Belfast Public Works Solar Project Comparison

System Size (kW DC)	Turn Key Price	Loan Term (yrs)	Year Annual Savings Exceed Annual Expenses	Year Cumulative Savings Exceed Cumulative Expenses	Year Cumulative Avoided Utility Cost Exceeds Turn Key Price	40-Year Savings
441.6	$831,047	20	9	13	14	$1,834,082
441.6	$831,047	25	6	1	14	$1,717,253
441.6	$831,047	30	4	1	14	$1,595,862
883.2	$1,578,309	20	8	9	14	$3,573,339
883.2	$1,578,309	25	5	1	14	$3,351,461
883.2	$1,578,309	30	3	1	14	$3,120,917

Heading Explanations:

Year Annual Savings Exceed Annual Expenses is found in the **Loan Annual Cash Flow** column, and represents the year when utility avoided cost and REC value exceeds project expense and loan payment

Year Cumulative Savings Exceed Cumulative Expenses is found in the **Loan Cum. Cash Flow** column, and represents the year when the project has saved the City more than it cost. This happens immediately for the 25- and 30-year borrowing scenarios because the first year loan payment is for interest only, and is therefore much smaller than subsequent loan payments. This gives the City substantial net savings in the first year, and prevents a total project deficit for the 25- and 30-year loans.

Year Cumulative Avoided Utility Cost Exceeds Turn Key Price is found by summing the **Avoided Utility Cost** column until the total exceeds the Turn Key Price. The year is the same for both projects and all three loan scenarios because it is based only on the Turn Key Price and utility savings, neither of which depend on the loan payments. The larger project costs less per generated solar kWh, so achieves this milestone early in year 14, while the smaller project costs slightly more per generated solar kWh, so reaches the milestone at the very end of year 14. This is an important year because if the Maine PUC enacts net-metering rules as currently planned, the period is 15 years. This means the project saves more than it costs within the net metering period even in the current scenario.