	19,365.7	19,392.1
Mid-year Net Contributions	-	(9,669.7)	(19,365.7)	(19,392.1)
Net Mid-year Rate Base	-	-	-	-

CAPITAL ADDITIONS AND CAPITAL EXPENDITURES

The capital additions for 2019 and 2020 are related entirely to the development and construction costs associated with the building of the geoexchange borefield, Energy Center One and the distribution piping system for Phase One of the Blatchford development. Capital expenditures will be incurred during the forecast period related to the planning, design and initial construction of the Sewer Heat Recovery Energy Center ("SHX"). The in-service date for the SHX is expected to be 2023, pending actual development and sales on site and a further review of the strategic master plan for the utility, which is ongoing. The following table provides a summary of the forecast capital additions and capital expenditures during the forecast period.

Table 11: Capital Additions and Capital Expenditures ($000s)

	2019	2020	2021	2022
Item	Actual	Current Forecast	Proposed Rate Filing	Current Forecast
Construction Work in Progress - Previous Year Balance	-	18,744.2	52.8	2,200.0
Current Year Capital Expenditures - Energy Center 1	18,744.2	647.9	-	-
Current Year Capital Expenditures - Sewer Heat Exchange	-	-	2,200.0	2,700.0
Less: Current Year Capital Additions - Energy Center 1	-	(19,339.3)	(52.8)	-
Less: Current Year Capital Additions - Sewer Heat Exchange	-	-	-	-
Construction Work in Progress - Current Year Balance	**18,744.2**	**52.8**	**2,200.0**	**4,900.0**

6.0 Cost of Service, Rate Design and Revenue on Proposed Rates

The traditional regulatory approach in setting end use customer rates in the utility industry typically involves the preparation of a cost of service study which includes the grouping of the utility's customers into unique customer classes. The cost of service study then sets out to allocate the utility's total forecast revenue requirement to each of those customer classes based on well established cost functionalization, classification and allocation methodologies. End use customer rates are then designed to fully recover the forecast revenue requirement allocated to each of those customer classes. The resulting forecast revenue derived from the end use customer rates recovers the utility's total annual forecast revenue requirement.

6.1 Cost of Service Study

As was the case with the 2019 and 2020 Rate Filings, in this 2021 Rate Filing a traditional cost of service study was not completed for several reasons. Firstly, using the levelized approach (as discussed further below) to set end-use customer rates does not align with a traditional cost of service study in that end use rates are not designed to recover the total revenue requirement allocated to each rate class in a given year. Secondly, there is only one type of traditional end use customer (i.e. residential) connecting to the BRE system during the forecast period. While there are two separate fixed charges for the BRE's residential customers (one for townhouses and another for condominiums/apartments) as described in the Rate Design section below, the reason for those separate charges is as a result of utilizing the BAU concept/principle to initially set rates in 2019 and not necessarily due to cost differences in serving these two types of residential customers. Finally, given that the utility is in its very early years of operation there is, at best, very limited data available with respect to essential information required to complete a cost of service study such as consumption data/patterns for the various types of customers and information with respect to the

impact (from both design and operational perspectives) of the various types of customers on the BRE system.

6.2 Rate Design and Proposed End-Use Customer Rates

2019 CUSTOMER RATES - PEGGED APPROACH

The Blatchford Utility 2019 Annual Rate Filing established the regulatory framework and customer rates for the initial year of operation of the Blatchford Utility. The 2019 Rate Filing was guided by the overarching Policy Statement contained in the Blatchford District Energy Utility Fiscal Policy:

> "Similar to private utilities, the Utility will account for the cost of services 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."

Under a traditional Cost of Service approach, customer rates are established to allow BRE to recover its annual costs to operate ("revenue requirement"). However, given the small number of Blatchford residents and utility customers in the first few years of operation, customer rates established using the traditional Cost of Service approach would result in rates being significantly higher than comparable fees paid elsewhere in the City of Edmonton, and what BRE customers could reasonably be expected to incur. Therefore, an alternative method to set customer rates for the initial years of development and operation of BRE was required.

In order to develop the customer rates for the 2019 Rate Filing, Administration engaged Grant Thornton to assist in establishing the regulatory framework and identifying and quantifying customer rates using alternative methodologies. The customer rates proposed in the Blatchford Utility 2019 Annual Rate Filing, and ultimately approved by City Council, were based on Grant Thornton's recommendation to utilize a **"pegged approach"** to establish customer rates. Under this approach, Blatchford utility bills were pegged to what utility bills would be elsewhere in the City of Edmonton. Grant Thornton determined the typical utility bill (i.e. Business as Usual or BAU) in 2019 for heating, cooling, and hot water that would be paid elsewhere in the City of Edmonton for the types of dwellings that are to be built in the initial stages of the Blatchford development. In accordance with the Fiscal Policy, differences in the annualized maintenance costs to be paid by Business as Usual and BRE customers were also included as adjustments to the typical Business as Usual bills. BRE also used this approach to establish the Business as Usual amounts in the 2020 Rate filing as discussed further below.

2020 CUSTOMER RATES - LEVELIZED APPROACH

Having initially set customer rates for 2019 based on the pegged approach, a **"levelized approach"** was then used to set rates for 2020, consistent with the rate setting methodology in the business case presented to City Council on March 16, 2016 for the development of the District Energy Sharing System at Blatchford. Under the levelized approach, customer rates in the business case are increased by 2.7 percent on average each year over the initial 50 years to ensure stable and consistent rate increases (a key utility rate setting principle). Rates under-recover costs in the early years of the Utility's operation when the customer base is small, but gradually recover past costs in the later years when the customer base is fully established.

In line with the levelized approach, customer rates recommended in the 2020 Annual Rate Filing and approved by City Council in December 2019 (Bylaw 19062 To Amend Bylaw 17943 Blatchford Renewable Energy Utility) increased the 2019 approved customer rates by 2.7 percent. As part of the 2020 Annual Rate Filing, Administration engaged Grant Thornton to also calculate customer rates for 2020 based on the pegged approach to confirm rates under the levelized approach were at most a comparable fee to elsewhere in Edmonton. Under the pegged approach, the 2020 variable rate was $0.0263/kWh, the fixed charge for townhouses was $1.54/day, and the fixed charge for apartments was $1.17/day. Whereas under the levelized approach, the 2020 variable rate was $0.0255/kWh, the fixed charge for townhouses was $1.47/day, and the fixed charge for apartments was $1.15/day.

2021 CUSTOMER RATES - LEVELIZED APPROACH

Administration is recommending that the levelized approach continue to be used to establish customer rates for 2021, based on the approved 2020 customer rates escalated by 2.7 percent. This approach results in customer rates for 2021 that are:

- comparable to the 2021 rates determined in the updated business case upon which the $93 million non-refundable cash infusion and the Blatchford Utility Fiscal Policy key financial indicators were established;
- consistent with the Blatchford Utility Fiscal Policy that requires stable consistent rate increases;
- relatively simple to understand and implement;
- lower than rates based on the pegged approach and therefore in accordance with the Blatchford Utility Fiscal Policy that customers pay at most a comparable fee to what they would elsewhere in the City of Edmonton through their energy utility bills and annual maintenance costs.

The proposed customer rates for 2021 are summarized in the table below:

Table 12: 2021 Proposed BRE Customer Rates

Rate Component		2021 Rate
Fixed Charge ($/day)		
	Townhouses	1.51
	Apartments	1.18
Variable Charge ($/kWh)		0.0262

2021 CUSTOMER RATES - COMPARISON TO BAU

As discussed in Section 3.0 above, on October 17, 2020 Council approved specific rate setting principles to be added to the Fiscal Policy, including the following principle that multiple years be used for comparison of Blatchford utility customer rates going forward to ensure they remain competitive.

> "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."

Taking this principle into account, Administration has determined the BAU amounts for 2021 using the same methodology utilized in the 2019 and 2020 Rate Filings except a five year average (2019 to 2023 forecast) of annual BAU bill amounts was used to "peg" what utility bills would be elsewhere in the City of Edmonton, rather than a single year as was used in the 2019 and 2020 Rate Filings. Administration used a five year average BAU bill amount to peg utility bills outside of Blatchford in order to take into account market fluctuations that may occur in commodity prices and potential swings in year to year electric and natural gas utility bills outside of Blatchford. In addition, to calculate the 2021 BAU amounts, BRE updated the following assumptions that were utilized to calculate the BAU bill amounts in the 2020 Rate Filing:

- The continued use of the current electricity and natural gas regulated rate options (instead of competitive contracts) for determining both the electricity and natural gas portions of the BAU bill amounts for each year.
- The latest forecast (third quarter of 2020) of long term natural gas and electricity prices were utilized to determine the variable electricity and natural gas rates in the BAU bill calculations.

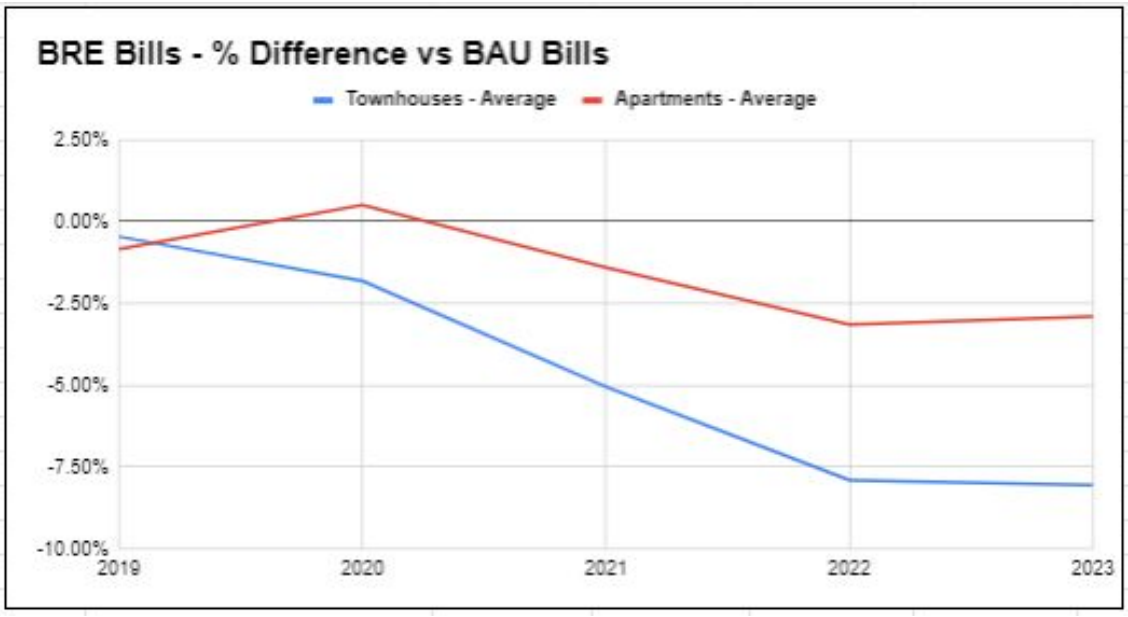
- Carbon tax rates of:
    - $35/tonne in 2019 (Provincial rate),
    - $30/tonne in 2020 (current Federal rate),
    - $40/tonne in 2021 (published Federal Rate for 2021)
    - $50/tonne in 2022 and 2023 (published Federal Rate for 2022 and beyond)

The following table provides a summary of the average annual energy costs (including utility bills and maintenance costs) for a BRE customer compared to a BAU customer, based on the projected five year costs from 2019-2023, for townhouse and apartment customers at Blatchford.

Table 13: Summary of Five -Year Average Annual BRE/BAU Bill and Maintenance Costs for a Typical Customer ($)

	Blatchford Customers			Business as Usual Customers			Difference	
Customer Type	5 Year Average BRE Energy Utility Bill Amount	BRE Maint. Costs	BRE 2021 Energy Utility bill and Maintenance Costs	5 Year Average BAU Energy Utility Bill Amount	BAU Maint. Costs	5 Year Average Annual BUA Energy Utility Bills & Maintenance Costs	BRE less BAU ($)	BRE less BAU (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			=(1) + (2)			=(4) + (5)	=(3) - (6)	=(7) / (6)
Townhouse	$ 1,340	$ 440	$ 1,780	$ 1,564	$ 289	$ 1,853	$ (73)	-3.9%
Apartment	$ 1,178	$ 297	$ 1,475	$ 1,054	$ 444	$ 1,498	$ (23)	-1.5%

The graph below shows the percentage difference between utility bills for BRE customers vs BAU utility bills for the five year period 2019 to 2023, utilizing approved BRE rates for 2019 and 2020, the proposed rates for 2021 and rates for 2022 and 2023 based on the levelized approach of increasing rates 2.7 percent per year.



BRE Rate Schedules with the proposed end use customer rates have been included in Appendix 5.0.

As BRE grows and matures and more operational information and consumption data become available, BRE will investigate alternatives in future rate filings to the single rate class, two component rates proposed in this Rate Filing, such as:

- Splitting the current single rate class into separate townhome and apartment rate classes.
- Adding rate classes as different end use customers (e.g. commercial/retail/office, institutional (e.g. NAIT), industrial, etc.) connect to the DESS.
- The option of setting rate classes based on a size (MW) or consumption (MWh) differentiation rather than end use.
- Implementing separate rate components for heating and cooling.
- Implementing a seasonal or time of use component.
- Adding a demand (e.g. $/kW) component to certain rate classes to encourage efficient use of the system.
- Utilizing an inclining block variable charge to encourage conservation, and
- Basing the fixed charge on a $/square meter per month basis rather than a $/customer/month basis.

BRE will continue to gain experience with operating and maintaining the DESS system and gathering actual metered customer usage data (e.g. total consumption, consumption patterns, time of use, etc.) before implementing any of the alternatives noted above.

INFRASTRUCTURE FEE

BRE has implemented an Infrastructure Fee to charge the builders that connect residences and commercial developments to the DESS. For residential units, an infrastructure fee for 2020 of $1,750 per unit was approved and is currently in place. For each commercial development, the infrastructure fee for 2020 is $20 per square meter of floor space. This fee creates an additional source of revenue for BRE that would otherwise need to be funded by utility rates or the non-refundable cash infusion. To establish the proposed Infrastructure Fee for 2021, BRE is proposing to increase the approved 2020 infrastructure fee by 2.7 percent, the same increase that is being proposed for BRE's end use customer rates. The proposed Infrastructure Fee for 2021 is shown in the table below:

Table 14: 2021 Proposed Infrastructure Fee

Infrastructure Fee	2021 Fee
Residential - all ($)	$ 1,797.25
Commercial ($/m^2)	$ 20.54

The proposed Infrastructure Fee Schedule is included in Appendix 5.0.

6.3 Revenue on Proposed Rates

RATE REVENUE

The proposed rates for 2021, as discussed above, were applied to the 2021 forecast customer billing determinants (i.e. number of customers/accounts and total consumption) to derive the 2021 forecast rate revenue. The proposed 2021 customer rates were increased by 2.7 percent for 2022 and applied to the 2022 forecast billing determinants to derive the 2022 forecast rate revenue. **BRE is seeking approval for only the 2021 end use customer rates in this Rate Filing**.

INFRASTRUCTURE FEE REVENUE

The proposed Infrastructure Fee, as outlined above, was applied to the 2021 forecast number of customer connections to derive the 2021 forecast Infrastructure Fee revenue. The proposed 2021 Infrastructure Fee was increased by 2.7 percent for 2022 and applied to the 2022 forecast number of new customer connections to derive the 2022 forecast Infrastructure Fee revenue. **BRE is seeking approval for only the 2021 Infrastructure Fee in this Rate Filing**.

The following table summarizes the forecast Rate Revenue and Infrastructure Fee Revenue for the forecast period.

Table 15: Forecast Rate and Infrastructure Fee Revenue

Item	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
Revenue						
Rate Revenue	-	77.2	24.1	3.3	34.2	82.8
Infrastructure Fee Revenue	7.0	458.5	75.3	29.8	104.2	206.7
Total Revenue	**7.0**	**535.7**	**99.3**	**33.0**	**138.4**	**289.5**

6.4 Deferral Account and Interest on Financing

As shown in Table 2 in Section 5 above, BRE will realize a revenue shortfall each year during the forecast period. Section 2.1 C of the Fiscal Policy states: "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 were the cash was drawn." Accordingly, it is assumed that the annual revenue shortfall during the forecast period will be financed by short-term debt obtained from the City of Edmonton at prevailing rates. The annual revenue shortfall amount and the interest expense associated with the deferral account balance each year are shown in the table below.

Table 16: Annual Revenue Shortfall and Interest Expense

	2019	2020	2021	2022
Item	Actual	Current Forecast	Proposed Rate Filing	Current Forecast
Total Revenue	7.0	33.0	138.4	289.5
Total Revenue Requirement	853.2	996.0	1,205.3	1,331.1
Annual Revenue Surplus (Shortfall)	(846.2)	(963.0)	(1,066.9)	(1,041.5)
Deferral Account Opening Balance	-	(856.7)	(1,856.6)	(2,995.1)
Annual Revenue Surplus (Shortfall)	(846.2)	(963.0)	(1,066.9)	(1,041.5)
Deferral Account Closing Balance	(846.2)	(1,819.8)	(2,923.4)	(4,036.7)
Annual Interest Costs	**(10.6)**	**(36.8)**	**(71.7)**	**(114.3)**
Deferral Account Closing Balance Including interest Costs	**(856.7)**	**(1,856.6)**	**(2,995.1)**	**(4,151.0)**

It is expected that as BRE grows and more customers are connected to the system that annual customer revenue will exceed BRE's annual revenue requirement and the short term debt obtained to cover the deferral account balance will be paid back to the City of Edmonton.

6.5 Bylaw 17943

The purpose of this bylaw is to:

(a) Regulate connections between building mechanical systems and the Blatchford district energy sharing system;
(b) Regulate access to the Blatchford district energy sharing system;
(c) Prevent damage or misuse of the Blatchford district energy sharing system; and
(d) Prescribe fees and charges related to the Blatchford district energy sharing system.

Bylaw 17943 was approved by City Council in December 2018. Schedule B of Bylaw 17943 contained the Customer Rates and Infrastructure Fee for 2019. Bylaw 17943 was amended by Bylaw 19062 in December 2019 to reflect new Customer Rates and Infrastructure Fee for 2020, that are currently effective for the period January 1 to December 31 2020. Financial and Corporate Services Report FSC00139, to be presented at the December 3, 2020 Utility Committee Meeting, recommends the approval of Bylaw 19494, to amend Blatchford Renewable Energy Utility Bylaw 17943 to reflect the new fees and charges outlined in this Rate Filing effective January 1, 2021.

7.0 Appendices

- 1.0 ETS Justification
- 2.0 Fiscal Policy
- 3.0 2021-2024 Business Plan
- 4.0 Minimum Filing Requirements Schedules
- 5.0 Proposed 2021 Rate Schedules

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Blatchford Renewable Energy

Energy Transfer Station Concept - Justification

Integrated Infrastructure Services Department

City of Edmonton

Capital Profile: CPP# 22-83-8384

Owner: Jesse Banford, Acting Branch Manager

Project Sponsor: Christian Felske, Director

Version #: 1

Date published:

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Change History

Version #	Date	Author	Description
1.0	October 13, 2020	Christian Felske	Initial draft

Document Approval

SUBMITTED BY:

Version #	Submitter Name	Title	Submission Date
1.0	Christian Felske	Director, Renewable Energy Systems	October 26, 2020

REVIEWED BY:

Version #	Reviewer Name and Title	Signature	Signing Date
1.0	Santosh Appukuttan, Acting Operational Controller, Blatchford Utility	Santosh Appukuttan	October 19, 2020
1.0	Brian Latte, LRT - Traffic Integration Manager	Brian Latte	October 22, 2020
1.0	Barry McNabb, Director, Utility Regulation	Barry McNabb	October 19, 2020
1.0	Jeff Olsen, Manager, Regulatory and Financial Strategies	Jeff Olsen	October 19, 2020

APPROVED BY:

Version #	Approver Name and Title	Signature	Signing Date
1.0	Jesse Banford, Acting, Branch Manager		

1. Executive Summary

1.1. Profile Background

Blatchford Renewable Energy was established to help achieve the City's long term goal of 100% renewable energy and carbon neutrality for the Blatchford development. This new city-owned utility owns and operates an innovative District Energy Sharing System in the community. All buildings in Blatchford, with the exception of stand alone net-zero carbon buildings, must be connected to the District Energy Sharing System for all sustainable heating, cooling and domestic hot water services.

In December 2016, City Council directed the creation of the Blatchford Renewable Energy Utility subsequent to reviewing the business case for developing the District Energy Sharing System. The business case identified capital expenditures over a 50 year period for the construction and maintenance of the Utility. The capital expenditures were further broken down into three asset groups. **Group 1** assets comprise the energy centres and distribution system that are to be financed, owned and maintained by the Utility, **Group 2** assets comprise the mechanical equipment (including energy transfer stations) in the individual buildings to draw energy from the distribution system which are to be financed by the builders and contributed to the Utility to own and maintain, and **Group 3** assets comprise the thermostats and additional equipment in the building walls which are financed, owned and maintained by the owners of the buildings.

In December 2018, City Council approved the Blatchford Renewable Energy Utility Bylaw 17943 which establishes the Utility, outlines the requirements for properties to receive energy service through the Utility, and sets the fees and charges for utility service. Part IV, section 12 of Bylaw 17943 indicates the Utility will supply and install, and subsequently own and maintain as a Group 2 asset, the energy transfer station and energy meter for each building with the installation costs being paid for by the builders.

Buildings in Blatchford will use renewable energy for heating and cooling and, as such, buildings will not need to be equipped with traditional systems related to the production of thermal or cooling energy, such as furnaces, boilers, air conditioners or cooling towers.

As described above, certain townhouses and low-rise to mid-rise multi-family buildings will have an Energy Transfer Station (essentially heating/cooling equipment in a utility room) to distribute the energy from the District Energy Sharing System into the individual building units. Energy Transfer Stations are to some degree similar to central mechanical rooms in traditional multi-family buildings. Blatchford Renewable Energy's operating and business model envisions the utility designing, installing, owning, operating and maintaining the Energy Transfer Stations. The builder will reimburse the full costs for the design and installation of the Energy Transfer Station to the utility. This justification provides the rationale for the chosen Energy Transfer Station approach, as Administration is bringing forward an accompanying Capital Profile for this work.

1.2. Problem/Opportunity

This justification further examines the design and construction philosophy for the Energy Transfer Stations in the first identified buildings in the Blatchford development, which are connected to the main District Energy Sharing System infrastructure. The initial operating and financial model for Blatchford Renewable Energy, manifested in the utility bylaw, assumes the utility will own, operate and maintain the Energy Transfer Stations. The builder will reimburse the utility for the design and construction costs of the Energy Transfer Stations, with the operation and maintenance financed through utility customer rates and fees. The decision to take this approach with the Energy Transfer Stations was weighed against the option of the builder designing and constructing the Energy Transfer Station, after which point the utility would take on ownership for the ensuing operation and maintenance services.

2. Profile/Initiative Description

2.1. Initiative Justification

By designing and constructing the Energy Transfer Stations, the utility ensures that in the initial stages of the District Energy Sharing System development, the proper mechanical systems are in place, resulting in the highest operational and financial efficiencies for the operation and maintenance of the system. Various operational, financial and reputational advantages for this chosen approach include:

- **Critical Operational Interface:** The Energy Transfer Station is a critical interface component connecting the District Energy Sharing infrastructure with most of the buildings in the Blatchford community. The optimal interplay between these buildings and the overall District Energy Sharing System is critically important to ensure the most efficient operation of the system, which will help achieve the best possible operational, financial, and sustainability outcomes. The utility is operating the main District Energy Sharing infrastructure, and with that experience and operational oversight, can ensure that the Energy Transfer Station is properly designed and built.

- **Operational Efficiencies and Cost Savings:** As the utility's business model includes the operation and maintenance of the Energy Transfer Stations, the initial design and construction is of critical importance to ensure that future operation can be optimized. With the utility taking on the design and construction of the Energy Transfer Station, it can ensure that future cost savings and operational efficiencies are achieved. Examples include the ability for the utility to select certain equipment and design operational processes which can be streamlined between all buildings with Energy Transfer Stations, resulting in reduction of operating and maintenance costs.

- **Innovation and Novelty Aspects:** The utility's experience in operating the District Energy Sharing System will also help to drive innovation and alleviate any initial concerns for the Energy Transfer Station concept in Edmonton's builder market. While some experience exists with the concept in the home building community, this chosen approach will provide builders (and future utility customers) with the assurance that the technical and operational details of the system are being met. This in turn, will avoid any remodelling work or cost overruns.

- **Reputational Aspects and Lesson Learned:** Blatchford Renewable Energy has investigated other District Energy Systems locations, where a different design and delivery approach of the Energy Transfer Stations has led to significant operational challenges, cost overruns, and reputational issues. These learnings and experiences have influenced the decision for the utility to take on more control in designing and building the Energy Transfer Stations in the identified buildings.

The utility is committed to review the chosen Energy Transfer Station design and delivery concept during the first stages of development in Blatchford. With more builders and contractors getting experience with the Energy Transfer Station concept in Edmonton, the utility recognizes the opportunity to work with builders in the future and to potentially move some of the Energy Transfer Station design and installation responsibilities to the builder, with the utility providing more of an oversight role.

3. Strategic Alignment

The initiative aligns to Council's strategic goals of climate resilience: Edmonton is a city transitioning to a low-carbon future, has clean air and water and is adapting to a changing climate. The work proposed in this business case further supports Council's vision for the Blatchford development and utility:

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

4. Alternatives

The alternative considered to the proposed Energy Transfer Station design and construction concept is to have the builders design and construct the Energy Transfer Stations, with the utility then becoming the owner and taking on the operation and maintenance. This option was evaluated, and technical and operational advice was received recommending to utilize the proposed process in the initial stages of the development of the District Energy Sharing System to ensure that operational control and efficiencies are achieved, initial cost savings are realized, and that reputational challenges as experienced in other projects, are avoided.

The utility is committed to review the chosen Energy Transfer Station design and delivery concept during the first stages of development in Blatchford. With more builders and contractors getting experience with the Energy Transfer Station concept in Edmonton, the utility recognizes the opportunity to work with builders in the future and to potentially move some of the Energy Transfer Station responsibilities over to the builder, with the Utility providing a more overseeing role.

5. Organizational Change Impact

5.1. Stakeholder Impact

The primary stakeholder impacted by the design and delivery of the Energy Transfer Station are the builders. The utility has provided specific design information materials for them, outlining the chosen concept and technical, operational and financial information for the Energy Transfer Station design and delivery process. This allows the builder and the utility to work hand in hand through the design and construction on site. As mentioned, it is important for builders to familiarize themselves with the design and construction of Energy Transfer Stations and its connection to the District Energy Sharing infrastructure, to in the future allow some of the responsibilities for the Energy Transfer Stations to be moved to the builders.

5.2. Procurement Approach

A detailed process has been laid out for the builder and the utility to work together during the design and delivery stages of the building and specifically the Energy Transfer Station. Based on information from the builder, the design requirements by the utility, and the established procedures, the utility will design and oversee the installation of the Energy Transfer Station. The utility will engage existing technical advisors within Engineering Services, consultants, and contractors for the execution of the work, when needed.

5.3. Costs

The cost for the design and construction of the Energy Transfer Station will be paid for by the builder. The detailed cost will be developed jointly between the builder and the utility through the preliminary and final design stage of the building, with a key factor being the overall energy requirements of the building. The costs are managed through the utility with payment requirements outlined as part of the sales agreement between the builder and the Blatchford Redevelopment Office. Hence no additional funding sources are required for the developed capital profile. If the actual cost for the Energy Transfer Station comes in lower than expected, then the utility has developed a mechanism to refund the builder. Costs for the utility are based on a full cost recovery principle and industry standard contingencies have been developed. Based on the current land development forecast from the Blatchford Redevelopment Office the expected timelines and costs are outlined in table 1 below:

Table 1: Expected Costs for Energy Transfer Stations in Blatchford

Activity	2022	2023	2024	Total
Design/Construction	$1,500,000	$1,500,000	$2,000,000	$5,000,000

5.4. Anticipated Cost Benefits

The cost benefit for the utility is achieved from the operational efficiencies that come from the utility designing and constructing the Energy Transfer Station to most efficiently connect with the existing and future District Energy Sharing System infrastructure. This will lead to lower operation and maintenance costs for the utility, e.g. through the choice of equipment and operational efficiency gains. The actual anticipated savings will vary, mainly dependent on the specific size and energy load of each building. At this time these costs are difficult to quantify as actual costs for contractors are not actually known as the ETS concept is fairly new to the Edmonton and area market. The utility will gather necessary data to ensure that a more detailed analysis is generated. The utility is currently working closely with the Blatchford Land Development Office and is engaged early in the process reviewing the design of buildings in Blatchford.

6. Resourcing

The work required to implement this process includes internal and external resources to design and deliver the Energy Transfer Stations in buildings in Blatchford. The costs are managed through the utility, with the funding recovered from the respective builders in Blatchford.

7. Key Risk(s) and Mitigation Strategies

The key risk managed with the chosen strategy is that Blatchford Renewable Energy will not lose control of the design and construction of the Energy Transfer Stations. This ensures that the utility can make certain the overall energy systems are working effectively and efficiently to reduce the operational and reputational risks in comparison to the considered alternative. This risk is owned by the leadership of Blatchford Renewable Energy.

8. Conclusion and Recommendation

This new Capital Profile is needed to manage the design and delivery of the Energy Transfer Stations in the majority of buildings in Blatchford. The funding source for this profile will be “developer funding” which would impact any other City or Utility capital programs. The recommendation is for the utility to design and construct the Energy Transfer Stations and to

own, operate and maintain them. This approach will result in higher efficiency from the overall utility infrastructure, lower operating costs, and reduced system operation and reputational risks. The alternative considered would also see the builder pay and manage its resources to complete the work, but would likely result in lower efficiency, higher operating costs for the utility and enhanced risks of operation.

The cost of the design and construction will be fully covered by the builder and the cost of the ongoing operation and maintenance will be financed through customer rates and fees.

9. Review and Approval Process

This justification will be approved by the Director of Renewable Energy Systems. The final approval will be received from the Branch Manager r prior to submission to Utility Committee and the Council.

Attachment 1 - Blatchford Energy Transfer Station (ETS) Capital Profile

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	*TBD*
Approval History	April 10, 2018
Next Scheduled Review	*TBC upon approval* [Must not exceed 3 years from date of approval]

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 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.

Attachment 1

SEPT 2020

BLATCHFORD RENEWABLE ENERGY

2021 - 2024 Business Plan

Attachment 1 - CR_8340

Blatchford Renewable Energy

Edmonton

Report: CR_8340

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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:

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 will optimize how we live, work and play. This is 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 will bring people together and create a strong sense of community.

Environmental sustainability will be achieved by minimizing heat, power and water consumption. Buildings in Blatchford are built with high energy-efficiency standards and connect to an innovative District Energy Sharing System 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 will be a landmark development for Edmonton and for Canada. As the world grows and changes, so will Blatchford. It will incorporate the best ideas of the day and will be seen as a progressive development that serves as an inspiration to other communities.

Blatchford Renewable Energy

A new public, city owned utility has been established to help achieve the City's long term goal of 100% renewable energy and carbon neutrality for Blatchford. Blatchford Renewable Energy will own and operate the neighbourhood's District Energy Sharing System, including certain mechanical equipment within the 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.

Blatchford Renewable Energy's goals are aligned with City Council's strategic goals, with special focus on Climate Resilience. Its operation supports the current Community Energy Transition Strategy by significantly reducing greenhouse gas emissions and increasing energy resilience in the heart of Edmonton.

The first stage of the District Energy Sharing System is operational, so the utility's focus has shifted to include day-to-day operations while still planning future stages, including a sewer heat recovery system. The sewer heat recovery system will incorporate another renewable energy source into the District Energy Sharing System by transferring the thermal energy from the two combined sewer lines that run under Blatchford's east side.

Some buildings in Blatchford may be exempted from the requirement to connect to the District Energy Sharing System if they are designed, built and certified to a net zero carbon standard, or better. Within the first stages of development, no builder has applied for the exemption opportunity, however one builder aims to be net-zero while still connecting to the District Energy Sharing System.

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 is crucial to ensure planning and construction activities are aligned along with monitoring and updating the financial performance of both entities. As with any large land development project, a staging plan exists. However, the sequence and timing of the stages are subject to change depending on the market conditions. The current operational, energy and financial model for the utility is based on the most recent development scenario for Blatchford and will need to be adjusted as necessary and in alignment with the land development plans.

IMPACT OF COVID 19

While COVID-19 is creating a number of impacts across many sectors, the immediate impact on the operation of Blatchford Renewable Energy has been minor. The medium to longer term impact of COVID-19 on the real estate market in Edmonton will likely affect the build out speed of the community.

During the first phase of COVID-19, Blatchford Renewable Energy operated in a normal fashion and continued to be focused on best possible project outcomes. The services provided by the utility are deemed as essential, so time during the initial phase of COVID-19 was used to review and update critical support functions and

emergency response plans, as a critical service provided by the Utility.

Solar panels on the roof of the Energy Centre provide renewable energy to the system.

The building is industrial by virtue of its function as a mechanical room, but was designed to fit comfortably the future public, pedestrian-focused civic plaza in the community.

A highly energy-efficient heat pump in the Energy Centre transfers the heat from the geoexchange field to the piping that runs to the community's homes.

Business Plan Priorities

Strategic Plan

The strategic objectives of Blatchford Renewable Energy focus 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 will be closely aligned with the pace of the land development and market uptake by the building community. Blatchford Renewable Energy will follow the Blatchford land development schedule and will adjust accordingly as housing market considerations change along the way. 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.

Over the last year, significant progress was made in aligning the utility's operation with key site developments, including the updated NAIT Campus Development plan and the design and construction of the LRT into Blatchford.

As part of the land sales agreement between NAIT and the City, a new Campus Development Plan was prepared by NAIT and reviewed by the City, providing a more detailed overview on development and building scenarios that will take place in Blatchford over the next decades. In addition, NAIT developed their Campus Energy Masterplan and the information provided has been implemented in the utility's District Energy Sharing System development plan. The integration of NAIT into the District Energy Sharing System will be an important step in significantly improving the system's efficiency. The utility will continue to remain in close contact with NAIT to ensure all opportunities for integration are considered.

With the extension of the LRT into Blatchford, there was a need to align design and construction work to integrate the District Energy Sharing infrastructure into LRT design to support the vision for the Blatchford community. The current LRT design activities are focused on implementing solar PV on the LRT stations roof and the opportunity for Blatchford Renewable Energy to supply and draw thermal energy from nearby LRT utility complexes.

Currently, the utility is also in the process of updating the long term strategic plan for the District Energy Sharing System build out in Blatchford. The initial strategic plan was developed in 2015, so this exercise is necessary to update energy center and distribution piping scenarios as well as overall financial assumptions, which will then flow into the rate filing and budget development activities. It is necessary to update the strategic plan periodically to include the updated overall land development updates and other internal and external factors, such as building efficiencies and emission factors which have changed over the last five years. The outcomes of this exercise will lead to a modelling tool for the utility to enhance future planning activities.

While updating the District Energy Sharing System strategic plan, the utility is constantly monitoring the regulatory situation around the provision of renewable electricity, which would complement the full renewable energy spectrum for Blatchford. While certain opportunities by connecting the new provincial small-scale generation with the micro-generation regulation have been discovered, more work is needed to develop a regulatory framework and business case for implementation.

Achieving financial sustainability for the new utility depends on factors such as external capital injections, stable rate structure and other related utility rates and

fees. This relationship and importance will be outlined in more detail in a separate section in this Business Plan. The strategic vision from an operational perspective includes a partnership with an external utility service provider to operate and maintain the utility infrastructure, while the utility remains municipally owned. While still in its infancy, the utility continues to evaluate the timing and opportunities to engage an external partner, which will likely occur when the initial stage of operations has matured.

Brand Development

Blatchford's District Energy Sharing System is a powerful alternative to conventional energy systems. As its provider, Blatchford Renewable Energy needs a powerful, engaging brand and website to communicate the value it has for both its customers and all Edmontonians. The recently developed Blatchford Renewable Energy brand instills both trust in the utility's services and excitement for its environmental outcomes.

The brand is based on a core belief that the utility's shared renewable energy system is a truly local solution that residents can take great pride in—and people across the globe can be inspired by. Through innovation and thoughtful initiatives, Blatchford Renewable Energy can focus on a better future for our planet by leveraging renewable resources around us to heat our homes and cool us in summer. The utility will mobilize heat from the earth, the sun and even our waste water to eliminate one source of climate change.

Blatchford Renewable Energy

The Blatchford Renewable Energy logo represents the unique identity of the utility. The central 'e' image signifies three core principles of the brand - Energy. Edmonton. Environment. The circular shaped colours surrounding the 'e' in the logo represent the renewable energy sources used in the system: yellow for solar, green for geoexchange and blue for sewerheat.

The new utility website (BlatchfordUtility.ca) was developed as a primary communication tool to respond to customer's service needs and expectations. In addition to the website, additional marketing and communication materials will continue to be created to support customer's needs.

Operational Plan

With the first Energy Center constructed, commissioned and the first customers connected, the utility's focus is on the provision of reliable services for its customers in the first stages of the Blatchford community. At the same time, the utility will continue to plan future stages, with a focus on the Blatchford market and the integration of sewer heat recovery into the overall renewable energy mix.

Guided by the sales activities of the Blatchford land development team, the utility is expecting to connect to 17 fee-simple townhouse accounts by the end of 2020. The number of expected accounts will increase to 75 in 2021 and to 113, 162 and 212 in the years 2022 to 2024 respectively. In 2024, Blatchford Renewable Energy is anticipated to provide thermal energy services to a connected floor space area of 123,500 square meters, all energy coming from the first Energy Center. This represents a slower pace of account development than initially anticipated, which was adjusted as is standard in the land development industry to align with current sales, market conditions and builder plans. Future development scenarios will also need to include the medium to long term impact of COVID on the real estate market in Edmonton.

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

Initial operation of the first stage 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. 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.

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, will also be involved in customer service functions as it relates to billing, technical and emergency communication and planning.

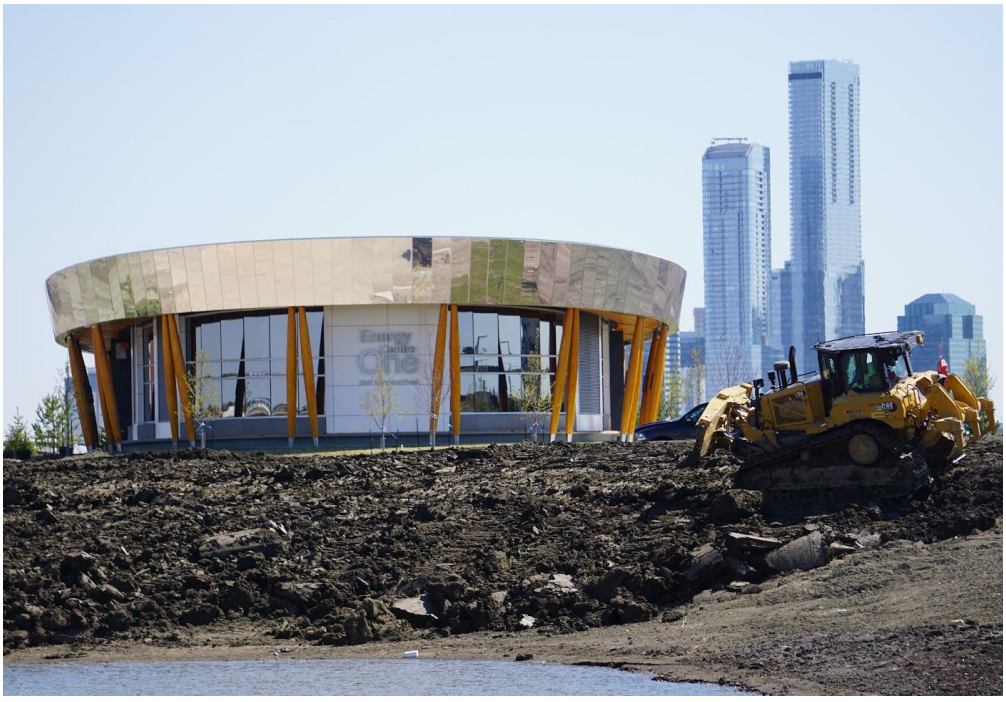
Finance, Legal and Regulatory:

Financial, regulatory and legal support for the utility is provided by the Financial and Corporate Services department and the City's Law Branch which has significant expertise in utility management. Both areas were 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 Communication:

Marketing and communication support is provided through the Communications & Engagement department. Last year was focused on the development of the utility brand, logo and website to set the stage for ongoing communication with builders and customers. A full-time utility marketing resource is anticipated to be added to the existing Blatchford marketing team so essential communication and customer services can continue to be in place as the utility grows.

As mentioned above, the initial planning and design for the next Energy Center based on sewer heat recovery technology has started. This Energy Center will be located in the Blatchford Market area and is currently expected to be commissioned in 2023. Blatchford Renewable Energy is working with EPCOR and other stakeholders on the development of the project, which would tie renewable sewer heat energy that is in the existing sewers under Blatchford into the District Energy Sharing System. This next Energy Centre would primarily service the Blatchford town centre market area.



Construction activities progress on the Blatchford site with Energy Centre One and Downtown Edmonton in the backdrop.

Key Measures

Table 1 below provides an updated summary of Blatchford Renewable Energy's key performance measure and their alignment with Council's strategic goals.

Table 1: Key Performance Measures of Blatchford Renewable Energy

Utility Strategic Direction	Performance Measures	Forecasted Targets					Corporate Goals
		2020	2021	2022	2023	2024	
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)	236 MWh	798 MWh	2,429 MWh	2,946 MWh	3,031 MWh	CLIMATE RESILIENCE
	DESS Operational Uptime	100%	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 abiding by ENVISO goals in order to protect the environment and biodiversity.	Compliance with environmental permits and regulations	100%	100%	100%	100%	100%	CLIMATE RESILIENCE
	Renewable Energy (Utility)[1]	96%	96%	93%	95%	96%	
	Renewable Energy (Community)[2]	48%	48%	52%	53%	54%	URBAN PLACES
	GHG reduction (Utility)[3]	5 tCO2e	23 tCO2e	153 tCO2e	305 tCO2e	462 tCO2e	
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)	3,300 m^2	15,000 m^2	46,200 m^2	84,300 m^2	123,500 m^2	URBAN PLACES

Utility Strategic Direction	Performance Measures	Forecasted Targets					Corp-orate Goals
		2019	2020	2021	2022	2023	
Goal: Fiscal Sustainability							
Blatchford Renewable Energy strives to become financially sustainable and is committed to be fair and equitable.	Positive net income	no	no	no	no	no	REGIONAL PROSPERITY URBAN PLACES
	Debt to net asset ratio[4]	0%	0%	0%	0%	0%	
	Positive Cash position	no	no	no	no	no	

[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
[4] Debt to net asset ratio: business case assumption is Utility does not take on its own debt until 2026

Symbol	Corporate Goal	Description
CLIMATE RESILIENCE	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	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	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 2 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 2: 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	Substantial external investment is needed 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 lobby government for external 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.	3 Possibly	3 Major	9 Medium	Ensure close collaboration and monitoring of land development and building industry.	Utility Leadership
Political Influences	Direction could impact the original vision and delivery of the project.	2 Unlikely	3 Major	6 Low	Communication to Council. Accelerate, slow down or adjust activities, depending on the situation.	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 minimize rate increases, identify operational efficiencies, and prioritize 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 requirement for a $93 million non-refundable cash infusion to pay for the initial stages of infrastructure development 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.

At the March 22, 2019 Utility Committee meeting, an update was provided by the Administration on the strategy and financial options for addressing the non-refundable cash infusion required to fund the initial stages of infrastructure development for the Blatchford Utility. In response to a motion at the March 22, 2019 meeting, Administration also provided a further financial scenario analysis to the Utility Committee on November 1, 2019, including the potential impact on the non-refundable cash infusion and customer fees, depending on the variation in the price of gas and electricity, interest rates, and the pace of development of the Blatchford community.

KEY FINANCIAL AND REGULATORY UPDATES

The 2019-2022 Business Plan identified the following regulatory and financial priorities in the first four years 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 the Blatchford Renewable Energy Utility 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.

In December 2019, City Council approved the Blatchford Utility 2020 Annual Rate Filing, whereby a "levelized approach" was then used to update customer rates for 2020 based on escalating 2019 approved rates by 2.7 percent, consistent with the rate setting methodology reflected in the business case presented to City Council on March 16, 2016 for the development of the District Energy Sharing System at Blatchford. Under the levelized approach, customer rates in the business case were increased by 2.7 percent on average each year over the initial 50 years to ensure stable and consistent rate increases, with rates set to under-recover costs in the early years of the Utility's operation when the customer base is small and to gradually recover past costs in the later years when the customer base is fully established.

During the review of the 2020 Annual Rate Filing on November 1, 2019, the Utility Committee requested that Administration review the Fiscal Policy to provide more flexibility in setting customer rates going forward to create more flexibility by refining when to use the pegged rate or a smooth increase. Administration will be bringing forward a report to Utility Committee in the fall of 2020 (in advance of the 2021

Annual Rate Filing in December 2020) recommending that specific Rate Setting Principles be incorporated into the Fiscal Policy to further clarify how customer rates are being set to recover the forecast cost of providing service and the intent of comparing these rates against market to ensure they remain competitive over the longer-term.

Table 3 summarizes the approved 2019-2022 Capital Budget for Blatchford Renewable Energy, incorporating amendments as part of the 2019 Supplemental Capital Budget Adjustment. Included in the 2019-2022 Budget is a $9.5 million short term borrowing from the City of Edmonton in 2019 in order to provide working capital to fund the day-to-day operations and debt servicing costs of the utility in the initial stages of development from 2019 to 2022.

The total approved 2019-2022 Capital Budget of $11.715 million includes $6.743 million for the completion of the geoexchange borefield and Energy Centre One ($19.442 million in total; construction completion and commissioning achieved during the third quarter of 2019) as well as an additional $4.972 million for the planning and design for the Sewer Heat Recovery Energy Centre, which is the next stage of development of Blatchford Renewable Energy.

The construction of the Sewer Heat Recovery Energy Centre is currently forecasted to occur in 2022 and 2023 at an estimated cost of $45.2 million. Administration will be bringing an updated cost estimate when the project design has progressed to a checkpoint three level, in accordance with the Project Development and Delivery Model (PDDM).

Administration will also be bringing forward an additional capital budget request in December 2020 for the design and construction of the Energy Transfer Stations. Energy Transfer Stations within apartment buildings will distribute the energy from the District Energy Sharing System into the building units. The Utility will design and construct the Energy Transfer Stations and will own, operate and maintain them. The full cost for designing and construction of the Energy Transfer Stations will be recovered from builders. By designing and constructing the Energy Transfer Stations, the Utility ensures in the initial stages that proper mechanical systems are in place leading to the highest operational and financial efficiencies for the operation and maintenance of the District Energy Sharing System.

Table 3: 2019-2022 Capital Budget for Blatchford Renewable Energy

Prior Years	2019 Approved	2020 Approved	2021 Approved	2022 Approved	2019-2022 Total
$12,699	$7,236	$2,821	$1,658	$0	$11,715

Table 4 summarizes the 2019-2022 operating revenues and expenditures for Blatchford Renewable Energy as approved in the 2019 Operating Budget and updated in the 2020 Annual Rate Filing.

Table 4: 2019-2022 Operating Revenues and Expenditures for Blatchford Renewable Energy

	2019 Approved	2019 Actual	2020 Rate Filing	2020 Forecast	2021 Rate Filing	2022 Rate Filing
Revenues and Fees						
Rate Revenue	$77		$24	$18	$169	$447
Infrastructure Fees	$459	$7	$75	$42	$776	$856
Total Revenues	$536	$7	$99	$60	$945	$1,303
Expenditures and Transfers						
Personnel	$276	$316	$337	$390	$344	$351
Material, Goods and Supplies	$188	$2	$242	$130	$420	$457
External Services	$776	$437	$569	$400	$580	$501
Shared Services	$72	$73	$62	$46	$73	$74
Utilities and Other Charges	$30	$25	$45	$91	$53	$70
Total Expenditures and Transfers	$1,342	$853	$1,255	$1,057	$1,469	$1,453
Net Operating Requirement	**($806)**	**($846)**	**($1,156)**	**($997)**	**($524)**	**($150)**

Reduced revenue generation for the Utility are the result of delayed home builder construction activities. These lower revenues were partially offset by lower than budgeted operating costs through reduced spending on facility maintenance and operating contracts. However, as the Utility is still in its infancy, operating systems and processes are being put in place in preparation of full operation. The utility will bring forward a full-time marketing resource request in the 2021 rate filing. This position

will be added so essential communication and customer services can continue to be in place as the utility grows.

Conclusion

This Business Plan iteration for Blatchford Renewable Energy provides an updated overview from the strategic and operational level for the utility. Several key milestones have been achieved including connecting the first customer, starting utility operation, building a utility brand, logo and website, and advancing the planning and design of the next utility stages. The strategic objectives of the utility remain the growth of the District Energy Sharing System and the integration of emerging technologies into the utility's operation to reach steady reliable operation, financial sustainability, and achieve Council's vision for a carbon neutral community powered entirely by renewable energy. The growth of the new utility is, and will continue to be, closely connected to the land development activities in Blatchford.

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 2020.


Appendices

Appendix 1: Blatchford Renewable Energy Utility Fiscal Policy

		POLICY NUMBER: C597	
REFERENCE:		**ADOPTED BY:** City Council **SUPERSEDES:** **New**	
PREPARED BY:	Integrated Infrastructure Services	**DATE:**	March 22, 2018
TITLE:	**BLATCHFORD DISTRICT ENERGY UTILITY FISCAL POLICY**		

Policy 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.

1. DEFINITIONS

1.1 **Cash Flow** - the ability of the Utility to meets it financial obligations as payments are due.

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

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

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

1.5 **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.

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

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

1.8 **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.

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

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

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

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

1.13 **Rate Revenue** - revenue generated through monthly customer rates.

1.14 **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.

1.15 **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.

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

Following are financial indicators and additional general policy statements to guide the financial management of the utility.

2. 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.

2.1 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.

2.2 Debt Financing of Capital

A. The Utility will not utilize Debt to finance current operating expenditures.
B. Debt will be considered for Capital Expenditures for:
   a. projects with long-term benefits;
   b. major rehabilitation or upgrade of existing assets; and
   c. 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%

3.0 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.

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 - 2066**	**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

Blatchford Renewable Energy
2021 Rate Filing
Index of MFR Schedules

Blatchford Renewable Energy
2021 Rate Filing
Summary of Total System Revenue Requirement
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
	Revenue Requirement							
1	Operating Costs	S. 5-1	853.16	1,342.43	1,255.71	996.05	1,205.27	1,331.09
2								
3	Depreciation		-	-	-	-	-	-
4								
5	Revenue Offsets		-	-	-	-	-	-
6								
7	Return on Rate Base		-	-	-	-	-	-
8								
9	**Total System Revenue Requirement**		**853.16**	**1,342.43**	**1,255.71**	**996.05**	**1,205.27**	**1,331.09**
10								
11								
12	**Revenue**							
13	Revenue on Proposed Rates		$ -	$ 77.21	$ 24.06	$ 3.25	$ 34.21	$ 82.81
14								
15	Infrastructure Fee		$ 7.00	$ 458.50	$ 75.25	$ 29.75	$ 104.19	$ 206.73
16								
17	**Total Revenue**		**$ 7.00**	**$ 535.71**	**$ 99.31**	**$ 33.00**	**$ 138.40**	**$ 289.54**
18								
19	**Revenue Surplus/(shortfall)**		(846.16)	(806.72)	(1,156.40)	(963.04)	(1,066.86)	(1,041.55)

Blatchford Renewable Energy
2021 Rate Filing
Summary of Operating Costs
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
1	Utilities & Other	S.6-1	$ 15.74	$ 24.18	$ 38.01	$ 83.81	$ 74.89	$ 80.44
2								
3	Operations and Maintenance Costs	S. 7-1	581.73	700.09	820.85	700.65	797.00	939.18
4								
5	Administration Costs	S. 8-1	223.92	369.86	312.34	161.99	225.12	228.42
6								
7	Customer Billing Services Costs	S. 9-1	24.68	175.88	22.15	3.08	31.55	7.89
8								
9	Corporate Administration Costs	S. 10-1	7.09	72.42	62.36	46.52	76.71	75.16
10								
11	Franchise Fees and Property Taxes		-	-	-	-	-	-
12								
13	**Total Operating Costs**		**$ 853.16**	**$ 1,342.43**	**$ 1,255.71**	**$ 996.05**	**$ 1,205.27**	**$ 1,331.09**

Blatchford Renewable Energy
2021 Rate Filing
Utilities & Other Costs
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Utilities		$ 15.74	$ 24.18	$ 38.01	$ 83.81	$ 74.89	$ 80.44	
2									
3	Other		-	-	-	-	-	-	
4									
5	**Total Utilities**		**$ 15.74**	**$ 24.18**	**$ 38.01**	**$ 83.81**	**$ 74.89**	**$ 80.44**	S. 5-1

Blatchford Renewable Energy
2021 Rate Filing
Operations and Maintenance Costs by Function
($000s)

Line No.		Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	**Energy Centers & Main Distribution System**								
2	Operation & Maintenance		-	155.21	197.82	106.34	178.40	277.07	
3			-	-		-	-	-	
4		Subtotal	-	155.21	197.82	106.34	178.40	277.07	
5									
6	**Customer Connection and Meters**								
7	Operation & Maintenance		-	13.92	18.52	-	22.10	53.67	
8			-	-		-	-	-	
9		Subtotal	-	13.92	18.52	-	22.10	53.67	
10									
11	**Quality Assurance**		-	-		-	-	-	
12									
13	**Operations Support Services**								
14	Personnel		329.88	275.89	337.52	348.14	344.27	351.15	
15	Training and Development		9.03	5.75	6.83	1.17	6.97	7.11	
16	Equipment Rental		2.51	19.31	25.56	5.00	5.98	6.10	
17	Technical Consultants		240.31	230.00	234.60	240.00	239.29	244.08	
18	Less: Recovery of Costs		-	-		-	-	-	
19		Subtotal	581.73	530.95	604.51	594.31	596.51	608.44	
20									
21	**Total Operations and Maintenance Costs**		**$ 581.73**	**$ 700.09**	**$ 820.85**	**$ 700.65**	**$ 797.00**	**$ 939.18**	S. 5-1

Blatchford Renewable Energy
2021 Rate Filing
Administration Costs by Function
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Marketing, Education and Communication		$ 69.36	$ 297.99	$ 121.73	$ 41.99	$ 120.25	$ 122.66	
2	Consultants		154.56	71.88	190.61	120.00	104.87	105.76	
3			-	-		-	-	-	
4	Subtotal		223.92	369.86	312.34	161.99	225.12	228.42	
5									
6	Less:								
7	Allocations to Other Business Units		-	-		-	-	-	
8	Capital Overhead Recoveries		-	-		-	-	-	
9			-	-		-	-	-	
10									
11	**Total Administration Costs**		**$ 223.92**	**$ 369.86**	**$ 312.34**	**$ 161.99**	**$ 225.12**	**$ 228.42**	S. 5-1

Blatchford Renewable Energy
2021 Rate Filing
Customer Billing Costs
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Monthly Billing Charges		$ -	$ 23.50	$ 22.15	$ 3.08	$ 31.55	$ 7.89	
2	One-time Set-up Charges		$24.68	$ 152.38	$ -	$ -	$ -	$ -	
3	Bad Debts		-	-		-	-	-	
4	Write-offs and Adjustments		-	-		-	-	-	
5									
6	**Total Customer Billing Costs**		**$ 24.68**	**$ 175.88**	**$ 22.15**	**$ 3.08**	**$ 31.55**	**$ 7.89**	S. 5-1

Blatchford Renewable Energy
2021 Rate Filing
Corporate Administration Costs
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Shared Corporate Service Costs		$ 1.26	$ 64.37	$ 49.25	$ 33.33	$ 53.23	$ 51.24	
2	Asset Usage Fees		-	8.05	7.50	7.50	16.74	17.08	
3	Other - Transportation and Insurance		5.83	-	5.62	5.69	6.73	6.85	
4	Subtotal		7.09	72.42	62.36	46.52	76.71	75.16	
5									
6	Less: Allocation to Other Business Units								
7	Shared Corporate Service Costs		-	-		-	-	-	
8	Asset Usage Fees		-	-		-	-	-	
9	Subtotal		-	-	-	-	-	-	
10									
11	**Total Corporate Administration Costs**		**$ 7.09**	**$ 72.42**	**$ 62.36**	**$ 46.52**	**$ 76.71**	**$ 75.16**	S. 5-1

Blatchford Renewable Energy
2021 Rate Filing
Rate Base
($000s)

Line No.	Description	Cross Reference	2019 Actual	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Prior Year Property, Plant and Equipment	S. 15-2	$ -	$ -	$ 19,339.31	$ 19,392.09	
2	Prior Year Accumulated Depreciation		-	-	-	-	
3	Prior Year Net Property		-	-	19,339.31	19,392.09	
4							
5	Current Year Property, Plant and Equipment	S. 15-2	-	19,339.31	19,392.09	19,392.09	
6	Current Year Accumulated Depreciation		-	-	-	-	
7	Current Year Net Property		-	19,339.31	19,392.09	19,392.09	
8							
9	Mid-Year Net Property		-	9,669.66	19,365.70	19,392.09	
10							
11	Materials and Supplies		-	-	-	-	
12							
13	Working Capital		-	-	-	-	
14							
15	Gross Mid-Year Rate Base		-	9,669.66	19,365.70	19,392.09	
16							
17	Mid-Year Net Contributions	S. 15-6	-	(9,669.66)	(19,365.70)	(19,392.09)	
18							
19	**Net Mid-Year Rate Base**		**$ -**	**$ -**	**$ -**	**$ -**	

Blatchford Renewable Energy
2021 Rate Filing
Property, Plant & Equipment
($000s)

Line No.		Cross Reference	2019 Actual	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
1	Previous year balance		$ -	$ -	$ 19,339.31	$ 19,392.09
2						
3	Additions to Property, Plant & Equipment					
4	BREU Funded	S. 15-4	-	19,339.31	52.78	-
5	Developer Additions		-	-	-	-
6			-	19,339.31	52.78	-
7						
8	Retirements and Adjustments		-	-	-	-
9						
10	**Current year balance**		**$ -**	**$ 19,339.31**	**$ 19,392.09**	**$ 19,392.09**

Blatchford Renewable Energy
2021 Rate Filing
Construction Work in Progress
($000s)

Line No.		Cross Reference	2019 Actual	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Previous year balance		$ -	$ 18,744.23	$ 52.78	$ 2,200.00	
2							
3	Capital Expenditures						
4	Energy Center 1		18,744.23	647.86	-	-	
5	Sewer Heat Exchange		-	-	2,200.00	2,700.00	
6							
7	Less: Capital Additions Energy Center 1		-	(19,339.31)	(52.78)	-	S. 15-2
8	Less: Capital Additions Sewer Heat Exchange		-	-	-	-	
9	**Current year balance**		$ 18,744.23	$ 52.78	$ 2,200.00	$ 4,900.00	

Blatchford Renewable Energy
2021 Rate Filing
Contributions in Aid of Construction
($000s)

Line No.	Description	2019 Actual	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	Prior Year Gross Contributions	$ -	$ -	$ (19,339.31)	$ (19,392.09)	
2						
3	City Contributions	-	(19,339.31)	(52.78)	-	
4	Customer Contributions	-	-	-	-	
5	Developer Contributions	-	-	-	-	
6	Retirements, Transfers & Disposals					
7						
8	**Current Year Gross Contributions**	-	(19,339.31)	(19,392.09)	(19,392.09)	
9						
10	Prior Year Accumulated Amortization	-	-	-	-	
11						
12	Gross Amortization	-	-	-	-	
13	Retirements, Transfers & Disposals					
14						
15	**Current Year Accumulated Amortization**	-	-	-	-	
16						
17						
18	**Mid Year Net Contributions**	**$ -**	**$ (9,669.66)**	**$ (19,365.70)**	**$ (19,392.09)**	S. 15-1

Blatchford Renewable Energy
2021 Rate Filing
Customers and Consumption
($000s)

Line No.	Description	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast	Cross Reference
1	**TOTAL CUSTOMERS - YEAR END**							
2	Townhouses	-	60	52	17	74	111	
3	Apartments	-	202	-	-	-	1	
4	Other	-	-	1	-	1	1	
5								
6	**Total Customers - Year End**	**-**	**262**	**53**	**17**	**75**	**113**	
7								
8	**TOTAL CONSUMPTION (MWh)**							
9								
10	Townhouses	-	203	273	31	312	667	
11	Apartments	-	596	-	-	-	71	
12	Other	-	-	3	-	2	7	
13	Subtotal	-	799	276	31	313	745	
14		-	-		-	-	-	
15								
16	**Total Consumption (kWh)**	**-**	**799**	**276**	**31**	**313**	**745**	

Blatchford Renewable Energy
2021 Rate Filing
Revenue on Proposed Rates
($000s)

Line No.	Description	Cross Reference	2019 Actual	2019 Approved Budget	2020 Rate Filing	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
1	**Total Revenue on Proposed Rates**							
2	Townhouses		$ 7.00	$ 125.81	$ 97.20	$ 33.00	$ 136.47	$ 142.90
3	Apartments		-	409.90	-	-	-	145.89
4	Other		-	-	2.11	-	1.93	0.75
5	**Total Revenue on Proposed Rates**		**$ 7.00**	**$ 535.71**	**$ 99.31**	**$ 33.00**	**$ 138.40**	**$ 289.54**
6								
7	**Rate Revenue on Proposed Rates**							
8	Townhouses			20.81	23.70	3.25	34.03	74.61
9	Apartments			56.40	-	-	-	7.45
10	Other			-	0.36	-	0.18	0.75
11	**Rate Revenue on Proposed Rates**		**$ -**	**$ 77.21**	**$ 24.06**	**$ 3.25**	**$ 34.21**	**$ 82.81**
12								
13	**Infrastructure Fee**							
14	Townhouses		7.00	105.00	73.50	29.75	102.44	68.29
15	Apartments			353.50		-	-	138.43
16	Other			-	1.75	-	1.75	-
17	**Total Infrastructure Fee**		**$ 7.00**	**$ 458.50**	**$ 75.25**	**$ 29.75**	**$ 104.19**	**$ 206.73**

Blatchford Renewable Energy
2021 Rate Filing
Proposed End Use Customer Rates and Fees

Line No.	Description	2019 Approved	2020 Approved	2021 Proposed	2022 Current Forecast
1	**Fixed Charge ($/day)**				
2	Townhouses	$1.43	$1.47	**$1.51**	$1.55
3	Apartments	$1.12	$1.15	**$1.18**	$1.21
4					
5					
6	**Variable Charge ($/kWh)**				
7	Townhouse & Apartments	$0.0248	$0.0255	**$0.0262**	$0.0269
8					
9					
10					
11	**Infrastructure Fee ($/connection)**				
12	Residential - Townhouses & Apartments	$ 1,750	$1,750	**$1,797**	$1,846
13	Commercial	$ 20.00	$20.00	**$20.54**	$21.09

Note: Approval is being sought for End Use Customer Rates and Fees for 2021 only.

Blatchford Renewable Energy
2021 Rate Filing
Interest on Financing
($000s)

Line No.	Description	Cross Reference	2019 Actual	2020 Current Forecast	2021 Proposed Rate Filing	2022 Current Forecast
1	**Deferral Account Opening Balance**		-	(856.73)	(1,856.57)	(2,995.14)
2						
3	Current Year Surplus/shortfall	S. 3-1'	(846.16)	(963.04)	(1,066.86)	(1,041.55)
4						
5	**Deferral Account Closing Balance**		(846.16)	(1,819.77)	(2,923.44)	(4,036.69)
6						
7	Interest Costs		(10.58)	(36.80)	(71.70)	(114.27)
8						
9	**Deferral Account Closing Balance Including Interest Costs**		**(856.73)**	**(1,856.57)**	**(2,995.14)**	**(4,150.96)**
10						
11	Interest Rate on Financing		2.50%	2.75%	3.00%	3.25%

DEC 2020

BLATCHFORD RENEWABLE ENERGY

2021 Rate Schedules for Thermal Energy

Effective January 1, 2021 to December 31, 2021

Attachment 2_Appendix 5.0

Blatchford Renewable Energy

Edmonton

Blatchford Renewable Energy (BRE)
Rate BRE 1 - Residential Service

For Thermal Energy Service for all customers throughout the Service Area served by Blatchford Renewable Energy.

Rate

Rate Component		2021 Rate
Fixed Charge ($/day)		
	Townhomes	1.51
	Apartments	1.18
Variable Charge ($/kWh)		0.0262

The minimum charge is the Fixed Charge.

Application

Price Adjustments
Rate BRE 1 may be adjusted by applicable riders or rate adjustments, from time to time, as approved by Edmonton City Council.

Bylaw 17943 shall apply to customers taking service under Rate BRE 1.