



House Committee on Energy &  
Technology

**January 24, 2019**

**Darren Springer, General Manager**



## About BED

- Burlington's municipal electric utility
  - Public Power since 1905
  - 117 employees, including the McNeil Generating Station
  - Staff sharing partnership with VPPSA
- 21,000+ customers
  - 17,196 residential / 3,876 commercial and industrial
  - >6,000 residential accounts turn over each year
- Electricity facts:
  - Summer Peak: ~65 MW / Annual energy Use: ~350,000 MWH
  - Third largest electric utility in Vermont
  - McNeil is the largest energy producer in Vermont with VY Retirement



# Reliability

- ❑ BED has seen continued improvement in reliability & efficiency
- ❑ Distribution system reliability stats as of December 31, 2018
  - System Average Interruption Frequency Index (SAIFI): 0.43, Customer Average Interruption Duration Index (CAIDI): 0.93
  - **Unplanned Outages** – SAIFI 0.324 and CAIDI 0.673
- ❑ **Distribution system losses in 2017 = 1.73%. This is improved from 3.96% in 1996.**





# Rates and Capital Program

- **BED has not raised rates since 2009**
  - REC revenues have been important for BED, markets are currently down significantly from previous highs several years ago
  - Effect of depressed REC markets buffered by forward sales made before the decline in prices
  - Reorganization in 2015 reduced costs
  - BED monitors key bond metrics monthly (BED's current Moody's rating is A3)
- **BED continues to maintain a strategic capital program**
  - Distribution system upgrades
  - IT Forward program – updates to critical meter data management, financial management and customer information systems ongoing
  - Research into new technologies becoming more important



# Energy Efficiency Program

- **Burlington Energy Efficiency Record**
  - Electric use in City has been reduced by approximately 6 percent in 2017 relative to 1989 when efficiency efforts ramped up
  - Efficiency investments save millions annually for BED customers
  - BED is proud to be the Energy Efficiency Utility for Burlington
  - Focus on new construction projects, multi-family rental housing including the "split incentive" issue; 60% of customers rent
  - Continue to improve program coordination with Vermont Gas
  - BED well positioned to integrate Energy Efficiency, Tier 3 activities, and other planning efforts
  - Low and moderate income focus ensuring that all customers have access to our programs and services

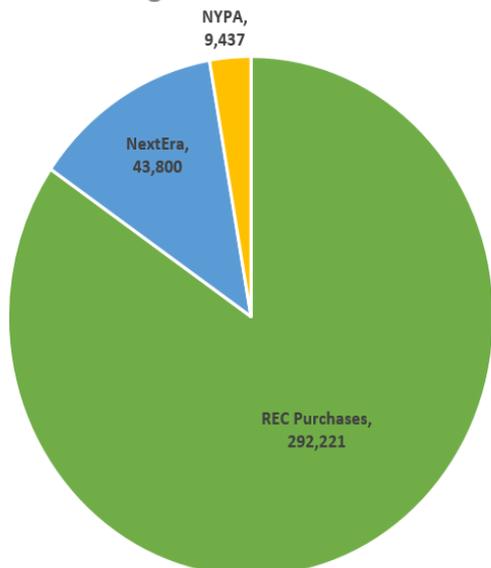




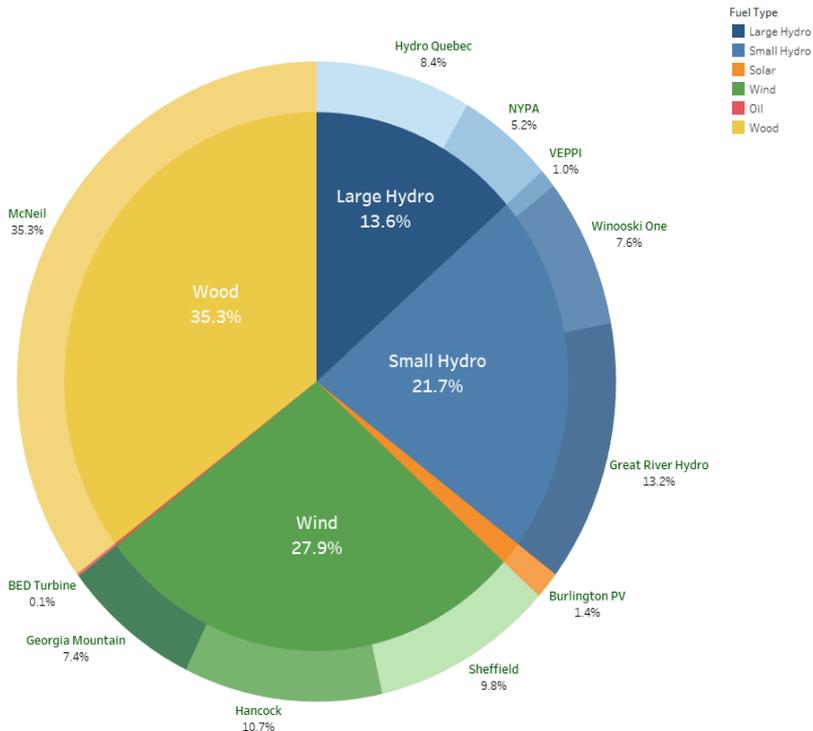
# 2018 BED ENERGY SUPPLY BY SOURCE

## CY 2017 BED Renewability

Including REC Sales & Purchases



**Note:** The above graph depicts Renewable Energy Certificates (RECs) that have been retired against BED's electric sales for calendar year 2017. BED retired VT Tier I Compliant RECs in excess of electric sales for 2017 by approximately 4%. RECs received from Hydro Quebec in 2017 (29,198) have been banked for use in subsequent compliance years.



**NOTE:** BED has no contracts for resources fueled by Natural Gas, Nuclear or Coal. 0.1% of generated energy comes from Oil used at the BED turbine. The energy supply profile exceeded sales. The above represents energy supplied and purchased by BED prior to REC sales.



## Tier 3 Energy Innovation

- **BED Tier 3 programs include:**
  - **EV rebate** of \$1,200, or \$1,800 for low/moderate income customers
  - **PHEV rebate** of \$1,000, or \$1,500 for low/moderate income customers
  - **Also - Tier 3 incentive for residential charging station (\$400)** tied to new BED Residential Charging Rate
  - **EV finance partnerships with VSECU, Vermont Federal and Green Mountain Credit Unions**
  - **Cold-Climate Heat Pump rebate** for oil and propane customers between \$750 (single), and \$1000 (multi-head)
  - **EV Workplace Charging Station Incentive** of \$1,000
  - **E-Bus incentive** – two buses expected in 2019 with an option for more in the future
  - **E-Bike rebate** of \$200 at local retail shops





# Net Zero Roadmap

- ❑ **As part of BED's 2018-2019 Strategic Direction adopted by Electric Commission, BED is working on a Net Zero Roadmap**
- ❑ **BED's Strategic Direction Goal is to "Make Burlington a 'net zero energy city' across electric, thermal, and ground transportation sectors by managing demand, realizing efficiency gains, and expanding local renewable generation, while increasing system resilience."**
- ❑ **Partnering with Synapse and RSG following a competitive RFP process on following tasks:**
  - ❑ Establish baseline of energy use across electric, thermal and ground transportation sectors
  - ❑ Determine Business as Usual projection in each sector out to 2030
  - ❑ Analyze several pathways to get to Net Zero Energy City goal by 2030, including cost-benefit of different approaches
  - ❑ Recommend pathway to get to Net Zero Energy City goal – due Summer 2019



# District Energy

- ❑ Last year the Legislature passed and Governor signed Act 102 (H.616) which changed 30 VSA 209 to permit use of TEPF funds for biomass-led district heating systems.
- ❑ In order to move the project forward, BED may need to access some of those funds for engineering and design work, which would require the following minor language change:
  - (e) Thermal energy and process fuel efficiency funding.
- ❑ (1) Each of the following shall be used to deliver thermal energy and process fuel energy efficiency services in accordance with this section for unregulated fuels to Vermont consumers of such fuels. In addition, the Commission may authorize an entity appointed to deliver such services under subdivision (d)(2)(B) of this section to use monies subject to this subsection for engineering and design work for a district heat system where the majority of the district's energy would come from biomass sources, and for the conversion of thermal energy customers using fossil fuels to district heat, if the majority of the district's energy is from biomass sources, the district's distribution system is highly energy efficient, and such conversion is cost effective.



# Standard Offer

- **Standard Offer Exemption**
  - BED is one of three utilities that has qualified for the exemption based on its resource planning and investment decisions under current policy (WEC and Swanton are the others).
  - BED has entered contracts for all Burlington non net metered solar (save for the 26KW Leunig's array which received a standard offer contract in the 2010 lottery) – total 3.9 MW
  - BED energy sources are primarily (75%) located in Vermont, and BED is 100% renewable by generation and by RECs as noted in earlier slides.
  - ***BED strongly supports maintaining access to the exemption on an annual basis per current law for utilities that previously have qualified for it.***



**BURLINGTON  
ELECTRIC  
DEPARTMENT**

**2018-2019  
STRATEGIC DIRECTION**

## MISSION

To serve the energy needs of our customers in a safe, reliable, affordable, and socially responsible manner.

## VALUES

Safety, Integrity, Community,  
Engagement, Innovation

## 2030 VISION

Make Burlington a "net zero energy city" across electric, thermal, and ground transportation sectors by managing demand, realizing efficiency gains, and expanding local renewable generation, while increasing system resilience.

## STRATEGIC OBJECTIVES

<b>Create a nimble organization</b> by transforming our business platform and developing our human capital to best leverage an era of rapid change in the energy industry.	<b>Deliver exceptional customer care</b> by enhancing personal service and increasing engagement across all channels to efficiently resolve customer issues and proactively promote energy efficiency and other program opportunities.	<b>Leverage our electric assets</b> to take advantage of high intensity, bi-directional energy made possible by distributed energy resources.
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## STRATEGIC INITIATIVES

<b>Establish modern, simple, full-function customer care platform</b>	<b>Strengthen distribution and generation assets to increase reliability and efficiency</b>	<b>Modernize core technology infrastructure and business processes</b>	<b>Advance nationally significant energy innovation</b>	<b>Budget and manage risk to maintain stable rates</b>
<ul style="list-style-type: none"> <li>Create service delivery model focused on high-quality customer care</li> <li>Develop web and social media platforms, other marketing to increase engagement</li> <li>Create more equitable and accessible programs for all of our customers, especially rental and New American populations</li> <li>Re-visit energy efficiency model to create even more customer value</li> <li>Update BED Operating Guidelines to align fees and services with current technology</li> </ul>	<ul style="list-style-type: none"> <li>Implement asset maintenance plan for McNeil, Winoksi One, and distribution system</li> <li>Pilot grid automation</li> <li>Use grid analytics to improve system reliability and efficiency and enable end use technologies and programs</li> <li>Enhance cyber security capabilities</li> <li>Upgrade communications &amp; phone system for dispatch, customer care, and all users to assist with delivery of exceptional customer care.</li> <li>Use facilities to showcase the impact of new technologies</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade customer, financial, and meter data management information systems</li> <li>Pursue business process improvements</li> <li>Enhance cyber security capabilities</li> <li>Upgrade communications &amp; phone system for dispatch, customer care, and all users to assist with delivery of exceptional customer care.</li> <li>Use facilities to showcase the impact of new technologies</li> </ul>	<ul style="list-style-type: none"> <li>Launch Solar Shopper 2.0 for community solar</li> <li>Advance district energy and microgrid proposals</li> <li>Implement citywide demand reduction strategy</li> <li>Work with broad group of stakeholders to advance electric transportation across all modes</li> <li>Implement EV end use rate and advance dynamic rates</li> <li>Establish milestones to achieve net zero vision by 2030 (Including an integrated approach to EE, fossil fuel reduction, demand management and distributed energy resources)</li> </ul>	<ul style="list-style-type: none"> <li>Build a suite of financial options to support customer energy investments including pilot for tariff-based financing</li> <li>Develop an organizational culture that supports a modern and comprehensive learning model to enhance employee engagement, education, safety, and training</li> <li>Implement strategies to moderate future rate impacts, including alternative revenue models</li> <li>Strengthen rating factors to improve Moody's credit rating</li> </ul>