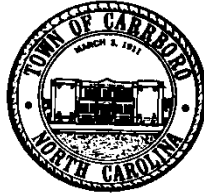


Attachment A

TOWN OF CARRBORO
NORTH CAROLINA
WWW.TOWNOFCARRBORO.ORG



MEMORANDUM

TO: Richard White III, Town Manager
Arche McAdoo, Finance Director

FROM: Ben Schmadeke, Capital Projects Manager

DATE: April 20, 2022

SUBJECT: Solar RFP Results and Summary

On March 10, 2022, the Town received two responses to the Request for Proposals (RFP) for Town-wide solar development. Proposals were received from Southern Energy Management and Eagle Solar & Light. Both firms' proposals were responsive and complete. A staff evaluation committee was formed across multiple departments and included Jon Hartman-Brown, Laura Janway, Max Randall and Cary McNallan. A subsequent interview was held with each firm. A summary of each firm's response is included below.

Southern Energy Management (SEM):

SEM has been providing solar energy services in the Triangle since 2001. They are a certified B Corporation and certified WBE (women owned business enterprise) and self-perform all tasks associated with solar development and construction apart from fabrication of the structural steel canopy systems. SEM partners with the National Energy Improvement Fund (NEIF) to provide financing through a 15-year municipal tax-exempt lease purchase (TELP). At the time of the proposal, the interest rate for this program was 2.81%, however rates will likely be increasing this year.

A summary of SEM's proposal is included in Table 1 below.

Table 1

Total Annual kWh of all systems	535,990
Estimated Annual Savings (year 1)	\$34,009.90
30 Year Green House Gas equivalent (mt)	11,049
Purchase Price	\$1,299,100.00
Expected Duke Energy Rebate	\$223,353.29
Total Price if Financed	\$1,594,194.60

Eagle Solar & Light (Eagle Solar):

Eagle Solar has been providing commercial solar services since 2016 and has been recognized by the North Carolina Sustainable Energy Association for leading the way to become the first licensed solar lessor in the state. For this project they have partnered with Action Solar & Electric, a Carrboro-based minority-owned business for installation. For the lease option, Eagle Solar has partnered with Sunwealth, a mission-driven financier that is also approved by the NC Utilities Commission to offer solar leases. The lease option proposed is a 30-year lease and structured so that the Duke Energy rebate pays for the down-payment and the projected energy savings pays for the annual lease payment, effectively making the installations cost neutral (with the exception of the two canopy systems which require a fabricated steel structure). Added benefits of the lease option are that operations and maintenance is covered by the lessor and system performance is guaranteed through the term of the lease. A fair market value purchase is offered anytime after year 7.

A summary Eagle Solar's proposal is included in Table 2 below.

Table 2

Total Annual kWh of all systems	557,119
Estimated Annual Savings (year 1)	\$34,426.00
30 Year Green House Gas equivalent (mt)	12,843
Purchase Price	\$1,229,909.00
Expected Duke Energy Rebate	\$222,000.00
Total Price if Financed (lease)	\$1,833,930.00

Conclusion:

Both firms proposed approximately half of a megawatt of solar for the locations specified in the RFP. This amounts to approximately one sixth of the electricity used in Town buildings (including projected 203 Building usage).

Both firm's offer viable finance options. The cashflow simulations completed by each firm vary due to different rates used for system degradation and utility cost increases. SEM used an annual system degradation factor of 0.5% and an annual utility increase factor of 3% when projecting cashflow in their proposal. SEM also assumed that a better \$/kWh rate structure can be obtained from Duke Energy. Eagle Solar uses more conservative rates of 0.6% annual degradation and 2.5% annual utility increases and uses the current utility rate structure that the Town has with Duke. A reconciled cashflow simulation using Eagle Solar's more conservative rates for both firms is included in Attachment B.

Using the reconciled cashflows in Attachment B and a Net Present Value (NPV) factor of 3.75%, the 30-year investment for each vendor and finance strategy is shown in Table 3 below.

Table 3 – All locations

Vendor	NPV Financing Option	NPV Purchase Option
Eagle Solar	(\$324,756.00)	(\$259,922.00)
SEM	(\$234,217.00)	(\$329,884.00)

Removing the two canopy systems (203 Parking Deck and Anderson Park) from the project significantly reduces the cost per kilowatt of solar for the total project and thereby improves the cashflow. For the non-canopy projects, using a NPV factor of 3.75%, the 30-year investment for each vendor and finance strategy is shown in table 4 below.

Table 4 – No Canopies

Vendor	NPV Financing Option	NPV Purchase Option
Eagle Solar	\$26,199.00	\$57,888.00
SEM	\$44,595.00	\$10,665.00

Attachments:

1. Attachment A: Bid Tabulation
2. Attachment B: Reconciled Cashflows

Sincerely,



Ben Schmadeke
Capital Projects Manager

Attachment A: Bid Tabulation

	203 Building		203 Solar Canopy		Fire Station		Public Works		Century Center		Anderson Park		Total	
	Eagle Solar	SEM	Eagle Solar	SEM	Eagle Solar	SEM	Eagle Solar	SEM	Eagle Solar	SEM	Eagle Solar	SEM	Eagle Solar	SEM
kW DC	88	73.43	174	178.89	57	61.86	26	38.72	36	35.6	29.52	24.03	410.52	412.53
kW AC	86.40	72.09	150	154.2	50	54.3	25	37.2	34.60	34.2	25	20	371	372.37
Annual kWh Production	116051	96870	243600	235000	70453	75190	37433	52340	48254	45250	41328	31340	557119	535990
Estimated Annual Savings	\$5,803.00	\$4,843.50	\$16,386.00	\$16,450.00	\$3,523.00	\$3,759.50	\$2,995.00	\$4,187.20	\$2,413.00	\$2,262.50	\$3,306.00	\$2,507.20	\$34,426.00	\$34,009.90
30 Year GHG equivalent (mt)	2667	2025	5621	5010	1626	1465	863	889	1113	1039	953	620	12843	11049
Cash Purchase														
Purchase Price (sales tax included)	(\$176,791.00)	(\$178,000.00)	(\$656,629.00)	(\$712,000.00)	(\$111,755.00)	(\$120,000.00)	(\$62,541.00)	(\$84,700.00)	(\$80,471.00)	(\$75,700.00)	(\$141,722.00)	(\$128,700.00)	(\$1,229,909.00)	(\$1,299,100.00)
Expected Duke Energy Rebate	\$64,800.00	\$54,071.18	\$75,000.00	\$75,000.00	\$37,500.00	\$40,697.37	\$18,750.00	\$27,923.08	\$25,950.00	\$25,661.67	\$0.00	\$0.00	\$222,000.00	\$223,353.29
Net Cost	(\$111,991.00)	(\$123,928.82)	(\$581,629.00)	(\$637,000.00)	(\$74,255.00)	(\$79,302.63)	(\$43,791.00)	(\$56,776.92)	(\$54,521.00)	(\$50,038.33)	(\$141,722.00)	(\$128,700.00)	(\$1,007,909.00)	(\$1,075,746.71)

Attachment B: Reconciled Cashflows

Solar Projects for the Town of Carrboro

Project Cost and Financing Summary by Vendor

All Projects (30 Years)								NPV*	NPV*
Vendor	Proj Cost	P&I Pymts	Energy Savings	Rebates	O&M	Financing Option Cashflow	Purchase Option Cashflow	Financing Option Cashflow	Purchase Option Cashflow
Eagle Solar	(1,229,909)	(1,883,930)	1,402,201	222,000	(72,874)	(259,729)	321,418	(324,756)	(259,922)
SEM	(1,299,100)	(1,594,195)	1,355,706	239,400	(72,874)	(71,963)	223,132	(234,217)	(329,884)

*NPV factor of 3.75%

Solar Projects for the Town of Carrboro

Project Cost and Financing Summary by Vendor

All Non-Canopy Projects (30 Years)								NPV*	NPV*
Vendor	Proj Cost	P&I Pymts	Energy Savings	Rebates	O&M	Financing Option Cashflow	Purchase Option Cashflow	Financing Option Cashflow	Purchase Option Cashflow
Eagle Solar	(431,558)	(599,930)	587,024	147,000	(35,000)	134,094	267,466	26,199	57,888
SEM	(458,400)	(562,696)	599,781	164,400	(35,000)	166,485	270,781	44,595	10,665

*NPV factor of 3.75%