Town of Canaan

Solar Committee Meeting

March 13, 2024 @ 5:00 PM

Town Hall, 108 Main Street, Falls Village, CT

IN PERSON AND VIA ZOOM

A video of this meeting can be found here:
https://www.youtube.com/watch?v=6Ak9WbN1EDU

Present: Chris Kinsella, Melissa Lopes, Emily Peterson, Peter Jensen, Corinna Fleming, Daly Reville, Greg Marlowe and Sergei Fedorjaczenko.

Call to order: Chris Kinsella called the meeting to order at 5:00 PM

Agenda:

2. Welcomed new members, member introduction, and a brief history given about what led up to the committee being formed, as well as the Greenleaf Proposal and other possible alternatives.

3. Committee reviewed the Board of Finance list of questions and concerns dated November 2023.

4. Daly Reville presented an analysis of the Greenleaf Proposal. See 4 pages attached. Discussion took place.

5. Discussion of the three proposed locations at the Town Farm for the solar array location took place, with the consensus being that the chip pile was the best location.

6. No public comment was made.

7. Motion to adjourn at 6:23pm by Marlowe, seconded by Fleming, unanimous.

Next meeting set for March 27, 2024 at 5:00 PM, Zoom only.

Respectfully submitted, Greg Marlowe (acting Secretary}

November 2023 Board of Finance Meeting Question/Concerns re Solar Project

The Board of Finance requested the following information and/or discussion of:

1) Financial proposal including suggested financing options which includes rate quotes and proposals from the other community banks.

2) Information from the Bridge/Infrastructure committee on Town needs and costs.

3) Warranty Agreement.

4) Cost to prep the available sites for the solar project.

5) Possibility of speaking with other solar companies

6) How does the IRA credit affect non-taxpaying entities?

7) What is the return-on-investment calculation?

8) Solar agreement/contract/proposal.

9) Clarification on the new cost of the inverters.

Solar Presentation

1. The proposal is to spend $546,490 for a field of 462 solar panels.
2. A grant from Eversource has been requested to cover $163,000 of purchase and installation cost, which would be available after one year of operation.
3. The KWh production is estimated to be 277,300KWh the first year, and reduce by 2% each year for 25 years.
4. An agreement with Eversource guarantees to pay the town 0.201 cents per KWh's produced. The revenue would begin at $55K and reduce gradually to $42K over the 25 year life of the program.
5. The proposal assumes that the $546,490 would not be borrowed, there is no annual maintenance and no insurance for damage.

Using these assumptions, the project would begin to pay for itself after 7 years and over 25 years of operation, the Town would earn a cumulative $888,120.

However, the Town does not have $546,490 as a grant, we would need to borrow this amount, either from our general fund, or a bank or a combination of both. So assuming that we borrowed this using a self liquidated loan for the 25 year life of the installation:

1. our annual cost to borrow the funds would be $45,084. After the $163k grant was received and that part of the loan paid off, our cost of funds would be $28,260 yearly.
2. Insurance was estimated to be an additional $7,000 yearly. This should also be subtracted from revenue.
3. Maintenance was quoted as $20,000 per year. This should also be subtracted from revenue.
4. Using these figures, the project does not pay for itself and the cumulative 25 year cost to the Town is $293,233.

Project Summary – Direct Purchase

Project Specifications	
System Size (KWs) DC	224.1
First Year kWh production	277,300
Utility kWh cost or Tariff	$ 0.2010
Gross Project Cost	$ 546,490
Total Tax Credits and Depreciation	$ 163,947
First Year Tariff Benefit	$ 55,729
Net Solar PV System Cost after Incentives	$ 326,814

25 Year Operating Income Increase
$ 888,120

Year	System Cost	System Production	Tariff Rate	Tariff Revenue	Other Incentives (RECs)	Income Tax Credit	Federal Depreciation	State Depreciation	Total Annual Increase	Cumulative
1	(546,490)	277,300	$ 0.2010	$ 55,729	$ -	$ 163,947	$ -	$ -	$ 219,676	$ (326,814)
2		275,941	$ 0.2010	$ 55,456	$ -		$ -	$ -	$ 55,456	$ (271,358)
3		274,589	$ 0.2010	$ 55,184	$ -		$ -	$ -	$ 55,184	$ (216,174)
4		273,244	$ 0.2010	$ 54,914	$ -		$ -	$ -	$ 54,914	$ (161,260)
5		271,905	$ 0.2010	$ 54,645	$ -		$ -	$ -	$ 54,645	$ (106,616)
6		270,572	$ 0.2010	$ 54,377	$ -		$ -	$ -	$ 54,377	$ (52,239)
7		269,247	$ 0.2010	$ 54,110	$ -				$ 54,110	$ 1,872
8		267,927	$ 0.2010	$ 53,845	$ -				$ 53,845	$ 55,717
9		266,614	$ 0.2010	$ 53,582	$ -				$ 53,582	$ 109,299
10		265,308	$ 0.2010	$ 53,319	$ -				$ 53,319	$ 162,618
11		264,008	$ 0.2010	$ 53,058	$ -				$ 53,058	$ 215,675
12		262,714	$ 0.2010	$ 52,798	$ -				$ 52,798	$ 268,473
13		261,427	$ 0.2010	$ 52,539	$ -				$ 52,539	$ 321,012
14		260,146	$ 0.2010	$ 52,282	$ -				$ 52,282	$ 373,294
15		258,871	$ 0.2010	$ 52,025	$ -				$ 52,025	$ 425,319
16		257,603	$ 0.2010	$ 51,770	$ -				$ 51,770	$ 477,089
17		256,341	$ 0.2010	$ 51,517	$ -				$ 51,517	$ 528,606
18		255,085	$ 0.2010	$ 51,264	$ -				$ 51,264	$ 579,871
19		253,835	$ 0.2010	$ 51,013	$ -				$ 51,013	$ 630,884
20		252,591	$ 0.2010	$ 50,763	$ -				$ 50,763	$ 681,647
21		251,353	$ 0.1579	$ 39,677	$ -				$ 39,677	$ 721,324
22		250,122	$ 0.1618	$ 40,470	$ -				$ 40,470	$ 761,794
23		248,896	$ 0.1658	$ 41,278	$ -				$ 41,278	$ 803,073
24		247,676	$ 0.1700	$ 42,103	$ -				$ 42,103	$ 845,176
25		246,463	$ 0.1742	$ 42,944	$ -				$ 42,944	$ 888,120
Totals	(546,490)	6,539,778		$ 1,270,663	$ -	$ 163,947	$ -	$ -	$ 888,120	

Pricing is valid for 60 days from proposal date - 5/15/23

	$3,025	MONTHLY FOR $546,490 30 YEARS AT 5.27%
	$3,689	MONTHLY FOR $546,490 for 20 YEARS AT 5.27%
COLUMN F	$3,757	AVERAGE MONTHLY PAYMENT
	$28,260	Annual cost of $546,490-163,000=383,490 at 5.27%, after $163,000 grant is received
COLUMN G	$7,000	ANNUAL INSURANCE
COLUMN H	$20,000	ANNUAL MAINTENANCE

YEAR	SYSTEM COST	SYSTEM PROI	TARIFF RATE	TARIFF REVE	BORROWIN(	INSURANCE	MAINTENAN	TOTAL ANNUAL
1	$ 546,490.00	277300	0.201	$ 55,737.30	$ 45,084.00	7000	20000	$ (16,346.70)
2		271754.00	0.201	$ 54,622.55	$ 28,260.00	7000	20000	$ (637.45)
3		266318.92	0.201	$ 53,530.10	$ 28,260.00	7000	20000	$ (1,729.90)
4		260992.54	0.201	$ 52,459.50	$ 28,260.00	7000	20000	$ (2,800.50)
5		255772.69	0.201	$ 51,410.31	$ 28,260.00	7000	20000	$ (3,849.69)
6		250657.24	0.201	$ 50,382.10	$ 28,260.00	7000	20000	$ (4,877.90)
7		245644.09	0.201	$ 49,374.46	$ 28,260.00	7000	20000	$ (5,885.54)
8		240731.21	0.201	$ 48,386.97	$ 28,260.00	7000	20000	$ (6,873.03)
9		235916.59	0.201	$ 47,419.23	$ 28,260.00	7000	20000	$ (7,840.77)
10		231198.25	0.201	$ 46,470.85	$ 28,260.00	7000	20000	$ (8,789.15)
11		226574.29	0.201	$ 45,541.43	$ 28,260.00	7000	20000	$ (9,718.57)
12		222042.80	0.201	$ 44,630.60	$ 28,260.00	7000	20000	$ (10,629.40)
13		217601.95	0.201	$ 43,737.99	$ 28,260.00	7000	20000	$ (11,522.01)
14		213249.91	0.201	$ 42,863.23	$ 28,260.00	7000	20000	$ (12,396.77)
15		208984.91	0.201	$ 42,005.97	$ 28,260.00	7000	20000	$ (13,254.03)
16		204805.21	0.201	$ 41,165.85	$ 28,260.00	7000	20000	$ (14,094.15)
17		200709.11	0.201	$ 40,342.53	$ 28,260.00	7000	20000	$ (14,917.47)
18		196694.93	0.201	$ 39,535.68	$ 28,260.00	7000	20000	$ (15,724.32)
19		192761.03	0.201	$ 38,744.97	$ 28,260.00	7000	20000	$ (16,515.03)
20		188905.81	0.201	$ 37,970.07	$ 28,260.00	7000	20000	$ (17,289.93)
21		185127.69	0.201	$ 37,210.67	$ 28,260.00	7000	20000	$ (18,049.33)
22		181425.14	0.201	$ 36,466.45	$ 28,260.00	7000	20000	$ (18,793.55)
23		177796.63	0.201	$ 35,737.12	$ 28,260.00	7000	20000	$ (19,522.88)
24		174240.70	0.201	$ 35,022.38	$ 28,260.00	7000	20000	$ (20,237.62)
25		170755.89	0.201	$ 34,321.93	$ 28,260.00	7000	20000	$ (20,938.07)

$ (293,233.73)