

## **Sustainable Energy Commission**

### **Minutes of October 17, 2019 meeting**

#### **THESE MINUTES ARE SUBJECT TO APPROVAL BY THE SUSTAINABLE ENERGY COMMISSION**

**Present:** Kathy Quinn, Allen Adriani, Vanessa Villamil, Mark Sievel, Erik Weiss, George Brown, Zach Marchetti

**Absent:** Tom Snayd

**Also Present:** Fred Hurley, Bob Gerbert, Ben Toby and two members of the public

**Call to order 7:00pm**

**Mr Sievel moved to accept the minutes of September 19, 2019 with the following corrections:**

**Mr Adriani asked if the dehumidification units were recovering *waste* heat?**

**Spelling corrections should be Adriani not Andriani.**

**Under ZREC it should state “ The next *step will be for...*”**

**Mr Adriani 2<sup>nd</sup> – approved**

#### **Communications:**

Ms Quinn discussed meeting in North Haven. Simsbury has an energy plan template that has possibilities. Ms Quinn distributed a copy of Hampton’s Green Energy Committee survey (attached). There was a lot of discussion on length of survey and distribution of survey. Possibly put something in the tax bills concerning locations for electric car charging stations to go along with Mr Hurley’s initiative.

Sustainable CT – While the Commission has not really had anything to do with them this past year, there are currently three groups in town applying for matching grants from Sustainable CT. The Commission will participate but not oversee the grants.

#### **Board of Selectmen Presentation:**

Discussion on slides to be presented. Middle Gate electric usage, Municipal Building usage stayed constant, Sandy Hook School need kw hours, what has been done vs what is working, projecting savings, fracking waste ban, plastic bag ban, Titan Energy (attached). Simsbury template phase 1 use for Town and Board of Ed, phase 2 add town residential and commercial.

## **Bob Gerbert - Board of Ed Facilities**

A discussion was held on previous projects and upcoming projects. Check on lights and exhaust fans for occupancy sensors. Commission is looking for a comparison of savings. Commission is looking for more energy saving options instead of 1 for 1 replacements where we are just getting energy efficient savings on the same equipment. Doing other efficiency measures before replacing equipment could reduce sizing of equipment and generate more savings and less waste.

Middle Gate School – boiler upgrades, lighting upgrades and gas brought in UPCOMING replace single pane windows and do air sealing at the same time

Sandy Hook School – looking into outside lights a new controller is in route and looking into gas lines UPCOMING looking into solar

Hawley School – boiler and lighting upgrades UPCOMING ac looking at roof top units pumped into classrooms

Reed School – uses a lot of electricity, all the lights are on at 6am. Needs occupancy sensors.

Head of Meadow School – Need to replace boilers but they are not on the CIP list. There is no way to get a gas line to the school suggests checking on Geo Thermal.

Middle School – gas is in, new boiler and lighting upgrade

High School – Boiler and lighting upgrade, new gymnasium roof is designed to accept solar flat system

ABS was given too much free reign. Mr Gerbert stated he has been replacing a lot of vendors. The Commission suggested getting three or four different opinions on solutions from the certified list of companies (about 20 on the list) to find what will work best for us. The Commission is looking for engineering not just replacements. Mr Gerbert is working with Eversource for incentives. The Commission has offered to help him.

Organic recycling is supported by both the Superintendent and Mr Gerbert. This initiative is being pushed down the line. They are looking at starting at Sandy Hook School by teaching the students how to use the bins properly and expanding from there. They are hopeful that this will have the students recycling at home as well.

Virtual Net Metering solar update is attached.

**Promotional reusable bags** – discussion on design

**Drinking Water at events** – Ms Mangold has said that the Park and Rec Department will make sure the portable tank is brought out if it is purchased.

**Police Department, Community Center and Hook and Ladder** – RFP for solar project being prepared, there is an investment credit that ends in December. RFP is being awarded in November and is being worded so that the investment credit is applied and if they don't secure it in time they are responsible for the credit. Mr Hurley said Newtown will get the benefit of the investment credit. Community Center is still working on the punch list.

**Charging Stations** – Eversource wants more charging stations around the state. Mr Hurley is anticipating grants for this. Thought the survey idea for placement of stations would be beneficial in the application for grants.

**HRRA** – is doing educational programs at schools. They are looking at separating glass to help reduce recycling fees for the towns. Newtown is part of the pilot program.

Next meeting is scheduled for November 21, 2019.

**Mr Adriani moved to adjourn the meeting with Ms Villamil 2<sup>nd</sup> – approved.**

Meeting adjourned at 8:56pm.

Respectfully submitted,

LeReine Frampton, temporary clerk

# Hampton Green Energy Committee

June 12, 2019

Dear Hampton Homeowner,

The Hampton Green Energy Committee has been working since 2010 to bring energy savings and clean renewable energy to Hampton. We have made our town buildings more energy efficient, put solar on town buildings, hosted an electric car show, and held educational forums, film series, and energy fairs for residents to help make their homes more energy efficient.

We are working alongside other towns and cities throughout Connecticut and across the country to transition to 100% clean, renewable energy. The goal is to offset the amount of nonrenewable energy used in town with the generation of renewable energy elsewhere in town.

In order to understand how much energy we need to generate, we must first know how much energy we use. We can use your help figuring that out. Would you please answer the following questions for us and return this questionnaire to us by **July 20<sup>th</sup>**. All information will remain confidential.

1. How do you predominately heat your house?

- ☐ Oil
- ☐ Wood Stove
- ☐ Outdoor Wood Furnace
- ☐ Geothermal
- ☐ Heat Pumps
- ☐ Propane
- ☐ Passive Solar
- ☐ Other, please specify what kind?

2. Do you have your own solar installation to generate your electricity? ☐ Yes ☐ No

How many kW is your system?

Do you have battery backup? ☐ Yes ☐ No

3. Do you have a solar thermal installation to heat your water? ☐ Yes ☐ No

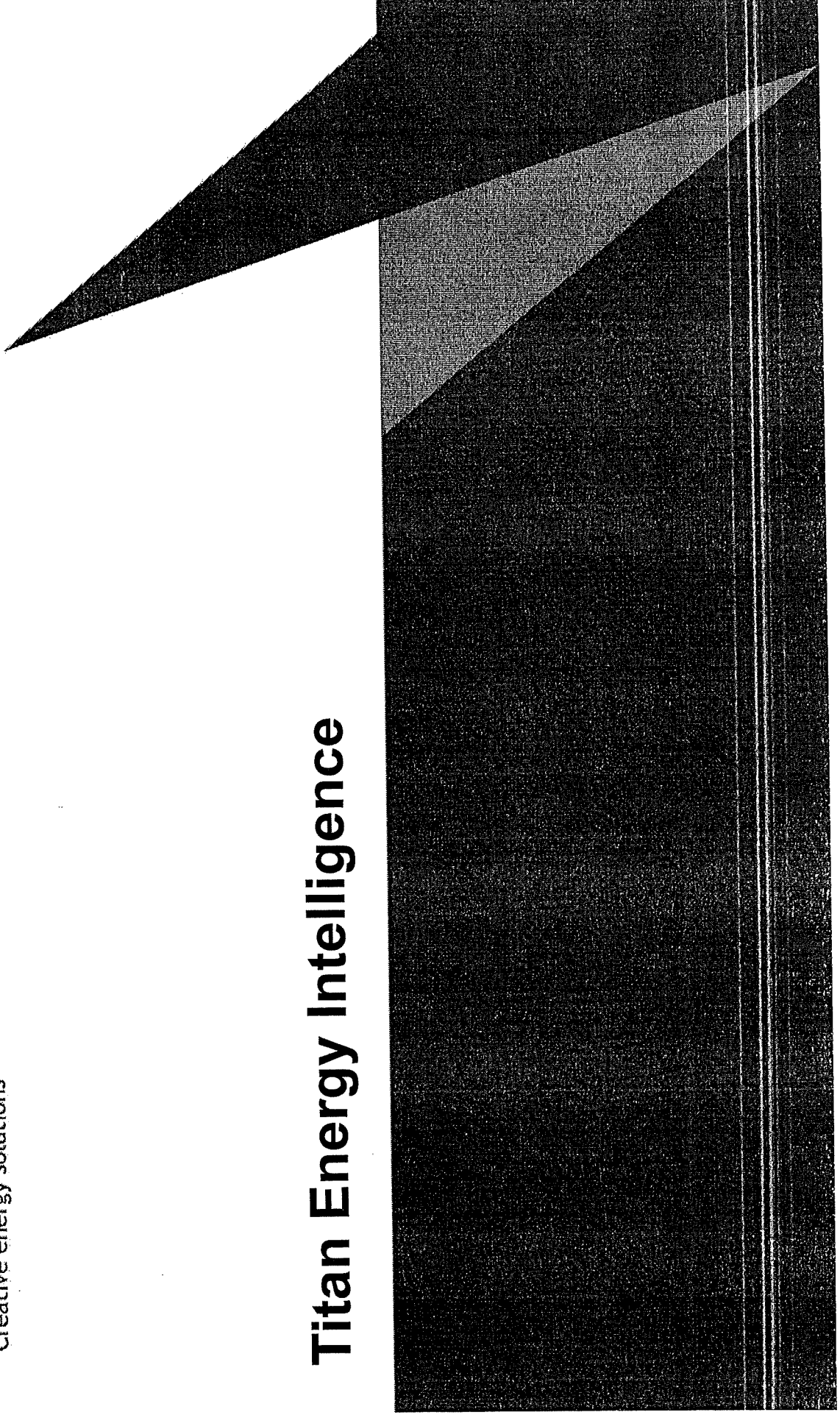
4. Do you have a hybrid hot water heater? ☐ Yes ☐ No

5. Do you have an all-electric car? ☐ Yes ☐ No  
What make and model?





# Titan Energy Intelligence




# Titan Energy Intelligence Platform

## What is the Titan Energy Intelligence Platform?


- Software-as-a-Service platform for streamlined data collection, management, and reporting for multi-site commercial and industrial customers
- The platform supports:
  - Utility invoice validation and auditing
  - Accounting and operations reporting tools
  - Benchmarking, sustainability, emissions and interval data reporting
- Electricity, natural gas, water and recycling metrics collected and monitored monthly (implementation includes 24 months of historical data)
- Map, sort and filter by location, geographical region, business unit, cost center, etc.

10

# Measure



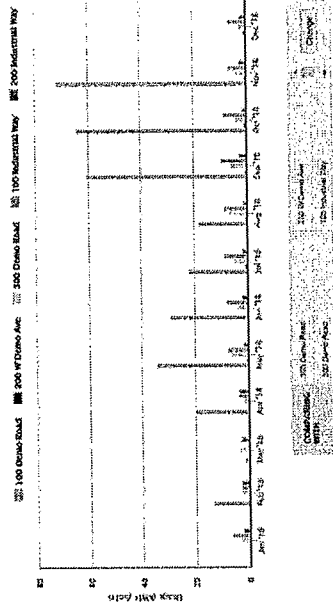
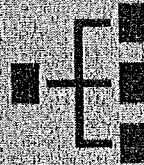
**Manage**



**Respond**

# Efficiency

- 



## Make Data Driven Energy Decisions



# Practical Reporting Tools

Measure

Manage

Respond

Data Services

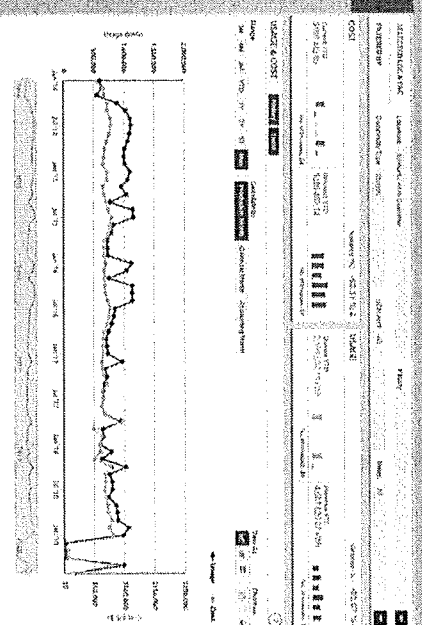
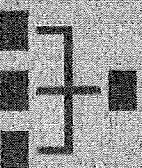
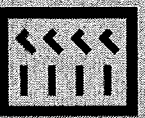
Account Creation

Access

- Data Collection
- Audit/Validation
- Baseline Metrics

- Data Entry
- Invoice Management

- Logins & Training
- Ongoing Support

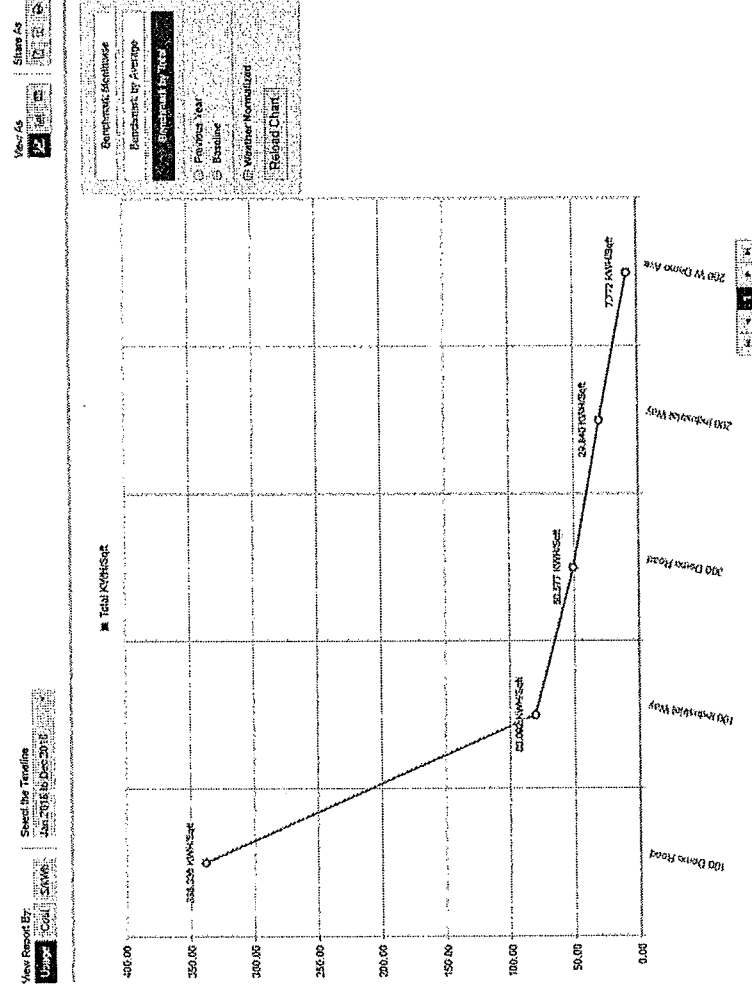


Cloud-Based Invoice Management Eliminates Manual Processes

**TITAN ENERGY**  
Creative energy solutions

# Benchmark

- Benchmarking tools help identify inefficiencies, especially when comparing similar buildings, including user-defined peer groups



Set Goals, Track Key Performance Indicators

Map

Continental Divide

Observed in range

Not observed in range

Continental Divide

0 100 Miles

- Easily track and benchmark multiple facilities



# Audits & Alerts

- Users can analyze validation exceptions the system caught
- Detailed reports allow users to drill down into each of the services account that failed a validation. Active email notification services also available

Overview

Details

Exception

Jan\_2017

Feb\_2017

Mar\_2017

Apr\_2017

May\_2017

Jun\_2017

Jul\_2017

Aug\_2017

Sep\_2017

Oct\_2017

Nov\_2017

Dec\_2017

0

0

0

0

0

0

0

0

0

0

0

1

1

2

0

0

1

1

Export to Excel

Send

To...

Cc...

Bcc...

Energy Intelligence Suite Portal User

Metric Validation - Exceptions Report - Automatic Email Notification

Subject

optional e-mail alerts

Dear Valued Customer:

The metric validation criteria you selected initiated an automated notification that may be of interest to you:

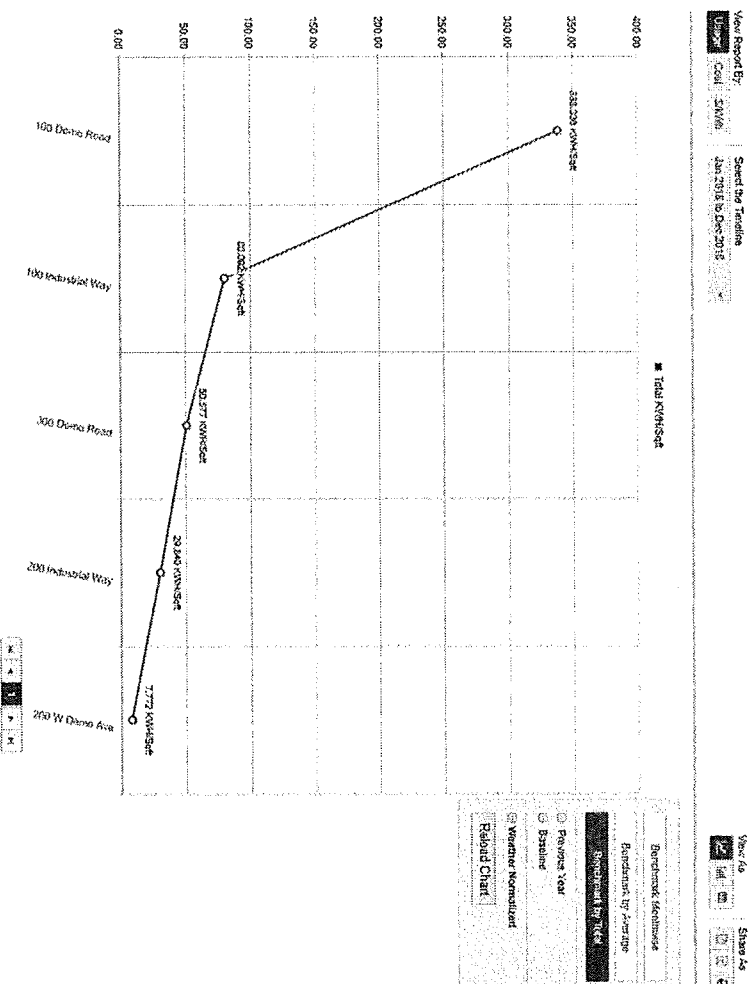
Provider	Audit Date	USN Account	Invoice Number	Commodity	Service Start	Service End	Exception	Exception Message
Milwaukee, City of - WI	1/19/2018 7:27:32 AM	138-0108	138-0108	Water	5/19/2017 12:00:00 AM	8/24/2017 12:00:00 AM	Usage is within tolerance of last year invoice Cost is within set previous bill cost tolerance	Meter 18322381 with usage of 1000000 is not within 85% - 115% of the previous year's usage amount of 83028. Current cost 1145.96 is not between 85% - 115% of previous year's bill cost 364.2.

Best Regards,

EIS Portal Team

# Benchmark

- Benchmarking tools help identify inefficiencies, especially when comparing similar buildings, including user-defined peer groups



**Set Goals, Track Key Performance Indicators**



# Bill History

## PAYABLES HISTORY

?

Filter Bills by From 01/01/2018 To 12/31/2018 Show Corrections Go

Export to Excel

		Actual Demand							
Action	USN	Account Name	Address	Max	Min	SPKWH	Usage(KWH)	Bill Total	
	1001	200 W Demo Road - Electric	200 W Demo Ave, Bentonville, AR 72712	117,504	0	0.1385	33,702.03	4,331.32	
	2001	300 Demo Rd.	300 Demo Road, Rogers, AR 72758	46	0	0.0963	157,569.00	15,167.10	
	3001	100 Demo Road - EL	100 Demo Road, Farmington, CT 06030	650	0	0.1048	1,547,900.37	162,233.90	
	4003	100 Industrial Way	500 Demo Drive, Castle Rock, CO 80109	1,185	0	0.0917	5,462,987.39	500,912.29	
	5003	200 Industrial Way - EL	700 Demo Road, Tulsa, OK 74115	1,008.6	0	0.0626	2,984,042.64	186,674.68	
Showing 5	of 5 entries	<div> <div>1</div> <div>Previous</div> <div>Next</div> <div>Load</div> </div>							

# Accounts Payable Integration

- Organizes each bill into the corporate hierarchy that can be applied to your General Ledger codes to each service account
- Share the .CSV/Excel file with client AP (email, SFTP, or API)

	A	B	C	D	E	F	G	H	I	J
	Supplier_Account_Number	USN	Vendor_ID	Invoice_number	Description	Invoice_amount	Invoice_date	Due_date	Grant_ID	Project_ID
1	672485/672543	10535-48810	6295	HI5121347	Nat'l Grid:Keyspan - NY	\$381.81	6/25/2015	7/10/2015	10 OASAS Main	55
2	672485/672545	10460-12802	6280	HI5121345	Nat'l Grid:Keyspan - NY	\$144.46	6/25/2015	7/10/2015	900 Admin Pool	600
3	672485/672546	10545-15664	6296	HI5118813	Nat'l Grid:Keyspan - NY	\$13.39	6/24/2015	7/9/2015	10 OASAS Main	60
4	672485/672542	05470-51443	6915	HI5121344	Nat'l Grid:Keyspan - NY	\$1,193.91	6/25/2015	7/10/2015	100 DHS-NYC Department of Homeless Services	120
5	672485/672541	01437-34710	7544	HI5121343	Nat'l Grid:Keyspan - NY	\$583.30	6/25/2015	7/10/2015	100 DHS-NYC Department of Homeless Services	250
6	672485/672544	10535-42954	6279	HI5121346	Nat'l Grid:Keyspan - NY	\$152.95	6/25/2015	7/10/2015	10 OASAS Main	50

Reduce Bill Processing & Accounting Entry Costs

# Takeaways

- Most customers want to better control and/or reduce energy spend
- Availability of data helps :
  - (i) continuously track and identify energy trends;
  - (ii) pinpoint / prioritize opportunities for improvement; and
  - (iii) react in an efficient / targeted manner
- Expedite accounting journal entries and payment - eliminating man hours associated with journal entries and utility late fees
- Automated utility invoice validation / auditing service
- Add-on services (AP processing, invoice dispute resolution, etc) enhance ROI





**TOWN OF NEWTOWN**  
PUBLIC WORKS DEPARTMENT

$3,200,000 \text{ KWH} \times \$0.15496 = \$495,872$  Maximum Cap of VNM Credit

PPA Price = \$.089 per KWH

$3,200,000 \text{ KWH} \times .089 = \$284,800$  Payment To Developer

$\$495,872 - \$284,800 = \$211,072$  Net Cash Credit Back To User

What happens when VNM credit changes with Rate 30 change drops.

We will assume that the credit rate drops to \$.145 per KWH.

$3,200,000 \text{ KWH} \times \$0.145 = \$464,000$  (Below the Credit Cap)

Same PPA Price of \$.089 per KWH or Payment of \$284,800

$\$464,000 - \$284,000 = \$179,200$  Net Cash Credit Back To User

If the VNM credit change with the change in Rate 30 exceeds \$.15496 per KWH, then the net result is the same (\$211,072) as the first scenario because you are not allowed to breach the credit cap.



107 Selden Street  
Berlin, CT 06037

Application ID: 040119064

### Virtual Net Metering Service Agreement

The Connecticut Light and Power Company doing business as Eversource Energy (the Company) has completed its review of the **Town of Newtown #4 Virtual Net Metering (VNM) Application**, including any supplemental information provided to the Company, for the **2000 kW** distributed generation facility located at **25 West Fisk Road, Hampton, CT**. The Company hereby provides an agreement for commencement of participation by this facility in the Company's VNM program ("Agreement").

Your participation in the VNM program is contingent upon agreement with the information set forth in the attached **VNM Credit Cap Calculation** which identifies and details the expected operation of your VNM facility, and the excess kWh and rate applicable in determining the annual VNM credit cap for this facility. By signing this Agreement you agree to this cap, and to abide by all other provisions of the Company's VNM Rider in order to qualify for and receive VNM credits.

Please sign this Agreement, initial the attachments and return all documents to the Company. Upon review and acceptance of these documents the Company will counter sign and establish the date of acceptance into the VNM queue for the facility described herein, as stated below.

By *David V. Henley Jr* *Customer Signature*  
Its Public Works Director  
Date 10/4/2019

VNM Queue Acceptance Date: **October 3, 2019**

By *Joe G. Minigian* *Company Signature*  
Its Team Leader CT Rates  
Date 10/8/2019

Attachments

CL&P dba Eversource Energy

VNM Cap Pricing - April 2019

**Rate 30**

Distribution & Transmission VNM Cap Price

Distribution Charge per kWh	A	4.419
Transmission Charge per kWh	B	2.281
D&T Total	C = A+B	6.699
D & T Average Rate @ 80%	D = C * .8	5.360

Standard Service Supply VNM Cap Price

Jul 2018 - Dec 2018

Generation Service Charge	E	9.432
FMCC-Generation	F	-0.010
Total Supply	G = E+F	9.422

Jan 2019 - Jun 2019

Generation Service Charge	H	10.861
FMCC-Generation	I	-0.010
Total Supply	J = H+I	10.851

$$K = (G+J)/2 \quad 10.137$$

**Rate 30 VNM Cap Price**

$$L = D + K \quad \boxed{15.496}$$

Applicant Initial:

date:

5.2.21.  
10/4/19

**VIRTUAL NET METERING APPLICATION**  
**FORM 3: Customer Host and Beneficial Account Monthly Meter Data**  
**Template for Determination of Excess kWh and VNM Credit at Customer Host**

Instructions: Provide all highlighted information (note: sample data provided in template is to be replaced with data specific to the applicant's proposed VNM facility).

Line	Customer Host	Meter Data (kWh)												Percent of Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Estimated Monthly Sales <sup>a</sup>														
1	Peak	157,900	208,100	283,100	302,000	340,700	349,600	350,200	334,200	293,600	249,000	184,600	145,900	3,203,900
2	Off Peak	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Total	157,900	208,100	283,100	302,000	340,700	349,600	350,200	334,200	293,600	249,000	184,600	145,900	3,203,900
Estimated Monthly Purchases <sup>b</sup>														
4	Peak	325	325	325	325	325	325	325	325	325	325	325	325	3,900
5	Off Peak	325	325	325	325	325	325	325	325	325	325	325	325	3,900
6	Total	650	650	650	650	650	650	650	650	650	650	650	650	7,800
7	Estimated Excess kWh	157,575	207,775	282,775	301,675	340,375	349,275	349,875	333,875	293,275	248,675	184,275	145,575	3,200,000
8	Estimated Net Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-
Beneficial Accounts														
Estimated Purchases														
10	BAL-Middle School 51658443072	41,657	64,666	57,132	36,292	27,348	30,145	24,817	30,152	44,303	48,210	45,401	44,539	434,680
11	BAL-SHE-S1466597041	64,242	59,136	57,600	66,432	72,282	94,348	54,464	84,848	118,656	87,936	52,608	104,328	957,580
12	BAL-Reed IS-51324453075	116,874	117,423	83,056	66,739	100,000	95,778	105,151	128,169	157,452	105,411	110,097	103,873	1,293,933
13	BAL-HOMES-51844639024	50,688	52,416	46,080	47,808	43,200	51,264	46,080	58,752	73,728	52,416	43,776	47,332	613,440
14	BAL-Hawley-51084639023	29,120	29,440	27,200	28,160	24,000	28,920	29,120	26,720	33,440	27,680	26,720	29,500	341,120
15	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
16	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
17	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
18	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
19	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
20	BAL	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Total Beneficial Account Purchases	302,681	323,101	271,068	245,491	266,830	305,953	299,632	353,641	427,579	311,653	278,602	309,572	3,703,743

Date Prepared (mm/dd/yy): 3/29/2019  
 Prepared by:

<sup>a</sup> Applicant must be able to provide monthly total sales and purchases, and for services provided as a form of payment, the monthly sales and purchases must be provided as the sum of all beneficial accounts.  
<sup>b</sup> Purchases must be provided as a form of payment, and for services provided as a form of payment, the monthly sales and purchases must be provided as the sum of all beneficial accounts.

<sup>c</sup> Sales include the delivery of energy from the Customer Host to the distribution system.  
<sup>d</sup> Purchases include the delivery of energy from the distribution system to the Customer Host.

CL&P dba Eversource Energy

VNM Credit Cap Calculation

Application ID 040119064  
Application Date 04/01/2019  
Host Town of Newtown #4  
Location 25 West Fisk Road, Hampton, CT  
VNM Category Municipal  
Type 2000 KW Solar PV

Estimated Annual kWh

Sales	3,203,900	See VNM Application Form 3
Purchases	3,900	See VNM Application Form 3
Excess	3,200,000	Excess = Sales - Purchases

Host Tariff

	Rate 30	
VNM Cap Pricing c/kWh	15.496	See VNM Cap Pricing - April 2019
VNM Annual Credit Cap	\$495,872	VNM Credit Cap = Excess kWh * VNM Cap Pricing

Attachments

VNM Application Form 3  
VNM Cap Pricing - April 2019

Applicant Initial:

G.V.J.

date:

10/4/19