

# ENERGY COMMITTEE

## TOWN OF SOUTH WINDSOR

Minutes

Page 1

November 19, 2019

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### Madden Room – South Windsor Town Hall Special Meeting

**1. Call Meeting to Order**

The meeting was called to order at 4:32 p.m.

**2. Roll Call**

Members Present: Hank Cullinane, Resident  
Robert Dickinson, Resident  
Andy Paterna, Town Council  
Sherman Tarr, Resident  
Stephen Wagner, Resident

Members Absent: Larry Brown, Resident  
Mike Gantick, Director of Public Works  
Patrick Hankard, Board of Education  
Councilor Mary Justine Hockenberry, Town Council  
Athena Loukellis, Resident  
Councilor Cesar Lopez, Town Council

**3. Approval of Minutes (October 15, 2019)**

No action was taken on this item due to a lack of a quorum.

**4. Next Meeting**

Regular Meeting – December 17, 2019, 4:30 p.m., Madden Room

**5. Business**

**A. Sustainable CT Silver Award – Energy Committee Contribution**

Chairman Wagner explained that the Town received 565 points. Chairman Wagner reviewed the Energy Committees' contribution towards the Silver Award for Sustainable CT.

**ITEM:**

**5. Business (Continued)**

**D. Mayor's Challenge – 100% Renewable Electricity by 2025**

- a. Current 80% plan review
- b. Opportunities for 100%

Chairman Wagner reviewed ways to meet the Mayor's Challenge of 100% Renewable Electricity, as shown in attached **Exhibit A**.

**E. Virtual Net Metering Projects**

**a. NorCap South Credits Problems and Reallocation of Credits**

Chairman Wagner reviewed the different accounts that the electricity from the East Windsor project goes into (Water Pollution Control Facility and pump stations) and bills from Eversource. The Committee then reviewed the ten accounts that are receiving credits from the Virtual Net Metering project (**Exhibit B**). Chairman Wagner explained that the Committee can change the allocations for these accounts. This has been discussed with Town staff, and the new allocations will help clear balances that have built up (**Exhibit C**). These allocations will be reviewed again in a year to make sure other problems are not arising from these changes in the allocations.

**b. Sand Hill New Canaan Project – Platt Hill Winchester Project**

Chairman Wagner reviewed the Sand Hill New Canaan project specifics with the Committee (**Exhibit D**). Chairman Wagner stated that if all assumptions go as planned; the project will be worth \$500,000 over 20 years. The Town Manager has signed a Letter of Intent and the contract will go to the Town Council in the near future.

Chairman Wagner reviewed the Platt Hill Winchester project specifics with the Committee (**Exhibit E**). Chairman Wagner stated that if all assumptions go as planned; the project will be worth \$1,500,000 over 20 years.

**c. Allocation of Other Planed Projects to Schools and Municipal Facilities**

Committee members reviewed the ten accounts where the credits for the two new projects could be allocated to.

**ITEM:**

**5. Business (Continued)**

**B. Energy Savings Account**

Chairman Wagner stated that the Committee had a discussion last month about the establishment of an energy savings account. As this issue was reviewed on how to define eligible projects that should receive the savings from previous energy projects that had cost savings to the Town, it became very clear that it is very complicated and should not be pursued. Individual departments can manage their budgets.

**C. Business Outreach 2020 with Rotary**

Councilor Snyder was supposed to contact the Rotary Club to try to get on their agenda but has not been able to do so. Mr. Tarr stated that he would contact the Rotary Club.

**F. Possibility to Run an EPA Energy Star Treasure Hunt**

**a. Fire Stations?**

Chairman Wagner explained that one of the items in the Energy Plan is to try to get the Fire Department to reduce their usage of energy by 10%, but 5% is more realistic and should be changed in the plan. Energy Star has established a program called Energy Treasure Hunt, which is a guide to find energy savings in a building. Chairman Wagner felt that this program should be done at one of the Fire Stations in Town. Mayor Paterna stated he would invite Chief Cooney to the next Energy Committee Meeting to see if there is any interest in doing this program at one of the Fire Stations.

**G. Residential Outreach 2020 with Human Services**

Chairman Wagner stated that he would be drafting a handout to be given to individuals that use the South Windsor Food Bank to see if the Energy Committee can help anyone with their energy usage.



## MINUTES

### Energy Committee Meeting – Special Meeting

Page 4

November 19, 2019

#### ITEM:

#### 5. Business (Continued)

##### H. Zero Net Energy School Webinar

Chairman Wagner informed the Committee that he attended a webinar regarding Zero Net Energy Schools. The handout was not distributed to the Committee, so it was decided that this item could be discussed next month. The Committee discussed this item briefly, stating that the Committee would have to wait to see if the referendum for the new school passes before the Public Building Committee is approached regarding this item. A sub-committee may need to be established.

Mr. Cullinane stated that in order to construct a zero net energy school, it has to be done while the school is being built. Eversource is pushing toward heat pumps and said he would send information on Eversource rebates to the Committee. Mr. Cullinane suggested that this be discussed at the next Energy Committee Meeting and stated that he would also research the different heating and air conditioning options for the new school.

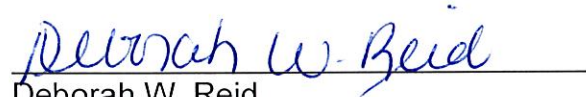
#### 6. Miscellaneous

None

#### 7. Adjournment

At 5:47 p.m. the meeting adjourned.

Respectfully submitted,



Deborah W. Reid  
Clerk of the Council

# Meeting the Mayor's Challenge of 100% Renewable Electricity

50

From Municipal Energy Plan

Project	Renewable and other Carbon Free Annual GWh	Percentage of Town Consumption	Responsible Department
NorCap South VNM (Existing)	3.36	28%	Public Works to monitor
Enfield VNM project (Contemplated)	3.00	25%*	Public Works Department
Rooftop solar on 3 new Elementary Schools and High School (Contemplated)	2.50	21%**	BOE Facilities Department
Generation Service Renewable and Carbon Free (Calculated)	0.75	6%	(No action needed.)
Town Total Consumption (Calendar 2018)	11.9		
Total Town Renewable and Carbon Free	9.55	81%	

Updated Outlook

Project	Renewable and other Carbon Free Annual GWh	Percentage of Town Consumption	Responsible Department
NorCap South VNM (Existing)	3.30	31%	Public Works to monitor
N. Canaan VNM Project (LOI)	1.20	9%	Public Works Department
Winchester VNM project (Contemplated)	3.60	37%*	Public Works Department
Rooftop solar on Wapping, PRS & OH (Ordered)	0.63	6%	BOE Facilities Department
Rooftop solar on HS & ET (Contemplated)	1.24	12%	BOE Facilities Department
Generation Service Renewable and Carbon Free (Calculated)	0.18 but needs to be zero	2%	(No action needed.)
Town Total Consumption (90% of Calendar 2018)	10.70	100%	
Total Town Renewable and Carbon Free	10.15 9.97 w/o Gen Svc	95% 93% w/o Gen Svc	



# Electrical Use and Cost

Date Downloaded: 10/25/2019 05:57 PM EDT

Date Generated: 10/25/2019 05:57 PM EDT

Number of properties in report: 46

## Exhibit B

Number of properties in report: 46											
Property Id	Property Name	Year Ending	Electricity Use - Grid Purchase (kWh)	Electricity (Grid Purchase) Cost (\$) + Any Loan	Current VNM Allocation %	VNM Allocation kWh	VNM Credit \$\$\$	Remaining \$\$\$ after credit	Credit Balance on 9/6/2019 Bill	Months to Clear Balance	NorCap Accounts Total Cost
	TOTALS		11,550,227	\$ 1,856,193	100.0%	3,300,000	\$ 422,664	\$ 1,433,529	\$ 142,454		\$ 496,593
4511069	Sewer Plant	6/30/2019	2,424,480	\$ 236,415	56.1%	1,851,300	\$ 237,115	\$ (700)	\$ 113,914	Growing	WPCA %
4511072	Street Lights (Town) 2400	6/30/2019	854,173	\$ 348,507	0.0%	-	\$ -	\$ 348,507			
4511068	SC2 Pump Sta	6/30/2019	219,549	\$ 26,133	0.3%	9,900	\$ 1,268	\$ 24,865	\$ 212	0.1	65.6%
4511074	Town Hall	6/30/2019	409,125	\$ 47,893	8.9%	293,700	\$ 37,617	\$ 10,276	\$ 4,132	4.8	Town %
4511057	Library	6/30/2019	343,272	\$ 43,532	7.2%	237,600	\$ 30,432	\$ 13,101	\$ 4,132	3.8	34.4%
4511051	Clark Street Pump Sta	6/30/2019	271,525	\$ 29,691	5.6%	184,800	\$ 23,669	\$ 6,021	\$ 4,342	8.7	
4511073	Police Dept & Backup Data Center	6/30/2019	251,162	\$ 34,658	5.7%	188,100	\$ 24,092	\$ 10,566	\$ 2,300	2.6	
4511077	Veterans Memorial Park (Pool)	6/30/2019	240,936	\$ 21,836	5.4%	178,200	\$ 22,824	\$ (988)	\$ 2,613	Growing	
4511052	Community Center	6/30/2019	206,613	\$ 24,261	4.4%	145,200	\$ 18,597	\$ 5,663	\$ 1,450	3.1	
4511050	Benedict Drive Pump Sta	6/30/2019	124,972	\$ 13,525	3.6%	118,800	\$ 15,216	\$ (1,691)	\$ 10,497	Growing	
4511056	Garage	6/30/2019	120,573	\$ 18,651	2.8%	92,400	\$ 11,835	\$ 6,816	\$ (1,138)	None	

52  
5



Exhibit C

Property Name	Year Ending	Electricity Use - Grid Purchase (kWh)	Electricity (Grid Purchase) Cost (\$) + Any Loan	Aggressive VNM Allocation %	VNM Allocation kWh	VNM Credit \$\$\$	Remaining \$\$\$ after credit	Rooftop Solar kWh	Year 3 VNM		Rooftop Solar Credit Rate	Remaining \$\$\$ after VNM & Rooftop Solar	Credit Balance on 9/6/2019 Bill	Months to Clear Balance	Credit as % of Cost	NorCap Accounts Total Cost
									check	Rate	1,873,835 \$	0.09475	\$ 136,555			
TOTALS		11,550,227	\$ 1,856,193	100.0%	3,300,000	\$ 422,664	\$ 1,433,529	1,742,509		3,300,000 \$ 0.12808			\$ 136,555			\$ 820,840
Sewer Plant	6/30/2019	2,424,480	\$ 236,415	30.9%	1,018,376	\$ 130,434	\$ 105,981				\$ -	\$ 105,981	\$ 113,914	12.9	55%	
Street Lights (Town) 2400	6/30/2019	854,173	\$ 348,507	20.0%	660,000	\$ 84,533	\$ 263,975				\$ 94,439	\$ 169,536	\$ -		24%	WPCA %
SC2 Pump Sta	6/30/2019	219,549	\$ 26,133	5.9%	193,832	\$ 24,826	\$ 1,307				\$ -	\$ 1,307	\$ 212	1.9	95%	43.9%
Town Hall	6/30/2019	409,125	\$ 47,893	10.4%	343,200	\$ 43,957	\$ 3,936				\$ -	\$ 3,936	\$ 4,132	12.6	92%	Town %
Library	6/30/2019	343,272	\$ 43,532	9.8%	322,890	\$ 41,356	\$ 2,177				\$ -	\$ 2,177	\$ (1,767)		95%	
Clark Street Pump Sta	6/30/2019	271,525	\$ 29,691	6.0%	198,000	\$ 25,360	\$ 4,331				\$ -	\$ 4,331	\$ 4,342	12.0	85%	
Police Dept & Backup Data Center	6/30/2019	251,162	\$ 34,658	7.8%	257,066	\$ 32,925	\$ 1,733				\$ -	\$ 1,733	\$ 2,300	15.9	95%	
Veterans Memorial Park (Pool)	6/30/2019	240,936	\$ 21,836	3.9%	128,700	\$ 16,484	\$ 5,352				\$ -	\$ 5,352	\$ 2,613	5.9	75%	
Community Center	6/30/2019	206,613	\$ 24,261	0.0%	-	\$ -	\$ 24,261				\$ -	\$ 24,261	\$ 1,450	0.7	0%	
Benedict Drive Pump Sta	6/30/2019	124,972	\$ 13,525	1.2%	39,600	\$ 5,072	\$ 8,453				\$ -	\$ 8,453	\$ 10,497	14.9	38%	
Garage	6/30/2019	120,573	\$ 18,651	4.2%	138,337	\$ 17,718	\$ 933				\$ -	\$ 933	\$ (1,138)		95%	

5Ea  
6

# Exhibit D

## SOLAR ENERGY PROJECTIONS FOR TOWN OF SOUTH WINDSOR FOR SAND HILL IN N. CANAAN

### TECHNOLOGY

System Size	1000	kWDC
Module	Best in class	
Inverters	Best in class	
Mounting	Ground Mounted	
Warranties	20 years (solar modules)	
Degradation	0.50%	per year

### PRICING

Upfront Costs	None
Discount	15.0%
Type	Variable
Contract Term	20 years
Minimum Year 1-5	\$ 0.1050
Minimum Year 6-10	\$ 0.1100
Minimum Year 11-15	\$ 0.1150
Minimum Year 16-20	\$ 0.1200

### ENERGY

Yield	1200	kwh/kwP
Production	1,200,000	kwh per year
Total Energy		Top 10 accts
Percentage Solar		

### UTILITY & NMC RATE

Utility	Eversource
Rate 30 Gen*	\$ 0.1014
Rate 30 T&D	\$ 0.0667
Y1/Y2/Y3-20	80%/60%/40%
Est. Escalator	2.0%
NM Credit Cap**	\$ 0.15953

### SAVINGS PROJECTIONS

Contract Year	kWh Produced	Generation Rate	T&D	Net Meter Credit Rate (Total)	Discounted NM Credit Rate Price	NM Credit Savings	Annual Benefit
1	1,200,000	\$ 0.1014	\$ 0.0534	\$ 0.1548	\$0.1315	\$ 0.0232	\$ 27,857
2	1,194,000	\$ 0.1034	\$ 0.0408	\$ 0.1442	\$0.1226	\$ 0.0216	\$ 25,835
3	1,188,030	\$ 0.1055	\$ 0.0278	\$ 0.1333	\$0.1133	\$ 0.0200	\$ 23,747
4	1,182,090	\$ 0.1076	\$ 0.0283	\$ 0.1359	\$0.1155	\$ 0.0204	\$ 24,100
5	1,176,179	\$ 0.1098	\$ 0.0289	\$ 0.1386	\$0.1178	\$ 0.0208	\$ 24,459
6	1,170,299	\$ 0.1120	\$ 0.0295	\$ 0.1414	\$0.1202	\$ 0.0212	\$ 24,824
7	1,164,447	\$ 0.1142	\$ 0.0300	\$ 0.1442	\$0.1226	\$ 0.0216	\$ 25,194
8	1,158,625	\$ 0.1165	\$ 0.0306	\$ 0.1471	\$0.1251	\$ 0.0221	\$ 25,569
9	1,152,832	\$ 0.1188	\$ 0.0313	\$ 0.1501	\$0.1276	\$ 0.0225	\$ 25,950
10	1,147,067	\$ 0.1212	\$ 0.0319	\$ 0.1531	\$0.1301	\$ 0.0230	\$ 26,337
11	1,141,332	\$ 0.1236	\$ 0.0325	\$ 0.1561	\$0.1327	\$ 0.0234	\$ 26,729
12	1,135,625	\$ 0.1261	\$ 0.0332	\$ 0.1593	\$0.1354	\$ 0.0239	\$ 27,127
13	1,129,947	\$ 0.1286	\$ 0.0338	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 27,039
14	1,124,298	\$ 0.1312	\$ 0.0345	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,904
15	1,118,676	\$ 0.1338	\$ 0.0352	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,769
16	1,113,083	\$ 0.1365	\$ 0.0359	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,636
17	1,107,517	\$ 0.1392	\$ 0.0366	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,502
18	1,101,980	\$ 0.1420	\$ 0.0374	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,370
19	1,096,470	\$ 0.1448	\$ 0.0381	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,238
20	1,090,988	\$ 0.1477	\$ 0.0389	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 26,107
Total							\$ 520,293

\* Based on R30 Gen rate blended over the past 12 months - \$0.09422, \$0.1085

\*\* Annual virtual net metering credits (VNMC) will be calculated at the time of the application and this will be the maximum annual amount.



# Exhibit E

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## SOLAR ENERGY PROJECTIONS FOR TOWN OF SOUTH WINDSOR

### TECHNOLOGY

System Size	3000	kWDC
Module	Best in class	
Inverters	Best in class	
Mounting	Ground Mounted	
Warranties	20 years (solar modules)	
Degradation	0.50%	per year

### PRICING

Upfront Costs	None
Discount	15.0%
Type	Variable
Contract Term	20 years
Minimum Year 1-5	\$ 0.1050
Minimum Year 6-10	\$ 0.1100
Minimum Year 11-15	\$ 0.1150
Minimum Year 16-20	\$ 0.1200

### ENERGY

Yield	1200	kwh/kwP
Production	3,600,000	kwh per year
Total Energy		Top 10 accts
Percentage Solar		

### UTILITY & NMC RATE

Utility	Eversource
Rate 30 Gen*	\$ 0.1014
Rate 30 T&D	\$ 0.0667
Y1/Y2/Y3-20	80%/60%/40%
Est. Escalator	2.0%
NM Credit Cap**	\$ 0.15953

### SAVINGS PROJECTIONS

Contract Year	kWh Produced	Generation Rate	T&D	Net Meter Credit Rate (Total)	Discounted NM Credit Rate Price	NM Credit Savings	Annual Benefit
1	3,600,000	\$ 0.1014	\$ 0.0534	\$ 0.1548	\$0.1315	\$ 0.0232	\$ 83,570
2	3,582,000	\$ 0.1034	\$ 0.0408	\$ 0.1442	\$0.1226	\$ 0.0216	\$ 77,505
3	3,564,090	\$ 0.1055	\$ 0.0278	\$ 0.1333	\$0.1133	\$ 0.0200	\$ 71,240
4	3,546,270	\$ 0.1076	\$ 0.0283	\$ 0.1359	\$0.1155	\$ 0.0204	\$ 72,301
5	3,528,538	\$ 0.1098	\$ 0.0289	\$ 0.1386	\$0.1178	\$ 0.0208	\$ 73,378
6	3,510,896	\$ 0.1120	\$ 0.0295	\$ 0.1414	\$0.1202	\$ 0.0212	\$ 74,472
7	3,493,341	\$ 0.1142	\$ 0.0300	\$ 0.1442	\$0.1226	\$ 0.0216	\$ 75,581
8	3,475,874	\$ 0.1165	\$ 0.0306	\$ 0.1471	\$0.1251	\$ 0.0221	\$ 76,708
9	3,458,495	\$ 0.1188	\$ 0.0313	\$ 0.1501	\$0.1276	\$ 0.0225	\$ 77,850
10	3,441,202	\$ 0.1212	\$ 0.0319	\$ 0.1531	\$0.1301	\$ 0.0230	\$ 79,010
11	3,423,996	\$ 0.1236	\$ 0.0325	\$ 0.1561	\$0.1327	\$ 0.0234	\$ 80,188
12	3,406,876	\$ 0.1261	\$ 0.0332	\$ 0.1593	\$0.1354	\$ 0.0239	\$ 81,382
13	3,389,842	\$ 0.1286	\$ 0.0338	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 81,117
14	3,372,893	\$ 0.1312	\$ 0.0345	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 80,712
15	3,356,028	\$ 0.1338	\$ 0.0352	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 80,308
16	3,339,248	\$ 0.1365	\$ 0.0359	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 79,907
17	3,322,552	\$ 0.1392	\$ 0.0366	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 79,507
18	3,305,939	\$ 0.1420	\$ 0.0374	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 79,109
19	3,289,410	\$ 0.1448	\$ 0.0381	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 78,714
20	3,272,963	\$ 0.1477	\$ 0.0389	\$ 0.1595	\$0.1356	\$ 0.0239	\$ 78,320
Total							\$ 1,560,880

\* Based on R30 Gen rate blended over the past 12 months - \$0.09422, \$0.1085

\*\* Annual virtual net metering credits (VNMC) will be calculated at the time of the application and this will be the maximum annual amount.