

ReVision Energy responses to Town of Rye Energy Committee Interview Questions

1. Would the Town, School District and Water District have to enter into separate PPA's?

ReVision would recommend that the Town, School District, and Water District sign a single PPA in order for each entity to achieve the lowest PPA rate and simplest deal structure, as long as each entity accepts the projects offered for their buildings/land. As indicated in our response, the economics behind the 9.5 cent rate offer are dependent on building the entire 645 kW across the five locations the Town indicated were most suitable.

2. What would it cost to purchase each of the systems instead of entering into PPA's?

(Responses to questions 5 & 6 are also included in the Table below)

5. What would be the buyout amount for each system in year 6?

6. What would be included and what would be the estimated cost of an annual service contract if the systems are purchased? *(see below Table for description of O&M service)*

Site name	Install Type	Capacity kW (DC)	Capacity kW (AC)	Production kWh/Year	Turnkey Purchase Price	Year 6 Buyout Price (60%)	O&M Package Annual cost
Rye Elementary School	Ballast Mount	204.4	158.4	229,942	\$459,844	\$275,906	\$1,267
Rye Junior High School	Ballast + Flush	99.3	75.8	119,280	\$258,180	\$154,908	\$847
Rye Public Safety Building	Flush Mount	53.9	43.2	64,303	\$153,486	\$92,092	\$665
Rye Public Works Complex	Flush Mount	42.3	43.2	49,644	\$126,060	\$75,036	\$620
Rye Water District	Ground Mount	246.0	200.0	307,500	\$553,500	\$332,100	\$1,434
Totals		645.8	520.6	770,669	1,550,070*	\$930,042*	

*All turnkey purchase and buyout prices reflect volume discount

The O&M plan will consist of both routine, preventative maintenance operations as well as rapid response service plans for urgent and emergency situations. Regularly scheduled service will include preventative inspections, testing, and maintenance; performance verification; and any manufacturer-required actions. The regularly scheduled annual preventative visit includes, at minimum, general inspection, structural maintenance, electrical inspection, and system testing. It also includes a comprehensive report of system condition and an analysis of system production. For all proposed solar arrays, the only major equipment replacement anticipated during the system life is the inverters.

In addition, ReVision Energy will provide the system owner with ongoing system performance monitoring, and will respond swiftly to any performance anomalies identified. In case of performance loss, ReVision will perform all necessary testing, troubleshooting, and repairs— including warranty repair work—to minimize system downtime and provide maximum system production. All activity on the facilities will be performed by licensed and trained personnel in accordance with industry standards and OSHA safety requirements. ReVision Energy is completely committed to the long-term success of your solar project and the solar industry in New England, and that commitment translates into unparalleled service of both new and existing solar facilities.

3. What would be the estimated Eversource bills for each location if the proposed systems were installed and the 2018 kwh usage were assumed? Month by month projections showing seasonality effects would be most helpful.

A Solar PPA is essentially a hedge against rising utility rates that provides immediate value with no up-front capital outlay by the Town. Most of the economic value is derived *after* exercising the buyout option in Year 6. Based on our extensive experience working with municipalities across New Hampshire and Maine, ReVision Energy strongly believes that the path to success for this effort starts with getting each Town governing body – the School Department, Town, and Water District – to see themselves as part of the Town’s collective effort to reap the long-term value of solar energy. We feel this strategy can rest solidly on these two facts:

- Each entity budgets and accounts for energy costs on an annual rather than monthly basis, and
- Each entity represents the same people – the citizens of Rye, who are simultaneously Town taxpayers, School District taxpayers, and Water District ratepayers

ReVision Energy has analyzed each location/facility’s current load profile and energy costs, using its current supply contract, and how its proposed solar array would offset usage from the grid, generate revenue through net metering, and result in purchases from the grid at Eversource default rates *on an annual basis*. The resulting figures, which drive the savings calculations during the PPA contract and once the Town purchases the arrays and owns the solar production, are:

- 1) Utility offset rate (the value of each solar kWh used behind the meter)
- 2) Net Metering rate (the value of each solar kWh sold to the utility when solar production exceeds on-site demand;
- 3) Marginal utility rate (the cost of each kWh purchased from the grid when solar is not available/sufficient

Up to the present, each Board’s strategy for getting the best economic value for the citizens of Rye has been the use of individual competitive supply contracts for fossil fuel-based energy from the grid (which typically range in duration from one to three years). In comparison, solar energy’s value is two-fold:

- 1) Long-term savings on Town/School/Water District electricity bills approaching \$1.1 million over the 25 year period of the panels’ output warranty, and \$3.2 million over the 40 year expected life of the system, accounting for annual O&M expense and necessary equipment replacement;
- 2) As a coastal community with nearly 2/3 of its land area salt marsh or wetlands, embracing the long-term economic and environmental value of on-site solar energy rather than serial short-term supply contracts.

The individual facility load profiles and calculated rates, along with the composite load profile and cash flow analysis, are compiled in Attachment 1. ReVision Energy will be pleased to explain these concepts and calculations during our upcoming interview and during any subsequent presentations to Town boards in seeking authorization for the solar project. The important things to note are:

- The PPA rate offered – 9.5 cents per kWh – is below each facility’s Marginal Utility Rate;
- The five arrays in aggregate would produce 21% more electricity on an annual basis than is consumed by the five host facilities. That is, solar production would more than offset the electricity consumption of those facilities, and in so doing would deliver short-term savings to the citizens of Rye of approximately \$7,800 per year during the initial 5 year PPA period, in addition to the long term 25 and 40 year savings mentioned above.

4. What would be the PPA rate in year 6?

Per our response, the solar price of 9.5 cents, is designed to start close to current utility rates. This solar price will also rise more slowly than historical utility rates (3.2% per year) and more slowly than projected future utility rates (2.5% per year). The rate of 9.5 cents per kWh in Years 1-2 with a 2% annual escalator thereafter beginning in Year 3 would yield the following rates up through year 6:

		Annual PPA Escalation of 2% beginning in year 3:
PPA Year	CY	PPA Rate
1	2020	\$ 0.0950
2	2021	\$ 0.0950
3	2022	\$ 0.0969
4	2023	\$ 0.0988
5	2024	\$ 0.1008
6	2025	\$ 0.1028

7. The projected life of the 20-year-old roofs are less than the expected life of the solar panels. How will the roof replacements be handled?

Roof inspection and evaluation is always an important aspect of project due diligence. ReVision would highly recommend roof inspection prior to installation if one has not already been completed, including evaluation of measures that might extend expected life, like seam sealing. ReVision has lots of experience meeting the warranty requirements of every major commercial roofing manufacturer. At the time of design and installation ReVision would consult with your Maintenance staff to be sure that solar does not interfere with your roof maintenance plan.

8. How would the PPA Rate change if the Historic District guidelines exclude the PSB and Junior High roofs from the proposal?

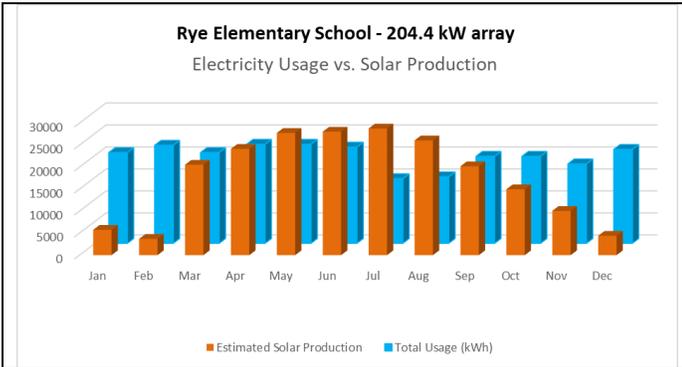
ReVision is optimistic that we would be able to offer a substantially similar PPA rate by focusing only on the two largest projects at the Elementary School and the Water District land.

9. Does the PPA Rate assume implementation will begin in the summer of 2020?

Yes ReVision is prepared to begin project development as soon as we receive necessary authorizations. We expect construction would be completed within 3-6 months.

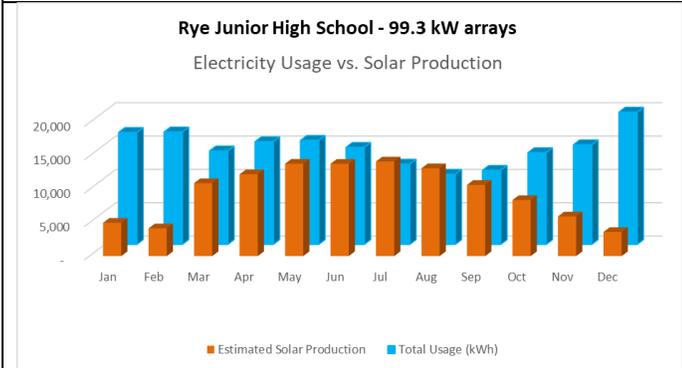
10. What preparation of the water district land, surrounding trees and Garland Rd pump house right-of-way would be required and who would do it?

Project budget includes basic site preparation work, including grading and clearing as necessary. The exact footprint of array will be determined upon completion of a civil survey. ReVision Energy will be responsible for obtaining all necessary permits. Further evaluation of the point of interconnection will be required per Eversource as part of the application process



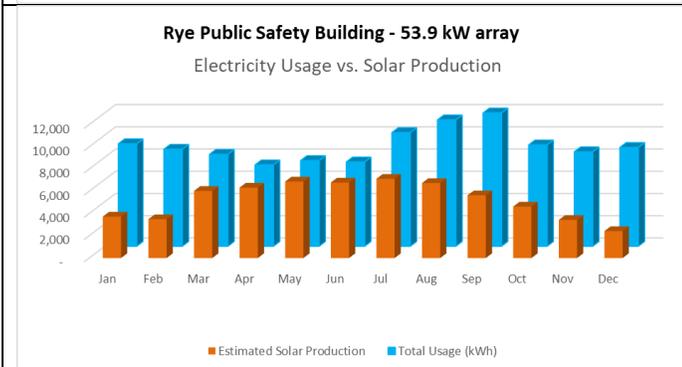
Est. 2020 Usage
238,915 kWh
Annual Solar Production
214,622 kWh
Annual Load Offset with Solar
90%
Est. % Solar used Behind-the-Meter
82%
Est. % Solar Energy Net-Metered
18%

Y1 Utility Offset Rate
\$0.1072
Solar Net Metering Rate
\$0.09405
Marginal Utility Rate
\$0.1101
PPA Price
\$0.095



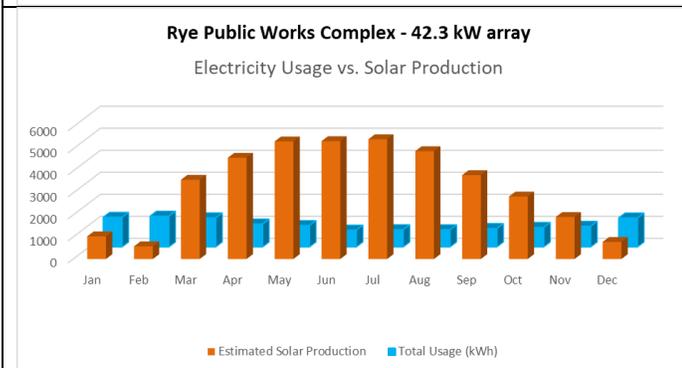
Est. 2020 Usage
175,342 kWh
Annual Solar Production
116,048 kWh
Annual Load Offset with Solar
66%
Est. % Solar used Behind-the-Meter
96%
Est. % Solar Energy Net-Metered
4%

Y1 Utility Offset Rate
\$0.1111
Solar Net Metering Rate
\$0.1098
Marginal Utility Rate
\$0.1112
PPA Price
\$0.095



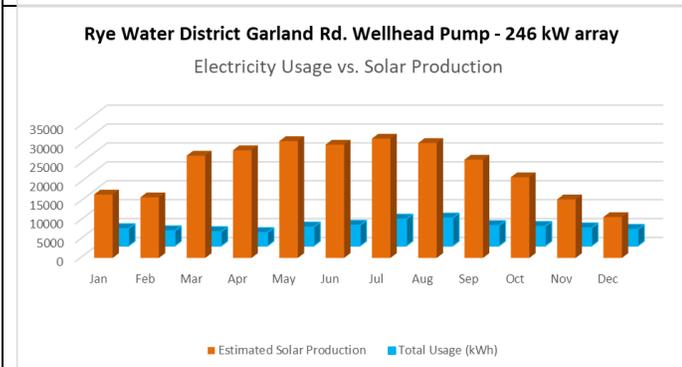
Est. 2020 Usage
108,885 kWh
Annual Solar Production
63,295 kWh
Annual Load Offset with Solar
58%
Est. % Solar used Behind-the-Meter
100%
Est. % Solar Energy Net-Metered
0%

Y1 Utility Offset Rate
\$0.1260
Solar Net Metering Rate
N/A
Marginal Utility Rate
\$0.1260
PPA Price
\$0.095



Est. 2020 Usage
12,325 kWh
Annual Solar Production
40,175 kWh
Annual Load Offset with Solar
325%
Est. % Solar used Behind-the-Meter
27%
Est. % Solar Energy Net-Metered
73%

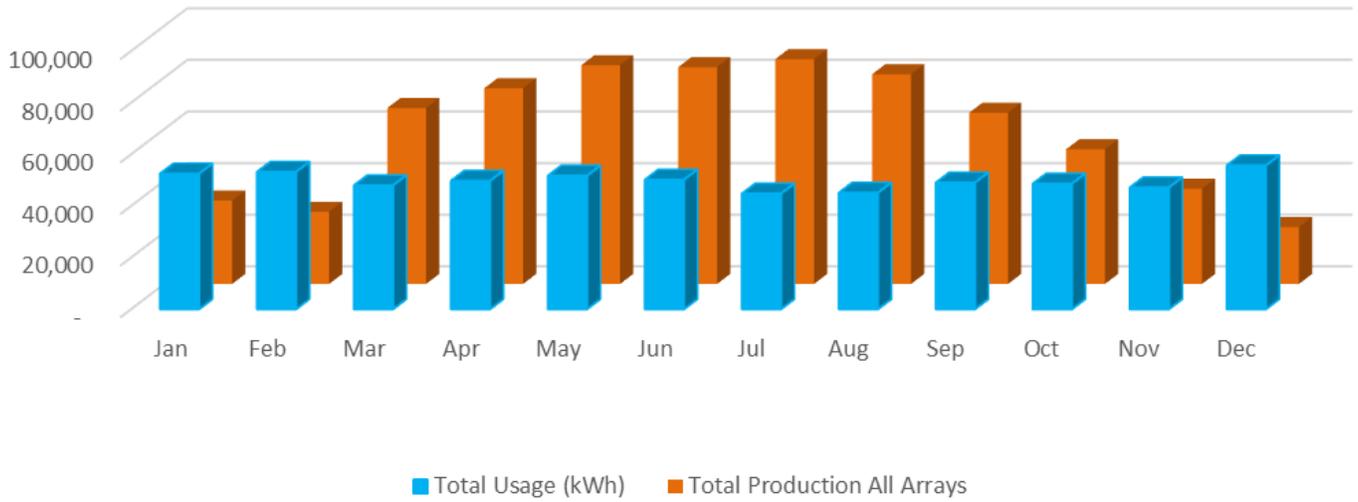
Y1 Utility Offset Rate
\$0.1247
Solar Net Metering Rate
\$0.1070
Marginal Utility Rate
\$0.1737
PPA Price
\$0.095



Est. 2020 Usage
60,173 kWh
Annual Solar Production
284,847 kWh
Annual Load Offset with Solar
473%
Est. % Solar used Behind-the-Meter
21%
Est. % Solar Energy Net-Metered
79%

Y1 Utility Offset Rate
\$0.1084
Solar Net Metering Rate
\$0.1012
Marginal Utility Rate
\$0.1354
PPA Price
\$0.095

Total Electricity Usage vs. Solar Production - All Arrays



In aggregate, the five arrays would produce 121% of the electricity used by their host facilities on an annual basis.



Town of Rye - Aggregate PPA Project Summary

Project Design

Project Size kW DC (Panels)	645.80
Project Size kW AC (Inverters)	520.60
Year 1 Projected Generation (kWh)	770,669

PPA Deal Structure

Upfront cost to project host	\$ -
Project cost financed by investor	\$ 1,550,070
Investor monetizes incentives:	
30% federal tax credit	
100% Bonus Depreciation	
Renewable Energy Credits (RECs)	

PPA Details

Year 1-2 PPA Rate (\$/kWh)	\$ 0.0950
PPA Rate Escalator starting in Y3	2.0%
Year 6 early buyout price	\$ 930,042

Term PPA

Approx. annual savings	\$ 7,800
10-year savings	\$ 94,000
25-year savings	\$ 366,000

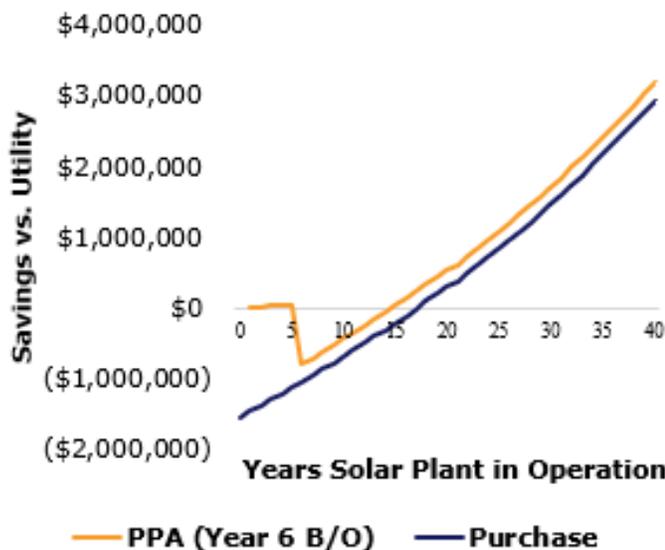
PPA with year 6 buyout

Years 1-5	
Approx. annual savings	\$ 7,800
Year 6 buyout	
Upfront Investment	\$ 930,042
Y 1-5 savings	\$ 39,000
Buyout depreciation	\$ -
<i>Net Investment</i>	\$ 891,042
Years 6-40	
Annual energy savings	\$ 87,000
Annual REC revenue	\$ 5,000
25-year savings	\$ 1,077,000
40-year savings	\$ 3,169,000

Environmental Benefit

Annual CO2e offset (lbs)	815,368
<i>Equivalent to...</i>	
Gallons of gasoline not burned	41,600
Passenger cars removed from the road	78
Gallons of propane not burned	64,226
Pounds of coal not burned	8,897

Solar Ownership



40 Year Cost of Energy

