CITY OF PRESCOTT

MEETING NOTICE
FINANCE COMMITTEE
MONDAY, NOVEMBER 14, 2016
5:30 P.M.
MUNICIPAL BUILDING
800 BORNER ST
PRESCOTT, WI 54021

1. Call to Order
2. Roll Call
3. 2017 Budget Review
4. Other Business
5. Adjourn

NOTICE
ACCESS TO THE MUNICIPAL BUILDING FOR THE DISABLED IS AVAILABLE THROUGH THE PARKING LOT ENTRANCE. ALL THOSE WITH SPECIAL NEEDS SHOULD CALL CITY HALL OFFICES (715-262-5544) IF ASSISTANCE IS REQUIRED.

City's website: www.prescottwi.org

Date: November 4, 2016
To: Mayor & Council
From: Vanessa Norby
Re: Lighting Project vs. Solar for City Hall

Hello! The spreadsheet numbers-geek lady is here ☺. I apologize for not thinking to bring this to light sooner but I came up with a new spreadsheet that compares the different projects with the estimated savings on each of the areas of Lighting Retrofit, Solar Only, BAS & Controls Retrofit and Envelope Repairs and shows the number of years of savings each project will take to reach pay back.

All the information I am using is coming directly from the spreadsheet I received from Trane a few months back. It includes the estimated cost for each element and building, as well as the estimated annual savings from each. These figures do not include any interest or bond issuance costs we may encounter in order to fund the projects, and it does not account for increases in energy costs down the road or repairs, replacements or general maintenance on any of the equipment or lightbulbs. When I put this spreadsheet together I was quite surprised with how long the payback on just the solar actually is; over 41 years for City Hall! Will it need to be replaced before it's reached it's payback in year 2058?

If you look at the attached spreadsheet, the yellow section on the left shows the Lighting Retrofit projects for all buildings. It totals $163,922 which includes $49,253 already included in the $393,235 City Hall project. The payback on lighting retrofit for all City buildings is 7 years and the annual savings is much greater! The Solar section in green on the right shows just the solar projects and their paybacks which range from 21-41 years!

I have broken down two options for Council consideration:

1. As originally proposed by Council at the meeting Wednesday night. $393,285 for City Hall/Library HVAC, etc, plus the $185,750 solar option for City Hall/Library only. Total cost: **$579,035.**
    a. $250,000 out of Capital Reserves
    b. $329,035 out of General Fund Reserves
    c. **$14,031** annual savings to General Fund & Library (including HVAC savings)
    d. 41 years until payback on entire project and 41 years on solar piece only.

2. Consider going with the original $393,285 for City Hall/Library HVAC etc. plus the lighting retrofit for ALL buildings except the Welcome & Heritage Center, and hold off on any solar project at this time; $109,297; (City Hall lighting accounted for in $393,285 price). Total cost**: $502,582.**
    a. $250,000 out of Capital Reserves
    b. $224,247 out of General Fund reserves for City Hall, Library, Police, Public Works, Welcome & Heritage and part of Freedom Park (almost $105,000 less out of reserves than option #1!)
    c. $18,335 out of Sewer Fund for WWTP
    d. $10,000 out of Freedom Park Fund (total Freedom Park cost: $19,325, General Fund would pay remainder)
    e. **$30,789** annual savings over all departments (including HVAC savings)
    f. The City currently does not pay for the Welcome & Heritage Center energy costs and therefore would not benefit from the savings and the estimated savings were low.
    g. 16.3 years until payback on entire project, 7 years considering just the lighting piece.

I realize I threw a lot of numbers and words at you! I believe option #2 is a much more comfortable solution for 2017 in working towards the City becoming more energy efficient. We would not impact our reserves as much as with the solar option and see a much faster pay back and energy savings, as well as help all departments of the City. I would not propose to borrow funds with option #2 and the City would not necessarily need to increase the tax levy which I know is very important to you and the residents of Prescott. If you would like me to go over this with you and answer your questions I would be more than happy to, just give me a call! Thank you for taking the time to consider this idea.

All Project Costs Annual Savings Projected by Trane

	ECM	Cost	savings	incentive	Years until pay back	Actual electricity 2015	2014
City Hall & Library	HVAC upgrade	$ 281,353.00	$ 1,996.00	$ 3,875.00	141.0		
	BAS & controls retrofit	$ 51,224.00	$ 792.00	$ 200.00	64.7		
	Lighting retrofit	$ 49,253.00	$ 5,812.70	$ 2,792.00	8.5		
	Solar PV	$ 185,750.29	$ 4,492.00		41.4		
	Envelope repairs	$ 11,455.00	$ 938.00		12.2		
		$ 579,035.29	**$ 14,030.70**	**$ 6,867.00**	**41.3**	$ 11,556.14	$ 11,656.90
Police & Ambulance	HVAC upgrade	$ 37,481.00	$ 405.40	$ 1,760.00	92.5		
	BAS & controls retrofit	$ 13,711.00	$ 1,134.00	$ 160.00	12.1		
	Lighting retrofit	$ 27,735.00	$ 3,957.00	$ 1,536.00	7.0		
	Solar PV (REVISE T0 18 kw??)	$ 62,864.00	$ 1,868.00		33.7		
	Envelope repairs	$ 15,159.00	$ 595.25		25.5		
		$ 156,950.00	**$ 7,959.65**	**$ 3,456.00**		$ 5,582.97	$ 5,338.21
Public Works	BAS & controls retrofit	$ 13,171.00	$ 679.00	$ 80.00			
	Lighting retrofit	$ 18,348.00	$ 1,148.00	$ 128.00	16.0		
	Solar PV	$ 43,318.00	$ 2,041.00		21.2		
	Envelope repairs	$ 5,860.00	$ 392.50				
		$ 80,697.00	**$ 4,260.50**	**$ 208.00**		$ 2,952.45	$ 3,528.72
Heritage Center	HVAC & BAS upgrade	$ 26,353.00	$ 460.00	$ 630.00			
	Lighting retrofit	$ 5,372.00	$ 364.40	$ 663.00	14.7		
	Window replacement	$ 14,050.00	$ 345.00				
	Envelope repairs	$ 3,168.00	$ 230.00				
		$ 48,943.00	**$ 1,399.40**	**$ 1,293.00**		?	
Waste Water Treatment Plant	HVAC upgrade		$ -				
	Lighting retrofit	$ 18,335.00	$ 4,178.00	$ 903.00	4.4		
	VFDs for process pumps		$ -				
		$ 18,335.00	**$ 4,178.00**	**$ 903.00**		$ 51,726.00	$ 52,505.00
Freedom Park	Recommissioning	$ 6,273.00	$ 107.10				
	BAS retrofit	$ 36,106.00	$ 267.75	$ 160.00			
	Lighting retrofit	$ 19,325.00	$ 4,178.00	$ 842.00	4.6		
	Solar PV (site space restriction lim	$ 54,287.00	$ 1,661.00		32.7		
	Envelope repairs	$ -	$ 89.25				
		$ 115,991.00	**$ 6,303.10**	**$ 1,002.00**		$ 6,555.00	$ 5,998.00

All Project Costs Annual Savings Projected by Trane

Fire Station	HVAC upgrade	$ 17,311.00	$ 442.40	$ 550.00				
	BAS & controls retrofit	$ 11,902.00	$ 514.60	$ 80.00				
	Lighting retrofit	$ 25,554.00	$ 3,297.00	$ 702.00	7.8			
	Solar PV	$ 42,581.00	$ 1,275.00		33.4			
	Envelope repairs	$ 10,344.00	$ 429.50					
	Roof & insulation	$ 72,970.00	$ 676.50					
		$ 180,662.00	**$ 6,635.00**	**$ 1,332.00**		$ 4,588.56	$ 4,004.10	
Outdoor Lighting	Outdoor lighting - Main Street & F	**$ 22,124.00**	**$ 2,430.90**	**$ 650.00**				
TOTAL		**$ 1,202,737.29**	**$ 47,197.25**	**$ 15,711.00**				

Notes about values in this spreadsheet:

1. All ECMs that have been presented to the client are included (including items with long payback periods).
2. No incentives or rebates are considered.
3. No depreciation or other tax benefits included.
4. No revenue from excess energy generation considered. It is likely this will be available on sites, resulting in lower paybacks.
5. Cost Avoidance not included. HVAC systems in the City Hall and Wastewater Treatment Plant show signs of near term failure – a preventive measure now will avoid higher, possibly u
6. Utility cost escalation not considered.

Lighting Retrofit vs Solar Project Comparison

LIGHTING RETROFIT ONLY

Building		Cost	Yearly Savings	Pay Back in Years
City Hall/Library	*Lighting retrofit*	*$ 49,253*	*$ 5,813*	*8.5*
Police	Lighting retrofit	$ 27,735	$ 3,957	7.0
Public Works	Lighting retrofit	$ 18,348	$ 1,148	16.0
Heritage Center	Lighting retrofit	$ 5,372	$ 364	14.7
WWTP	Lighting retrofit	$ 18,335	$ 4,178	4.4
Freedom Park	Lighting retrofit	$ 19,325	$ 4,178	4.6
Fire Hall	Lighting retrofit	$ 25,554	$ 3,297	7.8
TOTAL		**$ 163,922**	**$ 22,935**	**7.1**
Remove Heritage Center		**$ (5,372)**	**$ (364)**	
Total Proposed Lighting Retrofit		**$ 158,550**	**$ 22,571**	**7.0**

$49,253 for City Hall/Library already included in approved $393,285 project

SOLAR ONLY

		Cost	Yearly Savings	Pay Back in Years
City Hall/Library	Solar PV	$ 185,750	$ 4,492	41.4
Police	Solar PV (REVISE	$ 62,864	$ 1,868	33.7
Public Works	Solar PV	$ 43,318	$ 2,041	21.2
Heritage Center				
WWTP				
Freedom Park	Solar PV (site spa	$ 54,287	$ 1,661	32.7
Fire Hall	Solar PV	$ 42,581	$ 1,275	33.4
TOTAL		**$ 388,800**	**$ 11,337**	**34.3**