

Bristol Town Administrator

From: Sally Burrell <sallybinvt@gmail.com>
Sent: Friday, May 6, 2022 12:14 AM
To: Bristol Town Administrator; Richard Butz; Stephen Taylor; Benjamin Skolozdra; mike corey; Carl Engvall; John McCormick; Patrick Ladd; ianalbinson+sb
Subject: Patrick's Transition Memo
Attachments: Transition Memo 4_27.docx

Hi All,

Patrick and I met with Bekah Custer from VECAN (VT Energy and Climate Action Network) last week for a discussion of his UVM internship with BEC. Patrick followed up by writing the attached document. We are fortunate to have such a conscientious intern. Please enjoy his account of the project and possible steps ahead. Thanks, Sally

Bristol Energy Committee Transition Memo

Name: Patrick Ladd

Email: pladd113@gmail.com

Town Contact: Sally Burrell

Email: sallybinvt@gmail.com

Location: Bristol, VT

Dates: January 18th 2022 – May 20th 2022

Summary:

The goal of this internship was to provide some assistance to the Bristol Energy Committee with some of the many projects they are working on. The Bristol Energy Committee is a group of dedicated volunteer citizens of Bristol that tackle energy related issues in the municipality with the goal of creating a more energy efficient community. With the internship lasting only a few short months, my focus was to help the committee with a project they have been attempting for some time but struggled to gain traction with; procuring the town an electric vehicle charging station. As the world progresses toward the use of more electric vehicles, the Bristol Energy Committee feels their town is due for this innovative technology.

Accomplishments:

- Determined a general ideal location: parking spaces on Main Street outside town park.
- Narrowed the make and model options down to a Level 2 ‘smart’ charger that has software capable of data collection and web-based location services.
- Site survey with representatives from Norwich Power to determine a plan for sourcing power via Green Mountain Power lines.
- Received a detailed ‘turn-key’ plan and quote from Norwich Power including prices from a new meter, installation, and operation cost (see below)
- Conducted research on ARPA funds and other grants potentially available in Vermont
- Discussed the idea of local fundraising/ GoFundMe options.
- Met with town treasurer to discuss the validity of local fundraising, which might have to be associated with a separate bank account and ‘donated’ to the BEC.
- Met with Community Energy Coordinator Bekah Kuster to share our internship experience and provide information that may encourage other Energy Committees to take advantage of youth involvement

Outstanding work:

While we made strides in planning, prices, excitement, and involvement, I think the project hit a small wall once we needed to source funding. I've heard from previous years the funding aspect is often the most difficult; it's understandable how people get cold feet when it's time to put their money where their mouth is. ARPA funding can get complicated and like most other grants, it will require some sort of plea and approval. I think an incoming intern could really focus on the aspect of research and application of a grant.

As of right now, the Bristol Energy Committee is planning to present their plan to the town board. They hopefully will reach out to Norwich power to have the field experts there to answer questions and convince the town board of the legitimacy of the BEC's plan. The board will likely want to take advantage of a grant rather than pay out of pocket. Unfortunately, the grant process will likely take longer. The Bristol Energy Committee may have an argument for funding based off the money the town is receiving due to the new solar farm that was recently installed, which the BEC had significant involvement in.

For the continuation of this project a future intern must push the funding process forward and understand the demands of the board, so everyone is happy about the source of the money. The board may ask for another quote from a different company, which would make the process difficult since Norwich offers a packaged 'turn-key' one step solution. Once funding is secured via either a grant, local fundraising, or GoFundMe, the only thing left to do is pay the bill and let Norwich start breaking ground!

Conclusion:

Thank you to Sally and The Bristol Energy Committee for giving me this opportunity. I have had the pleasure of working with such devoted individuals who dedicate themselves to such a worthy cause. I have not only learned about the clean energy field, the field I plan on perusing after graduation, but I have learned communication, collaboration, and community skills that will transgress to other aspects of my life and career. Having worked with such kind and dedicated individuals has made me think about what kind of community I want for my adult life and future children. While I may be moving back home to New York for now, I plan on making frequent visits to Vermont where hopefully I can stop and recharge my car in Bristol! – Patrick Ladd



Electric Vehicle Service Equipment
Proposal
For
The Town of Bristol



Prepared For:

The Town of Bristol

Prepared by:

Berrett Walter
walter@norwicksolar.com



Proposal for
The Town of Bristol

The following proposal has been prepared based on our site visit and the information provided. The following tables outline the turnkey installation for a networked EV charging station and the associated software. The cost of the charging station infrastructure and installation can be either financed through VEDA or Norwich EV, or purchased outright through Norwich EV.

Pricing Breakdown

The following table displays the turnkey price, GMP rebate available, and monthly software subscription cost. The turnkey price includes EVSE hardware, installation, GMP new service, and EV signage.

Dual-Port PowerCharge EV Charging Station		
Total Value Installed:	\$11,822.40	
Net Price (after GMP rebate):	\$10,322.40	\$750 per charging port
Monthly GMP Meter Charge	\$20.00	
Monthly Software Cost:	\$40.00	AmpUp Basic - \$20.00 per charging port
Cable Retraction System:	\$1,200.00	Additional Cost for Upgrade

Appendix A – Site Map and Installation

The images below outline the proposed design and installation plan for the allocated parking spaces, charging stations, and approximate location of the breaker panel and meter. A new meter will likely be added to the existing GMP pole, marked on the image below, and conduit will drop from the pole to a new meter mounted on a pedestal. From here conduit will be laid in a trench and connect to the charging stations.



Proposal for The Town of Bristol



Appendix B – Charging Station Product Sheets

PowerCharge Commercial Energy Series

COMMERCIAL ENERGY SERIES

PowerCharge™

OVERVIEW

SLIM & DURABLE DESIGN

- **Outdoor rated** with multiple mounting configurations
- **Small** footprint whether wall or pedestal mounted

MULTIPLE MODELS

- **Open Access Control**
Non-networked option for unrestricted user use
- **RFID Access Control**
Tech-enabled model with RFID card access control
- **Networked**
When connected to a network software plan, it includes features such as: account of use, payment usage data reporting, driver notifications, remote diagnostics and more.



Energy Star certified as the most efficient in its class, consuming less than 100W.



UL-Listed meets safety criteria for use in North America.



Meets standards for Americans with Disabilities Act.



CABLE RETRACTOR

- **Optional** cable retractor extends the life of the cables by keeping them off the ground, also creating a safe environment.

LEVEL 2 CHARGING STATION

- **Up to 6x faster** than a standard 120-volt line 2-prong. Same safety delivers up to 25 miles of driving range for every hour of charge time.
- **Adjustable power** output allows for the ideal power to match your supply panel specs, vehicle and driving range.
- **3-Year Warranty** (extended to 5-year optional)

MOUNT CONFIGURATIONS

- **Optional** mounting options available



Our pedestals
with cable retractors



Proposal for
The Town of Bristol

COMMERCIAL ENERGY SERIES
SPECIFICATIONS



ITEM	E20XXE	E20XXP
APPLICATION		Commercial
VOLTAGE (Vdc)		208/240VAC Single Phase
FREQUENCY (Hz)		60 Hz
CURRENT (Rms)		Adjustable 16A/20A/25A (125V/160V/200V)
CIRCUIT BREAKER		16A/20A/25A/32A/40A/50A
CHARGING CONNECTOR		SAE J1772
CHARGING CABLE LENGTH		5M
METERING ACCURACY	N/A	Class 0.5 2%
REAL TIME CLOCK	N/A	Yes (Optional)
WI-FI	N/A	802.11g/n
CELLULAR	N/A	3G/4G/LTE
RFID	N/A	ISO 14443 A/B ISO 15693 NFC RFID interoperability optional
DISPLAY	Color LED Back Light	960x540/270/160mm 3.5" Screen CHARACTER HEIGHT 576 DOT MATRIX 0.33" Pitch
DATA PROTOCOL	N/A	COPI 1.0
OPERATION TEMPERATURE		-30°C/23°F to 50°C/122°F
STORAGE TEMPERATURE		-40°C/40°F to 100°C/212°F
MOUNTING TYPE		Wall Mount / Pedestal Mount
WIRING TYPE		Hard-wired
IP PERFORMANCE		NEMA 4
IMPACT RESISTANCE		IK10
DIMENSION (HxWxD INCHES)		17.4" x 17.8" x 17"
WEB PORTAL MANAGEMENT	N/A	Yes
CERTIFICATION		UL 507/508/7443/509/520/594 FCC Part 15B
	N/A	FCC Part 15.205 (RFAS) 15.109-10 FCC Part 15.107 (UNLAK) 15.109-11
	N/A	FCC Part 15.109-10 FCC Part 15.109-11
PEDESTAL DIMENSIONS		16.4" x 17"
PEDESTAL CONSTRUCTION		Aluminum Over Powder Coat Finish Stainless Steel Hardware
WARRANTY		5 Year (3 Year optional)



Proposal for
The Town of Bristol

Appendix C – AmpUp Software Features





Proposal for
The Town of Bristol

Monthly Price per Charging Port	\$20	\$25	\$30
FEATURE	BASIC	LITE	PRO
Single Price	✓	✓	✓
Revenue	✓	✓	✓
Reports	✓	✓	✓
User Groups	-	✓	✓
Reservations	-	✓	✓
Tiered Pricing	-	✓	✓
Control Access	-	✓	✓
Site Host Enabled	-	✓	✓
Troubleshooting	-	✓	✓
Multiple Site Management	-	✓	✓
Single Load Management	-	✓	✓
Advanced Load Management	-	-	✓
Time-of-Use Pricing	-	-	✓
Dynamic Pricing	-	-	✓
Dynamic Access	-	-	✓
Utility Demand Response	✓	✓	✓