MEMORANDUM

To: Burlington Board of Finance
Burlington City Council

From: Darren Springer, General Manager
Emily Stebbins-Wheelock, Manager of Strategy & Innovation
James Gibbons, Director of Policy & Planning

Date: September 1, 2021

Subject: Net Zero Energy Revenue Bond

Burlington Electric Department (BED) is pleased to provide this proposal to the City Council for a Net Zero Energy Revenue Bond, and to respectfully request to place a Net Zero Energy Revenue Bond question on the November ballot for consideration by the voters of Burlington. The Net Zero Energy Revenue Bond is intended to provide a financing mechanism to accelerate our progress as a community relative to our Net Zero Energy Roadmap[1] goals without additional cost pressures on BED's annual budgets.

Burlington's 2030 Net Zero Energy goal is one of the most ambitious local climate goals anywhere in the nation. Recent national reporting, however, has highlighted a gap in financing that exists for cities to meet their climate goals.[2] The Net Zero Energy Roadmap does not contemplate that BED's efforts alone will achieve the Net Zero Energy goal because this is a true community goal that requires partnerships, participation by the community, and complementary policies and funding at all levels of government.[3] However, BED will play an important role in accelerating progress through incentive funding and other available tools (by supporting customers, implementing rate designs and supporting policy developments). BED also will ensure that grid and technology system upgrades necessary to support growing loads from strategic electrification are available when needed.

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[1] www.burlingtonelectric.com/nze

[2] https://www.smartcitiesdive.com/news/cities-behind-climate-goals-brookings-report/603708/

[3] Many of those efforts are underway, through City policy changes such as rental weatherization standards and primary renewable heating requirements for new construction, and use of a $100 per ton carbon price in evaluating City fleet purchases. Partnerships such as the work with a variety of organizations on district energy in Burlington are also critical. State funding for climate-related initiatives could also support Burlington's Net Zero Energy goals, and at the federal level infrastructure legislation and a proposal for strengthening federal fuel economy standards for vehicles are under active consideration and would also potentially support additional progress. Notably absent, at the moment, is any carbon price for thermal or transportation fuels at the state, regional, or national level.

Burlington Electric Department
585 Pine Street Burlington, VT 05401
burlingtonelectric.com
Phone 802.658.0300

In presenting this idea, we draw in part on the groundbreaking $11.3 million energy efficiency revenue bond from 1990. That bond provided the foundation from which BED and our customers have invested over $70 million in energy efficiency, helping to save BED customers over $10 million annually on electric bills and contributing to Burlington using less electricity today as a community than we did in 1989.

BED is requesting authorization for total Net Zero Energy Revenue Bond issuance of $20 million that would be expended over the course of FY22 (partial year), FY23, FY24, and FY25 (partial year). BED will explore additional financing options to support our capital needs and Net Zero Energy progress beyond FY25 over the next several years.

Net Zero Energy Revenue Bond Areas of Focus

The revenue bond, if approved, would fund three key areas of investment, all of which are expected to qualify for tax-exempt revenue bond financing based on our review with bond counsel:

1. **Technology Systems Upgrades –** BED is actively updating our technology systems through our IT Forward program and, as part of that program, we plan to update our Customer and Financial Information Systems (CIS and FIS). Combined with updates already in progress to our Meter Data Management System, these new systems will give BED additional capabilities to offer innovative rates and enhanced service for customers in support of Net Zero Energy. These additions include new dynamic pricing options and expansion of our end-use rates (such as our current electric vehicle charging rate) to other technologies such as cold-climate heat pumps. Smart rate designs will help save customers money and encourage more customers to switch from fossil fuel to electricity. We also plan to include aspects of load control in future dynamic rates to help mitigate grid and peak demand impacts as we move toward strategic electrification. Our current systems rely too heavily on manual processes, and the new systems will help us automate and innovate our rate designs and service delivery for the future. The CIS and FIS would be included in the Net Zero Energy Revenue Bond funding.

2. **Grid Upgrades –** As part of BED's 2020 Integrated Resource Plan (IRP)[4], we examined a Net Zero Energy scenario reflecting growing loads resulting from greater strategic electrification; specifically, a scenario where Burlington's electric grid was upgraded to accommodate 102.8 megawatts of capacity. For reference, typical current summer peaks in BED's service territory are approximately 60-65 megawatts. Ultimately, the Net Zero Energy scenario may require upgrades sufficient to meet up to 140 megawatts of capacity. For now, 102.8 megawatts has been selected as an interim scenario.

   The IRP included a list of grid upgrade projects to help reach the 102.8 megawatt scenario, estimated in 2019 dollars to cost between $19 and $24 million. The revenue bond proposal includes funding for some of these Net Zero Energy-related grid upgrades, as well as some necessary upgrades for continued reliability of our current distribution system. With BED's annual capital program (net of customer contributions) averaging approximately $8 million and BED's General Obligation (GO) bonds through the City currently providing only $3 million annually, without new financing capacity, there will be pressure on BED's annual budget, retail rates, and cash position to fully fund capital projects and Net Zero Energy initiatives. The Net Zero Energy Revenue Bond would help address this gap over the next several years.

[4] https://www.burlingtonelectric.com/sites/default/files/IRP2020/8_NZE_PrefPath.pdf

3. **Generation and Net Zero Energy Capital Projects –** The Net Zero Energy Revenue Bond would support certain generation plant upgrades, including a BED proposal to convert the gas turbine peaking plant located on the waterfront to run on renewable fuel (probably biodiesel) instead of oil, necessary maintenance of the McNeil Generating Station, and replacement of the Winooski One Hydro-electric Plant rubber dam. Maintaining and upgrading existing renewable generating assets will be critical for achieving Net Zero Energy (as will efforts in the future to secure additional renewable generation to meet growing loads from strategic electrification). The Revenue Bond also would support Net Zero Energy capital projects, including the purchase of BED's first-ever electric bucket truck and investment in new electric vehicle charging stations including fast charging options.

The list of proposed revenue bond projects has an weighted average expected asset life of approximately 27.85 years, well beyond the 20-year period during which BED would pay the associated debt service on the new issuance.

<u>Doubling Funding for Customer Strategic Electrification (Tier 3) Incentives that Reduces Fossil Fuel Use</u>
In addition, the Net Zero Energy Revenue Bond provides additional liquidity that allows BED to support accelerated adoption of customer strategic electrification incentives. BED has offered customer incentives for strategic electrification of the heating and transportation sectors, such as switching to heat pumps, electric vehicles, and other electric technologies since 2017. We are pleased to report that our customer uptake of these programs, measured against our annual goals under Vermont's Renewable Energy Standard Tier 3[5], is growing steadily. In 2020 we tripled our state goal[6], and in 2021 we again are on track to outpace our Tier 3 goal. This progress is attributable partly to BED's Green Stimulus program, launched during the pandemic to provide increased incentive levels for customers and maintained in 2021. BED has seen adoption rates for heat pumps, for example, dramatically increase during the period the Green Stimulus has been available. Further, now that the Public Utility Commission has approved of BED's proposed Act 151 programs, we can continue Green Stimulus incentive levels beyond 2021 for heat pumps and electric vehicles, providing continued support for higher adoption rates of these technologies.

This progress is a positive in terms of our climate and Net Zero Energy goals, as we need more customers to adopt clean energy technologies to reduce emissions in the thermal and ground transportation sectors. However, from a financial standpoint, BED currently expenses these incentives as incurred each year. Strategic electrification technologies lead to revenue return in the form of increased sales, but the returns occur over a much longer period than a given fiscal year (e.g., in the case of a heat pump, 12-15 years). In consultation with our external auditors, BED therefore plans to change its accounting methodology for customer strategic electrification incentives to better align the recording of expense from the utility with the revenue returned from customers in the form of increased sales. BED proposes to record any excess Tier 3 credits created in this scenario as assets on our balance sheet (essentially accelerated meeting of our future Tier 3 obligations), and "bank" them consistent with the Vermont Renewable Energy Standard for use and expense in a later year. Doing so will allow BED to support accelerated progress on Net Zero Energy in the critical period leading up to 2030 without a corresponding disproportionate impact on a given fiscal year budget or annual net income. Also, BED would be materially less

[5] Vermont's Renewable Energy Standard Tier 3 requirements increase annually for utilities through 2032.
[6] https://go.boarddocs.com/vt/burlingtonvt/Board.nsf/files/BZZGAC42D79B/$file/NZE%20update%202021%20FINAL%204.12.2021.pdf (slide 16)

likely to have to turn down a large customer project to maintain our prescriptive programs which benefit all customers, while still managing annual budget impacts.

For planning purposes, we are assuming funding[7] strategic electrification incentives at double the level required under current state Renewable Energy Standard provisions for FY23 through FY25. This doubling will materially accelerate progress toward our Net Zero Energy Roadmap goal: during this period, this funding alone would support approximately 25% of the investment that would be needed if BED was attempting to achieve the 2030 goal exclusively through Tier 3 funding (as mentioned above, however, the Roadmap goal will not be achieved through incentive funding or BED efforts alone.) The incremental lifetime carbon dioxide emissions reduction from this plan compared to business as usual is over 47,000 tons of emission avoided, which is the emissions equivalent of avoiding nearly 100,000 barrels of oil consumed.

Revenue Bond and Financial Metrics

On August 16, 2021, Moody's Investors Service affirmed BED's A3 rating, with a stable outlook. BED targets A rating metrics for our credit rating and reports on our rating metrics monthly to the Burlington Electric Commission. These include metrics related to days cash on hand, debt ratio, adjusted debt service coverage ratio, and revenue bond covenant debt coverage ratio. BED consistently exceeds the 1.25 debt service coverage ratio required for debt covenants, and we forecast continuing to do so. BED has had some recent challenges with the adjusted debt service coverage ratio, which is a different metric used for Moody's credit rating. The reduction in adjusted debt service coverage ratio began in FY19 with a set of one-time factors along with flat/declining sales to customers, although we saw some improvement in FY20 despite the significant pandemic impacts that occurred in the final quarter of FY20.

Going forward, our proposed 7.5 percent rate increase in FY22 will support further improvement in the adjusted debt service coverage ratio, while we maintain a projected days cash on hand above 90 in the FY22 budget. Part of maintaining that cash balance, while continuing to fund needed capital projects and supporting Net Zero Energy projects and incentives, is an underlying assumption in FY22 that we would issue a Net Zero Energy Revenue Bond to support certain projects in the second half of the fiscal year. Over the next several years, given our continued needs to invest in capital projects for both reliability and Net Zero Energy and to fund strategic electrification incentives (at a level beyond state Tier 3 requirements) to accelerate progress toward our local Net Zero Energy goal in Burlington, the Net Zero Energy Revenue Bond is a critically important source of funding that mitigates what otherwise would be significant upward rate pressure if the same actions were to be funder from operating cash sources.

While BED anticipates needing more frequent rate increases in the coming years, we also expect those adjustments to be more moderate than the 7.5 percent change pursued in FY22 after 12 years of no rate increases and during a global pandemic that created millions of dollars of revenue loss. However, if we remove the assumed Net Zero Energy Revenue Bond as a financing source, BED would face a choice of either dramatically reducing capital investment and curtailing incentive funding or needing much larger rate increases in the near term to fund our projects while maintaining A rating metrics for days cash on hand.

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[7] This funding can be through BED's annual GO Bond allocation of $3 million annually, which has a broader authorization than the revenue bond.

For FY23, as an illustrative example, absent Net Zero Energy Revenue Bond funding and assuming we still attempted to fund both our capital needs (including Net Zero grid and technology upgrades) and accelerated incentive adoption, BED would be faced with implementing a 23.7 percent rate increase, while maintaining the 110 days cash on hand that BED forecasted during its most recent Moody's review. BED does not believe this level of rate increase would be justifiable or prudent. By contrast, BED forecasts that, with the Net Zero Energy Revenue Bond, we would achieve 110 days cash on hand in FY23 with only 4.9 percent of upward rate pressure.

FY23 Projected Rate Pressure to Reach 110 Days Cash On Hand *(assuming full funding of capital projects)*

Financing	Rate Pressure FY23
Without Revenue Bond	+23.7%
With Revenue Bond	+4.9%

Again, this scenario demonstrates how much rate pressure would exist without the Net Zero Energy Revenue Bond if we still sought to fund the same projects based on current forecasts and operating revenues. It is not an actual rate case proposal for any of the fiscal years mentioned. Such a proposal would include consideration of many other factors. However, in this context, and with interest rates still at relative historic lows, the Net Zero Energy Revenue Bond offers a way to invest in our system and support our strategic electrification programs while significantly reducing upward rate pressure compared to alternate funding mechanisms and maintaining strong credit rating metrics, a true win-win scenario for our customers and community.

BED projects that debt service for the Net Zero Energy Revenue Bond would be approximately $500,000 in annual interest payments from FY23-27, with full debt service repayment, including principal, beginning in FY28 at approximately $1.6 million annually.

$20 Million Net Zero Energy Revenue Bond Pro Forma Debt Service Schedule for Next Ten Years

Fiscal Year	Principal*	Interest**	Total Payment
2022	$0	$0	$0
2023	$0	$418,333	$418,333
2024	$0	$502,000	$502,000
2025	$0	$502,000	$502,000
2026	$0	$502,000	$502,000
2027	$0	$502,000	$502,000
2028	$1,114,518	$488,013	$1,602,530
2029	$1,142,492	$459,687	$1,602,179
2030	$1,171,169	$430,651	$1,601,819
2031	$1,200,565	$400,886	$1,601,451
5-Year Total	**$4,628,743**	**$4,205,570**	**$8,834,313**

* Principal payments would be deferred for 5 years.

** Assumes interest rate of 2.51%. Actual interest rate to be determined upon bond issuance.

In terms of existing revenue bond debt service, BED's 2014B revenue bond, which has had average annual debt service payments of $684,000, will mature in 2025.

Current Ten Year BED Revenue Bond Debt Service *(without new $20 million Net Zero Energy Revenue Bond)*

Fiscal Year	Principal	Interest	Total Payment
2021	$1,745,000	$846,033	$2,591,033
2022	$1,810,000	$784,164	$2,594,164
2023	$1,850,000	$723,984	$2,573,984
2024	$1,935,000	$655,429	$2,590,429
2025	$2,000,000	$575,046	$2,575,046
2026	$1,395,000	$505,926	$1,900,926
2027	$1,445,000	$450,719	$1,895,719
2028	$1,505,000	$394,789	$1,899,789
2029	$1,565,000	$335,354	$1,900,354
2030	$1,620,000	$272,504	$1,892,504
2031	$1,685,000	$205,180	$1,890,180
	$18,555,000	$5,749,128	$24,304,128

Revenue from Strategic Electrification

Importantly, under the plan outlined in this memo, BED would generate additional revenue via increased sales through strategic electrification projects. Based on adopting Tier 3 measures at twice the rate required by statute, Tier 3 in FY23-25, BED projects incremental average net revenue (added revenue from electrification minus the cost electricity and related expenses to serve that load) of $467,000 annually from FY25 through FY32. This incremental net revenue, combined with the savings from the maturity of some existing revenue bond debt referenced above (at $684,000 annual savings starting in FY26), will provide significant support for BED's annual debt service payments. Taking a longer view, the increased net revenue, from all the Tier 3 program activities during FY23-FY25, is expected to contribute approximately 40% to BEDs ability to pay debt service (revenue bond and GO debt related to Tier 3 incentives) related to this proposal over the 20-year life of the debt service for the bonds.

Capital Plan

Below are the Net Zero Energy Revenue Bond funding allocations by project category[8], and attached to this memorandum, please find the full project list. (The list does not include the additional customer strategic electrification incentive investments.)

Net Zero Revenue Bond Projects	FY22	FY23	FY24	FY25	Total
Generation	$ 277,604	$ 869,730	$ 375,000	$ 1,320,000	$ 2,842,334
Distribution	$ 1,093,910	$ 3,478,948	$ 6,000,478	$ 3,530,624	$ 14,103,959
General Plant		$ 574,900	$ 150,000		$ 724,900
IT	$ 1,067,874	$ 1,811,556	$ 1,043,308	$ 50,000	$ 3,972,738
Other-Demand Response, Charging Infrastructure	$ 191,756	$ 212,023	$ 250,220	$ 305,757	$ 959,756
Total	**$ 2,631,144**	**$ 6,947,157**	**$ 7,819,006**	**$ 2,603,190**	**$ 20,000,498**

[8] FY25 projects include full year funding, although the revenue bond would run through only half of FY25, which is why the project category totals for that year, if added up, are double the $2,603,190 figure represented in the FY25 total line.

Of the total plan outlined, including the $20 million in Net Zero Energy Revenue Bond projects and the approximately $5.3 million for FY23-25 in customer strategic electrification incentives (with funding through BED's annual GO Bond), approximately $7.8 million represents projects that primarily support BED grid reliability. The majority of the investment, approximately $17.5 million, represents projects that primarily support progress toward our Net Zero Energy goal (e.g., customer strategic electrification incentives), or facilitate progress toward the goal (e.g., grid upgrades to accommodate new electric load or technology systems upgrades that bring new dynamic rate and load control capabilities).

Conclusion

BED believes the Net Zero Energy Revenue Bond proposal is a fiscally responsible and innovative means of financing needed capital improvements and providing access to liquidity to support additional incentives for accelerating strategic electrification and our community's progress toward our Net Zero Energy climate goal. The Net Zero Energy Revenue Bond proposal would support the capital needs of BED and ensure BED's continued efficient and economical operations. Burlington's precedent-setting issuance of a revenue bond for energy efficiency in 1990, and our subsequent success with efficiency programs, provides a strong foundation upon which to pursue this new Net Zero Energy Revenue Bond. Given our ambitious 2030 goal and our desire to maintain strong financial metrics and affordable rates for our customers, this financing option provides the best avenue moving forward.

BED respectfully requests that the City Council approve placing a question on the November special election ballot for voters to consider authorizing BED to issue $20 million in revenue bonds for the purposes described in this memo. We will be present at the September 13, 2021 Board of Finance and City Council meetings to answer any questions or provide additional information. Thank you.

Attachments: Potential Revenue Bond Projects, FY22-FY25