

Feasibility Study of Solar Opportunities for City of Lemoore



Chevron Energy Solutions
September 18, 2012

Presented by:
Ashu Jain, P.E., C.E.M.
Jonathan Brown, P.E., LEED AP



© 2012 Chevron **Chevron Energy Solutions**

Agenda



- Recent Projects
- Preliminary Solar Projects Layout
- Preliminary Financial Analysis
- Program Benefits

© 2012 Chevron **Chevron Energy Solutions** 2

Some Recent Energy Savings Projects in the Central Valley



▪ City of Hanford	\$4.3 million
▪ City of Lemoore Phase 1	\$3.9 million
▪ City of Lemoore Phase 2	\$0.7 million
▪ City of Delano	\$3.4 million
▪ City of Dinuba	\$4.0 million
▪ County of Kings Phase 1	\$3.0 million
▪ County of Kings Phase 2	\$8.4 million
▪ County of Kings Phase 3	\$4.1 million
▪ County of Tulare	\$7.3 million
▪ Fresno State University	\$12.0 million
▪ State Center Community College District, Fresno	\$2.5 million
▪ Lemoore Union High School District	\$3.0 million
▪ USPS Fresno	\$1.7 million

© 2012 Chevron

Chevron Energy Solutions 3

Fresno State University – 1,200 kW



© 2012 Chevron

Chevron Energy Solutions 4

City of Dinuba WWTP
Ground Mounted, Fixed Tilt – 1,150 kW



© 2012 Chevron

Chevron Energy Solutions

5

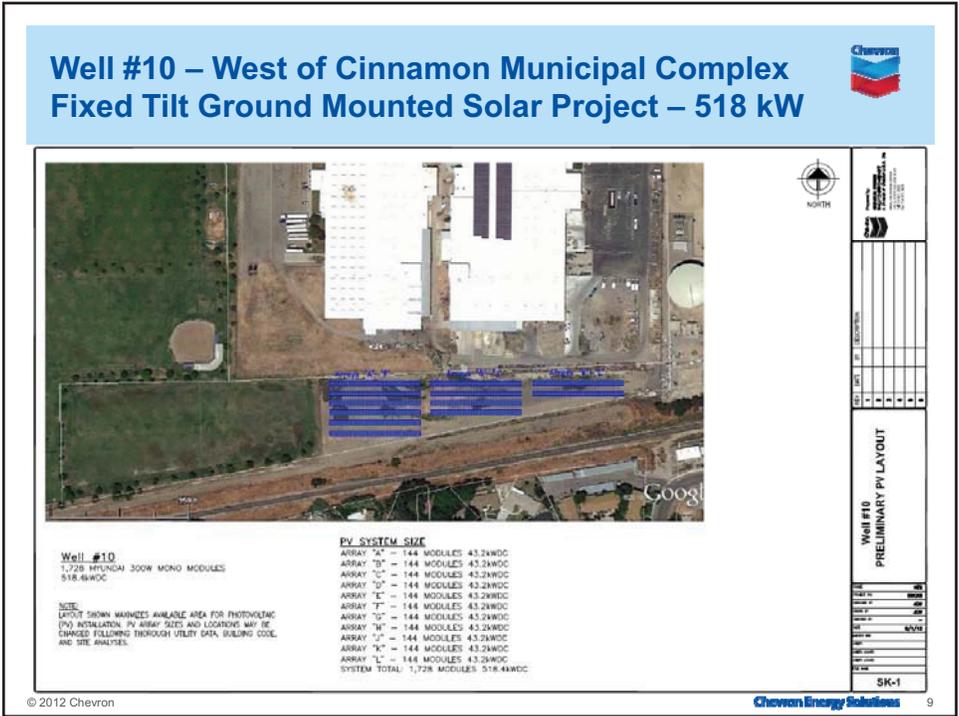
City of Hanford WWTP (Under Construction)
Ground Mounted, Single Axis Tracker – 1,120 kW

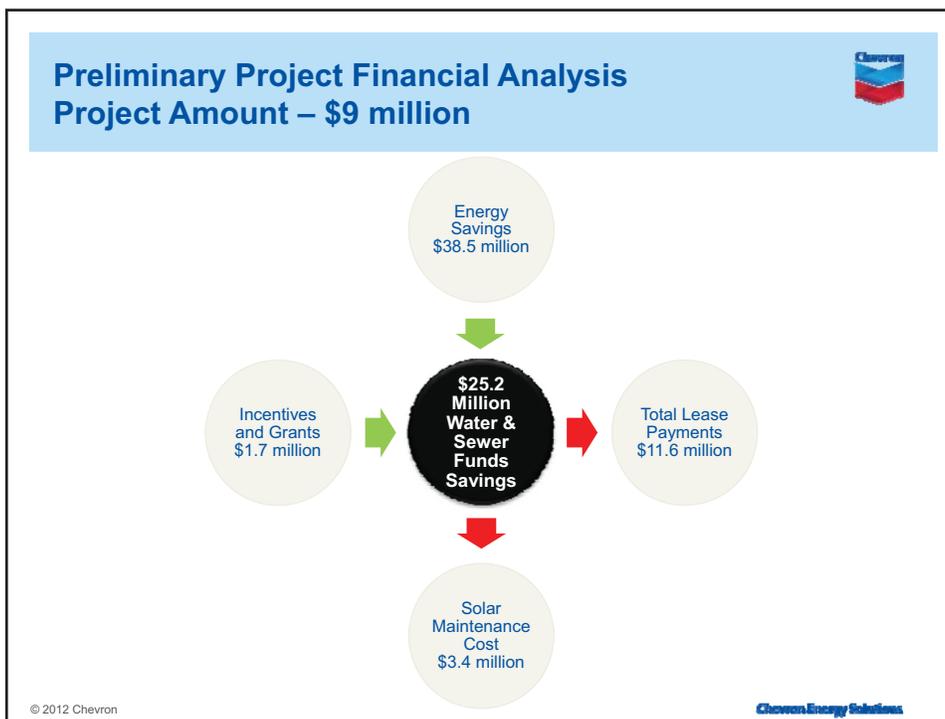


© 2012 Chevron

Chevron Energy Solutions

6





Preliminary Project Financial Analysis

Year	Energy Savings	Incentives	Total Savings	Maintenance Cost	Lease Payment	Total Costs	Net Savings
Year 1	\$683,825	\$339,903	\$973,728	\$71,928	\$774,764	\$846,692	\$127,036
Year 2	\$682,189	\$338,203	\$1,000,392	\$74,086	\$799,271	\$873,356	\$127,036
Year 3	\$691,822	\$336,512	\$1,028,334	\$76,308	\$824,990	\$901,298	\$127,036
Year 4	\$722,781	\$334,830	\$1,057,611	\$78,598	\$851,977	\$930,575	\$127,036
Year 5	\$755,125	\$333,196	\$1,088,281	\$80,956	\$880,290	\$961,245	\$127,036
Year 6	\$789,917	\$0	\$789,917	\$83,384	\$578,497	\$661,881	\$127,036
Year 7	\$824,221	\$0	\$824,221	\$85,886	\$611,299	\$697,185	\$127,036
Year 8	\$861,105	\$0	\$861,105	\$88,462	\$645,607	\$734,069	\$127,036
Year 9	\$899,639	\$0	\$899,639	\$91,116	\$681,487	\$772,604	\$127,036
Year 10	\$939,898	\$0	\$939,898	\$93,850	\$719,013	\$812,862	\$127,036
Year 11	\$981,959	\$0	\$981,959	\$96,665	\$758,298	\$854,923	\$127,036
Year 12	\$1,025,901	\$0	\$1,025,901	\$99,565	\$799,300	\$898,866	\$127,036
Year 13	\$1,071,810	\$0	\$1,071,810	\$102,552	\$842,223	\$944,775	\$127,036
Year 14	\$1,119,774	\$0	\$1,119,774	\$105,629	\$887,109	\$992,738	\$127,036
Year 15	\$1,169,884	\$0	\$1,169,884	\$108,798	\$934,050	\$1,042,848	\$127,036
Year 16	\$1,222,236	\$0	\$1,222,236	\$112,061	\$0	\$112,061	\$1,110,174
Year 17	\$1,276,931	\$0	\$1,276,931	\$115,423	\$0	\$115,423	\$1,161,508
Year 18	\$1,334,074	\$0	\$1,334,074	\$118,886	\$0	\$118,886	\$1,215,188
Year 19	\$1,393,773	\$0	\$1,393,773	\$122,453	\$0	\$122,453	\$1,271,321
Year 20	\$1,456,145	\$0	\$1,456,145	\$126,126	\$0	\$126,126	\$1,330,019
Year 21	\$1,521,307	\$0	\$1,521,307	\$129,910	\$0	\$129,910	\$1,391,397
Year 22	\$1,589,386	\$0	\$1,589,386	\$133,807	\$0	\$133,807	\$1,455,579
Year 23	\$1,660,511	\$0	\$1,660,511	\$137,821	\$0	\$137,821	\$1,522,689
Year 24	\$1,734,819	\$0	\$1,734,819	\$141,956	\$0	\$141,956	\$1,592,863
Year 25	\$1,812,452	\$0	\$1,812,452	\$146,215	\$0	\$146,215	\$1,666,237
Year 26	\$1,893,559	\$0	\$1,893,559	\$150,601	\$0	\$150,601	\$1,742,958
Year 27	\$1,978,296	\$0	\$1,978,296	\$155,119	\$0	\$155,119	\$1,823,177
Year 28	\$2,066,825	\$0	\$2,066,825	\$159,773	\$0	\$159,773	\$1,907,052
Year 29	\$2,159,315	\$0	\$2,159,315	\$164,566	\$0	\$164,566	\$1,994,749
Year 30	\$2,255,944	\$0	\$2,255,944	\$169,503	\$0	\$169,503	\$2,086,441
Totals	\$38,504,421	\$1,682,605	\$40,187,026	\$3,422,065	\$11,588,136	\$15,010,140	\$25,176,886

© 2012 Chevron Chevron Energy Solutions 16

Program Benefits



- Project contributes \$25 million to the Water & Sewer Funds
- Project will attract \$1.7 million in incentives
- Reduces the impact of future utility rate increases
- Minimum City risk because of turnkey design-build project with single source responsibility
- Showcases the City as a leader in renewable energy technology

© 2012 Chevron Chevron Energy Solutions 17

Stimulate Local Economy




\$9.0 m
Energy Project

20 Local Green Jobs
Engineers, Electricians,
Contractors, Construction etc.

\$1-\$2 m in Local Economic Impact
\$1 in income x \$2-\$4 in community flow through
makes a huge impact on the long term fiscal viability
of the local community

Stimulate City of Lemoore
The project employs an electrician → The electrician buys tools from the tool shop →
The tool shop buys a service truck → The truck was bought from a retired resident ...
and so on and so on!

© 2012 Chevron Chevron Energy Solutions 18

Next Step



- City Council authorizes CES to develop this project
- CES will work with staff to finalize scope, price, savings, and financing. Expected duration: 2-3 months
- City Council approves the implementation contract
- CES files for incentives and builds project. Expected completion time: 9 months
- Development fee is \$14,000 if City does not proceed with project after CES validates viability of the project
- If project is not viable, then City will not owe anything to CES
- If the project is approved, the expected development cost will be rolled into the project cost

Questions?



Thank you