

Use of Green House Gas Allowance Auction Proceeds and Adoption of Resolution No. 5889(14)



4-kV to 12-kV Line Conversion



HPS

>> to >>



LED



Middletown



Calpine

Legislation

- Assembly Bill 32 (California Global Warming Solutions ACT) sign by Gov. Schwarzenegger (2006)
- Reduce Green House Gas (GHG) back to 1990 by 2020
- In 2012 California Air Resources Board (CARB) adopted Cap and Trade regulations.
- First CARB GHG Allowance auction in November 2012
- Quarterly Auctions which Lompoc Buys or Sells
- Sold all 47,500 Year 2013 Allowances for \$540K
- Up to 2020 we have 326K Allowances valued at \$4.3M
- CARB annually allocates GHG Allowances 45-47K/year

Freely Allocated Allowance to Electrical Division

Calendar Year	Projected Freely Allocated GHG Allowances	Estimated Clearing Price Per Allowance	Projected Auction Revenue
2012-2013*	47,500	\$11.37	\$539,924
2014	46,902	\$11.34	\$531,869
2015	45,072	\$11.91	\$536,672
2016	46,415	\$12.50	\$580,297
2017	47,851	\$13.13	\$628,162
2018	47,178	\$13.78	\$650,294
2019	46,203	\$14.47	\$668,698
2020	46,850	\$15.20	\$711,965
Total	373,971		\$4,847,880
Remaining to be sold	326,471		\$4,307,956
*2012-2013 numbers are actual values			

4-kV to 12-kV Line Conversion



- Remaining 5-years at \$100K per year; currently funded via rates
- Reduce System Losses from 7,800 MWH/year (5.5%) to 7,250 (5.0%)
- Save about \$40K per year energy loss cost (555 megawatt hours)
- Lighter small overhead wire since less current
- Lighter and Cheaper Polymer Insulators replace old heavy porcelain
- Standardized design, construction, and material. Less Maintenance.
- Less spare parts to warehouse in the future.

Street Light Replacement Project (HPS to LED)



- About 2,200 lights remain to be replaced
- About 400 LEDs/Induction Lights installed to date
- Used \$100K ARRA grant and 60 Hancock Bike Path Project, past and currently funding at \$50K/year.
- Lights use about 3,000 MWH/year, reduce use by 54%
- LEDs last 3-4 times longer than HPS thus lower annual labor, material, and equipment amortized cost.

Middletown Geothermal Plant Upgrades



- City owns 4.1 megawatts of plant capacity
- Last year the plant delivered about 30,000 MWH or 23% of Lompoc's energy
- Steam fields and wells that supply water to the plant decay every year
- New wells need to be drilled or old ones re-drilled
- Piping needs to be modified
- In 2013 City spent \$87K and this year is projected to spend \$81K
- Previous years' spending funded new more efficient turbines and generators

Calpine Power Purchase Agreement



- City is negotiating with Calpine to purchase 1.0-2.0 MW of Capacity for 10-years
- Other Participants include NCPA, Lodi, Roseville, and SVP
- Purchase between 8,000 and 16,000 MWH/year or 6 to 12% of our annual use
- Which would bring our Renewable Energy supply up to 29 to 35%
- Cost of \$85/MWH
- Total annual cost between \$680K and \$1.36M

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- Council would need to approve this and any other PPA separately

Calpine Power Purchase Agreement

Year	4 to 12 kV Conversion Project	LED Street Light Retrofit	Middletown Geothermal Plant Upgrades	Calpine Geothermal Energy Purchase	Total Eligible Expenses	Projected GHG Allowance Sales Revenue	Delta Revenue less Expenses	Cummulative Balance
2012-2013	\$0	\$0	\$0	\$0	\$0	\$539,924	\$539,924	\$539,924
2014	\$100,000	\$100,000	\$81,000	\$0	\$281,000	\$531,869	\$250,869	\$790,793
2015	\$100,000	\$100,000	\$100,000	\$0	\$300,000	\$536,672	\$236,672	\$1,027,465
2016	\$100,000	\$100,000	\$100,000	\$670,140	\$970,140	\$580,297	-\$389,843	\$637,622
2017	\$100,000	\$100,000	\$50,000	\$670,140	\$920,140	\$628,162	-\$291,978	\$345,644
2018	\$100,000	\$100,000	\$50,000	\$670,140	\$920,140	\$650,294	-\$269,846	\$75,798
2019	\$0	\$100,000	\$50,000	\$670,140	\$820,140	\$668,698	-\$151,442	-\$75,644
2020	\$0	\$100,000	\$50,000	\$486,320	\$636,320	\$711,965	\$75,644	\$0
Total	\$500,000	\$700,000	\$481,000	\$3,166,880	\$4,847,880	\$4,847,880	\$0	\$0

- Won't be able to fund everything presented but the purpose is to have options
- Investigating other PPA and Renewable Energy Certificate Purchase options

QUESTION?