



M E M O R A N D U M

TOWN OF CUMBERLAND, MAINE
290 TUTTLE ROAD
CUMBERLAND, MAINE 04021
TEL: 207-829-2205 FAX: 829-2224

To: Town Council
From: William R. Shane, Town Manager
Date: October 17, 2019
Re: 19- 130 Amend the Power Purchase Agreement

The Finance Committee met with Revision and the Cumberland Climate Action Team to discuss amending the Power Purchase Agreement (PPA) for the new Solar Farm at Drowne Road. The amendment is necessary to align with the new laws scheduled to be in effect with new regulations by this December.

The new laws have given the Town a significant windfall in revenues for the PPA. The Town is set to receive an additional \$20,000 to \$25,000 in credits that can be applied to our existing power bills. The finance committee recommends sharing some of the new windfall with our investors. The recommendation is to share 15% of the windfall (which is expected to be \$ 00.04 to \$ 00.05). The Town would receive the bulk of the windfall and when the solar field is purchased from the investment group the Town would receive the entire windfall. The Investors agreed to delay powering up the Solar Field so that the Town could benefit from the new solar laws. It was ready to be energized in September and has been delayed to December.

I would recommend accepting the recommendation of the Finance Committee and direct the Town Manager to amend the PPA consistent with that recommendation.

William Shane

Subject: FW: Solar field - Energizing - Possible NEW PPA Agreement
Attachments: PPA Cash Flow for Town of Cumberland Landfill- original pricing.pdf; PPA Cash Flow for Town of Cumberland Landfill- updated pricing and C&I NM.pdf

From: Nick Sampson [mailto:nick@revisionenergy.com]
Sent: Thursday, September 26, 2019 4:09 PM
To: William Shane <wshane@cumberlandmaine.com>; Denny Gallaudet <denny.gallaudet@gmail.com>; Chris Bolduc <cbolduc@cumberlandmaine.com>; Eric Fitz <ehfitz@gmail.com>; Thomas Gruber <tgruber@maine.rr.com>; William Stiles <wstiles1@maine.rr.com>; Bob Vail <vailgeneral1@aol.com>; Helene DiBartolomeo <Hdibartolomeo@cumberlandmaine.com>
Cc: Brenda Moore <bmoore@cumberlandmaine.com>
Subject: [External] Re: Solar field - Energizing - Possible NEW PPA Agreement

Hi Bill,

I'm terribly sorry if my last message came across as threatening or disrespectful in anyway. If it did, please know that this was fully a result of my poor messaging and not representative of the feelings or position of the investors or ReVision. My goal was to provide an explanation of why we don't expect the investors to be interested in the proposed one-time payment, and I did not mean to strike a more severe tone. ReVision and I have thoroughly enjoyed working with you and all other members of the Town on this exciting project and I sincerely apologize if my previous email made you believe anything different.

I really appreciate you giving me the opportunity to clarify my email, as well as your request for clarification. We completely understand that you and the Finance Committee need to make a decision that's best for all Cumberland residents. If you'd like to organize a phone call to further discuss any of this before the next meeting with the Finance Committees and Climate Action Team, I'd be more than happy to hop on a call at anytime.

In the meantime, I've included my responses to your questions below.

- **What did the Investors do to assist in the new legislation that allowed for this windfall?**

Some of the investors were not involved in the new legislation that allowed for this windfall. However, one was deeply involved in the group of solar advocates, municipalities and other organizations, pushing for improved legislation at the state level for the past 5 years plus, and in drafting/editing this specific bill. If I alluded to the investors making this windfall possible for the Town of Cumberland, I didn't mean so much with the new legislation but rather with giving the Town the option to delay commissioning until December 2019 in order to guarantee the new C&I Net Metering credit being available. Since when the system is turned on, once it's complete, is up to the investors, we had to go through them to see if we could delay commissioning.

- **What is the actual windfall for the town? We know \$0.05 is the number – we are working on actual KWH now.**

I've attached two pdfs which compare the savings opportunity of the original PPA pricing and traditional Net Metering, to the new C&I Net Metering rate and the proposed PPA pricing. As you'll see, the savings opportunity to the Town in year 1 goes from -\$4,427 to \$18,956, so an increase of over \$23,000 in year 1. Additionally, if you plan to purchase the system in year 6, the payback period after the point of purchase goes from 9 years to 5 years. Finally, the savings opportunity in year 25 increases from \$732,000 to \$1.6 million (more than doubles!) under the buyout scenario.

- **What is the added benefit the investors will receive in additional revenues from adding ALL Town accounts to the grid including senior housing (30 residential units)? Because it is no longer just 9 accounts its actually may max out the production of the solar array something that wasn't in the original model.**

The benefit to the investors is based on what the PPA rate is, rather than the accounts that the Town includes in the Net Metering agreement, and the Town's offset rate. So, adjusting the accounts won't have any impact on the investors. Something came to mind regarding the senior housing accounts which I overlooked during our last meeting and which I've addressed below.

- **What is the long term impact to the town should we not exercise our option to purchase the array- a higher PPA cost does mean higher electrical costs for us- correct? If that is the case and we don't exercise until year 10 say, would the easy math be \$.01 per KW for 5 years?**

Under the proposed rate increase, the PPA payment that the Town would make in year 1 would increase from \$57,557 to \$63,249. If you didn't buyout until year 10, the total PPA payments from the Town during this period would increase from \$604,788 to \$664,602. It's important to keep in mind that while the PPA rate goes up the savings to the Town increase by much more, as you can see in the attached cash flow. The investors would like to include language in the PPA that would reduce the PPA rate by 1 cent/kWh to its original level if at any point the new C&I Net Metering rate is not available to the Town.

As I mentioned above, I realized that it might not make financial sense to add the senior housing accounts to the landfill's Net Metering agreement. This sounds like a great plan and an amazing benefit to these senior housing residents. However, if those accounts are under the residential rate class with CMP, there's a chance that they would not be eligible for the new C&I Net Metering program, and including them in the landfill's Net Metering agreement would mean that the entire agreement would have to be under traditional Net Metering which would have a lower value to the Town. This will be determined during the PUC rulemaking process so isn't final but I wanted to make sure to point it out now. I'm sorry that I overlooked this during our meeting and would be happy to further discuss with you at anytime. Please keep in mind that I'd also be more than happy to review the electricity use/costs on these senior housing bills to see if adding them to the landfill's agreement would actually create any issues with the new Net Metering program and the Town's savings opportunity.

Thank you again, Bill, for giving me the opportunity to clarify my last message. I look forward to meeting again soon and continuing to work together on a favorable solution for both the Town and the impact investors.

Best,

Nick

PPA Rate Schedule & Savings- Town of Cumberland

Project Design	
Annual Generation (kWh)	632,491
System Size in kW (DC)	463.70
System Size in kW (AC)	360.00
Annual Output Derate	0.5%
Purchase Option	\$1,050,373

Project Income	
Year 1 Net Metering Rate	\$0.0840
Utility Escalator	2.5%
Y1 REC Volume	632
REC Price (\$/MWh)	\$15
REC Term (years)	10
REC De-Escalator	5%
Tariff Rate (\$/kWh)	\$0.000
Tariff Term (years)	0

Project Incentives	
State	ME
Grant/Rebate	\$0
RECs Flow to	Investor

Operating Expenses	
Inverter Replacement	\$27,822
Insurance	\$0
Insurance De-Escalator	0.0%
O&M	\$2,305
O&M Escalator	0.0%
Land Lease (\$/kW)	\$0.00
Land Lease Escalator	2%
Property Tax	\$0
Property Tax Escalator	5%

PPA Assumptions	
ReVision Offer Type	Custom
EPP	\$0
Year 1 PPA Rate	\$0.091
PPA Escalator %	2.0%
Year Escalator Takes Effect	3
Year 7 Premium	\$0.00
Buyout Estimate	\$630,224
Buyout Year	6

Buyout Terms	
Buyout Method	Cash
Buyout Estimate	\$630,224
Interest Rate	
Loan Term	

Year	Generation (kWh)	Utility \$/kWh	Avoided Utility Cost	REC Revenue	Operating Expenses	PPA Rate per kWh	PPA Rate	Annual Revenue	Cumulative Revenue	Buyout Payment	Annual Revenue	Cumulative Revenue
1	632,491	\$0.0840	\$53,129	\$0	\$0	\$0.0910	\$57,557	(\$4,427)	(\$4,427)	\$0	(\$4,427)	(\$4,427)
2	629,329	\$0.0861	\$54,185	\$0	\$0	\$0.0910	\$57,269	(\$3,084)	(\$7,511)	\$0	(\$3,084)	(\$7,511)
3	626,182	\$0.0883	\$55,262	\$0	\$0	\$0.0928	\$58,122	(\$2,860)	(\$10,371)	\$0	(\$2,860)	(\$10,371)
4	623,051	\$0.0905	\$56,360	\$0	\$0	\$0.0947	\$58,988	(\$2,628)	(\$12,999)	\$0	(\$2,628)	(\$12,999)
5	619,936	\$0.0927	\$57,481	\$0	\$0	\$0.0966	\$59,867	(\$2,387)	(\$15,386)	\$0	(\$2,387)	(\$15,386)
6	616,836	\$0.0950	\$58,623	\$6,659	(\$2,305)	\$0.0985	\$60,759	(\$2,136)	(\$17,522)	(\$630,224)	(\$567,246)	(\$582,632)
7	613,752	\$0.0974	\$59,788	\$6,267	(\$2,305)	\$0.1005	\$61,664	(\$1,876)	(\$19,398)	\$0	\$63,751	(\$518,881)
8	610,683	\$0.0998	\$60,976	\$5,897	(\$2,305)	\$0.1025	\$62,583	(\$1,607)	(\$21,005)	\$0	\$64,569	(\$454,312)
9	607,630	\$0.1023	\$62,188	\$5,547	(\$2,305)	\$0.1045	\$63,516	(\$1,327)	(\$22,332)	\$0	\$65,430	(\$388,882)
10	604,592	\$0.1049	\$63,424	\$5,216	(\$2,305)	\$0.1066	\$64,462	(\$1,038)	(\$23,370)	\$0	\$66,335	(\$322,547)
11	601,569	\$0.1075	\$64,685	\$0	(\$2,305)	\$0.1088	\$65,423	(\$738)	(\$24,108)	\$0	\$62,380	(\$260,167)
12	598,561	\$0.1102	\$65,971	\$0	(\$2,305)	\$0.1109	\$66,397	(\$427)	(\$24,535)	\$0	\$63,666	(\$196,501)
13	595,568	\$0.1130	\$67,282	\$0	(\$2,305)	\$0.1131	\$67,387	(\$105)	(\$24,640)	\$0	\$64,977	(\$131,524)
14	592,590	\$0.1158	\$68,619	\$0	(\$2,305)	\$0.1154	\$68,391	\$228	(\$24,412)	\$0	\$66,314	(\$65,210)
15	589,627	\$0.1187	\$69,983	\$0	(\$2,305)	\$0.1177	\$69,410	\$573	(\$23,839)	\$0	\$67,678	\$2,468
16	586,679	\$0.1217	\$71,374	\$0	(\$2,305)	\$0.1201	\$70,444	\$930	(\$22,909)	\$0	\$69,069	\$71,537
17	583,746	\$0.1247	\$72,792	\$0	(\$2,305)	\$0.1225	\$71,494	\$1,299	(\$21,611)	\$0	\$70,487	\$142,024
18	580,827	\$0.1278	\$74,239	\$0	(\$2,305)	\$0.1249	\$72,559	\$1,680	(\$19,931)	\$0	\$71,934	\$213,958
19	577,923	\$0.1310	\$75,714	\$0	(\$2,305)	\$0.1274	\$73,640	\$2,074	(\$17,856)	\$0	\$73,410	\$287,368
20	575,033	\$0.1343	\$77,219	\$0	(\$2,305)	\$0.1300	\$74,737	\$2,482	(\$15,374)	\$0	\$74,914	\$362,283
21	572,158	\$0.1376	\$78,754	\$0	(\$30,127)	\$0.1326	\$75,851	\$2,903	(\$12,471)	\$0	\$48,627	\$410,910
22	569,297	\$0.1411	\$80,319	\$0	(\$2,305)	\$0.1352	\$76,981	\$3,338	(\$9,133)	\$0	\$78,014	\$488,924
23	566,451	\$0.1446	\$81,916	\$0	(\$2,305)	\$0.1379	\$78,128	\$3,787	(\$5,345)	\$0	\$79,611	\$568,535
24	563,618	\$0.1482	\$83,544	\$0	(\$2,305)	\$0.1407	\$79,292	\$4,251	(\$1,094)	\$0	\$81,239	\$649,774
25	560,800	\$0.1519	\$85,204	\$0	(\$2,305)	\$0.1435	\$80,474	\$4,730	\$3,636	\$0	\$82,899	\$732,673
26	557,996	\$0.1557	\$86,898	\$0	(\$2,305)	\$0.1464	\$81,673	\$5,225	\$8,861	\$0	\$84,593	\$817,266
27	555,206	\$0.1596	\$88,625	\$0	(\$2,305)	\$0.1493	\$82,890	\$5,735	\$14,596	\$0	\$86,320	\$903,586
28	552,430	\$0.1636	\$90,386	\$0	(\$2,305)	\$0.1523	\$84,125	\$6,261	\$20,858	\$0	\$88,081	\$991,667
29	549,668	\$0.1677	\$92,182	\$0	(\$2,305)	\$0.1553	\$85,378	\$6,804	\$27,662	\$0	\$89,878	\$1,081,544
30	546,920	\$0.1719	\$94,015	\$0	(\$2,305)	\$0.1584	\$86,650	\$7,364	\$35,026	\$0	\$91,710	\$1,173,254
31	544,185	\$0.1762	\$95,883	\$0	(\$2,305)	\$0.1616	\$87,941	\$7,942	\$42,968	\$0	\$93,578	\$1,266,832
32	541,464	\$0.1806	\$97,789	\$0	(\$2,305)	\$0.1648	\$89,252	\$8,537	\$51,505	\$0	\$95,484	\$1,362,316
33	538,757	\$0.1851	\$99,732	\$0	(\$2,305)	\$0.1681	\$90,582	\$9,151	\$60,656	\$0	\$97,428	\$1,459,744
34	536,063	\$0.1897	\$101,714	\$0	(\$2,305)	\$0.1715	\$91,931	\$9,783	\$70,439	\$0	\$99,410	\$1,559,154
35	533,383	\$0.1945	\$103,736	\$0	(\$2,305)	\$0.1749	\$93,301	\$10,435	\$80,874	\$0	\$101,431	\$1,660,585
36	530,716	\$0.1993	\$105,798	\$0	(\$2,305)	\$0.1784	\$94,691	\$11,107	\$91,981	\$0	\$103,493	\$1,764,078
37	528,062	\$0.2043	\$107,901	\$0	(\$2,305)	\$0.1820	\$96,102	\$11,799	\$103,779	\$0	\$105,596	\$1,869,674
38	525,422	\$0.2094	\$110,045	\$0	(\$2,305)	\$0.1856	\$97,534	\$12,511	\$116,290	\$0	\$107,740	\$1,977,414
39	522,795	\$0.2147	\$112,232	\$0	(\$2,305)	\$0.1893	\$98,987	\$13,245	\$129,535	\$0	\$109,927	\$2,087,341
40	520,181	\$0.2200	\$114,463	\$0	(\$2,305)	\$0.1931	\$100,462	\$14,001	\$143,536	\$0	\$112,158	\$2,199,499

PPA Rate Schedule & Savings- Town of Cumberland (C&I NM and New PPA Rate)

Project Design	
Annual Generation (kWh)	632,491
System Size in kW (DC)	463.70
System Size in kW (AC)	360.00
Annual Output Derate	0.5%
Purchase Option	\$1,050,373

Project Income	
Year 1 Net Metering Rate	\$0.1300
Utility Escalator	2.5%
Y1 REC Volume	632
REC Price (\$/MWh)	\$15
REC Term (years)	10
REC De-Escalator	5%
Tariff Rate (\$/kWh)	\$0.000
Tariff Term (years)	0

Project Incentives	
State	ME
Grant/Rebate	\$0
RECs Flow to	Investor

Operating Expenses	
Inverter Replacement	\$27,822
Insurance	\$0
Insurance De-Escalator	0.0%
O&M	\$2,305
O&M Escalator	0.0%
Land Lease (\$/kW)	\$0.00
Land Lease Escalator	2%
Property Tax	\$0
Property Tax Escalator	5%

PPA Assumptions	
ReVision Offer Type	Custom
EPP	\$0
Year 1 PPA Rate	\$0.100
PPA Escalator %	2.0%
Year Escalator Takes Effect	3
Year 7 Premium	\$0.00
Buyout Estimate	\$630,224
Buyout Year	6

Buyout Terms	
Buyout Method	Cash
Buyout Estimate	\$630,224
Interest Rate	
Loan Term	

Year	Generation (kWh)	Utility \$/kWh		Avoided Utility Cost	REC Revenue	Operating Expenses	PPA Rate per kWh	PPA Rate	Term PPA		PPA w/ Early Buyout		
									Annual Revenue	Cumulative Revenue	Buyout Payment	Annual Revenue	Cumulative Revenue
1	632,491	\$0.1300	\$82,205	\$0	\$0	\$0	\$0.1000	\$63,249	\$18,956	\$18,956	\$0	\$18,956	\$18,956
2	629,329	\$0.1332	\$83,839	\$0	\$0	\$0	\$0.1000	\$62,933	\$20,906	\$39,862	\$0	\$20,906	\$39,862
3	626,182	\$0.1365	\$85,505	\$0	\$0	\$0	\$0.1020	\$63,871	\$21,634	\$61,496	\$0	\$21,634	\$61,496
4	623,051	\$0.1400	\$87,204	\$0	\$0	\$0	\$0.1040	\$64,822	\$22,382	\$83,878	\$0	\$22,382	\$83,878
5	619,936	\$0.1435	\$88,938	\$0	\$0	\$0	\$0.1061	\$65,788	\$23,149	\$107,028	\$0	\$23,149	\$107,028
6	616,836	\$0.1470	\$90,705	\$6,659	(\$2,305)	\$0.1082	\$66,768	\$23,937	\$130,965	(\$630,224)	(\$535,164)	(\$428,137)	
7	613,752	\$0.1507	\$92,508	\$6,267	(\$2,305)	\$0.1104	\$67,763	\$24,745	\$155,709	\$0	\$96,471	(\$331,666)	
8	610,683	\$0.1545	\$94,347	\$5,897	(\$2,305)	\$0.1126	\$68,773	\$25,574	\$181,283	\$0	\$97,939	(\$233,727)	
9	607,630	\$0.1584	\$96,222	\$5,547	(\$2,305)	\$0.1149	\$69,798	\$26,424	\$207,707	\$0	\$99,464	(\$134,264)	
10	604,592	\$0.1623	\$98,134	\$5,216	(\$2,305)	\$0.1172	\$70,838	\$27,297	\$235,004	\$0	\$101,045	(\$33,219)	
11	601,569	\$0.1664	\$100,085	\$0	(\$2,305)	\$0.1195	\$71,893	\$28,192	\$263,195	\$0	\$97,780	\$64,561	
12	598,561	\$0.1705	\$102,074	\$0	(\$2,305)	\$0.1219	\$72,964	\$29,109	\$292,305	\$0	\$99,769	\$164,330	
13	595,568	\$0.1748	\$104,102	\$0	(\$2,305)	\$0.1243	\$74,051	\$30,051	\$322,356	\$0	\$101,798	\$266,128	
14	592,590	\$0.1792	\$106,171	\$0	(\$2,305)	\$0.1268	\$75,155	\$31,017	\$353,373	\$0	\$103,867	\$369,994	
15	589,627	\$0.1836	\$108,282	\$0	(\$2,305)	\$0.1294	\$76,275	\$32,007	\$385,380	\$0	\$105,977	\$475,971	
16	586,679	\$0.1882	\$110,434	\$0	(\$2,305)	\$0.1319	\$77,411	\$33,023	\$418,402	\$0	\$108,129	\$584,100	
17	583,746	\$0.1929	\$112,629	\$0	(\$2,305)	\$0.1346	\$78,564	\$34,064	\$452,466	\$0	\$110,324	\$694,424	
18	580,827	\$0.1978	\$114,867	\$0	(\$2,305)	\$0.1373	\$79,735	\$35,132	\$487,598	\$0	\$112,562	\$806,986	
19	577,923	\$0.2027	\$117,150	\$0	(\$2,305)	\$0.1400	\$80,923	\$36,227	\$523,825	\$0	\$114,845	\$921,831	
20	575,033	\$0.2078	\$119,478	\$0	(\$2,305)	\$0.1428	\$82,129	\$37,350	\$561,175	\$0	\$117,174	\$1,039,005	
21	572,158	\$0.2130	\$121,853	\$0	(\$30,127)	\$0.1457	\$83,353	\$38,500	\$599,675	\$0	\$91,726	\$1,130,731	
22	569,297	\$0.2183	\$124,275	\$0	(\$2,305)	\$0.1486	\$84,595	\$39,680	\$639,355	\$0	\$121,970	\$1,252,701	
23	566,451	\$0.2238	\$126,745	\$0	(\$2,305)	\$0.1516	\$85,855	\$40,890	\$680,245	\$0	\$124,440	\$1,377,141	
24	563,618	\$0.2293	\$129,264	\$0	(\$2,305)	\$0.1546	\$87,134	\$42,130	\$722,375	\$0	\$126,959	\$1,504,100	
25	560,800	\$0.2351	\$131,833	\$0	(\$2,305)	\$0.1577	\$88,433	\$43,400	\$765,775	\$0	\$129,528	\$1,633,629	
26	557,996	\$0.2410	\$134,453	\$0	(\$2,305)	\$0.1608	\$89,750	\$44,703	\$810,478	\$0	\$132,148	\$1,765,777	
27	555,206	\$0.2470	\$137,125	\$0	(\$2,305)	\$0.1641	\$91,087	\$46,038	\$856,516	\$0	\$134,821	\$1,900,598	
28	552,430	\$0.2532	\$139,851	\$0	(\$2,305)	\$0.1673	\$92,445	\$47,406	\$903,922	\$0	\$137,546	\$2,038,144	
29	549,668	\$0.2595	\$142,630	\$0	(\$2,305)	\$0.1707	\$93,822	\$48,808	\$952,731	\$0	\$140,326	\$2,178,469	
30	546,920	\$0.2660	\$145,465	\$0	(\$2,305)	\$0.1741	\$95,220	\$50,245	\$1,002,976	\$0	\$143,160	\$2,321,630	
31	544,185	\$0.2726	\$148,356	\$0	(\$2,305)	\$0.1776	\$96,639	\$51,717	\$1,054,693	\$0	\$146,051	\$2,467,681	
32	541,464	\$0.2794	\$151,305	\$0	(\$2,305)	\$0.1811	\$98,079	\$53,226	\$1,107,919	\$0	\$149,000	\$2,616,681	
33	538,757	\$0.2864	\$154,312	\$0	(\$2,305)	\$0.1848	\$99,540	\$54,772	\$1,162,691	\$0	\$152,007	\$2,768,688	
34	536,063	\$0.2936	\$157,379	\$0	(\$2,305)	\$0.1885	\$101,023	\$56,356	\$1,219,047	\$0	\$155,074	\$2,923,762	
35	533,383	\$0.3009	\$160,507	\$0	(\$2,305)	\$0.1922	\$102,529	\$57,978	\$1,277,025	\$0	\$158,202	\$3,081,965	
36	530,716	\$0.3084	\$163,697	\$0	(\$2,305)	\$0.1961	\$104,056	\$59,641	\$1,336,666	\$0	\$161,392	\$3,243,357	
37	528,062	\$0.3162	\$166,950	\$0	(\$2,305)	\$0.2000	\$105,607	\$61,344	\$1,398,010	\$0	\$164,646	\$3,408,002	
38	525,422	\$0.3241	\$170,269	\$0	(\$2,305)	\$0.2040	\$107,180	\$63,088	\$1,461,098	\$0	\$167,964	\$3,575,966	
39	522,795	\$0.3322	\$173,653	\$0	(\$2,305)	\$0.2081	\$108,777	\$64,875	\$1,525,973	\$0	\$171,348	\$3,747,314	
40	520,181	\$0.3405	\$177,104	\$0	(\$2,305)	\$0.2122	\$110,398	\$66,706	\$1,592,679	\$0	\$174,799	\$3,922,113	