

NET ZERO ENERGY

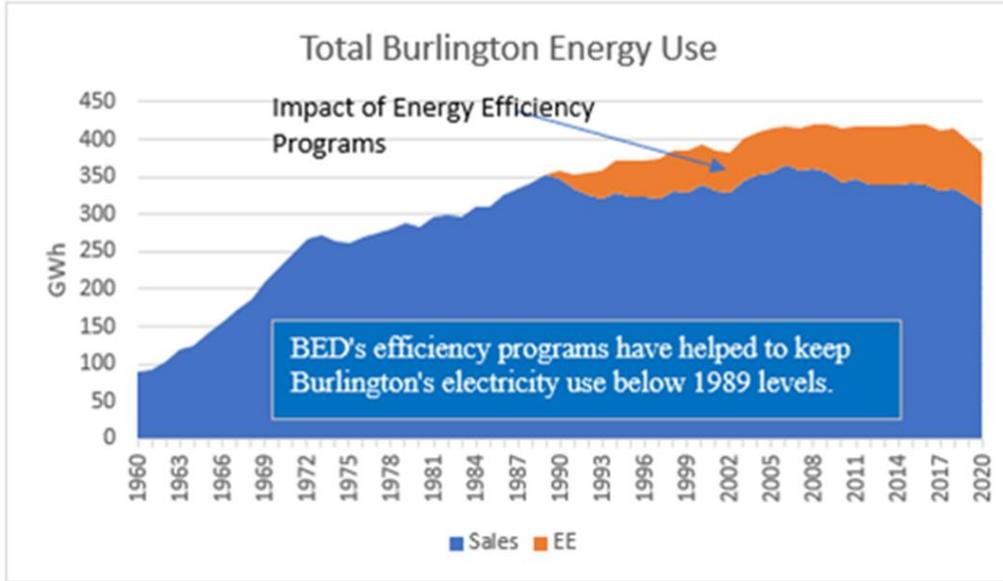
BURLINGTON VERMONT



About Burlington Electric Department (BED)

- Burlington's municipal electric utility
 - Public power since 1905
 - 118 employees, including the McNeil Generating Station
 - Third-largest electric utility in Vermont
- 21,000+ customers
 - 17,282 residential, 3,983 commercial and industrial
 - 5,500-6,000 residential accounts turn over each year
- Electricity facts:
 - Summer peak: ~65 MW; annual energy use: ~330,000 MWH
 - McNeil is the largest energy producer in Vermont with Vermont Yankee retirement
 - 100% of power from renewable generation as of 2014
 - No rate increase from 2009-2021; first rate change in FY22 due to pandemic - 7.5%; FY23 rate change - 3.95%
 - Working with City on ambitious Net Zero Energy 2030 Roadmap implementation





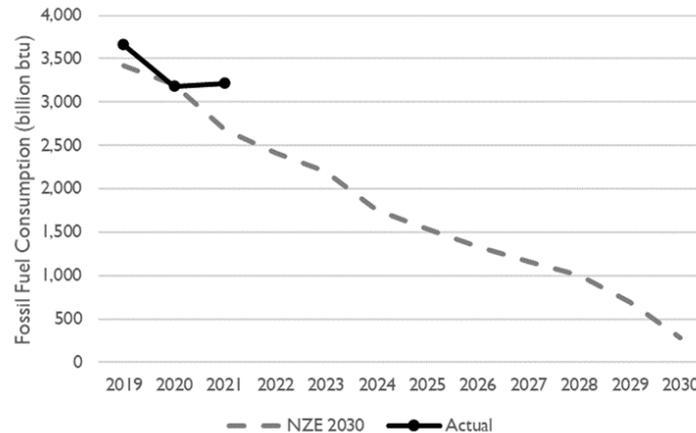


2030 Vision: Make Burlington a Net Zero Energy city by eliminating fossil fuel usage across electric, thermal, and ground transportation sectors. www.burlingtonelectric.com/nze. The Net Zero Energy Roadmap was adopted by the City Council in September 2019. Burlington’s Net Zero Energy Roadmap is the most ambitious local climate change plan in the nation that BED is aware of, *recognized by the Smart Electric Power Alliance as the “first US Net-Zero 2030 plan.”*

Synapse Energy Economics Net Zero Energy Roadmap Update for 2022 – Commissioned by BED

Fossil Fuel Energy Consumption:

Thermal and Ground Transportation 2019-2021





2021-2023 Act 151 Activity Year-to-Date

	Spending (YTD)	Results (YTD)	
Advanced Heat Pumps	\$250,000	Provided enhanced incentives to 352 cold climate heat pump and heat pump hot water projects	
Ground Source Heat Pump Test Wells	\$36,000	Helped to fund two successful test wells to date	Three more test wells are scheduled in spring on 2023
Efficient Electric Vehicles (EV)	\$73,500	Provided enhanced incentives to 152 customers	
Residential EV Charging Station Support	\$39,500	Provided enhanced incentives to 71 customers including 9 Multi-Family installations	
Delta Clime VT (energy related business accelerator)	\$54,000	BED and VGS are working with three companies on pilot efforts	Halitra, ARC Industries & MicroEra Power
Spending (YTD)	\$453,000		
2021-2023 Approved Budget	\$705,000		
% of Budget (YTD)	64%		



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Tier III Projects	Market Rate Incentive	Income eligible enhancement	EEU	ACT 151 incentives	Total Max Customer Incentive	
Transportation	New AEV	\$ 1,800	\$ 700	\$ -	\$ 500	\$ 3,000
	New PHEV	\$ 1,500	\$ 300	\$ -	\$ 500	\$ 2,300
	PreOwn AEV	\$ 800	\$ 200	\$ -	\$ 500	\$ 1,500
	PreOwn PHEV	\$ 800	\$ 200	\$ -	\$ 500	\$ 1,500
	EVSE (home)NEW or preOwned AEV only	\$ 400	\$ -	\$ -	\$ 500	\$ 900
	EVSE (home)NEW or preOwned PhEV only	\$ 200	\$ -	\$ -	\$ 500	\$ 700
	BED owned EV Chargers	\$ -	\$ -	\$ -	\$ -	\$ -
	Level 2 - Workplace EV Charger, per port	\$ 2,000	\$ -	\$ -	\$ -	\$ 2,000
	Level 3 - Workplace EV Charger, per system	\$ 10,000	\$ -	\$ -	\$ -	\$ 10,000
	SemiPublic MF Chargers (level 2)	\$ 100	\$ -	\$ -	\$ 500	\$ 600
Bldgs	E Bikes (customer)(3)	\$ 200	\$ -	\$ -	\$ -	\$ 200
	E Motorcycle	\$ 500	\$ -	\$ -	\$ -	\$ 500
	ccHP,less than 2tons (1)	\$ 1,100	\$ 400	\$ 350	\$ 1,000	\$ 2,850
	ccHP,2tons+	\$ 2,000	\$ 400	\$ 450	\$ 500	\$ 3,350
	ccHP (2nd unit)	\$ 250	\$ -	\$ 350	\$ 250	\$ 850
	HPWH Tier 1&2	\$ 500	\$ 200	\$ -	\$ 300	\$ 1,000
	HPWH Tier 3&4	\$ 800	\$ 200	\$ -	\$ 600	\$ 1,600
	Hi Perf CDHP < 2 Tons (Res)	\$ 2,000	\$ 400	\$ -	\$ 250	\$ 2,650
	Hi Perf. CDHP 2-4ton (Res)	\$ 4,000	\$ 400	\$ -	\$ 250	\$ 4,650
	Hi Perf. CDHP 4+ Ton (Res)	\$ 6,000	\$ 400	\$ -	\$ 250	\$ 6,650
Std. CDHP < 2 Tons (Res)	\$ 1,000	\$ 400	\$ -	\$ 250	\$ 1,650	
Std. CDHP 2-4ton (Res)	\$ 2,000	\$ 400	\$ -	\$ 250	\$ 2,650	
Std. CDHP 4+ Ton (Res)	\$ 3,000	\$ 400	\$ -	\$ 250	\$ 3,650	
ERV/HRV Tier 1	\$ 500	\$ 300	\$ -	\$ 250	\$ 1,050	
ERV/HRV Tier 2	\$ 700	\$ 300	\$ -	\$ 250	\$ 1,250	
AWHP per ton (Res)	\$ 2,000	\$ 400	\$ -	\$ 600	\$ 3,000	
AWHP per ton (Com)	\$ 2,000	\$ -	\$ -	\$ 800	\$ 2,800	
Integrated Controls (pilot)	\$ 300	\$ -	\$ -	\$ -	\$ 300	





Projected 2023 Tier 3 program participation with and without Act 151

Act 151 programs	Tier III participation w/o Act 151 funds	Add'l program participation w/ Act 151 funds	Total Tier III Participation
All Electric & PHEVs	190	42	235
Preferred Dealer Network	-	4	4
MF EVSE Support	3	22	25
Advanced Heat Pumps	322	77	399
Geo-Testing Wells	-	3	3
DeltaClime Projects	-	4	4

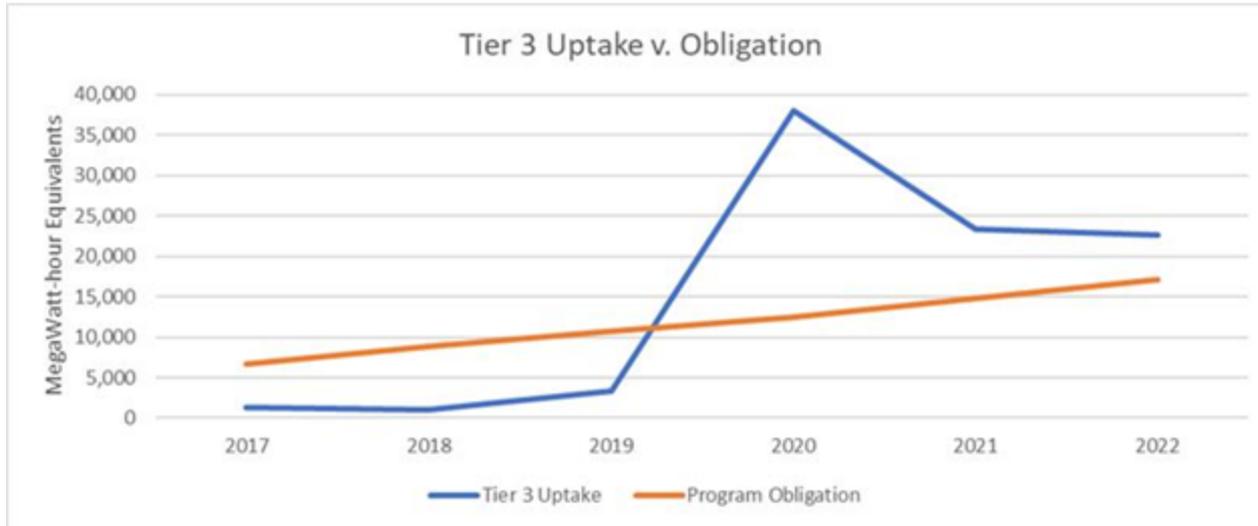


CY2022 BED Tier 3 and Net Zero Energy Programs

Tier 3 Budget for FY23 = \$2.1 million

EEU and Act 151 Budget for FY23 = \$1.55 million

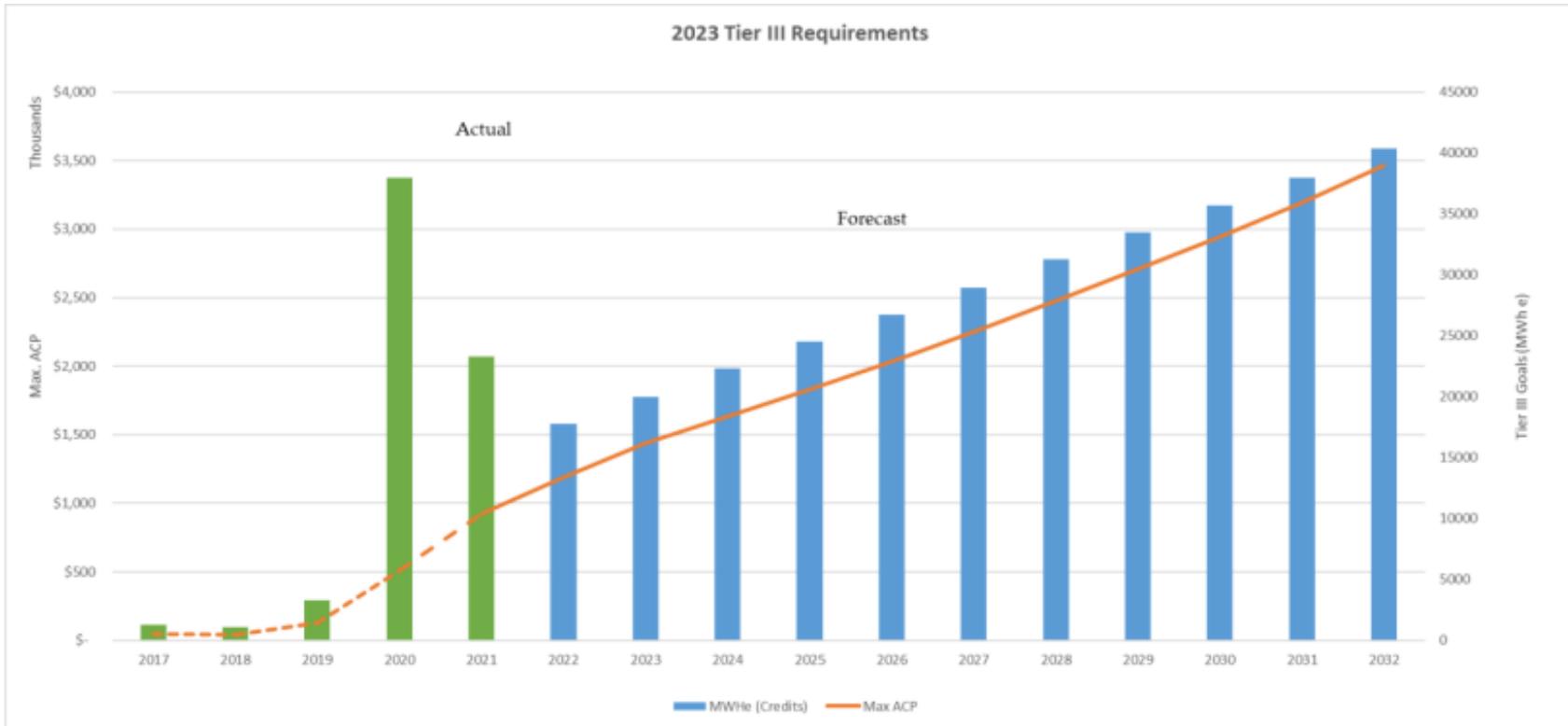
- ❑ **EV rebate** of \$2,300, or \$3,000 for low/moderate income (LMI) customers up to 80% area median income
- ❑ **PHEV rebate** of \$2,000, or \$2,300 for LMI customers
- ❑ **Pre-Owned EV/PHEV rebate** - \$1,300, plus \$200 for LMI customers
- ❑ **Incentive for residential charger** up to \$900
- ❑ **EV finance partnership with three credit unions**
- ❑ **EV Workplace Charging Station Incentive** of up to \$10,000
- ❑ **EV multi-family charger**— up to \$1,750
- ❑ **E-Motorcycle** - \$500 rebate
- ❑ **E-Bus incentive** – two buses delivered in 2020
- ❑ **Electric Induction Cooking** – up to \$200 rebate
- ❑ **E-Bike rebate** of \$200, 0% loans for low-income customers
- ❑ **E-Mower** rebate of \$100-\$300 residential and \$3,500 commercial
- ❑ **Custom Programs** –VRF, geothermal, etc.
- ❑ **Cold-Climate Heat Pump rebate** – up to \$3,350 including \$400 LMI rebate
- ❑ **Central-Ducted Heat Pump rebate/discount** – up to \$6,250, plus \$400 per condenser for LMI customers
- ❑ **Air-to-Water Heat Pump rebate** – up to \$12,400, including \$400 for LMI customers
- ❑ **Heat Pump Water Heater rebate** – up to \$1,000, plus \$200 additional for LMI customers
- ❑ **Electric Forklift rebate** – up to \$6,500
- ❑ **Electric Leaf Blower rebates** - \$50 residential, \$150 commercial
- ❑ **Residential Loan Program**– as low as 0% for income-qualified customers for heat pumps, water heaters, Energy Star appliances
- ❑ **0% Commercial Loan Program**– on-bill finance for efficiency, heating and cooling, ventilation



BED's Tier 3 annual performance for program uptake vs. annual obligation. Note that 2022 Tier 3 Program Obligation and Uptake are not final. For the 2022 Tier 3 Uptake, more measures may be entered for 2022 and the claims must be submitted to the PUC and DPS for verification. The 2022 Program Obligation is based on twelve months of sales ending 11/30/2022 and will slightly adjust when actual December 2022 sales are available.

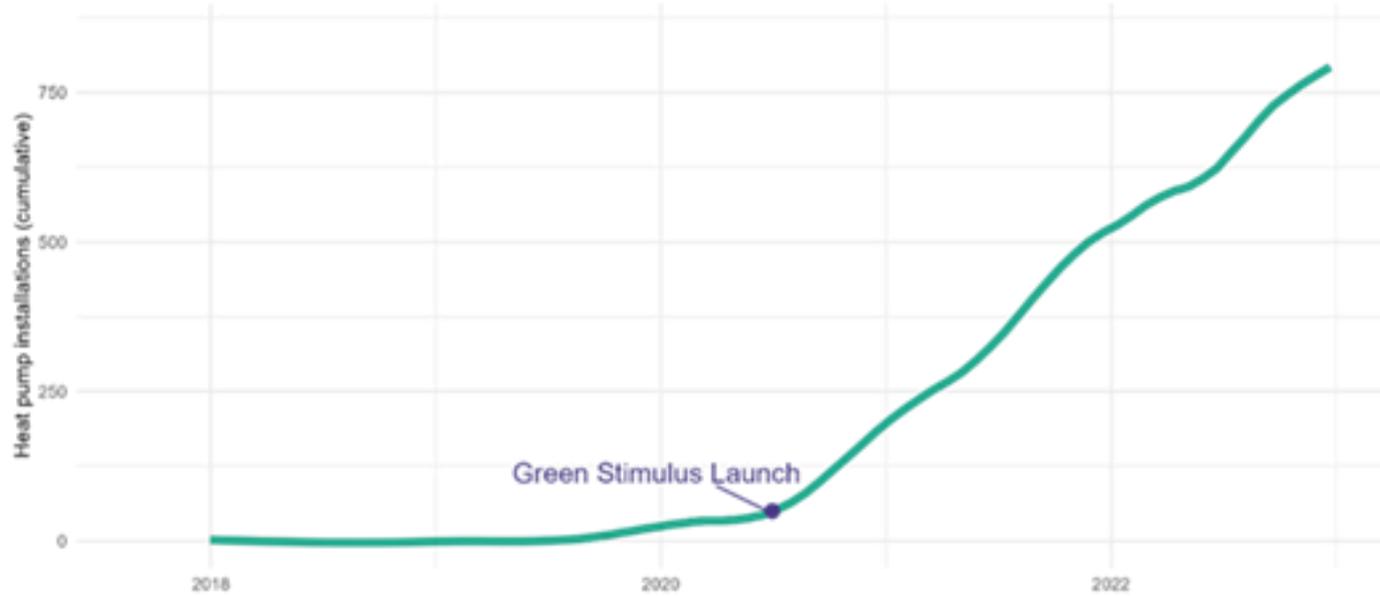


2023 Tier III Requirements





Tier 3 Residential Heat Pump Installations





S. 137 - Act 151/EEMA Extension

- **Program Fills Gaps** – Allows for items like geothermal test wells that would not qualify as Tier 3 measure, but can lead to substantial Tier 3 investment;
- **Provides Flexibility** – Allows for responsiveness to market conditions;
- **Provisions allow for Innovation** – The bill allows BED to access full amount of our TEPF funds, focus on designing some new programs to help customers with largest energy burden reduce their fossil fuel use.