



Internal Memo

May 21, 2020

TO: Mayor and City Council

FROM: Mark C. Meyers, City Administrator *MEM*

SUBJECT: Chart House Energy Phase II Solar Proposal

In 2016 Chart House Energy installed a solar array on Fire Station #3 located on Pontaluna Road. The solar array has saved the City \$700 per year to date in energy costs. Chart House Energy is proposing to install additional arrays on City facilities, including Fire Station #2, the Police Garage/City Hall and the DPW garage. Attached is a proposal reflecting the energy savings of \$354,216 over the 25-year life span of the solar installations.

It should be noted that Chart House Energy has been involved with a number of projects in the area including several installations at the City of Muskegon Heights, Spring Lake Village Hall and local industries including Smart Vision Lights and Renishaw. Jon Ledsworth and Rob Rafson of Chart House Energy will present their proposal at the May 26, 2020 work session. Should you have any questions prior to the meeting you may contact me.

/ss
attachment

City of Norton Shores Solar Energy Proposal – PHASE TWO

Chart House Energy (CHE) is excited to expand energy savings for the City of Norton Shores again in pursuing the installation and implementation of a solar energy production array at three City facilities. The project would include Fire Station #2, DPW, and City Hall. Solar PV projects provide power for the building, offsetting both energy usage and some peak power usage. The system consists of solar panels, non-penetrating racking, inverters, and wiring. The proposed system details are:

- First Year savings is \$3,260, totaling **\$354,216 over 25-year Agreement**
 - City realizes 10% savings from solar and energy efficiency measures
 - Savings can be improved by adding energy efficiency measures (not included in this proposal estimate)
 - No upfront investment
- Total **317.5kW** roof mount solar system utilizing 934 solar panels.
- The total investment to be made by Chart House Energy is \$667,466
- **Clean, renewable solar energy will provide nearly 100% of Norton Shores' electricity** across these 3 locations.
- **Job training for up to 3 local individuals** to help with project installation.
- Living wage jobs created in the construction field.
- Environmental stewardship and marketing to surrounding communities and state representatives.
- CHE designs, builds, installs, owns, monetizes the tax benefits, operates, and maintains the roof and solar system. All panels and parts will be American-made and Michigan-made where possible. All engineering and labor will come from Michigan and be as local as possible.
- Continued installation of solar will demonstrate Norton Shores' dedication to community and clean, renewable solar energy.
 - Fire Station #3 savings to date \$1,422.47
- In this option Norton Shores has no responsibility for operations and maintenance of the solar system and if there ever is a need to maintain the roof CHE will remove panels at no cost.



DPW roof mount
1174 E Mount Garfield



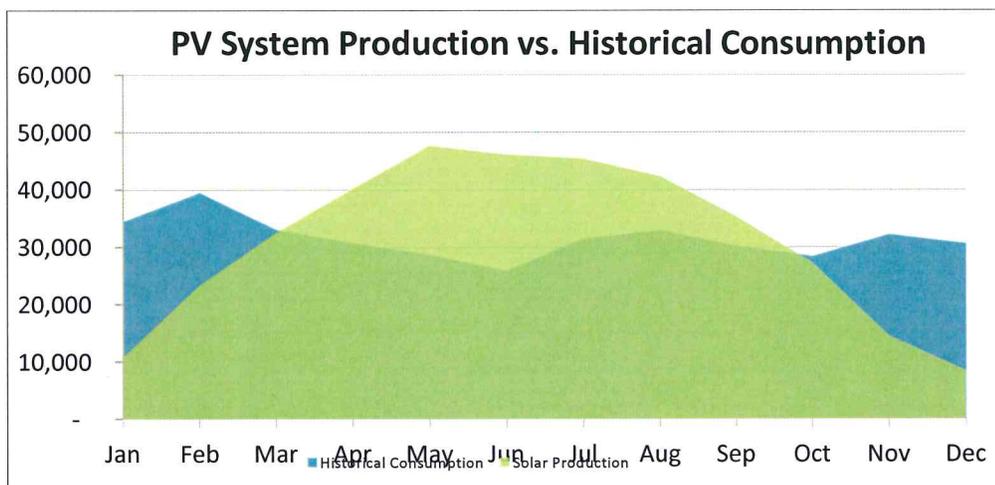
Fire Station #2 roof mount
3920 Airline Road

City Hall roof mount



4184 Henry Street

- Exact array design will be confirmed upon final design site visit.



Norton Shores Combined

317.6 kW Solar project



Investment

Total Project	\$	667,466
Customer Contribution	\$	- Building integrated cost into solar system

Savings

Annual total Electric bill (without solar)

Cost of electricity offset by solar

Power Purchase from solar

Annual saving from solar

2020	\$	51,467	\$	0.1356	\$	0.1270	/kWh	
				3.2%		2.0%	Annual Index	
2021	\$	51,467	\$	48,207	\$	3,260		
2022	\$	52,859	\$	48,935	\$	3,924		
2023	\$	54,289	\$	49,674	\$	4,615		
2024	\$	55,757	\$	50,424	\$	5,333		
2025	\$	57,265	\$	51,186	\$	6,079		
2026	\$	58,814	\$	51,959	\$	6,855		
2027	\$	60,404	\$	52,744	\$	7,661		
2028	\$	62,038	\$	53,540	\$	8,498		
2029	\$	63,716	\$	54,349	\$	9,367		
2030	\$	65,439	\$	55,170	\$	10,270		
2031	\$	67,209	\$	56,003	\$	11,206		
2032	\$	69,027	\$	56,849	\$	12,178		
2033	\$	70,894	\$	57,708	\$	13,186		
2034	\$	72,811	\$	58,579	\$	14,232		
2035	\$	74,781	\$	59,464	\$	15,317		
2036	\$	76,803	\$	60,362	\$	16,441		
2037	\$	78,881	\$	61,274	\$	17,607		
2038	\$	81,014	\$	62,199	\$	18,815		
2039	\$	83,205	\$	63,139	\$	20,066		
2040	\$	85,455	\$	64,092	\$	21,363		
2041	\$	87,767	\$	65,061	\$	22,706		
2042	\$	90,141	\$	66,043	\$	24,097		
2043	\$	92,579	\$	67,041	\$	25,538		
2044	\$	95,082	\$	68,053	\$	27,029		
2045	\$	97,654	\$	69,081	\$	28,573		
					\$	354,216	25 year savings	