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FINAL REPORT

Technical and Economic Feasibility Assessment
Of a
Brightfield Photovoltaic Power Plant at Miramar Landfill

Submitted to:
National Renewable Energy Laboratory
1617 Cole Boulevard
Golden, CO 80401

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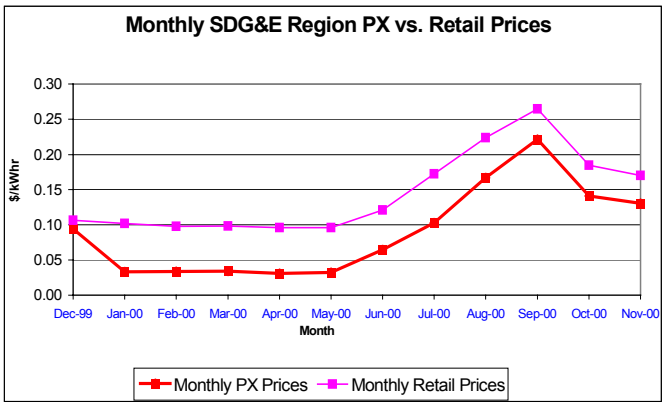
EXECUTIVE SUMMARY

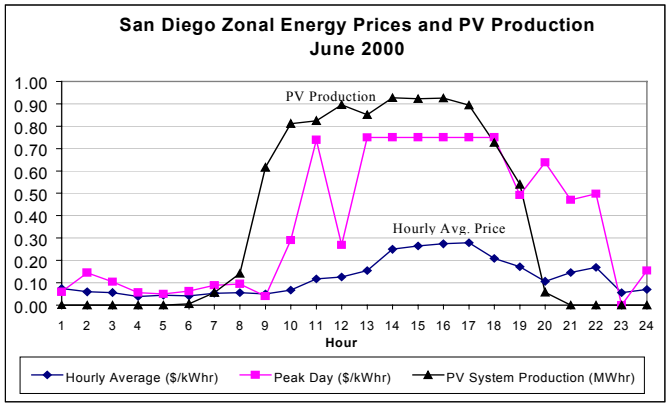
The Brightfields Initiative: An Overview

A Brightfield is a solar power station (photovoltaic panels connected in arrays to generate electricity) that is placed onto a Brownfield[1] site for the dual purpose of power generation and electricity reliability. A Brightfield is most effective at producing electricity when Californians need it most – during hot sunny days when the use of electricity peaks. A Brightfield can be installed quickly (6 – 8 months construction time), can generate immediate power that will not fluctuate in price, and can provide relief to the energy system during peak demand periods, such as those being experienced in San Diego. A Brightfield will provide San Diego citizens with the opportunity to generate environmentally benign electricity and maintain local control over energy revenues (instead of exporting these funds to non-CA energy providers). As the City is both an owner and renter of many Brownfield sites throughout San Diego, the City has an opportunity to transform these properties into innovative, environmentally benign, and economically viable power generating assets for the energy-stressed residents of San Diego.

Brightfields Opportunities for San Diego

Brightfield electricity can be sold for a price of approximately 16 cents per kilowatt-hour (kWh), when including all potential economic incentives and buy-downs. This price will achieve payback periods ranging from ten to twenty years, depending upon which Brightfield option examined by this study is selected. Current retail prices of electricity supplied to the San Diego region are between eighteen and twenty-two cents per kWh. The power exchange rate (wholesale cost of power) average from July to December 2000 was fourteen cents per kWh; this average rate was nine cents per kWh for the full year of 2000.[2] In partnership with the City of San Diego's Department of Environmental Services, the U.S. Department of Energy has undertaken a detailed technology and economic feasibility study to determine the viability of developing up to a one megawatt (MW) Brightfield at the City of San Diego Landfill site located adjacent to the Marine Corps Air Station-Miramar.[3] The placement of solar arrays on landfills within San Diego City limits can convert these sites from non-revenue generating City property into a revenue and electricity-generating asset for the City of San Diego. In addition, with expected continued shortfalls in electricity generation supplies likely, a Brightfield could be a cost-effective means of enhancing electricity reliability and reducing electricity price volatility while meeting Clean Air requirements. This study has determined that a Brightfield can be an economically viable option for power production.





[1] A brownfield is an abandoned, contaminated, or underutilized property that has an active potential for reuse; these include landfill sites.
[2] http://www.sdge.com/EIC/html/loss_factors. htm
[3] System size may utilize 6.5 acres per 1MW of Crystalline Silicon photovoltaics versus 13 acres per 1 MW of Amorphous or Thin-film photovoltaics.

San Diego's Energy Context

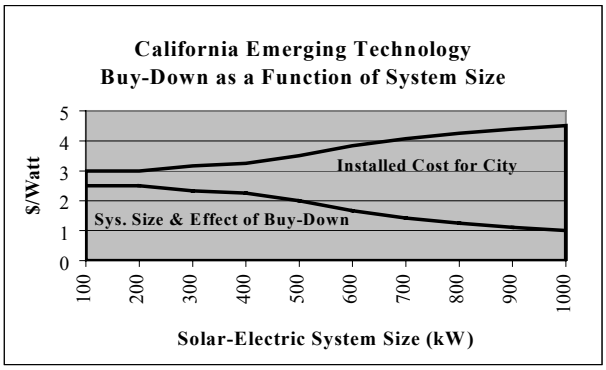
California experienced 78 electricity alerts during a six-month period from July to December 2000 [4], with alerts occurring daily in January of 2001. Wholesale electricity price spikes during the summer of 2000 were as high as 75 cents/kWh, wholesale prices since June 2000 have averaged more than 14 cents/kWh and averaged 26 cents/kWh in January of 2001. San Diego is clearly facing a need for increased electricity supply, and this can be partially achieved through increased power generation from solar energy. As the population in the San Diego region is projected to increase by more than one million residents by 2020, additional power supplies will clearly be needed. The use of solar power can generate zero-emissions electricity and can help the City to bypass many of the environmental hurdles that currently block the development of new power plants, such as the costs of meeting environmental compliance requirements due to the region's continued problems in meeting State and Federal air quality standards. In addition, a solar powered Brightfield can provide a fixed electricity cost; with volatile electricity prices on the upward swing, solar generation can also provide an economic backstop against peak power electricity spikes.

Analysis of San Diego Brightfields Options

The following information indicates that solar-electric generation is competitive when compared with some electricity prices charged by San Diego Gas and Electric.[5] Investment in a solar-electric system necessitates a high capital cost which, when financed with a fixed interest rate, becomes a fixed annual cost over the finance period. When the savings are compared to volatile energy prices, the overall solar-electric system economics become difficult to predict. An analysis of the current San Diego energy context versus contemplated Brightfields options is included in the Brightfields feasibility assessment for the Miramar Landfill. Results are described in the sections below.

Possible Federal Incentives and State Buy-downs

- CERRA (State/CEC): CA Emerging Renewables Resource Account maintains a $1,000,000 limit per individual project with a limit of $500,000 from any single block of buy-down funds.[6]
- *Note on CERRA:* There are decreasing incentives and buy-down benefits for systems sized greater than 500 kW (see graph). Thus, two separate 500 kW systems (1 MW total) will garner $2 million in total incentives/buy-down versus $1 million of incentives/buy-down for a one MW plant (see graph).
- AB 970 (State/CEC): peak load reduction grant program offering $250/kW.
- AQ (Regional): air-quality management district credit offers 0.28 cents/kWh.
- REPI (Federal): Renewable Energy Production Incentive offers 1.8 cents/kWh for electricity produced by system. This incentive is available to any political subdivision of a State (i.e. public utilities / City Landfill operations) that owns or operates a qualified renewable energy facility that generates electricity; sale must affect interstate commerce.



[4] 45 stage one alerts: < 7% of electricity reserves available for use; 32 stage two alerts: <5% of electricity reserves available for use; 1 stage three alert: <1.5% of electricity reserves available for use. http://www.caiso.com.

[5] Emergency legislation enacted in August 2000 forced current consumer energy unit cost payments to lower than pre-summer 2000 levels. Responsibility for repayment of the resultant $9 billion debt accumulated during this period has not yet been determined.

[6] Guidelines are available at http://www.energy. ca.gov/renewables/documents/500-97-011V3. PDF

Discussion

- The CERRA buy-down favors construction of two or more sites of 500 kW or less. However, effects of scale and administrative cost reductions associated with Brightfields implementation on multiple sites should be examined further.
- In addition to the allocation caps on the state buy-down incentives, there are warranty requirements, system/component certification standards, and a limit on system annual production relative to load. Compliance with California account guidelines may be required in the Request for Proposal for bidding on a Brightfield installation.[7]

Cost Comparison among Four Different Brightfields Options [8]

A solar-electric generation system in San Diego will produce roughly 1700 to 2200 kWh per installed kW per year depending on the chosen system.[9] The largest proposed Brightfield is one MW (or 1000 kW) – which could generate enough electricity to power more than 300 average San Diego homes each year[10] or could easily exceed 100% of the electricity needs of the Miramar Municipal Landfill fee station located on the studied site.[11] Listed below are cost comparisons of different Brightfields options.

#	Size	Total Cost	Buy-downs	Down Payment	Financing at 6%	City Financing	Annual Payment	Payback Period
A	1 MW	$7.33 M	$1.25 M	$1.8 M	20 Yrs.	$4.33 M	$378,000	18 years
B	1 MW	$7.33 M	$1.25 M	$2.8 M	13 Yrs.	$3.33 M	$377,000	12 years
C	500kW	$3.75 M	$1.125 M	$625,000	20 Yrs.	$2.09 M	$182,000	17 years
D	200kW	$1.56 M	$500,000	$225,000	20 Yrs.	$834,000	$73,000	15 years

** Assumptions: PV Type – Crystalline Silicon (tracking); Cost/Watt = $7.40; Buy-downs: CEC/CERRA (State), REPI (Federal), AB970, AQ Credit; Revenues earned from sale of power will return both City financing and Down Payment loans by Payback Period.*

Interpretation

A) 1 MW plant with traditional 20 yr. financing.
B) 1 MW plant with 13 yr. financing from City's Landfill Closure Reserve Fund; higher down payment than option A.
C) 500kW plant with traditional 20 yr.financing.
D) 200 kW plant with traditional 20 yr. financing.

- It should be noted that a 'state of the art' natural gas power plant, at current California prices, would generate electricity at a cost of 14 cents/kWh, not including potential transmission line losses. In other words, generation costs and payback period of a Brightfield is comparable to the most efficient and typical natural gas power system today at current prices.
- The general consensus among energy analysts in California is that there will be a continued shortfall of energy supply and upward pressure on energy prices for the foreseeable future.

[7] Guidelines are available at http://www.energy. ca.gov/renewables/documents/500-97-011V3. PDF
[8] Proposed Brightfields costs incorporate all relevant and potential State and Federal incentives (see section 5).
[9] *Buying a PV Solar Electric System: A Consumer Guide*, Fig. 1, fixed-axis, latitude-tilt, coastal region; http://www.energy.ca.gov/reports/500-99-008.PDF
[10] Average energy use in San Diego = 500 kWh/home per month; 1 MW ~ 1.7 million kWh per year or enough electricity for ~300 homes for one year.
[11] Net-metering constraints: if power is sold on-site to fee station, such laws may apply, which may impact state buy-down incentives and electricity load purchases; load must be purchased by on-site consumers, such as MCAS Miramar, in addition to Municipal Fee Station; further investigation forthcoming.

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1 INTRODUCTION

Millennium Energy LLC was tasked by the US Department of Energy (DOE) through Task Ordering Agreement # KDC-0-30470-00 with the National Renewable Energy Laboratory to conduct a technical and economic feasibility assessment of solar electric power plant options for Brightfields^{cm} development at the City of San Diego's Miramar Landfill. The purpose of this assessment is assist all interested parties in the decision-making process through development of timely and accurate information on the technical elements of the project, the economic value of the project to the stakeholders, and recommendations on project development options. Currently only one customer has been identified, the City of San Diego Landfill Fee Station. A second potential stakeholder is the US Navy/Marine Corps (potential energy purchaser).

The potential solar electric power plant assessed in this feasibility analysis is the result of a collaborative effort between the US DOE and the City of San Diego to address local energy issues as part of the Livable Communities Initiative. As part of this Initiative, the City of San Diego's Environmental Services Department requested assistance from DOE in exploring the potential for a Brightfield development, defined as an abandoned or contaminated property ("Brownfield") that is redeveloped through the incorporation of solar energy manufacturing or power production facilities. In response to this request, DOE funded the following feasibility study to explore the technical and economic potential of a 1 MW solar electric photovoltaic (PV) power plant located at the City's Miramar Landfill facility. This study also reviewed other PV options in pursuit of identifying the most appropriate system to meet the needs of the City. In total, there are nine options presented in this report: three types of systems (crystalline silicon fixed mount, crystalline silicon tracking mount, and amorphous this film fixed mount) and three sizes (200 kW, 500 kW, and 1MW).

The two conditions that constitute the basis for the economic analyses are that the value of the electricity produced by the solar plant is $0.16 per kWh, and that there is a 3% per year escalation factor. As shown in Section 3, the value of electric power was determined by averaging the actual costs incurred by the City at the Fee Station over the previous twelve-month period. The 3% escalation factor accounts for future annual inflation rates and electricity price increases. Secondly, Section 3 presents Base Case and a Best Case economic scenarios. The Base Case scenarios represent the capital and annual costs associated with various sizes and types of PV systems. The Best Case scenarios are an analysis of the impact of financial incentives from State and federal agencies that may be available.

1.1 The San Diego Energy Situation

As part of California's utility deregulation process, San Diego was the first investor-owned utility region to fully deregulate the marketplace, as San Diego Gas & Electric was the first to pay off all its stranded assets. With this event, the price caps on retail energy rates were lifted in the fall of 1999. Since the lifting of price caps, retail rates in the San Diego region have steadily increased, with many customers experiencing as much as a 270% increase on their electric bills during the peak summer months. Summer peak wholesale energy prices spiked up to 75 cents per kilowatt-hour (kWh), and while energy prices decreased temporarily after the summer, average monthly wholesale prices hit new all time highs in January of 2001. As a result, retail energy prices are still well over 60% higher than the same period last year. In addition to rising energy costs, the scarcity of energy supplies throughout the state have resulted in an unprecedented number of Stage 3 Alerts. Stage 3 Alerts are implemented when electricity supplies are less than 1.5% above the expected demand on the system; this 1.5% margin is far below the industry standard of 15% reserve margins.

There are a number of reasons that electricity consumers in San Diego may continue to experience high energy prices, including:

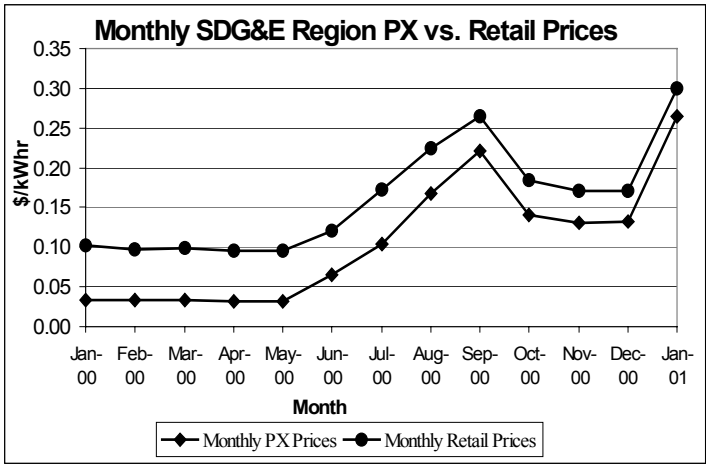
- Electricity demand is forecasted to continue to increase over the next five years in the San Diego region;
- New power plants planned for construction are not expected to keep up with the rising demand for electricity in the California marketplace;
- The time lag for developing conventional power plants in California is currently about 2-3 years;

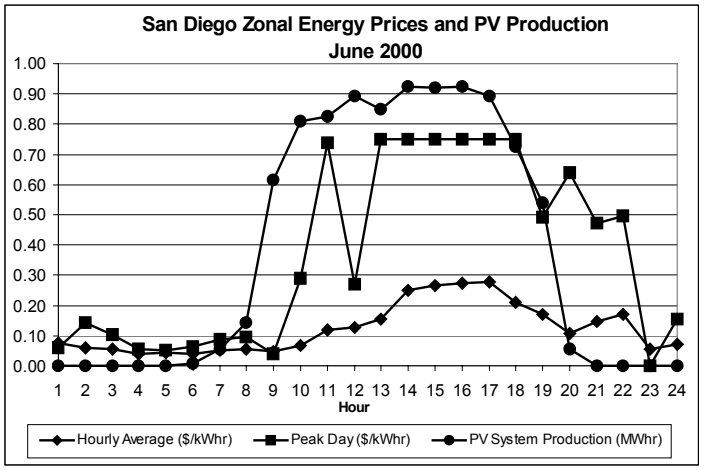
- The region is served by a single natural gas pipeline that is near capacity and is also experiencing high commodity costs - thus reducing the likelihood of constructing natural gas peaking plants in the region;
- Nationwide, commodity prices for natural gas continue to increase as demand outstrips supply;
- There are only two transmission lines that connect San Diego to regional and statewide transmission lines, thus increasing the likelihood of a "bottleneck" in the transmission system which can constrain the amount of energy imported into the region; and
- There are few available generation sites located near SDG&E transmission lines within the county;
- Restrictions on air pollution emissions in the San Diego air basin restrict the potential for developing new conventional power plants in the basin.

The use of distributed energy resources, such as photovoltaics, can provide a partial solution to these concerns.

1.2 The Benefits of PV Power in the San Diego Region

The graphs illustrated below demonstrate the economic drivers behind the benefits of PV power. The first graph on the left indicates the wholesale price of power in the San Diego Region Power Exchange (PX), and the corresponding retail price of power as calculated from SDG&E's General Service "A" Rate Schedule. This graph indicates the steady increase in energy prices and price volatility since the lifting of the price cap in the San Diego region; prices have risen steadily since May of 2000, leveled off in early winter, and have reached new highs in January of 2001. The number of Stage 3 Alerts in January was unprecedented, and occurred during a period that was expected to ease the burden of higher prices and scarce energy supplies associated with the on-going energy crisis.





Further illustrating the price volatility experienced in the region, the graph on the right illustrates the average hourly energy price in June 2000, contrasted with the hourly price of power on the peak day of the same month. During this peak day, energy prices at the PX reached the 75 cent per kilowatt-hour level during eight of the on-peak hours. This graph also indicates the projected energy output of a PV power plant (crystalline silicon array with tracking system) in the San Diego region on this same peak day in June. It should be noted that the energy output from a PV plant is "fixed price", and the value of this fixed price energy in today's marketplace is conservatively estimated at 16 cents per kWh. As can be seen, the energy output of a PV plant is highly coincident with the highest hourly energy prices of the month; thus confirming the "fit" of solar resources as part of an effective peak shaving strategy for the San Diego region.

2 TECHNICAL ANALYSIS

The following sections detail the technical components of the proposed PV power plant at Miramar Landfill and include the system siting requirements, system optimization characteristics, and preliminary design considerations.

2.1 System Siting Requirements

2.1.1 Site Options

The Miramar Landfill site is an ideal location for photovoltaic power generation, as the San Diego region has excellent solar insolation levels in general, and the inland Miramar site has better insolation levels than local coastal areas that are more prone to foggy conditions that reduce PV module efficiencies. Each of the site options evaluated at the Miramar Landfill has excellent solar access, with no obstructions from buildings, trees, hills, or other barriers. Thus, maximum solar gain can be had during all of the plants operating hours. In addition, the Brightfield concept is one of only a few plausible options for development at the landfill site. Two site options were considered for the placement of the proposed PV system. Site One is located in close proximity to an existing cogeneration plant and Site Two is at the Fee Station.

SITE ONE: Initial efforts under the system siting analysis focused on the development of a 1 MW PV plant approximately 1500 feet south of the cogeneration plant at the City's Sludge Dewatering Plant. While this site is desirable due to its location adjacent to the cogeneration plant and grid tie-in point, and the high degree of visibility from Highway 52, follow-up analyses indicated that this site might not be optimal. This is due to the fact that the utility tie-in voltage is 4160 Volts AC (VAC), while the PV system's optimal tie in voltage is 480 VAC. While the power from the PV plant could be "stepped up" to meet these high voltage requirements, it would add considerably to the capital cost of the project. In addition, contractual arrangements to integrate with the cogeneration plant operations may be: 1) complex due to the existing contractual arrangements the City has with a third party re-seller of power from the cogeneration plant, 2) difficult to negotiate, and 3) time consuming. Furthermore, the City would not receive any cost saving benefits from the solar power plant at this site. This is due to the fact that the City currently receives free energy for some of the site operations and pays a low price for energy for the plant operations; this energy is provided by the on-site cogeneration plant as part of the City's contractual arrangement with a third party re-seller. However, this site remains an option if the potential contractual hurdles and high voltage issues can be overcome.

SITE TWO: Based on further analyses of the site characteristics at the Miramar landfill, it was determined that an alternative site for a PV power plant is a site adjacent to the Fee Station at the northern end of the landfill. This site appears to be a more favorable option as there is an available load to serve (albeit a small one that would consume about 2 1/2% of annual output of a 1 MW PV plant), and the tie-in voltage to the distribution system at this site is believed to be 480 VAC (this needs to be confirmed with SDG&E, but 480 VAC is the most common voltage used on single phase distribution lines). This is the optimal tie-in voltage for the proposed solar plant. In addition, the Fee Station currently purchases power from Sempra Energy. A review of the electric bills for this account shows an increase in monthly average energy charges from approximately 10 cents/kWh in May to 26 cents/kWh in August, while estimates for the site's January bill indicate energy charges near 30 cents/kWh. Based on the prevailing market conditions of the twelve-month period from January through December of 2000, it is estimated that the Fee Station will continue to incur an annual average energy cost of 16 cents/kWh in the future. Again, this is a conservative estimate based on the previous twelve-month period, which includes five months of "pre-crisis" energy prices of 10 cents/kWh or less. Analyses conducted for this site indicate that the PV array can be sited near the Fee Station, and may potentially provide cost-effective power to the site on a year-to-year basis.

2.1.2 Utility Grid Connection Proximity and Requirements

Sites One and Two are in close proximity (2000 feet or less) to potential utility tie-in points. Regardless of the site selected, an engineering feasibility study will be required by San Diego Gas & Electric to determine interconnection requirements and line load capacity. Any power generation facility constructed at Miramar Landfill will be required to meet SDG&E's standard interconnection requirements (i.e., IEEE, UL, anti-islanding, and over/under frequency and voltage specifications) to tie-in to its transmission and distribution system. In addition, SDG&E will need to conduct analyses of each of the potential tie-in points to determine if the transmission or distribution line can accommodate the addition of up to 1 MW of capacity on these lines from the PV plant. At the completion of its study, SDG&E will provide the City with tie-in and hook-up

requirements and fees, detailed interconnection requirements, and the hourly availability and cost of reserving capacity on the line. SDG&E charges a nominal fee of approximately $800 for each study. It is recommended that the City immediately proceed with the SDG&E studies for each of the proposed site options as soon as the system design parameters are finalized. A copy of the interconnection application form and interconnection requirements is available from SDG&E.

It should also be noted that the system designs developed for this feasibility study utilized listed components accepted by the California Energy Commission (CEC). The modules, inverters for grid-tie, and balance of system components specified in this study will satisfy the interconnection requirements by nature of their listing on CEC approved product list.

2.1.3 Land Requirements for 1 MW Photovoltaic Power Plant

As part of the site assessment for a 1 MW photovoltaic power plant at Miramar Landfill, Millennium Energy calculated the land requirements for the three system types under consideration. The three system types, which are described in detail later in this report, include:

- 1 MW of crystalline silicon modules on a stationary fixed axis mount; and
- 1 MW of crystalline silicon modules on a horizontal axis tracking mount; and
- 1 MW of amorphous silicon ("thin film") modules on a stationary fixed axis mount.

Based on the system designs developed for this potential project, a 1 MW crystalline silicon array would require approximately 6.5 acres of available land, and 1 MW thin film array would require about 13 acres of available land. There is no appreciable difference in land requirements between a fixed tilt stationary mount array and a horizontal single axis tracking system. In addition to the 1 MW option, Millennium Energy also considered alternative system sizes of 500 kW and 200 kW. The acreage requirements for all system types and sizes considered by this feasibility study are summarized in the table below.

PV System Option	Crystalline Silicon Fixed Mount	Crystalline Silicon Tracking Mount	Amorphous Thin Film Fixed Mount
	PV System Acreage Requirements		
1 megawatt	6.5	6.5	13
500 kilowatts	3.25	3.25	6.5
200 kilowatts	1.3	1.3	2.6

Regardless of the system size or type selected, it does not appear that land space requirements are a constraint to project development. However, this assumes that the Marine Corps Air Station - Miramar (MCAS-MIRAMAR) Committee for Land and Airspace Management Policy (CLAMP) approves the City's application for use of the land for PV power production, and that all other environmental and operating permits required for plant construction and operation are secured.

2.1.4 Minimum Support Structure Requirements

Independent of the system type selected (stationary fixed axis or tracking) it will require a mounting support structure. Mounting structures are typically made of steel, and are designed to meet parameters allowing for 90 mph 3-second gust and 50 year design wind speeds. Installation of the mounting structure will require minor excavation into the landfill cap. However, the base of the mounting structure only needs to be buried approximately 2-4 feet below ground, which may be shallower than the final cap depth. Prior to finalizing the PV plant site, the City should determine the cap depth at the specific site to ensure that the mounting structure does not penetrate the landfill cap. Minimal disturbance to the existing landfill site would occur as a result of site preparation and installation activities, and would be limited to minor grading and minor excavation associated with setting the mounting structure. Landfill sites have limited options for development, primarily

due to concerns of soil settlement. Since settlement defines the very nature of landfills, further investigations should be undertaken to determine impacts on the system and ongoing maintenance requirements.

Alternatives to steel support structures include modules that can be placed directly on the ground with a mat backing; however, significant reduction of peak power output would be experienced with ground-placed modules (hence diminishing project economics). In addition, there may be issues associated with dirt build up from heavy rain and run off (further degrading module performance), and impacts on landfill maintenance.

2.1.5 Limitations of Physical Installation on a Military Site

The City of San Diego's Miramar Landfill is located on property leased from the U.S. Department of Navy. There is approximately 45 years remaining on the lease. As such, MCAS-Miramar has identified several potential limitations to the construction of a PV plant at this site, and Millennium Energy was requested to address these potential issues as part of this feasibility study. These potential concerns include:

- The reflectivity of PV modules, which may interfere with flight operations at the neighboring MCAS-Miramar;
- Vibrations from jets at the Air Station interfering with PV system performance;
- Jet fuel build up on modules degrading module performance; and
- Electro-magnetic fields (EMF) generated from PV plant operations.

Each of these concerns is addressed in the following sections.

2.1.5.1 Reflectivity of PV Panels

Millennium Energy confirmed that recent studies indicate that PV panel reflectivity does not pose any threat to pilot visibility. A recent study conducted by the Smithsonian Institute for the Dulles Airport Air and Space Museum on-site PV installation concluded that reflectivity of PV panels is a non-issue for air traffic. To illustrate this point, Millennium Energy staff took aerial photos (see below) of a small PV array from the same altitude and angle as highly reflective objects (such as galvanized steel roofs) in the same area. While not definitive by scientific standards, the results do indicate that PV panels pose no threat to visibility, while concerns over reflectivity are much greater from other materials such as steel roofs, auto glass, and building glazing.

Aerial View of PV Arrays

Aerial View of Galvanized Roofs

2.1.5.2 Jet Vibration and PV Performance

Potential concerns have been raised with respect to the impact that vibrations from jets taking off and landing at the neighboring MCAS-Miramar may have a negative impact on PV system performance. Millennium Energy contacted a number of experts from industry and the National Renewable Energy Laboratory staff and

inquired on this potential issue. Each of the individuals contacted confirmed that vibrations from jet engines do not have any impact on PV system performance.

2.1.5.3 Jet Fuel Buildup and PV Performance

Some concerns have been raised with respect to build up of jet fuel on the PV modules and its impact on module performance. Jet fuel and other foreign substances do have a negative impact on PV module performance, and this impact can be significant in terms of reducing module efficiencies. However, it is not known if, or to what extent, this is an issue at the Miramar Landfill site. Therefore, it is recommended that the City place a plate of glass or other similar substrate flat on the ground at each of the site options and periodically examine the glass to determine if jet fuel and/or other foreign substances are accumulating at the site -- and if so, to what extent.

2.1.5.4 PV Power Production and EMF

Electro-magnetic fields, or EMF, result from the electricity generation from any source or transmission of electricity along power lines. The concern over EMF is not whether it exists, but rather the specific levels that are generated. The levels of EMF generated by the proposed PV plant will be insignificant and pose no harm to human health or environment. The additional loads from the output of the PV plant on the transmission and distribution lines existing at the Miramar Landfill will be minimal compared to the loads currently carried by these lines, and these do not pose any EMF issues.

2.2 Preliminary System Design

As one of the first steps in conducting the feasibility study for the PV power plant at the Miramar Landfill, Millennium Energy developed preliminary system designs for three system options. These options had the following general characteristics:

- Crystalline silicon modules on a stationary fixed axis mount; and
- Crystalline silicon modules on a horizontal axis tracking mount; and
- Amorphous silicon ("thin film") modules on a stationary fixed axis mount.

All of the equipment used in developing the system design was based on CEC approved modules and inverters. The only exception to this was the specification of the Trace Technologies 100 kW line-tied inverter, which is expected to be on the CEC approved product list by the spring of 2001. In addition to the three system types, Millennium Energy also developed design specifications for three system sizes (1 MW, 500 kW, and 200 kW) corresponding to the three system types. A complete listing of the system specifications for the 1 MW, 500 kW and 200 kW system size options is provided in Appendix A.

Each of the system types and sizes was designed to optimize performance for annual energy output (i.e., modules facing due south) and to maximize reliability. For example, in designing the 1 MW system it was determined that ten x 100 kW arrays would increase the reliability of the system. If any one array should fail, the system would still be operating at 90% capacity. With respect to the module types specified in the system design, it should be noted that trade-offs do exist between thin film and crystalline silicon modules including:

- thin film modules cost considerably less (~$3.00/watt) than crystalline silicon modules (~$4.00/watt);
- thin film modules typically carry a warranty of 10 years and an expected life of 20 years, while crystalline silicon modules typically carry a warranty of 20-25 years and an expected life of 30 years;
- thin film modules require two times the array surface area for the same level of power output of crystalline silicon modules, and as such require additional hardware and mounting equipment which adds to the cost of the system; and
- thin film modules do not lend themselves to be used in conjunction with a tracking system, as they are more fragile, and require additional mounting hardware. This would not be preferred on a dynamic surface such as a landfill.

There are also trade-offs that exist between the use of fixed mount and tracking mount structures. Tracking mount structures, which tilt the modules at a constant angle to maximize the efficiency of the modules, can increase system output of the same module types by up to 18%. The trade-off is that tracking mounts are more expensive, but recent advances in the technology have reduced this incremental cost to about 2% above a fixed mount structure.

To illustrate the design of the various systems analyzed by this feasibility study, a number of preliminary design schematics were developed for the 1 MW plant options (including sub-array schematics), and have been included in this study with permission from Shingleton Engineering. These schematics, which are provided in Appendix B, include:

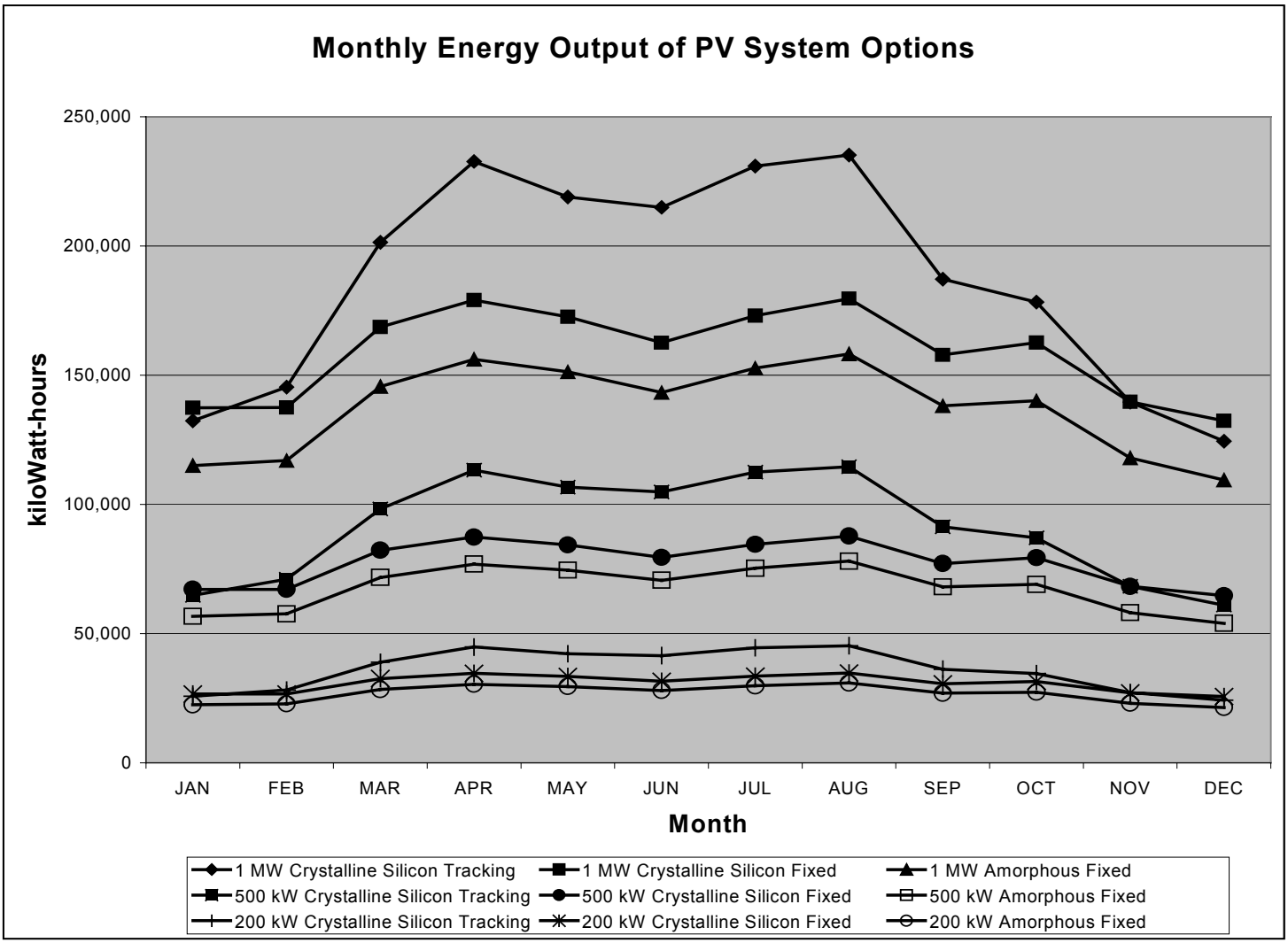
- 1 MW crystalline silicon array with tracking mount site plan and system schematic;
- 1 MW crystalline silicon array with tracking mount detailed system schematic;
- 115 kW crystalline array with tracking mount sub-array detailed system schematic;
- 311 kW crystalline silicon sub-array with tracking mount/fixed mount detailed module schematics;
- 298 kW crystalline silicon sub-array with tracking mount/fixed mount panel schematics;
- 288 kW amorphous sub-array with tracking mount/fixed mount detailed system schematics;
- Aerial view schematic of 110 kW crystalline silicon sub-array with fixed mount;
- Sub-grade view schematic of 110 kW crystalline silicon sub-array with fixed mount;
- Front view of 110 kW crystalline silicon sub-array with fixed mount schematic;
- Aerial view schematic of 1 MW crystalline silicon array with tracking mount system; and
- Detailed schematic of tracking mount assembly.

2.3 PV System Optimization

Once the three PV system designs were developed for the 1 MW, 500 kW, and 200 kW options, Millennium Energy modeled the output of each PV system and size option. Millennium Energy utilized the Maui Solar Software package for optimizing the design and modeling the annual energy output. The table below provides the results of these modeling scenarios. In addition, this table presents an energy equivalent in terms of homes served by the output of each PV system and size option, based on the annual average energy consumption of homes in the San Diego region (6,700 kWh/year).

PV System Option	Crystalline Silicon Fixed Mount	Crystalline Silicon Tracking Mount	Amorphous Thin Film Fixed Mount
	Annual Energy Output (kWh/yr.)		
1 megawatt	1,903,050	2,241,576	1,644,958
500 kilowatts	929,632	1,093,952	810,982
200 kilowatts	368,664	433,535	321,043
	"Energy Equivalent" Represented as # of Homes Served		
1 megawatt	284	335	246
500 kilowatts	139	163	121
200 kilowatts	55	65	48

In addition to modeling the annual energy output of each of the system types and sizes, Millennium also modeled the monthly energy output of each system type and size. The following graph illustrates the monthly energy output of the nine PV system options modeled for this study. As can be seen from this graph, the crystalline silicon module options provide more energy on a monthly basis than the amorphous option, and the crystalline silicon modules with tracking system option clearly maximizes the performance of the modules over the fixed mount option.



3 ECONOMIC ANALYSIS

Upon completion of the system design and technical analysis of the various PV system options for the Miramar Landfill site, Millennium Energy conducted an economic analysis of each system option. The results of these analyses are presented in the following sections. Section 3.1 details the capital and operating cost requirements of each PV system option, Section 3.2 details the economic analyses of these "base case" scenarios of each PV system option, Section 3.3 examines the potential economic incentives available to assist in reducing capital and operating costs, and Section 3.4 details the economic analyses of the "best case" scenarios incorporating readily available economic incentives.

3.1 Project Costs

As a first step in developing detailed cost estimates of each PV plant option, Millennium Energy developed cost estimates for each of the system components independent of industry input. These system cost components include:

- PV modules;
- PV module mounting hardware;
- Line-tie inverters;
- Balance of system components (i.e., hardware, wiring, disconnects, metering and NEC required components);
- Shipping;
- Site preparation and installation; and
- Plant commissioning.

As a second step, Millennium solicited cost estimates for these same components from PV system manufacturers and integrators. The resulting system capital cost estimates internally developed by Millennium and externally solicited from industry were directly in line with each other. The individual system component costs for each of the nine system options analyzed are provided in Appendix A. It should be noted that these costs do not include permitting, insurance, or annual utility hook-up fees. The estimated system capital costs for each option analyzed is presented in the table below.

PV System Option	System Capital Cost ($)		
	Crystalline Silicon Fixed Mount	Crystalline Silicon Tracking Mount	Amorphous Thin Film Fixed Mount
1 megawatt	$7,184,000	$7,334,000	$5,622,000
500 kilowatts	$3,672,000	$3,747,000	$2,903,000
200 kilowatts	$1,529,000	$1,559,000	$1,221,000

In addition to the estimated system capital costs, annual operations and maintenance (O&M) costs were calculated for each system option at the rate of $0.005/kWh. Annual O&M includes periodic system testing and analysis, cleaning of modules, and other routine O&M functions.

3.2 "Base Case" Economic Analysis

In evaluating the economics of the PV system options for the Miramar Landfill, a net present value analysis was conducted for the "base case" scenario for each PV system type and size. The "base case" scenario was defined by the project costs detailed in section 3.1, and the project benefits accruing from the sales of plant energy or displacement of utility energy purchases. The "base case" scenario does not include the benefits of any economic incentives. Available economic incentives are evaluated under the "best case" scenario detailed in section 3.4.

3.2.1 "Base Case" Economic Analysis Methodology

In conducting these "base case" analyses, the net present value of the project benefits was derived through the summation of the projected annual revenues from energy generated by the plant over its expected thirty year life. These revenues were calculated based upon an assumption that the value of the energy generated in the base year of operations was equal to 16 cents/kWh (i.e., the commodity price of energy sold from the plant, or the cost of utility provided energy displaced from the on-site PV plant, is equal to 16 cents per kWh). This value was calculated based on prevailing market conditions in the San Diego region from January through December 2000. The SDG&E General Service "A" rate tariff was used as a proxy for this assessment. This assumption for the value of power generated is a conservative estimate based on a mix of high and low monthly average energy prices during this period ranging from a low of under 10 cents/kWh to a high of over 26 cents/kWh. It should be noted that as recently as January of 2001, average monthly retail energy prices have reached nearly 30 cents/kWh. After the base year, a 3% per year energy price escalator was included in the analysis to account for future energy price increases and inflation. These annual revenues were then discounted by the appropriate discount rate tied to the financing option, and then summed over the thirty-year period.

Similarly, the net present value of the project costs was derived through the summation of the PV plant's fixed and annual costs over the thirty period. These costs include the down payment, annual financing payments, and annual O&M expenditures ($0.005/kWh/year). It should be noted that the O&M expenditures have been calculated based on the O&M requirements for the PV system components only. Actual O&M costs may be higher due to the additional engineering costs associated with maintaining a PV system on top of the dynamic surfaces common to landfills. The first step in calculating these costs was to determine the annual financing payment. This was accomplished by matching the projected annual revenues to an annual payment such that the annual finance payment and O&M expenditures do not exceed the annual revenues, thereby maintaining

positive or neutral cash flow for the project over the finance period. After this iterative process resulted in the annual payment, the principle amount of the loan was determined based on the interest rate of the finance option. The principle loan amount was then subtracted from the system capital cost to determine the down payment of the system. Finally, the down payment, and the annual project costs were discounted by the appropriate discount rate, again tied to the financing option, and summed over the thirty- year period.

The net present value methodology detailed above was replicated for each system option with one exception. Since amorphous thin film modules have an expected life of twenty years (compared to the thirty year expected life of crystalline silicon modules), the amorphous PV system options were evaluated over the twenty-year period, as opposed to the thirty-year period for crystalline silicon modules.

In conducting the base case economic analyses, two financing options were modeled for each PV system type and size. The City proposes to finance the project internally, and has two financing options available. The first option is to utilize Landfill Closure Reserve Fund monies. To utilize the Landfill Closure Reserve Fund option, the loan must be paid back within 13 years, thus defining the finance period. The annual interest rate on these funds is 6.0%. Since there is no opportunity cost associated with these funds the discount rate is effectively zero; this zero value was assumed for the discount rate under this financing option. The second financing option available to the City includes a 20-year financing term, 6% interest rate, and a discount rate of 4.5%.

Finally, once the net present cost and benefits were analyzed for each of the financing options, calculations were performed to determine the overall net present value of the PV plant, the cost of generation, the benefit-to-cost ratio and the payback period. These calculations were performed for each of nine PV system options considered by this study. The methodologies for calculating these economic values are:

- *Net Present Value of PV System* = Net Present Value of Benefits - Net Present Value of Costs
- *Cost of Generation* = Net Present Cost of PV System / Total kWh Generated Over the Life of the System
- *Benefit-to-Cost Ratio* = Net Present Benefit of PV System / Net Present Cost of PV System
- *Payback Period* = The period of time required for the project benefits to equal the project costs (determined by a cash flow analysis)

Documentation of all the analyses and calculations conducted for the base case scenarios are provided in Appendices C and D of this report.

3.2.2 Results of "Base Case" Economic Analyses

Based on the methodology detailed in Section 3.2.1, economic analyses were conducted for all nine PV system options considered by this study. In addition, all nine of these of these options were analyzed based on the two financing options currently available to the City. The results of these calculations are presented in the two tables below. The first table presents the economic analysis results for the nine PV system options under the 13-year financing mechanism, and the second table presents the economic results of these same systems under the 20-year financing mechanism.

PV System Option	Base Case Economic Analysis Results - 13 Year Financing Option				
	Down Payment Requirement	Net Present Value	Generation Cost ($/kWh)	Benefit/Cost Ratio	Payback Period (years)
1 megawatt					
Crystalline Silicon (Tracking)	$4,350,000	$7,919,843	$0.136	1.87	16
Crystalline Silicon (Fixed)	$4,600,000	$5,804,790	$0.152	1.67	18
Amorphous Silicon (Fixed)	$3,400,000	$243,488	$0.208	1.04	16
500 kilowatts					
Crystalline Silicon (Tracking)	$2,350,000	$3,628,740	$0.143	1.77	17
Crystalline Silicon (Fixed)	$2,400,000	$2,668,408	$0.158	1.61	18
Amorphous Silicon (Fixed)	$1,800,000	($14,783)	$0.216	0.99	17
200 kilowatts					
Crystalline Silicon (Tracking)	$1,000,000	$1,413,896	$0.145	1.75	17
Crystalline Silicon (Fixed)	$1,050,000	$997,344	$0.164	1.55	19
Amorphous Silicon (Fixed)	$1,800,000	($70,000)	$0.226	0.95	18

PV System Option	Base Case Economic Analysis Results - 20 Year Financing Option				
	Down Payment Requirement	Net Present Value	Generation Cost ($/kWh)	Benefit/Cost Ratio	Payback Period (years)
1 megawatt					
Crystalline Silicon (Tracking)	$3,400,000	$312,937	$0.120	1.04	25
Crystalline Silicon (Fixed)	$3,850,000	($652,975)	$0.136	0.92	30
Amorphous Silicon (Fixed)	$2,750,000	($1,708,656)	$0.186	0.72	20+
500 kilowatts					
Crystalline Silicon (Tracking)	$1,900,000	($79,698)	$0.128	0.98	27
Crystalline Silicon (Fixed)	$2,050,000	($475,844)	$0.142	0.88	30+
Amorphous Silicon (Fixed)	$1,500,000	($971,943)	$0.194	0.69	20+
200 kilowatts					
Crystalline Silicon (Tracking)	$800,000	($68,815)	$0.130	0.96	28
Crystalline Silicon (Fixed)	$900,000	($259,589)	$0.149	0.84	30+
Amorphous Silicon (Fixed)	$700,000	($451,933)	$0.204	0.66	20+

A number of observations can be made with respect to the above results. First, there is a significant difference in project economics between the 13-year and 20-year financing options. Due to the fact that the Landfill Closure Reserve Fund option needs to be repaid in thirteen years, the down payment requirements are significantly higher, as less principle can be financed over the shorter period. This results in lower interest payments over the finance period, and therefore enhanced project economics for the 13-year finance option. This is the most significant difference between the two finance options, and can be summarized as the trade-off between the higher down payment requirement and lower interest payments over the term of the 13-year finance option versus the lower down payment and higher interest payments over the term of the 20-year finance option. In addition, the zero value used for the discount rate also improves the economics of the 13-year finance option.

A few additional observations can be made regarding the net present value and benefit-to-cost ratios of the PV system options. First, prudent economic guidance dictates that no projects should be considered with a negative net present value and/or a benefit-to-cost ratio of less than 1.0. Not surprisingly, all the PV options with negative net present values also have a benefit-to-cost ratio of less than 1.0. This guidance eliminates all

but one of the PV system options under the 20-year finance mechanism (1 MW crystalline silicon with tracking mount), and the two smaller (200 kW/500 kW) amorphous systems under the 13-year option. Of the remaining systems, all have favorable (albeit not optimal) economic valuations, and pass the economic screening criteria for project feasibility. It should be noted however, that the payback periods of all the PV system options analyzed exceed their respective finance period. This means that while the loan may be paid off in year 13 or 20, depending on the finance option, project revenues will continue to be required to pay down the initial down payment. Once the specified payback year has been reached, then the system will be fully paid for, and positive cash flow will result for the remaining life of the system.

Based on the above economic results, a number of PV system options result in positive economic valuations. It is apparent from these "base case" economic valuation results that the most favorable system type is the crystalline silicon with tracking mount system, followed by the crystalline silicon with fixed mount system, with the amorphous system providing marginally positive economic valuations in only one case. The PV systems which pass the initial economic screening criteria under this base case, in descending order of economic value are:

- 1 MW Crystalline Silicon (Tracking) w/ 13-year financing;
- 500 kW Crystalline Silicon (Tracking) w/ 13-year financing;
- 200 kW Crystalline Silicon (Tracking) w/ 13-year financing;
- 1 MW Crystalline Silicon (Fixed) w/ 13-year financing;
- 500 kW Crystalline Silicon (Fixed) w/ 13-year financing;
- 200 kW Crystalline Silicon (Fixed) w/ 13-year financing;
- 1 MW Crystalline Silicon (Tracking) w/ 20-year financing; and
- 1 MW Amorphous (Fixed) w/ 13-year financing.

While these PV system options do provide positive economic benefits to the City under the "base case" scenario, there are a number of economic incentives and hardware buy-down monies available to enhance these project economics. These incentives and buy-down mechanisms are described in the following section.

3.3 Economic Incentives

The following sections detail the economic incentives available to increase the economic potential of the proposed PV system options. It should be noted that the availability and applicability of these incentives varies, and therefore a range of financial impacts is presented.

3.3.1 California Energy Commission "Emerging Renewables Buy-Down Program"

The California Energy Commission currently has in place an "Emerging Renewables Buy Down Program" program whereby system costs are reimbursed at the rate of $2.50 per watt for the first 200 kW and then $2.00/Watt for the next 250 kW for a total of 450 kW, with a $1 million dollar cap on the one-time payment. If the City opted to build one of the smaller plant options (i.e., 200 kW or 500 kW) and increase the system size at a later date, only the initial PV plant would be eligible for this cash rebate. Based on discussions with the CEC, the City of San Diego would be eligible for this system discount. However, there are a number of requirements that must be met in order to receive the buy-down monies. These requirements include:

- The system's electricity production may not exceed 125% of the site's historical/current electricity needs;
- The PV system installer/integrator must provide a minimum full five-year system warranty;
- A licensed contractor must install the system on the premises; and
- The PV system components (i.e., modules, inverters, and balance of system components) must be comprised of products specified in the CEC's approved product list.

The one requirement that stands out with respect to obtaining these funds is that the system's energy production may not exceed 125% of the site's historic or current electricity needs. For example, should the PV plant be sited near the Fee Station, this account would utilize only about 2.5% of the annual energy output of

a 1 MW PV plant - far less than the buy-down program requirements stipulate. Therefore, in order to access these monies, the City will need to identify additional on-site loads that could utilize this power. Based on conversations with CEC staff, the definition of an on-site load is one that is on the same property. Since MCAS-Miramar is on the same property as the Miramar Landfill, this entity could assist in meeting the on-site consumption requirements of the program if they were to purchase some of the output of the PV plant. One issue that still needs to be clarified, however, is whether the MCAS-Miramar site still qualifies as an on-site load if the power has to be "wheeled" over transmission and/or distribution lines to reach the site. None of the potential PV plant sites are directly interconnected with MCAS-Miramar. A summary of the economics of MCAS-Miramar purchases from the proposed plant is detailed later in this feasibility.

Since the buy-down has a tiered rebate structure, the greatest economic impact from these monies will be on the 200 kW option ($2.50/W rebate), followed by the 500 kW option ($2.50/W rebate for this first 200 kW and $2.00/W for next 200 kW). Since the rebates are capped at $1 million for 450 kW, the benefits of this $1 million rebate will spread over any increased system sizes. For example, the $1 million rebate applied to a 1 MW system would result in an effective rebate level of $1/W. In evaluating the economic impacts on the PV system options studied, the following economic incentive total were applied towards the total system cost:

- 200 kW: $500,000
- 500 kW: $1,000,000
- 1 MW: $1,000,000

It is recommended that full compliance with all program guidelines be required as part of any Request for Proposal developed to for system components and installation of the proposed PV system; full program guidelines are available at - http://www.energy.ca.gov/renewables/documents/500-97-011V3.PDF.

3.3.2 CEC Peak Load Reduction Grant Program

In addition to the CEC Emerging Renewables Buydown Program, the CEC also recently implemented a Peak Load Reduction Grant Program that provides funding to support renewable energy projects that reduce peak loads in California. This program provides an incentive of $250/kW for new generation, and the facility must be operational by June 1, 2001. One of the advantages of PV plants is that they can be constructed and operational with significantly shorter lead times than most other generation sources, possibly six to eight months or less, once all permitting and site approvals are completed. Applications to this program were due on December 14, 2000. For renewable energy resources, such as PV, the minimum system size required to qualify for the grant is 500 kW.

One of the few restrictions on this grant funding is that the project must receive no other CEC grant or contract funds with one exception. A renewable energy project may receive “buydown funding” from the Emerging Renewables Buydown Program. However, the project shall not have received approval for buydown funding by the date that the AB 970 grant proposal is submitted. If a project is approved to receive funding from both programs, in no case may the total funding from both sources exceed the total project cost.

While the City did not apply for this CEC grant, recent conversations with CEC staff indicate that a new round of grant solicitations, with similar funding levels, will be issued in summer of 2001. Since it is believed that the proposed PV plant will qualify for this grant, the funding levels have been included in the economic analysis of PV system options. The following grant amounts were applied towards the total system cost in the economic analyses completed for this project:

- 200 kW: $0
- 500 kW: $125,000
- 1 MW: $250,000

It is recommended that the City monitor this grant program over the coming months, review the awards from the first round, and apply for grant funds in the summer of 2001 if it is believed that the implementation schedule tied to the grant funds can be met.

3.3.3 Customer Credit

The California Energy Commission has a program that provides "Customer Credits" to consumers who purchase eligible Energy Commission-registered renewable power. Through this program, customers' electricity bill can be credited up to 1.0 cent for each kilowatt-hour of renewable electricity they consume. Payments to some customers have a ceiling of $1,000 per year per customer for the entire year. Some electric service providers (ESPs) may reflect the value of the credit in their pricing scheme, while others may use the credit to give customers a monthly bonus.

Companies that want to be eligible for CEC's "Customer Credits" for renewable energy must be registered by the CEC and offer renewable power that meets CEC eligibility criteria. To be eligible for the Customer Credits, the renewable electricity purchased must be produced within California and must not be utility owned. A city within an investor-owned utility's service territory can register to become an energy service provider and then sell the electricity to customers who can receive the customer credit, or can sell the power directly to a registered energy service provider who could then pass on the credit to their customers.

However, Assembly Bill 995 states that in 2002, public entities can no longer receive the customer credit for renewable energy purchases. Since the City or MCAS-Miramar can not receive the "Customer Credits" after 2001 for renewable energy purchases, these credits were not factored into the economic analyses incorporating economic incentives. Should the City sell the output of the PV plant to non-public entities, these credits can be applied thereby reducing the commodity cost by 1.0 cents per kWh.

3.3.4 Federal Renewable Energy Production Incentive Program

At the Federal level, the US DOE offers economic incentives via its Renewable Energy Production Incentive Program. The program currently offers a production credit of 1.8 cents per kWh. The program is structured in tiers, and Tier 1 incentives are available for photovoltaic, wind, and closed loop biomass systems. Historically, all applicants for Tier 1 incentives have been fully funded. While these funds are subject to annual budget appropriations, the program is authorized through the year 2013. The payments are authorized annually based on the prior year's energy production levels, and the incentive levels escalate annually based on a formula tied to annual inflation rates. The City would be eligible to apply for these funds in December 2001 for the prior year's energy production (through September 30, 2001), and then annually for each year that funds are appropriated. In conducting the economic analyses incorporating the impacts of incentives, the REPI credits were valued at 1.8 cents/kWh during the base year. An escalation factor of ~3% was added to each subsequent year of plant operations over the expected thirteen year life of the REPI program. The 3% escalation factor was calculated based on historic escalation factors, which are tied to national inflation increases, applied to the program over the past five years.

3.3.5 San Diego Regional Air Quality Management District Air Quality Credit Trading Program

The San Diego Regional Air Quality Management District (AQMD) manages an air quality credit trading program to provide incentives for the reduction of NOx levels in the region. Based on current valuations of these incentives, approximately $0.0028 per kWh may be obtained as a result of the environmental benefits accrued through production of clean photovoltaic based power. For the purposes of this analysis the $0.0028 cents per kWh represents a 50% discount to the full value of the credit, as it is likely that the power is not displacing electric generation within the AQMD region. The 0.0028 cents per kWh value was used in the economic analyses of the system incorporating all available economic incentives.

3.3.6 Empowerment Zone Tax Credits

This feasibility study is only examining site options at the Miramar landfill, which is not in a designated enterprise or empowerment zone; therefore, there are no tax credit or incentives available.

3.3.7 Brownfield Economic Incentives

The following sections detail economic incentives that are available to Brownfield applications. None of these economic incentives were included in the economic analyses of PV system options incorporating incentives, due to the fact that a municipal landfill does not meet the specific criteria of a Brownfield. However, if the definition is expanded, the City should consider applying for some of these incentives if it is determined that it meets the eligibility requirements. If successful in securing any of the following options, overall project economics will be enhanced even further.

3.3.7.1 Supplemental Environmental Projects (SEP).

A Supplemental Environmental Project (SEP) is an environmental project that a violator voluntarily agrees to perform as part of the settlement of an enforcement action. Although the violator is not legally required to perform a SEP, his cash penalty may be lower if he chooses to perform an acceptable SEP. An acceptable SEP must improve, protect or reduce risks to public health or the environment. When a company volunteers to do a SEP, it must show that it can and will complete the project. EPA does not manage or control the money for the project. EPA only provides oversight to ensure that the company does what it promises to do.

For example, if a company is facing civil penalties and fines due to an EPA enforcement action (usually air or water pollution related), the company can offset up to 80% of the civil penalty and invest 1.2 times the amount mitigated into a SEP. In turn, violators can obtain tax credits and other incentives depending on how they invest the money. A company in Denver recently agreed to a SEP and put $303,360 into escrow with Excel Energy for the development of new wind generation capacity.

3.3.7.2 General Obligation (GO) Bonds.

The City can issue "GO" Bonds for the purpose of Brownfield redevelopment. Photovoltaic power at the site maybe a good candidate for "GO" bonds since the site may not be developable in a cost-effective manner that results in positive revenues to the City. However, a Brightfield application will generate positive cash flow, and could even go so far as to help in providing cash for other Brightfield development activities at other City landfill sites.

3.3.7.3 EPA Brownfields Showcase Communities.

The EPA Brownfields Showcase Communities Program has three main goals:

1) To promote environmental protection, economic redevelopment and community revitalization through the assessment, cleanup and sustainable reuse of Brownfields;
2) To link Federal, State, local and non-governmental action supporting community efforts to restore and reuse Brownfields; and
3) To develop national models demonstrating the positive results of public and private collaboration addressing Brownfields challenges.

In October 2000, the second round of Showcase Communities was selected. The Brownfields assessment pilots (each funded up to $200,000 over two years) test cleanup and redevelopment planning models, direct special efforts toward removing regulatory barriers without sacrificing protectiveness, and facilitate coordinated environmental cleanup and redevelopment efforts at the federal, state, tribal, and local levels. It is expected that applications for 2002 funding will be available late in fiscal year 2002. Any entity is eligible to apply to be a showcase community.

3.4 "Best Case" Economic Analyses

Based on all of the incentives that are readily available to this proposed project, Millennium Energy constructed a "best case" scenario integrating the CEC Emerging Renewables buy down incentives, the CEC Peak Load Reduction Grant funds, the Federal Renewable Energy Production Incentive program credits, and the AQMD air quality credits. A summary of these credit values applied to each system type and size is provided in the table below. The incentives summarized in this table are listed from left to right in order of their likelihood to be obtained by the City. These incentives were incorporated into the net present benefit calculations developed for the "base case" scenario analyses. With the exception of adding these one-time and annual incentives into the net present benefit calculations, the exact same methodology detailed in Section 3.2.1 for the "base case" scenarios was utilized for "best case" scenario analyses.

	Economic Incentives Summary				
PV System Option	Base Case	CEC Buy-Down Program (Total Dollars)	CEC AB970 Grant Program (Total Dollars)	DOE REPI (Total Dollars)	San Diego AQMD Credits ($/Year)
1 megawatt					
Crystalline Silicon (Tracking)	$0	$1,000,000	$250,000	$652,300	$6,304
Crystalline Silicon (Fixed)	$0	$1,000,000	$250,000	$553,775	$5,352
Amorphous Silicon (Fixed)	$0	$1,000,000	$250,000	$478,682	$4,626
500 kilowatts					
Crystalline Silicon (Tracking)	$0	$1,000,000	$125,000	$318,340	$3,077
Crystalline Silicon (Fixed)	$0	$1,000,000	$125,000	$270,520	$2,615
Amorphous Silicon (Fixed)	$0	$1,000,000	$125,000	$236,000	$2,281
200 kilowatts					
Crystalline Silicon (Tracking)	$0	$500,000	$0	$126,158	$1,219
Crystalline Silicon (Fixed)	$0	$500,000	$0	$107,280	$1,037
Amorphous Silicon (Fixed)	$0	$500,000	$0	$93,423	$903

3.4.1 Results of "Best Case" Economic Analyses

Based on the standardized methodology developed for the "base case" scenarios, economic analyses were conducted for the "best case" scenarios for all nine PV system options considered by this study. In addition, all nine options were analyzed based on the two financing options currently available to the City. The results of these calculations are presented in the two tables below. The first table presents the "best case" economic analysis results for the nine PV system options under the 13-year financing mechanism, and the second table presents the economic results of these same systems under the 20-year financing mechanism.

	Best Case Economic Analysis Results - 13 Year Financing Option				
PV System Option	Down Payment Requirement	Net Present Value	Generation Cost ($/kWh)	Benefit/Cost Ratio	Payback Period (years)
1 megawatt					
Crystalline Silicon (Tracking)	$2,800,000	$9,870,573	$0.119	2.23	12
Crystalline Silicon (Fixed)	$3,100,000	$7,651,895	$0.132	2.01	14
Amorphous Silicon (Fixed)	$1,950,000	$1,970,899	$0.172	1.35	12
500 kilowatts					
Crystalline Silicon (Tracking)	$1,075,000	$5,094,031	$0.111	2.40	11
Crystalline Silicon (Fixed)	$1,175,000	$4,095,467	$0.119	2.23	12
Amorphous Silicon (Fixed)	$575,000	$1,344,930	$0.149	1.56	10
200 kilowatts					
Crystalline Silicon (Tracking)	$425,000	$2,140,334	$0.102	2.62	11
Crystalline Silicon (Fixed)	$500,000	$1,612,281	$0.120	2.21	12
Amorphous Silicon (Fixed)	$250,000	$517,726	$0.152	1.53	10

PV System Option	Best Case Economic Analysis Results - 20 Year Financing Option				
	Down Payment Requirement	Net Present Value	Generation Cost ($/kWh)	Benefit/Cost Ratio	Payback Period (years)
1 megawatt					
Crystalline Silicon (Tracking)	$1,800,000	$2,095,371	$0.103	1.30	18
Crystalline Silicon (Fixed)	$2,100,000	$1,031,796	$0.116	1.16	21
Amorphous Silicon (Fixed)	$1,200,000	$1,111,090	$0.113	1.30	17
500 kilowatts					
Crystalline Silicon (Tracking)	$625,000	$1,307,939	$0.094	1.42	16
Crystalline Silicon (Fixed)	$675,000	$855,882	$0.103	1.30	18
Amorphous Silicon (Fixed)	$225,000	$560,063	$0.112	1.31	13
200 kilowatts					
Crystalline Silicon (Tracking)	$225,000	$533,180	$0.093	1.44	15
Crystalline Silicon (Fixed)	$325,000	$325,634	$0.104	1.28	18
Amorphous Silicon (Fixed)	$100,000	$214,662	$0.113	1.30	14

A number of observations can be made with respect to the above results. Similar to the base case analyses, it is apparent that there is a significant difference in project economics between the 13-year and 20-year financing options. The higher down payment requirements of the 13-year financing option significantly enhance the project economics as less principle is financed over the shorter period. This results in increased net present value valuations, higher benefit-to-cost ratios, and shorter payback periods compared to the 20-year finance option.

It should be noted that the generation costs are lower under the 20-year finance option. This is a result of the fact that a zero value was assumed for the discount rate in the 13-year option; therefore the "present worth factor" or discounting of future costs and benefits to account for the time value of money is held constant at a value of 1. This results in a significantly higher net present cost of the system over its lifetime for the 13-year finance option and a correspondingly higher cost of generation.

Overall, the project economics are positive for all PV system and financing options considered under this "best case" scenario. All net present values are positive, nearly all generation costs are below the estimated value of power of 16 cents/kWh (with one exception), all benefit to cost ratios are greater than 1.0, and nearly all options provide a payback within its respective payback period (with two exceptions). With all economic indicators positive for nearly every option, the trade off occurs between acquiring the significant capital to meet the down payment requirements of the 13-year finance option vs. accepting lower economic returns (although still positive) through reducing the down payment and financing over 20 years. Thus, if the down payment requirements are too extensive under the 13-year finance option, economic benefits can still be accrued through utilizing the 20-year financing mechanism. While the down payment requirements under the 20-year option are still significant, they are substantially less than the requirements under the 13-year option.

Another observation worth noting from these results is that within their respective financing options, the 200 kW and 500 kW system options have nearly identical economic impacts in terms of generation costs, benefit-to-cost ratios, and payback periods. This is a result of the fact that the impact of the CEC buy-down monies is the same for the 200 kW and 500 kW systems ($2/W); but the 200 kW system is too small to qualify for the AB970 Peak Load Reduction Grant funds. Therefore, a 500 kW system will return the same relative level of economic impacts as a 200 kW system financed under the same mechanism. It should also be noted that because the CEC buy-down monies are capped at $1 million per project, the benefits of these monies have decreasing benefits as the system size increases over 450 kW. For example, the $1 million cap results in a buy-down of $2/w for the 500 kW system, but only $1/w for the 1 MW system. As a result, the 500 kW

system options are more economically attractive than the 1 MW system options in terms of generation costs, benefit-to-cost ratios and payback periods. From a purely economic perspective, the 500 kW system option delivers the greatest value of the three PV system options, under most of the scenarios evaluated.

Finally, with respect to system types, the crystalline silicon with tracking mount systems provide enhanced economics over the crystalline silicon with fixed mount system under all of the "best case" scenarios evaluated. This is purely a function of the increased energy output of the tracking system option, and the corresponding economic benefits accruing from increased energy sales. In addition, the crystalline silicon with tracking system options also provide greater economic benefits when compared to the amorphous with fixed mount system options under nearly all the scenarios analyzed. Again, this is a function of the increased benefits accruing through the increased energy output of the crystalline silicon with tracking system option; as well as the fact that the expected life of the plant of crystalline silicon option is 30 years versus the 20 year expected life of the amorphous system option.

3.4.2 Alternative Finance and Funding Scenarios

In addition to the 13 and 20 year financing options, Millennium Energy also conducted an analysis of two alternative scenarios to demonstrate the economic impacts of financing over a 10-year period with Landfill Closure Reserve Funds and a direct purchase of the system with no financing. Due to the fact that the use of Landfill Closure Reserve Funds will require 10 year financing starting in 2001, a best case scenario was developed for the 500 kW crystalline silicon tracking system option financed with Landfill Closure Reserve Funds over a 10-year period. In addition, another best case scenario was developed for the same PV system option with no financing, that is, a direct purchase of the system. The results of these analyses are presented in the table below.

	Best Case Economic Analysis Results 10 Year Financing and No Financing Options				
PV System Option	**Down Payment Requirement**	**Net Present Value**	**Generation Cost ($/kWh)**	**Benefit/Cost Ratio**	**Payback Period (years)**
500 kilowatts					
Crystalline Silicon (Tracking) * - 10 year financing option	$1,350,000	$5,372,826	$0.103	2.60	11
Crystalline Silicon (Tracking) * - direct purchase	$2,712,000 (purchase price)	$1,588,218	$0.085	1.57	16

The are two main observations that can be made on these analyses. First, while the ten-year option provides on of the best economic valuations of all options studied, this is due to the fact that over half the system cost is paid for in the down payment. This combination of high down payment and short finance period provides highly favorable economic valuations for net present value and benefit to cost ratio. However, it is also important to note that payback period is longer than finance period.

The second observation that can be made is related to the direct purchase option. While the economic valuations provided by these options are not as favorable as some of the other financing options, this is due to the fact that the capital costs are paid up-front prior to development. Due to this fact, the entire capital cost of the system is fully valued in year one, and is not discounted in the cash flow analysis over the 30-year period. Again, this is a function of the discount rate factor which takes in to account that money is worth more in the present than in the future. However, the generation cost resulting from the direct purchase of the plant is lowest of all options evaluated. This is a result of the fact that this option is the lowest total cost option, since there is no finance interest charged.

4 ECONOMIC VALUE AND VALUE-ADDED BENEFITS

A number of options were evaluated under this study to estimate the economic benefits of the proposed project, as well as to specify value-added benefits provided by the plant. These benefits are described in the following sections.

4.1 On-Site Energy Consumption/Sales

4.1.1 Miramar Landfill Fee Station

In order to quantify the benefits of on-site usage of PV power at the Fee Station, an analysis was conducted to determine the "break-even" cost of PV produced energy when used to displace utility provided energy. In calculating the commodity price of utility provided power, a billing analysis for the Fee Station account was conducted for the period from January through December 2000. Based on this analysis, it was determined that the average annual price of utility energy during this period was 16 cents/kWh. This commodity price was then designated as the "break-even" cost. That is, when the commodity price of energy generated by the PV plant is valued at 16 cents/kWh, and displaces utility provided energy priced at 16 cents per kWh, the result is a "break-even" transaction. Should the utility price of energy increase above the 16 cents/kWh level, then net savings are provided to the Fee Station. For example, during January 2001, average utility energy prices at the Fee Station account were approximately 30 cents/kWh, and estimated consumption was approximately 5,750 kWh for a total energy cost of $1,725. If PV power was available to the Fee Station at 16 cents/kWh, the City would have saved ~$800 (over 45%) on its energy related utility costs for this account during January. It should be noted that the Fee Station's annual energy consumption is equivalent to only 2.5% of the annual output of a 1 MW plant. Since the Fee Station is on the SDG&E General Service "A" rate schedule. Therefore, if other accounts of the same tariff can be identified and accessed, similar reductions in energy bills during these high cost months could be experienced.

4.1.2 Marine Corps Air Station - Miramar Purchases from a PV Plant at the Miramar Landfill

Millennium Energy conducted a detailed review and analysis of MCAS-Miramar's energy consumption and costs, based on data provided by energy program staff at the base. MCAS-Miramar purchases its power through the Public Works Command (PWC) and not directly from SDG&E. PWC charges MCAS-Miramar via a time-of-use (T-O-U) rate tariff for base, peak, and semi-peak energy consumption periods, and also charges for peak demand and non-coincident demand. After an analysis of the rates charged to MCAS-Miramar by the PWC for the sites monthly energy consumption for each T-O-U period was completed, it was determined that MCAS-Miramar currently pays an annual average cost for energy of $0.065 per kWh. This annual average cost is a blended cost incorporating both energy and demand charges. Even if energy and demand from the proposed PV plant at the landfill is sold to MCAS-Miramar only during the peak and semi-peak periods, the electricity provided would be displacing load that is currently served by the PWC at a rate of $0.079 per kWh. Therefore, purchases of PV power by MCAS-Miramar in the $0.16-$0.17 per kWh would not be cost-effective based on the current rate schedule.

However, it is apparent that the rates currently charged by the PWC do not reflect current market conditions in the San Diego region. MCAS-Miramar is aware of this situation, and realizes that it may be faced with significant rate increases in the near future. Therefore, it is recommended that the City work with the MCAS-Miramar energy program staff, and monitor any future rate increases to determine if the purchase of PV power from the landfill would be cost-effective based on the new rates.

4.1.3 PV Power as a Peak Load Reduction Strategy

A number of options exist for the utilization of power from the proposed PV power plant, and in fact, it could provide additional economic benefits to selected customers when sold as part of a peak reduction strategy. For example, the demand (or kilowatt) component of power sales have not been factored into the economic analyses for this effort, as the analyses have focused on General Service tariff accounts (i.e., the Fee Station) that are not charged for electrical demand. Large commercial, industrial, and government facilities typically are charged for their peak demand usage, and as the San Diego region has seen, these charges have escalated

dramatically in recent months. As illustrated earlier in this report, the peak power output of a PV plant in San Diego is highly coincident with the highest cost utility peak demand periods. Customers with utility demand charges could subscribe to the demand and energy output from the plant to reduce these peak demand costs and hedge against future price volatility.

One large facility with a demand charge and/or a time-of-use tariff opting to purchase power from the proposed solar plant (i.e., MCAS-Miramar) could account for a significant amount of its total output. In this instance, a win-win situation would be achieved in that the City would obtain a single customer to dedicate the output of the plant to, and the customer would be provided with economic benefits from reduced energy and demand costs - and lock in a hedge against future price volatility.

4.1.4 PV Power Sales Strategies

Other options for utilization of the output of the plant include direct sales to customers in the San Diego region. This would require the City to become a municipal utility. However, since the City already operates as a utility in several areas already (i.e., refuse collection and disposal, sewage treatment) many of the requirements of operating as a utility are already in place (i.e., billing and accounting).

Currently, residential rates in San Diego are "capped" at 6.5 cents per kWh. However, this "cap" on residential rates is seen by many as artificial since the rates are capped for three years at the 6.5 cent/kWh level, but at the end of the three year period residential customers will be charged the difference between the capped rate and actual cost of power consumed -- plus an interest rate for the balance carried over the three year period. Assuming that the capped rate and the actual cost of energy consumed are equal over the three year period (which most industry analysts do not anticipate), a typical residential customer that purchases the output of the proposed plant at 17 cents/kWh (estimated based on 16 cent/kWh commodity price, 1/cent per kWh CEC rebate, and 2 cents/kWh to account for distribution, administrative, and transaction costs) would experience an annual increase in their utility bills of $700. Since this is obviously not an economical transaction for the consumer, this scenario is highly unlikely. Conversely, if the actual future cost of power in the region mirrors the current rates in the region (16-30 cents per kWh), residential consumers could purchase the power for a break-even transaction, or even at net savings on their utility bills.

The direct sales strategy discussed above assumes an "all or nothing" purchase by the consumer. However, if the power were sold in 100 kWh per month blocks (just under 15% of average residential usage), the incremental cost on the consumers utility bill would be ~$10.50 per month. The following table summarizes the "energy equivalent" of customers required to fully utilize the output of the PV plant options considered by this study when purchasing the output in 100 kWh/month blocks. If this option is considered, the City should investigate the legality of such a scenario as current restructuring laws prohibit customers from having more than one energy service provider per account. However, this law may not apply to the City if it becomes a municipal utility.

PV System Option	Crystalline Silicon Fixed Mount	Crystalline Silicon Tracking Mount	Amorphous Thin Film Fixed Mount
	Energy Equivalent -- # of Customers Purchasing 100 kWh/mo.		
1 megawatt	1,586	1,868	1,371
500 kilowatts	775	912	676
200 kilowatts	307	361	268

Another alternative considered under the sales options was direct sales to green power marketers. While this scenario may warrant further evaluation, Millennium contacted several green power marketers operating in California to determine their interest in purchasing solar power resources from the San Diego region. While all were interested in purchasing solar power (since few green power marketers have any solar in their

resource portfolios), none were willing to pay more than 10 cents/kWh. This option is not economically viable for the City based on the economics of the proposed solar plant at Miramar Landfill.

Finally, the City may also want to consider the option of selling the output of the PV plant directly into the Power Exchange. While current market conditions indicate that selling the power directly into the Power Exchange may result in immediate profits and positive cash flow, the future of the California electricity market is highly uncertain and extreme volatility in energy prices may continue to exist. Therefore, selling directly into the exchange would be a high risk option, especially if future energy prices were to drop below the 16 cent/kWh level; prices below this level would result in negative cash flow for the plant and would not accrue sufficient revenues to meet the finance payment requirement. In addition, selling into the market reduces one of the major benefits provided by solar power - price stability. Since PV plants have no fuel or other variable costs, the energy from a PV plant can be sold at fixed prices under long-term contracts. Fixed price long-term contracts are the lowest risk option since they guarantee a positive revenue stream from energy sales. This strategy also provides advantages to the customer by providing a long-term hedge against future price volatility - a value-added benefit in addition to any energy price savings resulting from the long-term fixed price contract.

Under any of the direct sales strategies that require transmitting power through the grid, additional costs will be incurred for these sales including, but not limited to, power scheduling and transmission wheeling charges, administrative costs, and transaction costs. Discussions should be initiated with SDG&E to determine the amount of these additional costs if direct sales strategies are pursued. In addition, it is also important to note that the implementation of any direct sales strategies to off-site customers will result in the loss of the CEC Emerging Renewables Buy Down Program incentives; however, if these direct sales are made to non-public entities, the loss of this incentive will be partially offset by 1cent/kWh customer credit available from the CEC.

4.1.5 Additional Value Added Benefits

In addition to the value added benefits of a PV power discussed throughout this report (i.e., hedging against future price volatility, peak power reduction, Brownfield redevelopment, economic development, and positive environmental impacts), there is one other value-added benefit that should be considered in evaluating the viability of PV power plant options in the San Diego region. This additional value-added benefit is the voltage support distributed energy options such as PV provide to the local transmission and distribution grid. While this has no monetary value to the City, SDG&E may accrue benefits on its stressed T&D system through the additional localized voltage support provided by PV power plants. While this additional voltage support is minimal from just one 1 MW PV plant, these benefits may become appreciable if additional distributed generation plants are brought on line in the future. While a 1 MW PV power plant is unlikely to prevent a localized power black out, the proliferation of distributed energy options on the localized grid may have an impact in the future. As PV and other distributed energy options become valued on a more equal basis with conventional peaking power plants (such as natural gas combustion turbines) the value added benefits of PV plants are more likely to be transferred to tangible monetary benefits. The development of a PV power plant at Miramar Landfill is an important first step in San Diego towards moving the market for PV technologies from small-scale green power applications to utility-scale power plant applications.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

As can be seen from the analyses presented in this report, the development of a PV power plant at Miramar Landfill is both technically and economically feasible. With respect to the technical issues assessed through this feasibility study, there are no technical barriers to development of a plant at the site. There still remain a number of critical issues to be resolved, such as developing an interconnection and wheeling agreement with SDG&E, obtaining approval from the CLAMP on the use of the site for producing PV power, and finalizing the location of the site at the landfill.

In reviewing the "best case" scenario results of the economic analyses of the PV system options considered by this study, it is possible that economic benefits may be accrued by the City from developing, owning, and operating a PV facility. The acquisition of CEC buy-down funds, CEC customer credits, CEC Peak Load Reduction Grant funds, Federal Renewable Energy Production Incentives, and regional air quality credits will significantly enhance the overall project economics, and will make the difference between whether or not the project is economically feasible.

5.2 Recommendations

Based on the economic analyses performed on nearly all the scenarios developed, the crystalline silicon with tracking system provides superior economic performance over the same system with a fixed mount and the amorphous thin film option. In addition, it was determined that no significant economic differences (in terms of generation cost, benefit-to-cost ratio, and payback periods) existed between the 200 kW and 500 kW system options. Therefore, if the down payment requirements can be met, it is recommended that the City pursue the 500 kW system option if deciding between developing a 200 kW and 500 kW system. While the economic valuations are the same, greater net revenues will be obtained through the 500 kW system options.

However, there was a discernable difference in the economic valuations between the 500 kW and 1 MW plant options. Due to the impact of the CEC buy-down funds, the 500 kW system provides increased economic value and is more cost-effective than the 1 MW option. Whether to pursue development of a 500 kW system or a 1 MW system will require a management decision based on whether the City should develop the most cost-effective option (500 kW) or an option that is still cost-effective but is larger in size and results in more net revenue to the City. One alternative to the 500 kW vs. 1 MW decision would be to start with the 500 kW system and add another 500 kW at a later date. In this manner the CEC buy-down funds will be maximized, and all other economic incentives can still be obtained for the additional 500 kW upon completion.

One of the critical factors that will need to be addressed by the City is securing the down payment requirement. Even under the 20-year financing mechanism, the down payment requirements for a 1 MW system range from $1.2-2.1 million dollars. Therefore, the amount of down payment monies available will likely determine not only the financing mechanism utilized (13 vs. 20 year) but the size of the system as well (200 kW, 500 kW, or 1 MW).

It should be noted, again, that the economic analyses performed by this study are based on several key assumptions such as: 1) a value of PV energy sales of 16 cents per kWh in the San Diego region, 2) a 3% annual energy price escalation factor, and 3) various interest rates and financing term parameters. Should any of these variables change, even slightly, the results of these analyses can change significantly. Therefore, it is recommended that the City review all of its financing options, and continue to closely monitor the energy market in the San Diego region for any significant changes in energy prices which may have an impact on overall project economics.

In addition, the City should review its options for utilizing the output of the proposed plant, and identify opportunities for selling both demand and energy to consumers in the region, preferably to one large customer. Ideally, sales of demand and energy by the City to MCAS-Miramar would provide a win-win situation to both entities - while demonstrating a municipal/Federal partnership to address common community energy goals and objectives.

5.3 Significant Follow-up Steps

It is highly recommended that the City take action to complete and/or resolve the following issues:

- Initiate dialogue with SDG&E to discuss interconnection requirements and costs, wheeling capacity availability and costs, direct sales transaction costs, and the time required to complete the process;
- Go forward with an application to the CEC's Peak Load Reduction Grant and Emerging Renewables Buy-Down programs to secure funds to buy down the up-front capital cost of the plant;

- Proceed with the CLAMP application process and then the associated Federal processes;
- Proceed with all internal processes required for completion prior to plant construction (i.e., land use permitting, environmental permitting, etc.); and
- Identify the customers and confirm specific details of the power purchase transaction.

Finally, in an effort to keep project costs as low as possible, and economics as favorable as possible, the City may also want to consider developing 2-3 500 kW PV plants at various Brownfield sites operated by the City. For example, if the City were to develop a 500 kW PV plant at the Miramar Landfill, Balboa Park Landfill, and the Chollas Landfill then the City could reduce the cost of each of these smaller plants by $1 M each (when compared to a 1 MW plant) through the acquisition of CEC Emerging Renewables buy-down funds. Since the 500 kW system options provide the best economic valuations of all three plant sizes considered by this study, it may be economically prudent to develop several 500 kW system rather than one l MW system. Through a strategy of sustained and orderly development of solar plants in the region, an increased number of smaller plants can be cost-effectively developed within the region as opposed to a single less cost-effective large plant. Smaller plants with larger proportionate buy down levels will result in lower energy production costs, lower down payment requirements, overall enhanced economics, as well as provide the additional value added benefits afforded by multiple distributed generation systems.

Appendix A:
PV System Design Specifications
And
Associated Component Costs

1 MW Design Specifications and Associated Component Costs

Crystalline Modules with Fixed Mount PV System

- 4,320 x 300 watt crystalline silicon modules (432 parallel strings of 10 in series) in 10 sub-arrays. Cost @ ~ $4.00/w = $5,184,000.
- 10 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $610,000.
- Elevation angled fixed mount structure. Cost ~ $350-400,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $1-1.25 M

Total System Capital Cost ~ $7,184,000.

Crystalline Modules with Tracking Mount PV System

- 4,320 x 300 watt crystalline silicon modules (432 parallel strings of 10 in series) in 10 sub-arrays. Cost @ ~$4.00/w = $5,184,000.
- 10 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $610,000.
- Single axis azimuth tracking mount structure. Cost ~ $550,000
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $1-1.25 M

Total System Capital Cost ~ $7,384,000.

Amorphous Thin Film Modules with Fixed Mount PV System

- 25,930 x 43 watt amorphous thin film modules (5,186 parallel strings of 5 in series) in 10 sub-arrays. Cost @ ~ $3.00/w = $3,121,972.
- 10 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $610,000.
- Elevation angled fixed mount structure. Cost ~ $650,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $1-1.35 M

Total System Capital Cost ~ $5,622,000.

500 kW Design Specifications and Associated Component Costs

Crystalline Modules with Fixed Mount PV System

- 2,160 x 300 watt crystalline silicon modules (216 parallel strings of 10 in series) in 5 sub-arrays. Cost @ ~ $4.00/w = $2,592,000.
- 5 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $305,000.
- Elevation angled fixed mount structure. Cost ~ $175-200,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $600-750,000
- **Total System Capital Cost ~ $3,672,000.**

Crystalline Modules with Tracking Mount PV System

- 2,160 x 300 watt crystalline silicon modules (216 parallel strings of 10 in series) in 5 sub-arrays. Cost @ ~ $4.00/w = $2,592,000.
- 5 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $305,000.
- Single axis azimuth tracking mount structure. Cost ~ $325,000
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $625 - 750,000

Total System Capital Cost ~ $3,837,000.

Amorphous Thin Film Modules with Fixed Mount PV System

- 12,965 x 43 watt amorphous thin film modules (2,593 parallel strings of 5 in series) in 5 sub-arrays. Cost @ ~ $3.00/w = $1,672,485.
- 5 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $305,000.
- Elevation angled fixed mount structure. Cost ~ $325,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $600-810,000.

Total System Capital Cost ~ $2,903,000.

200 kW Design Specifications and Associated Component Costs

Crystalline Modules with Fixed Mount PV System

- 864 x 300 watt crystalline silicon modules (432 parallel strings of 10 in series) in 2 sub-arrays. Cost @ ~ $4.00/w = $1,036,800.
- 2 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $122,000.
- Elevation angled fixed mount structure. Cost ~ $70-80,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $300-375,000.

Total System Capital Cost ~ $1,529,000.

Crystalline Modules with Tracking Mount PV System

- 864 x 300 watt crystalline silicon modules (432 parallel strings of 10 in series) in 2 sub-arrays. Cost @ ~ $4.00/w = $1,036,800.
- 2 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $122,000.
- Single axis azimuth tracking mount structure. Cost ~ $100,000
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $300-375,000

Total System Capital Cost ~ $1,559,000.

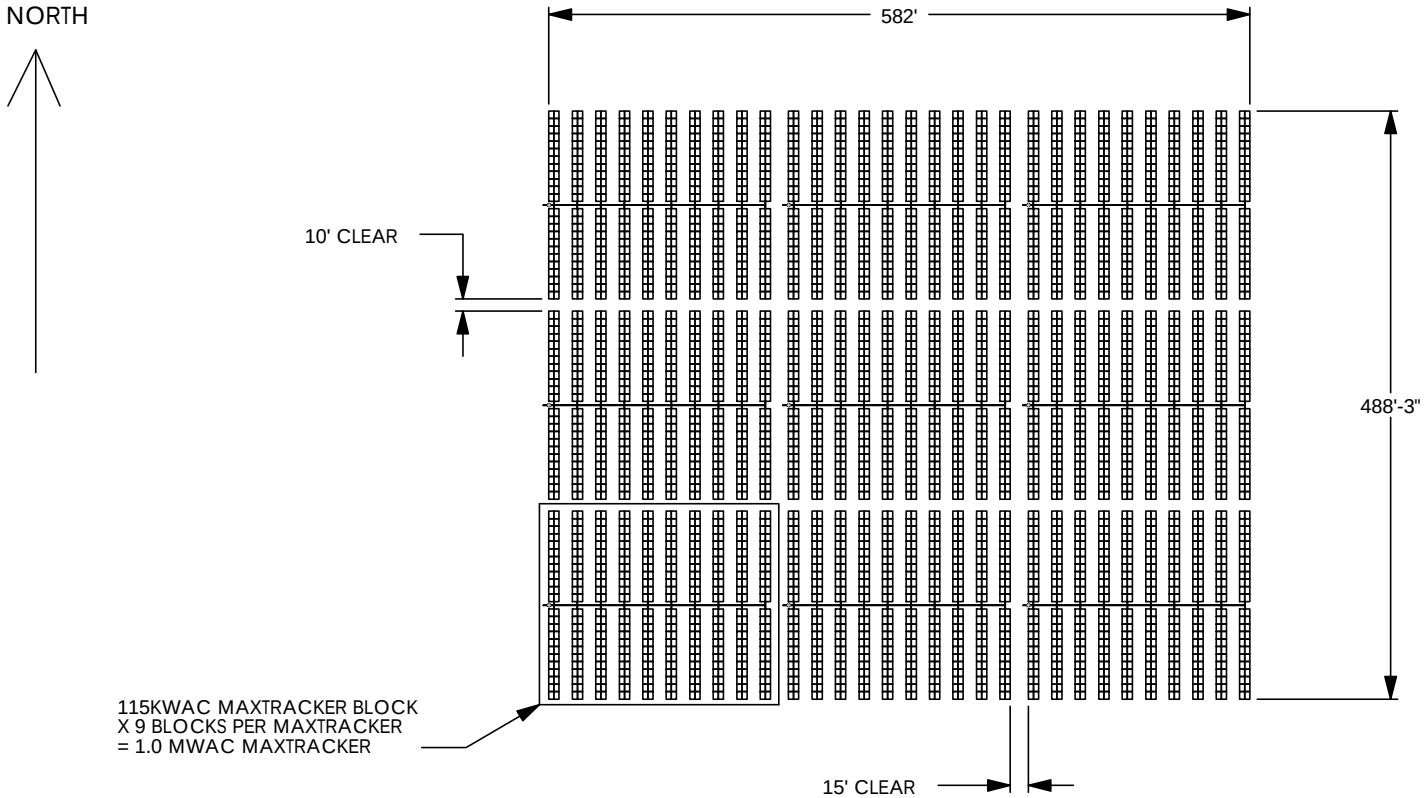
Amorphous Thin Film Modules with Fixed Mount PV System

- 5,186 x 43 watt amorphous thin film modules (1,037 parallel strings of 5 in series) in 2 sub-arrays. Cost @ ~ $3.00/w = $668,994.
- 2 x Trace 100 kW line tie inverters. Cost @ 61,000/inverter ~ $122,000.
- Elevation angled fixed mount structure. Cost ~ $130,000.
- Balance of system components (hardware, wiring, disconnects, metering and NEC required components), freight and installation. Cost ~ $300-400,000.

Total System Capital Cost ~ $1,221,000.

Appendix B:
Preliminary System Design Schematics

SAN DIEGO BRIGHTFIELDS 1 MW PV POWER PLANT



REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING MAX@SHINGLETON.COM MaxTracker™ US PATENT NO. 6,058,930
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MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	SAN DIEGO BRIGHTFIELDS PV PROJECT
FINISH: --	FRACTIONS + 1/16 — DECIMALS .XX ± .02, .XXX ± .010 — ANGLES ± 1	SCALE 1:1800 — 1 MWAC MAXTRACKER PLAN
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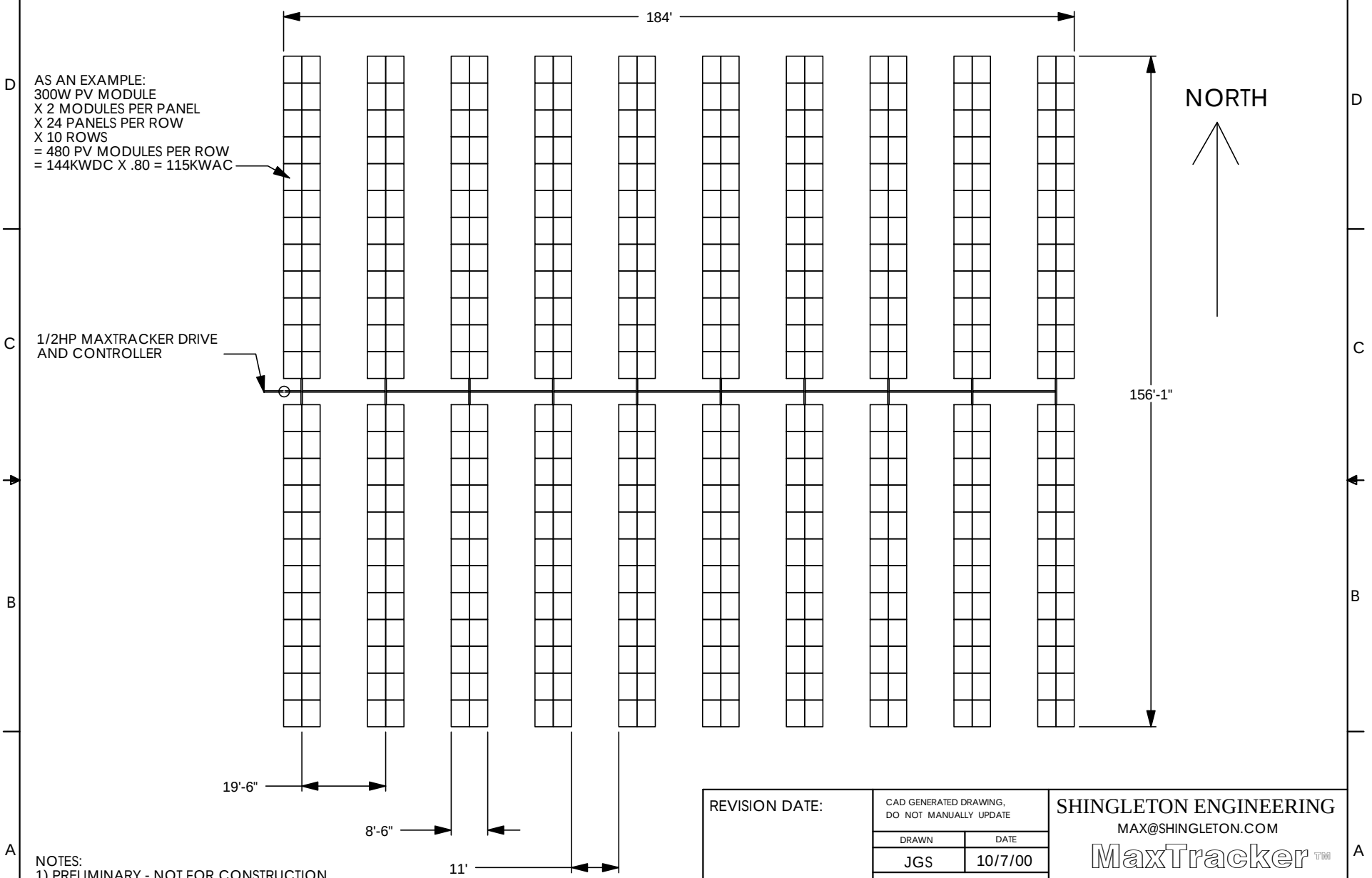

NOTES:
1) PRELIMINARY - NOT FOR CONSTRUCTION
2) DIMENSIONS ARE APPROXIMATE
3) 300W PV MODULES SHOWN AS AN EXAMPLE. MAXTRACKER MAY READILY ACCOMMODATE ALTERNATIVE MODULES OR MULTIPLE PV MODULE TYPES.

REVISION DATE:	
MATERIAL	--
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DRAWN	DATE
JGS	10/7/00

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

FRACTIONS	DECIMALS	ANGLES
+ 1/16	.XX ± .02	± 1
	.XXX ± .010	

SHINGLETON ENGINEERING
MAX@SHINGLETON.COM

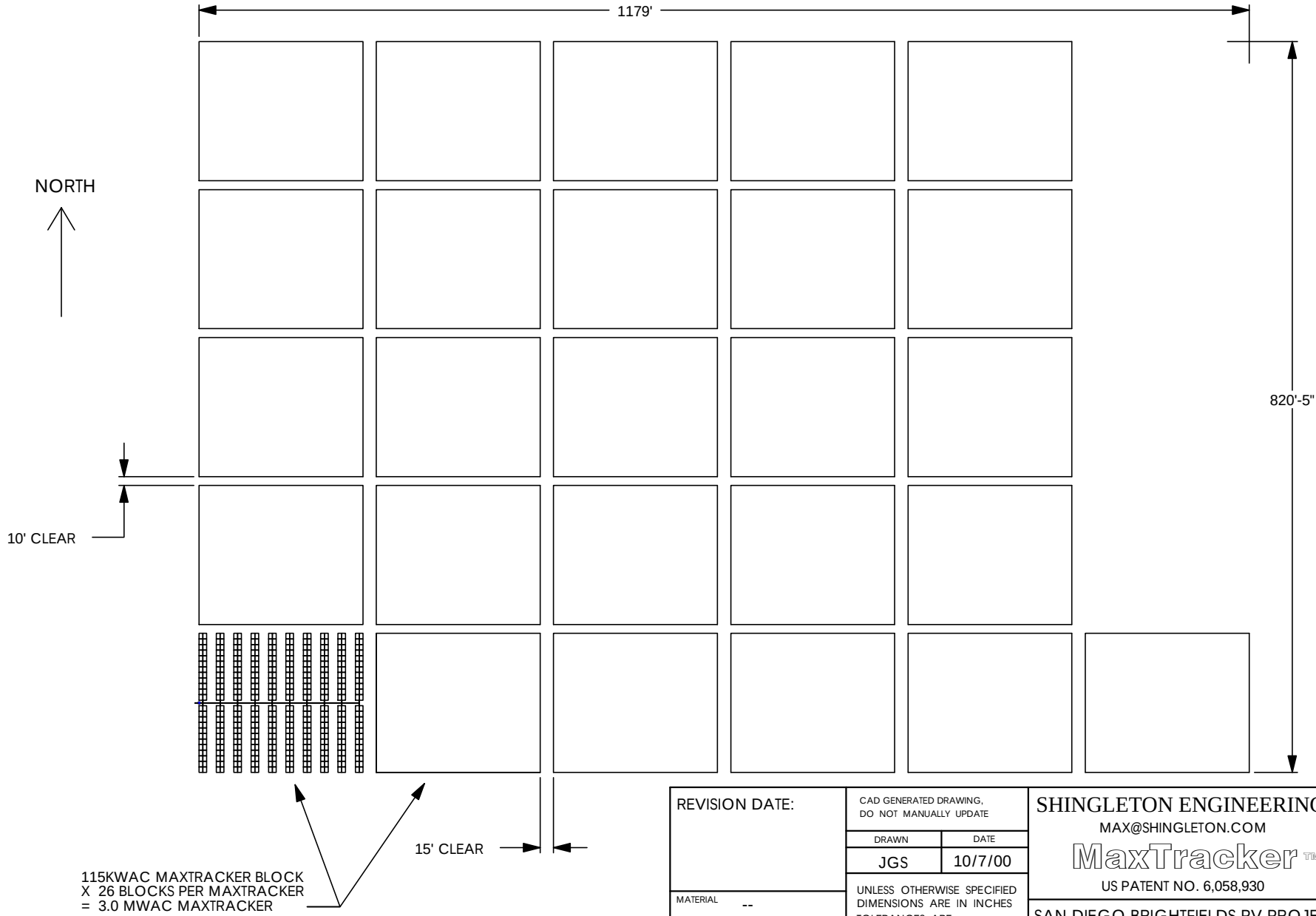
MaxTracker™
US PATENT NO. 6,058,930

SAN DIEGO BRIGHTFIELDS PV PROJECT

SCALE	
1:360	115KWAC MAXTRACKER

SIZE	DWG. NO.	SHEET
A	SDBF-001-A	3 OF 3

SAN DIEGO BRIGHTFIELDS 3 MW PV POWER PLANT



REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING MAX@SHINGLETON.COM MaxTracker™ US PATENT NO. 6,058,930
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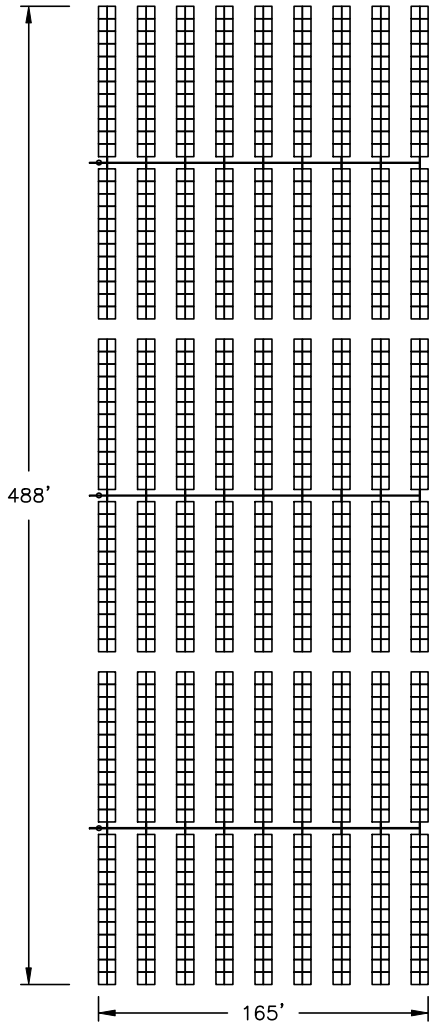
DO NOT SCALE DRAWING		SIZE A — DWG. NO. SDBF-001-A — SHEET 2 OF 3

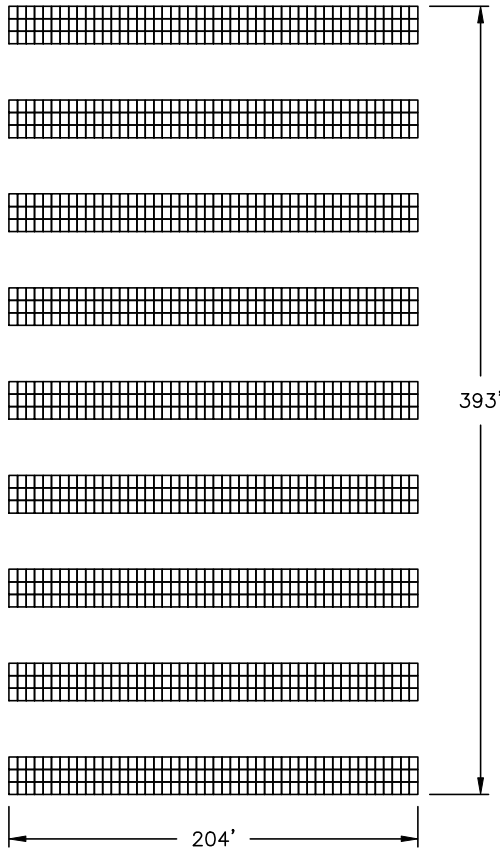
311 kWac LARGE AREA MODULE Tracker



Tracker Area:
1.8 Acres

311 kWac LARGE AREA MODULE Rack

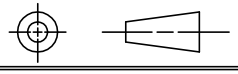
Rack Area:
1.8 Acres



311kWac LARGE AREA MODULE System Statistics:

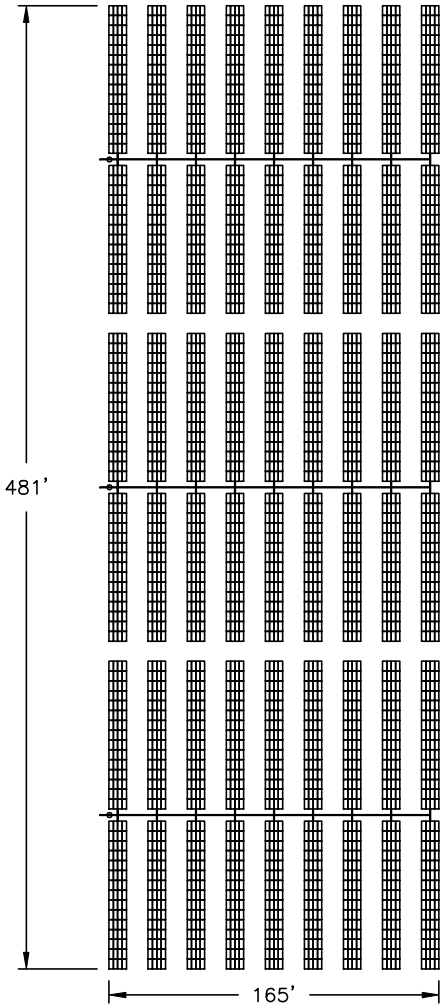
QTY 1296 @ 300 Wdc LARGE AREA MODULES
= 389kWdc
X 0.8 System Efficiency
= 311kWac
Tracker Area: 1.8 Acres
= 168 kWac/Acre
Rack Area: 1.8 Acres
= 168 kWac/Acre

THIRD ANGLE PROJECTION



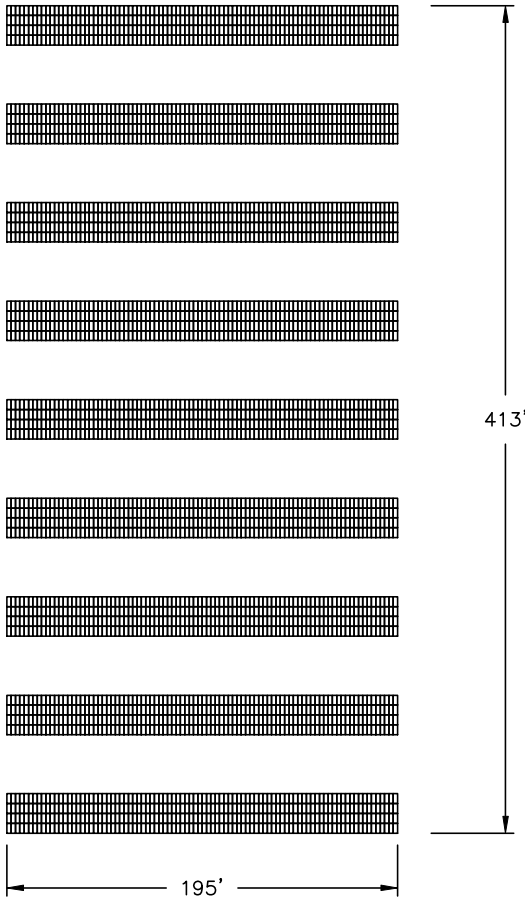
REVISION DATE A: 10/13/00	MaxTracker™ & MaxRack™ Shingleton Engineering		US PATENT 6,058,930
SCALE 1"=100'	APPROVED BY	DRAWN BY JGS	
DATE 10/12/00		REV BY JGS	
SAN DIEGO BRIGHTFIELDS PV PROJECT LARGE AREA MODULE ARRAY LAYOUTS			
SUNDANCE SOLAR	SIZE A	DWG NO. SDBF-02	REV A

298 kWac LARGE AREA PANEL Tracker



Tracker Area:
1.8 Acres

298 kWac LARGE AREA PANEL Rack



Rack Area:
1.8 Acres

N

298kWac LARGE AREA PANEL System Statistics:

QTY 810 @ 460 Wdc LARGE AREA PANELS
= 373kWdc
X 0.8 System Efficiency
= 298kWac
Tracker Area: 1.8 Acres
= 164 kWac/Acre
Rack Area: 1.8 Acres
= 161 kWac/Acre

THIRD ANGLE PROJECTION

REVISION DATE
A: 10/13/00

MaxTracker™ & MaxRack™
Shingleton Engineering
US PATENT 6,058,930

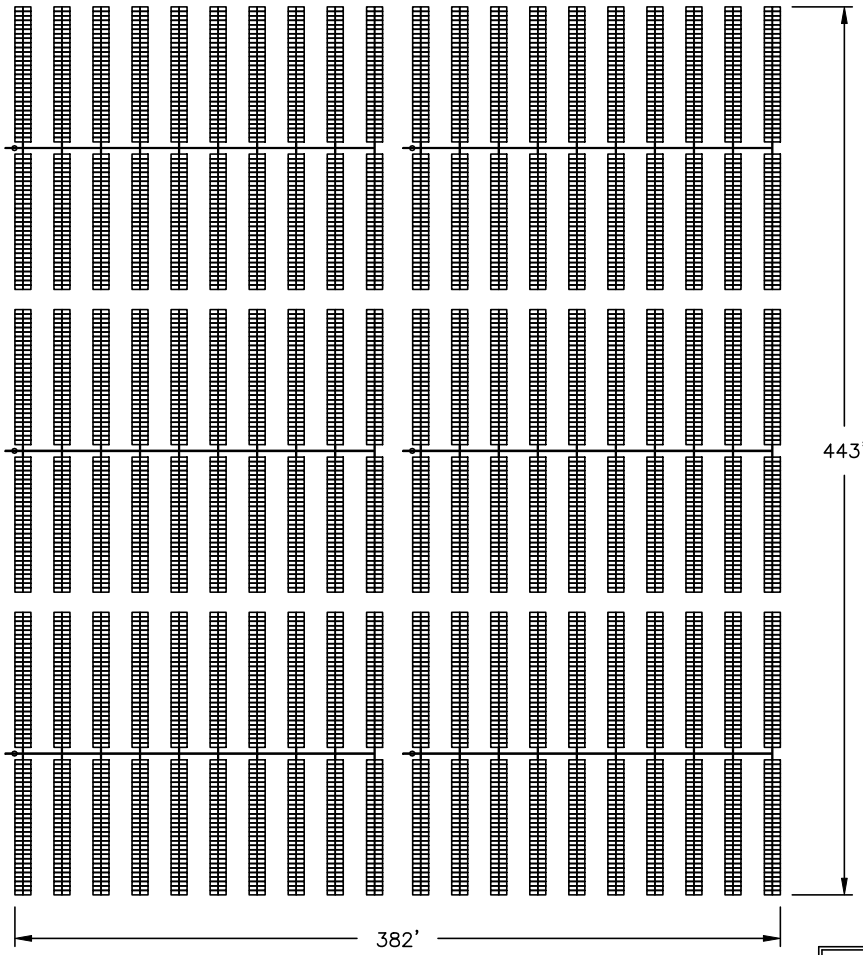
SCALE	1"=100'	APPROVED BY		DRAWN BY	JGS
DATE	10/12/00			REV BY	JGS

SAN DIEGO BRIGHTFIELDS PV PROJECT
LARGE AREA PANEL ARRAY LAYOUTS

SUNDANCE SOLAR	SIZE	DWG NO.	REV
	A	SDBF-03	A

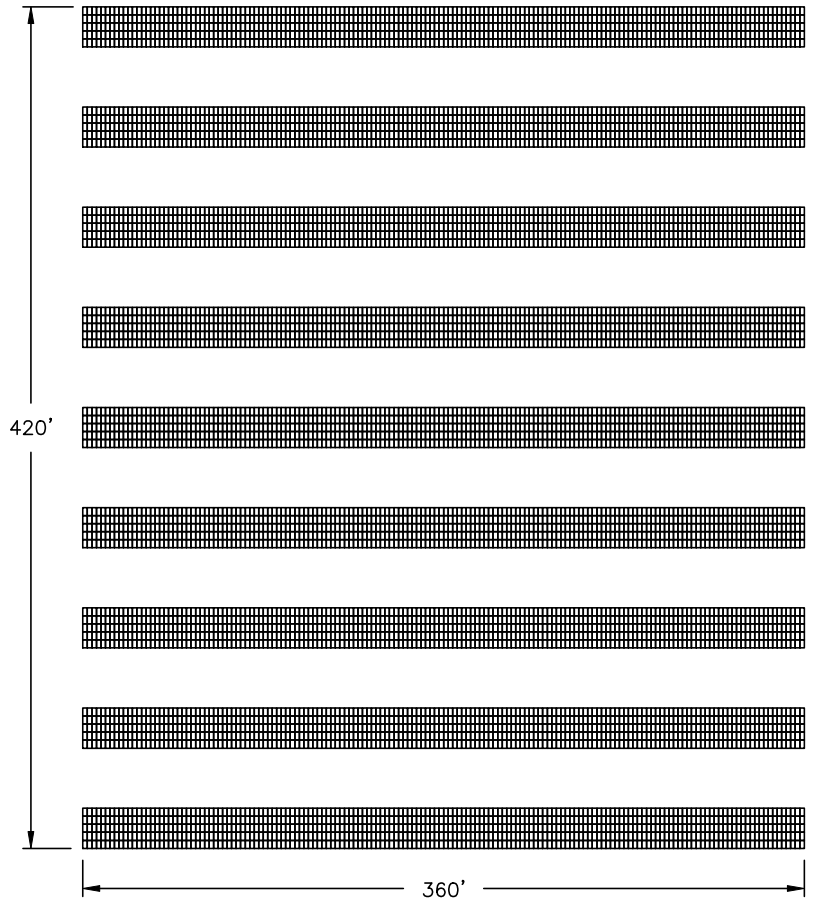
288 kWac THIN FILM Tracker

Tracker Area:
3.9 Acres



Rack Area:
3.5 Acres

288 kWac THIN FILM Rack



288kWac THIN FILM System Statistics:

QTY 7200 @ 50 Wdc Modules
= 360kWdc
X 0.8 System Efficiency
= 288kWac
Tracker Area: 3.9 Acres
= 74kWac/Acre
Rack Area: 3.5 Acres
= 83kWac/Acre

REVISION DATE
A: 10/13/00

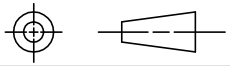
MaxTracker™ & MaxRack™
Shingleton Engineering
US PATENT 6,058,930

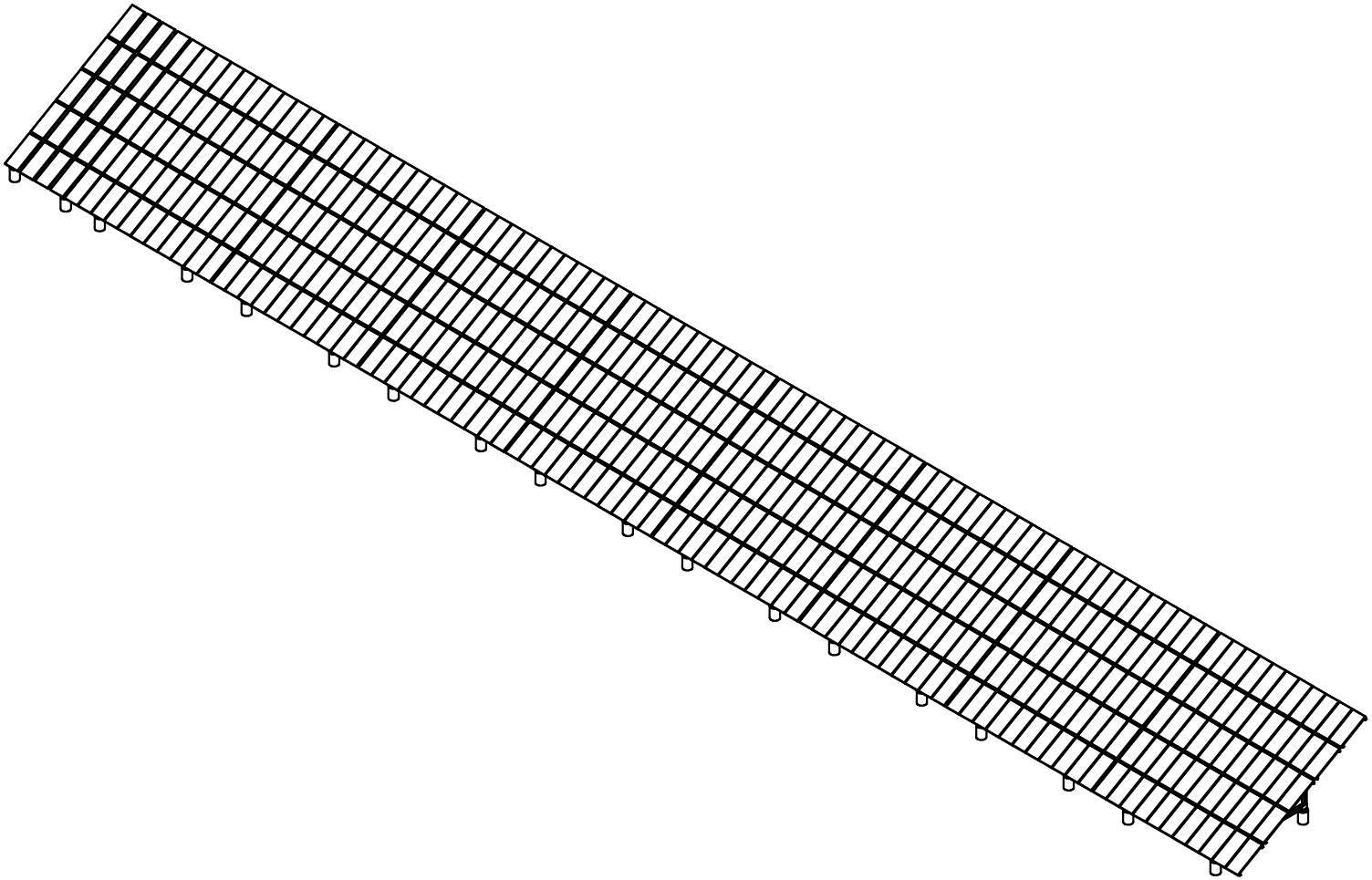
SCALE	1"=100'	APPROVED BY		DRAWN BY	JGS
DATE	10/12/00			REV BY	JGS

SAN DIEGO BRIGHTFIELDS PV PROJECT
THIN FILM MODULE ARRAY LAYOUTS

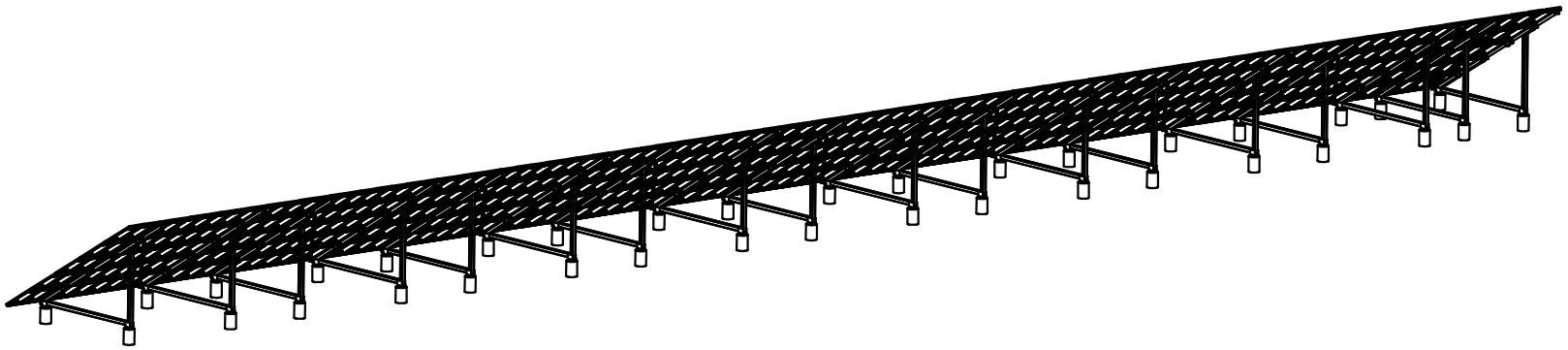
SUNDANCE SOLAR	SIZE	DWG NO.	REV
	A	SDBF-04	A

THIRD ANGLE PROJECTION

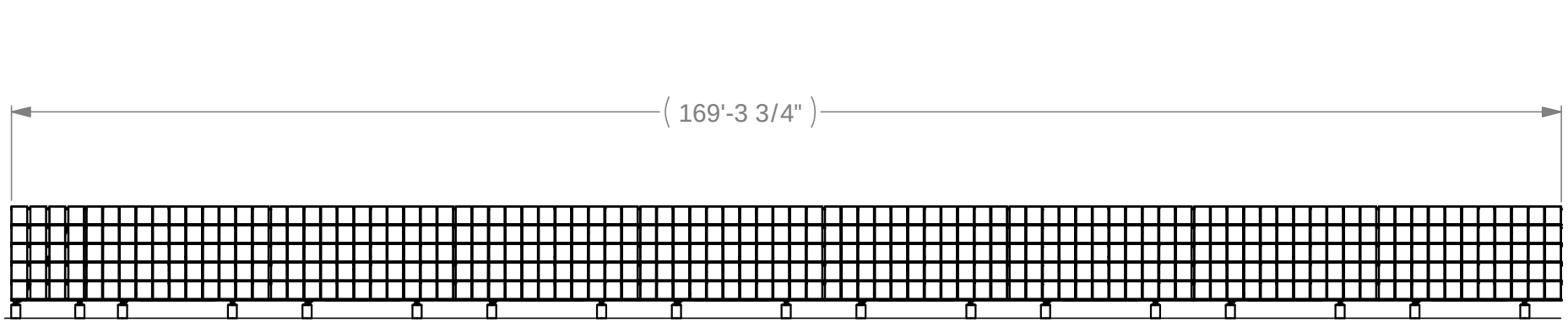




REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING MAX@SHINGLETON.COM MaxRack ™	
	DRAWN: JGS — DATE: 9/15/00		
MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS + 1/16 — DECIMALS .XX ± .02, .XXX ± .010 — ANGLES ± 1	SALINE PROJECT	
FINISH: --		SCALE 1:192 — ARRAY AERIAL	
DO NOT SCALE DRAWING		SIZE A — DWG. NO. BPSL-4-A — SHEET 1 OF 1	



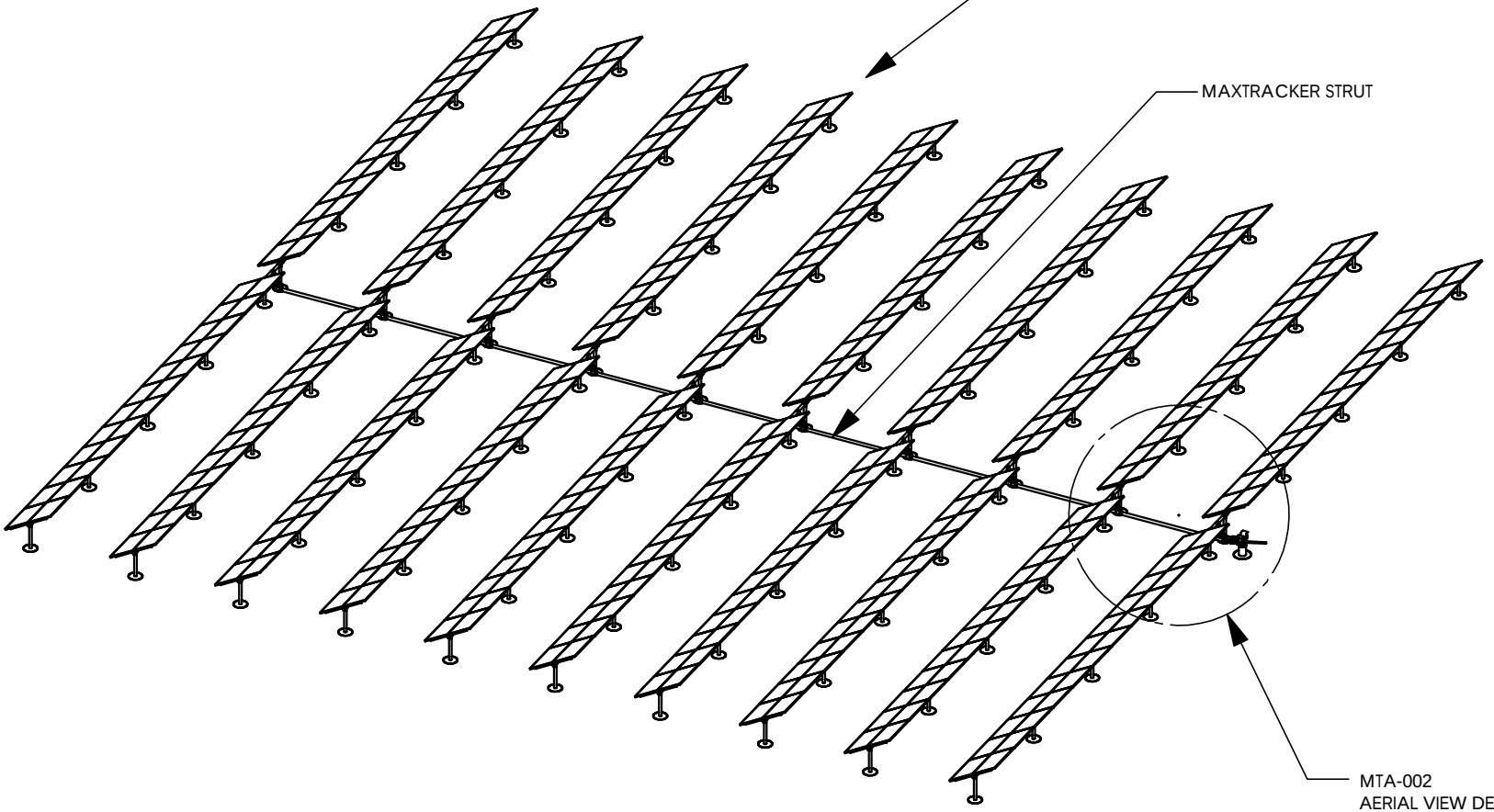
REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING MAX@SHINGLETON.COM MaxRack ™	
	DRAWN: JGS — DATE: 9/15/00		
MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS + 1/16 — DECIMALS .XX ± .02 — ANGLES ± 1 .XXX ± .010	SALINE PROJECT	
FINISH: --		SCALE 1:192 — ARRAY AERIAL	
DO NOT SCALE DRAWING		SIZE A — DWG. NO. BPSL-5-A	SHEET 1 OF 1



NOTES:

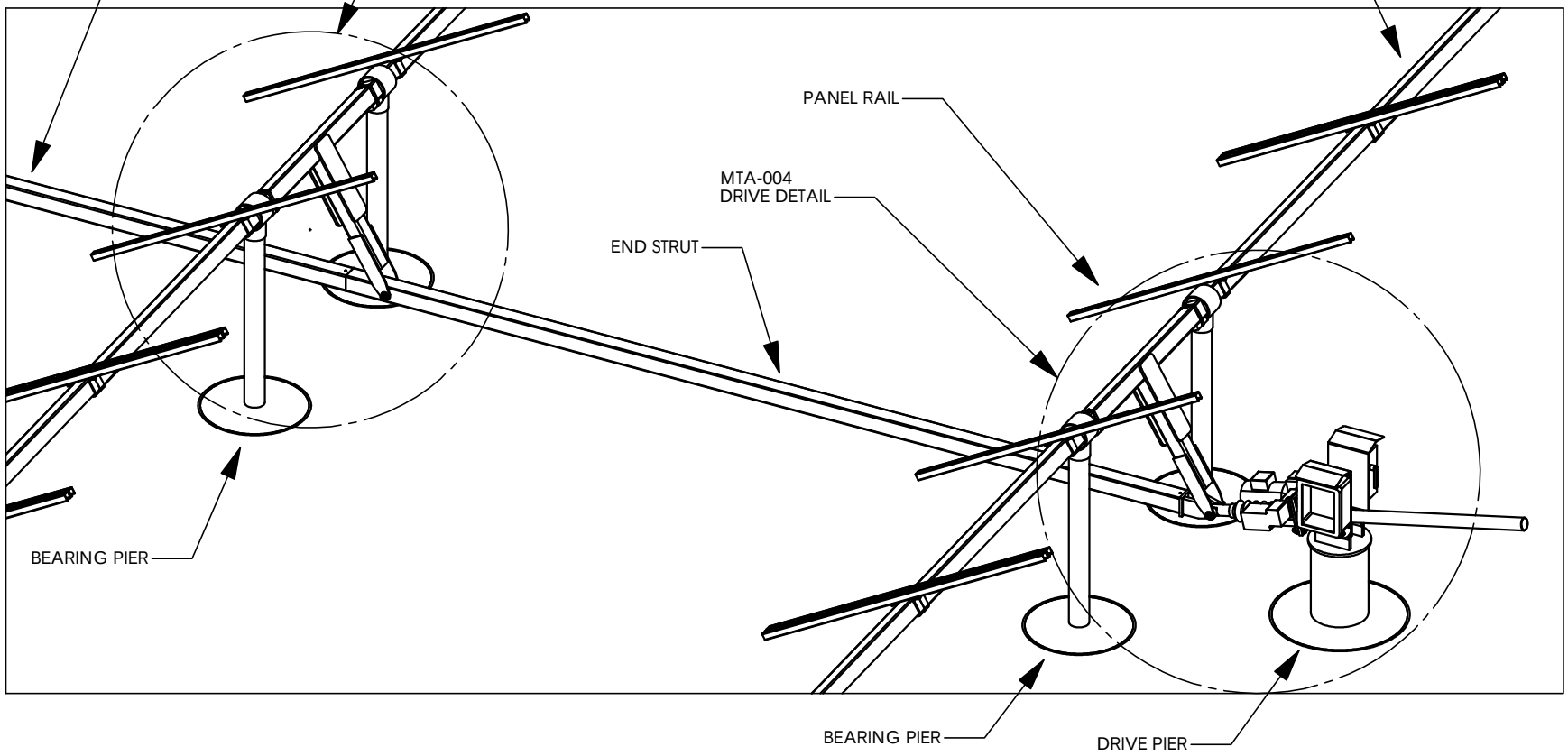
1) PRELIMINARY - NOT FOR CONSTRUCTION.
2) DESIGN BASIS 90MPH 3-SEC GUST IAW ASCE 7-95 AND UBC; UBC SOIL CLASS 4.

REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING MAX@SHINGLETON.COM MaxRack ™
	DRAWN: JGS — DATE: 9/15/00	
MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	SALINE PROJECT
FINISH: --	FRACTIONS + 1/16 — DECIMALS .XX ± .02, .XXX ± .010 — ANGLES ± 1	SCALE 1:200 — FRONT VIEW
DO NOT SCALE DRAWING		SIZE A — DWG. NO. BPSL-1-A — SHEET 1 OF 1



NOTES:
1) THESE DRAWINGS INLLUSTRATE THE GENERIC MAXTRACKER ASSEMBLY DETAILS. THE PV MODULE TYPE, NUMBER OF ROWS, NUMBER OF DRIVES, NUMBER OF PIERS AND OTHER DETAILS WILL VARY FOR SPECIFIC PROJECTS.
2) CONSULT THE PROJECT ARRAY LAYOUT, FOUNDATION LAYOUT AND DETAIL DRAWINGS, AND THE PROJECT BILL-OF-MATERIALS FOR ALL SPECIFIC PROJECT DETAILS.

REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING
	DRAWN: JGS — DATE: 8/29/00	MAX@SHINGLETON.COM
MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	MaxTracker™
FINISH: --	FRACTIONS + 1/16 — DECIMALS .XX ± .02, .XXX ± .010 — ANGLES ± 1	US PATENT NO. 6,058,930
DO NOT SCALE DRAWING		MAXTRACKER ASSEMBLY
		SCALE 1:288 — AERIAL VIEW
		SIZE A — DWG. NO. MTA-001-A — SHEET 1 OF 1



NOTES:
1) THESE DRAWINGS INLLUSTRATE THE GENERIC MAXTRACKER ASSEMBLY DETAILS. THE PV MODULE TYPE, NUMBER OF ROWS, NUMBER OF DRIVES, NUMBER OF PIERS AND OTHER DETAILS WILL VARY FOR SPECIFIC PROJECTS.
2) CONSULT THE PROJECT ARRAY LAYOUT, FOUNDATION LAYOUT AND DETAIL DRAWINGS, AND THE PROJECT BILL-OF-MATERIALS FOR ALL SPECIFIC PROJECT DETAILS.
3) GENERIC DRAWING MAY SHOW COMPONENTS PROVIDED BY OTHERS.
4) PV MODULES NOT SHOWN FOR CLARITY.

REVISION DATE:	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE	SHINGLETON ENGINEERING
	DRAWN: JGS — DATE: 8/29/00	MAX@SHINGLETON.COM
MATERIAL: --	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	MaxTracker™
FINISH: --	TOLERANCES ARE:	US PATENT NO. 6,058,930
DO NOT SCALE DRAWING	FRACTIONS + 1/16 — DECIMALS .XX ± .02, .XXX ± .010 — ANGLES ± 1	MAXTRACKER ASSEMBLY
		SCALE 1:36 — AERIAL VIEW DETAIL
		SIZE A — DWG. NO. MTA-002-A — SHEET 1 OF 1

Appendix C:
Economic Analysis Spreadsheets
For
Base Case Scenario of PV System Options
Utilizing the 13-Year Financing Mechanism

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$7.384M)
0	0			1.0000	$0.00	$0.00	-$4,350,000.00	$0.00
1	2241576	0.16	$358,652.16	1.0000	$358,652.16	-$486,947.72	$4,602.28	$358,652.16
2	2241576	0.1648	$369,411.72	1.0000	$369,411.72	-$476,188.16	$15,361.84	$728,063.88
3	2241576	0.169744	$380,494.08	1.0000	$380,494.08	-$465,105.80	$26,444.20	$1,108,557.96
4	2241576	0.17483632	$391,908.90	1.0000	$391,908.90	-$453,690.98	$37,859.02	$1,500,466.86
5	2241576	0.18008141	$403,666.17	1.0000	$403,666.17	-$441,933.71	$49,616.29	$1,904,133.03
6	2241576	0.185483852	$415,776.15	1.0000	$415,776.15	-$429,823.73	$61,726.27	$2,319,909.18
7	2241576	0.191048367	$428,249.44	1.0000	$428,249.44	-$417,350.44	$74,199.56	$2,748,158.61
8	2241576	0.196779818	$441,096.92	1.0000	$441,096.92	-$404,502.96	$87,047.04	$3,189,255.53
9	2241576	0.202683213	$454,329.83	1.0000	$454,329.83	-$391,270.05	$100,279.95	$3,643,585.36
10	2241576	0.208763709	$467,959.72	1.0000	$467,959.72	-$377,640.16	$113,909.84	$4,111,545.08
11	2241576	0.215026621	$481,998.51	1.0000	$481,998.51	-$363,601.37	$127,948.63	$4,593,543.59
12	2241576	0.221477419	$496,458.47	1.0000	$496,458.47	-$349,141.41	$142,408.59	$5,090,002.06
13	2241576	0.228121742	$511,352.22	1.0000	$511,352.22	-$334,247.66	$157,302.34	$5,601,354.28
14	2241576	0.234965394	$526,692.79	1.0000	$526,692.79	$515,484.91	$515,484.91	$6,128,047.07
15	2241576	0.242014356	$542,493.57	1.0000	$542,493.57	$531,285.69	$531,285.69	$6,670,540.64
16	2241576	0.249274787	$558,768.38	1.0000	$558,768.38	$547,560.50	$547,560.50	**$7,229,309.02**
17	2241576	0.25675303	$575,531.43	1.0000	$575,531.43	$564,323.55	$564,323.55	**$7,804,840.45**
18	2241576	0.264455621	$592,797.37	1.0000	$592,797.37	$581,589.49	$581,589.49	$8,397,637.82
19	2241576	0.27238929	$610,581.29	1.0000	$610,581.29	$599,373.41	$599,373.41	$9,008,219.12
20	2241576	0.280560968	$628,898.73	1.0000	$628,898.73	$617,690.85	$617,690.85	$9,637,117.85
21	2241576	0.288977798	$647,765.70	1.0000	$647,765.70	$636,557.82	$636,557.82	$10,284,883.55
22	2241576	0.297647131	$667,198.67	1.0000	$667,198.67	$655,990.79	$655,990.79	$10,952,082.21
23	2241576	0.306576545	$687,214.63	1.0000	$687,214.63	$676,006.75	$676,006.75	$11,639,296.84
24	2241576	0.315773842	$707,831.07	1.0000	$707,831.07	$696,623.19	$696,623.19	$12,347,127.90
25	2241576	0.325247057	$729,066.00	1.0000	$729,066.00	$717,858.12	$717,858.12	$13,076,193.90
26	2241576	0.335004469	$750,937.98	1.0000	$750,937.98	$739,730.10	$739,730.10	$13,827,131.88
27	2241576	0.345054603	$773,466.12	1.0000	$773,466.12	$762,258.24	$762,258.24	$14,600,597.99
28	2241576	0.355406241	$796,670.10	1.0000	$796,670.10	$785,462.22	$785,462.22	$15,397,268.09
29	2241576	0.366068428	$820,570.20	1.0000	$820,570.20	$809,362.32	$809,362.32	$16,217,838.30
30	2241576	0.377050481	$845,187.31	1.0000	$845,187.31	$833,979.43	$833,979.43	$17,063,025.61
Totals	**67247280**		**$17,063,025.61**		**$17,063,025.61**			

* Discount Rate= 0.0%

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$4,350,000.00	$0.00	$4,350,000.00	1.0000	$4,350,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
2	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
3	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
4	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
5	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
6	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
7	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
8	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
9	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
10	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
11	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
12	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
13	$342,842.00	$11,207.88	$354,049.88	1.0000	$354,049.88	$834,392.00	$11,207.88	$845,599.88	1.0000	$845,599.88
14	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
15	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
16	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
17	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
18	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
19	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
20	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
21	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
22	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
23	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
24	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
25	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
26	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
27	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
28	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
29	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
30	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
Totals	**$8,806,946.00**	**$336,236.40**	**$9,143,182.40**		**$9,143,182.40**	**$10,847,096.00**	**$336,236.40**	**$11,183,332.40**		**$11,183,332.40**

* Financing of $3,034,000 for 13 years at a 6% interest rate and $4,350,000 downpayment

** Discount Rate = 0.0%

*** Financing of $7,384,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $17,063,025.61

\- $9,143,182.40

= **$7,919,843.21**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $9,143,182.40 / 67247280 kWh

= **$0.136 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $17,063,025.61 / $9,143,182.40

= **1.866**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 16**

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$7.184M)
0	$0.00		$0.00	1.0000	$0.00	$0.00	-$4,600,000.00	$0.00
1	1903050	0.16	$304,488.00	1.0000	$304,488.00	-$516,819.25	$2,980.75	$304,488.00
2	1903050	0.1648	$313,622.64	1.0000	$313,622.64	-$507,684.61	$12,115.39	$618,110.64
3	1903050	0.169744	$323,031.32	1.0000	$323,031.32	-$498,275.93	$21,524.07	$941,141.96
4	1903050	0.17483632	$332,722.26	1.0000	$332,722.26	-$488,584.99	$31,215.01	$1,273,864.22
5	1903050	0.18008141	$342,703.93	1.0000	$342,703.93	-$478,603.32	$41,196.68	$1,616,568.14
6	1903050	0.185483852	$352,985.04	1.0000	$352,985.04	-$468,322.21	$51,477.79	$1,969,553.19
7	1903050	0.191048367	$363,574.60	1.0000	$363,574.60	-$457,732.65	$62,067.35	$2,333,127.78
8	1903050	0.196779818	$374,481.83	1.0000	$374,481.83	-$446,825.42	$72,974.58	$2,707,609.62
9	1903050	0.202683213	$385,716.29	1.0000	$385,716.29	-$435,590.96	$84,209.04	$3,093,325.91
10	1903050	0.208763709	$397,287.78	1.0000	$397,287.78	-$424,019.47	$95,780.53	$3,490,613.68
11	1903050	0.215026621	$409,206.41	1.0000	$409,206.41	-$412,100.84	$107,699.16	$3,899,820.09
12	1903050	0.221477419	$421,482.60	1.0000	$421,482.60	-$399,824.65	$119,975.35	$4,321,302.70
13	1903050	0.228121742	$434,127.08	1.0000	$434,127.08	-$387,180.17	$132,619.83	$4,755,429.78
14	1903050	0.234965394	$447,150.89	1.0000	$447,150.89	$437,635.64	$437,635.64	$5,202,580.67
15	1903050	0.242014356	$460,565.42	1.0000	$460,565.42	$451,050.17	$451,050.17	$5,663,146.09
16	1903050	0.249274787	$474,382.38	1.0000	$474,382.38	$464,867.13	$464,867.13	$6,137,528.47
17	1903050	0.25675303	$488,613.85	1.0000	$488,613.85	$479,098.60	$479,098.60	$6,626,142.33
18	1903050	0.264455621	$503,272.27	1.0000	$503,272.27	$493,757.02	$493,757.02	**$7,129,414.60**
19	1903050	0.27238929	$518,370.44	1.0000	$518,370.44	$508,855.19	$508,855.19	**$7,647,785.04**
20	1903050	0.280560968	$533,921.55	1.0000	$533,921.55	$524,406.30	$524,406.30	$8,181,706.59
21	1903050	0.288977798	$549,939.20	1.0000	$549,939.20	$540,423.95	$540,423.95	$8,731,645.79
22	1903050	0.297647131	$566,437.37	1.0000	$566,437.37	$556,922.12	$556,922.12	$9,298,083.16
23	1903050	0.306576545	$583,430.49	1.0000	$583,430.49	$573,915.24	$573,915.24	$9,881,513.65
24	1903050	0.315773842	$600,933.41	1.0000	$600,933.41	$591,418.16	$591,418.16	$10,482,447.06
25	1903050	0.325247057	$618,961.41	1.0000	$618,961.41	$609,446.16	$609,446.16	$11,101,408.47
26	1903050	0.335004469	$637,530.25	1.0000	$637,530.25	$628,015.00	$628,015.00	$11,738,938.73
27	1903050	0.345054603	$656,656.16	1.0000	$656,656.16	$647,140.91	$647,140.91	$12,395,594.89
28	1903050	0.355406241	$676,355.85	1.0000	$676,355.85	$666,840.60	$666,840.60	$13,071,950.74
29	1903050	0.366068428	$696,646.52	1.0000	$696,646.52	$687,131.27	$687,131.27	$13,768,597.26
30	1903050	0.377050481	$717,545.92	1.0000	$717,545.92	$708,030.67	$708,030.67	$14,486,143.18
Totals	**57091500**		**$14,486,143.18**		**$14,486,143.18**			

* Discount Rate = 0.0%

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$4,600,000.00	$0.00	$4,600,000.00	1.0000	$4,600,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
2	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
3	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
4	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
5	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
6	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
7	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
8	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
9	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
10	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
11	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
12	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
13	$291,992.00	$9,515.25	$301,507.25	1.0000	$301,507.25	$811,792.00	$9,515.25	$821,307.25	1.0000	$821,307.25
14	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
15	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
16	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
17	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
18	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
19	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
20	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
21	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
22	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
23	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
24	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
26	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
27	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
28	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
29	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
30	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
Totals	**$8,395,896.00**	**$285,457.50**	**$8,681,353.50**		**$8,681,353.50**	**$10,553,296.00**	**$285,457.50**	**$10,838,753.50**		**$10,838,753.50**

* Financing of $2,584,000 for 13 years at a 6% interest rate and $4,600,000 downpayment
** Discount Rate = 0.0%
*** Financing of $7,184,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $14,486,143.18
\- $8,681,353.50
= **$5,804,789.68**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $8,681,353.50 / 57091500 kWh

= **$0.152 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $14,486,143.18 / $8,681,353.50

= **1.669**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 18**

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$5.622M)
0	0		$0.00	1.0000	$0.00	$0.00	-$3,400,000.00	$0.00
1	1644958	0.16	$263,193.28	1.0000	$263,193.28	-$380,317.51	$3,882.49	$263,193.28
2	1644958	0.1648	$271,089.08	1.0000	$271,089.08	-$372,421.71	$11,778.29	$534,282.36
3	1644958	0.169744	$279,221.75	1.0000	$279,221.75	-$364,289.04	$19,910.96	$813,504.11
4	1644958	0.17483632	$287,598.40	1.0000	$287,598.40	-$355,912.39	$28,287.61	$1,101,102.51
5	1644958	0.18008141	$296,226.36	1.0000	$296,226.36	-$347,284.43	$36,915.57	$1,397,328.87
6	1644958	0.185483852	$305,113.15	1.0000	$305,113.15	-$338,397.64	$45,802.36	$1,702,442.01
7	1644958	0.191048367	$314,266.54	1.0000	$314,266.54	-$329,244.25	$54,955.75	$2,016,708.55
8	1644958	0.196779818	$323,694.54	1.0000	$323,694.54	-$319,816.25	$64,383.75	$2,340,403.09
9	1644958	0.202683213	$333,405.37	1.0000	$333,405.37	-$310,105.42	$74,094.58	$2,673,808.46
10	1644958	0.208763709	$343,407.53	1.0000	$343,407.53	-$300,103.26	$84,096.74	$3,017,216.00
11	1644958	0.215026621	$353,709.76	1.0000	$353,709.76	-$289,801.03	$94,398.97	$3,370,925.76
12	1644958	0.221477419	$364,321.05	1.0000	$364,321.05	-$279,189.74	$105,010.26	$3,735,246.81
13	1644958	0.228121742	$375,250.68	1.0000	$375,250.68	-$268,260.11	$115,939.89	$4,110,497.49
14	1644958	0.234965394	$386,508.20	1.0000	$386,508.20	$378,283.41	$378,283.41	$4,497,005.70
15	1644958	0.242014356	$398,103.45	1.0000	$398,103.45	$389,878.66	$389,878.66	$4,895,109.15
16	1644958	0.249274787	$410,046.55	1.0000	$410,046.55	$401,821.76	$401,821.76	**$5,305,155.70**
17	1644958	0.25675303	$422,347.95	1.0000	$422,347.95	$414,123.16	$414,123.16	**$5,727,503.66**
18	1644958	0.264455621	$435,018.39	1.0000	$435,018.39	$426,793.60	$426,793.60	$6,162,522.05
19	1644958	0.27238929	$448,068.94	1.0000	$448,068.94	$439,844.15	$439,844.15	$6,610,590.99
20	1644958	0.280560968	$461,511.01	1.0000	$461,511.01	$453,286.22	$453,286.22	$7,072,102.00
Totals	**32899160**		**$7,072,102.00**		**$7,072,102.00**			

* Discount Rate = 0.0%

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$3,400,000.00	$0.00	$3,400,000.00	1.0000	$3,400,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
2	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
3	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
4	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
5	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
6	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
7	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
8	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
9	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
10	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
11	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
12	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
13	$251,086.00	$8,224.79	$259,310.79	1.0000	$259,310.79	$635,286.00	$8,224.79	$643,510.79	1.0000	$643,510.79
14	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
15	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
16	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
17	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
18	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
19	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
20	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
Totals	**$6,664,118.00**	**$164,495.80**	**$6,828,613.80**		**$6,828,613.80**	**$8,258,718.00**	**$164,495.80**	**$8,423,213.80**		**$8,423,213.80**

* Financing of $2,222,000 for 13 years at a 6% interest rate and $3,400,000 downpayment

** Discount Rate = 0.0%

*** Financing of $5,622,000 for 13 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $7,072,102.00

\- $6,828,613.80

= **$243,488.20**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $6,828,613.80 / 32899160 kWh

= **$0.208 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $7,072,102.00 / $6,828,613.80

= **1.036**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 16**

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Statior

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$2,350,000.00	$0.00
1	1093952	0.16	$175,032.32	1.0000	$175,032.32	-$264,018.44	$1,531.56	$175,032.32
2	1093952	0.1648	$180,283.29	1.0000	$180,283.29	-$258,767.47	$6,782.53	$355,315.61
3	1093952	0.169744	$185,691.79	1.0000	$185,691.79	-$253,358.97	$12,191.03	$541,007.40
4	1093952	0.17483632	$191,262.54	1.0000	$191,262.54	-$247,788.22	$17,761.78	$732,269.94
5	1093952	0.18008141	$197,000.42	1.0000	$197,000.42	-$242,050.34	$23,499.66	$929,270.36
6	1093952	0.185483852	$202,910.43	1.0000	$202,910.43	-$236,140.33	$29,409.67	$1,132,180.79
7	1093952	0.191048367	$208,997.74	1.0000	$208,997.74	-$230,053.02	$35,496.98	$1,341,178.53
8	1093952	0.196779818	$215,267.68	1.0000	$215,267.68	-$223,783.08	$41,766.92	$1,556,446.21
9	1093952	0.202683213	$221,725.71	1.0000	$221,725.71	-$217,325.05	$48,224.95	$1,778,171.91
10	1093952	0.208763709	$228,377.48	1.0000	$228,377.48	-$210,673.28	$54,876.72	$2,006,549.39
11	1093952	0.215026621	$235,228.80	1.0000	$235,228.80	-$203,821.96	$61,728.04	$2,241,778.19
12	1093952	0.221477419	$242,285.67	1.0000	$242,285.67	-$196,765.09	$68,784.91	$2,484,063.86
13	1093952	0.228121742	$249,554.24	1.0000	$249,554.24	-$189,496.52	$76,053.48	$2,733,618.10
14	1093952	0.234965394	$257,040.86	1.0000	$257,040.86	$251,571.10	$251,571.10	$2,990,658.96
15	1093952	0.242014356	$264,752.09	1.0000	$264,752.09	$259,282.33	$259,282.33	$3,255,411.05
16	1093952	0.249274787	$272,694.65	1.0000	$272,694.65	$267,224.89	$267,224.89	$3,528,105.70
17	1093952	0.25675303	$280,875.49	1.0000	$280,875.49	$275,405.73	$275,405.73	**$3,808,981.19**
18	1093952	0.264455621	$289,301.76	1.0000	$289,301.76	$283,832.00	$283,832.00	**$4,098,282.95**
19	1093952	0.27238929	$297,980.81	1.0000	$297,980.81	$292,511.05	$292,511.05	$4,396,263.75
20	1093952	0.280560968	$306,920.23	1.0000	$306,920.23	$301,450.47	$301,450.47	$4,703,183.99
21	1093952	0.288977798	$316,127.84	1.0000	$316,127.84	$310,658.08	$310,658.08	$5,019,311.83
22	1093952	0.297647131	$325,611.67	1.0000	$325,611.67	$320,141.91	$320,141.91	$5,344,923.50
23	1093952	0.306576545	$335,380.03	1.0000	$335,380.03	$329,910.27	$329,910.27	$5,680,303.53
24	1093952	0.315773842	$345,441.43	1.0000	$345,441.43	$339,971.67	$339,971.67	$6,025,744.95
25	1093952	0.325247057	$355,804.67	1.0000	$355,804.67	$350,334.91	$350,334.91	$6,381,549.62
26	1093952	0.335004469	$366,478.81	1.0000	$366,478.81	$361,009.05	$361,009.05	$6,748,028.43
27	1093952	0.345054603	$377,473.17	1.0000	$377,473.17	$372,003.41	$372,003.41	$7,125,501.60
28	1093952	0.355406241	$388,797.37	1.0000	$388,797.37	$383,327.61	$383,327.61	$7,514,298.97
29	1093952	0.366068428	$400,461.29	1.0000	$400,461.29	$394,991.53	$394,991.53	$7,914,760.26
30	1093952	0.377050481	$412,475.13	1.0000	$412,475.13	$407,005.37	$407,005.37	$8,327,235.39
Totals	**32818560**		**$8,327,235.39**		**$8,327,235.39**			

* Discount Rate= 0.0%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Statior

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,350,000.00	$0.00	$2,350,000.00	1.0000	$2,350,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
2	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
3	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
4	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
5	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
6	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
7	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
8	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
9	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
10	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
11	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
12	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
13	$168,031.00	$5,469.76	$173,500.76	1.0000	$173,500.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
Totals	**$4,534,403.00**	**$164,092.80**	**$4,698,495.80**		**$4,698,495.80**	**$5,636,553.00**	**$164,092.80**	**$5,800,645.80**		**$5,800,645.80**

* Financing of $1,487,000 for 13 years at a 6% interest rate and $2,350,000 downpaymer
** Discount Rate = 0.0%
*** Financing of $3,837,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Statior

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,327,235.39
\- $4,698,495.80
= **$3,628,739.59**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,698,495.80 / 32818560 kWh

= **$0.143 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,327,235.39 / $4,698,495.80

= **1.772**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 17**

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.672M)
0	$0.00		$0.00	1.0000	$0.00	$0.00	-$2,400,000.00	$0.00
1	929632	0.16	$148,741.12	1.0000	$148,741.12	-$270,843.04	$356.96	$148,741.12
2	929632	0.1648	$153,203.35	1.0000	$153,203.35	-$266,380.81	$4,819.19	$301,944.47
3	929632	0.169744	$157,799.45	1.0000	$157,799.45	-$261,784.71	$9,415.29	$459,743.93
4	929632	0.17483632	$162,533.44	1.0000	$162,533.44	-$257,050.72	$14,149.28	$622,277.37
5	929632	0.18008141	$167,409.44	1.0000	$167,409.44	-$252,174.72	$19,025.28	$789,686.81
6	929632	0.185483852	$172,431.72	1.0000	$172,431.72	-$247,152.44	$24,047.56	$962,118.53
7	929632	0.191048367	$177,604.68	1.0000	$177,604.68	-$241,979.48	$29,220.52	$1,139,723.21
8	929632	0.196779818	$182,932.82	1.0000	$182,932.82	-$236,651.34	$34,548.66	$1,322,656.02
9	929632	0.202683213	$188,420.80	1.0000	$188,420.80	-$231,163.36	$40,036.64	$1,511,076.82
10	929632	0.208763709	$194,073.42	1.0000	$194,073.42	-$225,510.74	$45,689.26	$1,705,150.25
11	929632	0.215026621	$199,895.63	1.0000	$199,895.63	-$219,688.53	$51,511.47	$1,905,045.88
12	929632	0.221477419	$205,892.50	1.0000	$205,892.50	-$213,691.66	$57,508.34	$2,110,938.37
13	929632	0.228121742	$212,069.27	1.0000	$212,069.27	-$207,514.89	$63,685.11	$2,323,007.64
14	929632	0.234965394	$218,431.35	1.0000	$218,431.35	$213,783.19	$213,783.19	$2,541,438.99
15	929632	0.242014356	$224,984.29	1.0000	$224,984.29	$220,336.13	$220,336.13	$2,766,423.28
16	929632	0.249274787	$231,733.82	1.0000	$231,733.82	$227,085.66	$227,085.66	$2,998,157.10
17	929632	0.25675303	$238,685.83	1.0000	$238,685.83	$234,037.67	$234,037.67	$3,236,842.93
18	929632	0.264455621	$245,846.41	1.0000	$245,846.41	$241,198.25	$241,198.25	**$3,482,689.34**
19	929632	0.27238929	$253,221.80	1.0000	$253,221.80	$248,573.64	$248,573.64	**$3,735,911.14**
20	929632	0.280560968	$260,818.45	1.0000	$260,818.45	$256,170.29	$256,170.29	$3,996,729.60
21	929632	0.288977798	$268,643.01	1.0000	$268,643.01	$263,994.85	$263,994.85	$4,265,372.60
22	929632	0.297647131	$276,702.30	1.0000	$276,702.30	$272,054.14	$272,054.14	$4,542,074.90
23	929632	0.306576545	$285,003.37	1.0000	$285,003.37	$280,355.21	$280,355.21	$4,827,078.27
24	929632	0.315773842	$293,553.47	1.0000	$293,553.47	$288,905.31	$288,905.31	$5,120,631.74
25	929632	0.325247057	$302,360.07	1.0000	$302,360.07	$297,711.91	$297,711.91	$5,422,991.81
26	929632	0.335004469	$311,430.87	1.0000	$311,430.87	$306,782.71	$306,782.71	$5,734,422.68
27	929632	0.345054603	$320,773.80	1.0000	$320,773.80	$316,125.64	$316,125.64	$6,055,196.48
28	929632	0.355406241	$330,397.01	1.0000	$330,397.01	$325,748.85	$325,748.85	$6,385,593.50
29	929632	0.366068428	$340,308.92	1.0000	$340,308.92	$335,660.76	$335,660.76	$6,725,902.42
30	929632	0.377050481	$350,518.19	1.0000	$350,518.19	$345,870.03	$345,870.03	$7,076,420.62
Totals	**27888960**		**$7,076,420.62**		**$7,076,420.62**			

* Discount Rate = 0.0%

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,400,000.00	$0.00	$2,400,000.00	1.0000	$2,400,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
2	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
3	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
4	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
5	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
6	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
7	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
8	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
9	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
10	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
11	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
12	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
13	$143,736.00	$4,648.16	$148,384.16	1.0000	$148,384.16	$414,936.00	$4,648.16	$419,584.16	1.0000	$419,584.16
14	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
15	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
17	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
18	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
19	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
20	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
21	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
22	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
23	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
24	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
25	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
26	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
27	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
28	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
29	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
30	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
Totals	**$4,268,568.00**	**$139,444.80**	**$4,408,012.80**		**$4,408,012.80**	**$5,394,168.00**	**$139,444.80**	**$5,533,612.80**		**$5,533,612.80**

* Financing of $1,272,000 for 13 years at a 6% interest rate and $2,400,000 downpayment
** Discount Rate = 0.0%
*** Financing of $3,672,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $7,076,420.62
\- $4,408,012.80
= **$2,668,407.82**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,408,012.80 / 27888960 kWh
= **$0.158 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $7,076,420.62 / $4,408,012.80
= **1.605**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 18**

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.903M)
0	0		$0.00	1.0000	$0.00	$0.00	-$1,800,000.00	$0.00
1	810982	0.16	$129,757.12	1.0000	$129,757.12	-$202,336.79	$1,063.21	$129,757.12
2	810982	0.1648	$133,649.83	1.0000	$133,649.83	-$198,444.08	$4,955.92	$263,406.95
3	810982	0.169744	$137,659.33	1.0000	$137,659.33	-$194,434.58	$8,965.42	$401,066.28
4	810982	0.17483632	$141,789.11	1.0000	$141,789.11	-$190,304.80	$13,095.20	$542,855.39
5	810982	0.18008141	$146,042.78	1.0000	$146,042.78	-$186,051.13	$17,348.87	$688,898.17
6	810982	0.185483852	$150,424.07	1.0000	$150,424.07	-$181,669.84	$21,730.16	$839,322.24
7	810982	0.191048367	$154,936.79	1.0000	$154,936.79	-$177,157.12	$26,242.88	$994,259.02
8	810982	0.196779818	$159,584.89	1.0000	$159,584.89	-$172,509.02	$30,890.98	$1,153,843.92
9	810982	0.202683213	$164,372.44	1.0000	$164,372.44	-$167,721.47	$35,678.53	$1,318,216.35
10	810982	0.208763709	$169,303.61	1.0000	$169,303.61	-$162,790.30	$40,609.70	$1,487,519.96
11	810982	0.215026621	$174,382.72	1.0000	$174,382.72	-$157,711.19	$45,688.81	$1,661,902.68
12	810982	0.221477419	$179,614.20	1.0000	$179,614.20	-$152,479.71	$50,920.29	$1,841,516.88
13	810982	0.228121742	$185,002.63	1.0000	$185,002.63	-$147,091.28	$56,308.72	$2,026,519.51
14	810982	0.234965394	$190,552.71	1.0000	$190,552.71	$186,497.80	$186,497.80	$2,217,072.21
15	810982	0.242014356	$196,269.29	1.0000	$196,269.29	$192,214.38	$192,214.38	$2,413,341.50
16	810982	0.249274787	$202,157.37	1.0000	$202,157.37	$198,102.46	$198,102.46	$2,615,498.87
17	810982	0.25675303	$208,222.09	1.0000	$208,222.09	$204,167.18	$204,167.18	**$2,823,720.95**
18	810982	0.264455621	$214,468.75	1.0000	$214,468.75	$210,413.84	$210,413.84	**$3,038,189.70**
19	810982	0.27238929	$220,902.81	1.0000	$220,902.81	$216,847.90	$216,847.90	$3,259,092.51
20	810982	0.280560968	$227,529.90	1.0000	$227,529.90	$223,474.99	$223,474.99	$3,486,622.41
Totals	**16219640**		**$3,486,622.41**		**$3,486,622.41**			

* Discount Rate = 0.0%

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,800,000.00	$0.00	$1,800,000.00	1.0000	$1,800,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
2	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
3	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
4	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
5	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
6	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
7	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
8	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
9	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
10	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
11	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
12	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
13	$124,639.00	$4,054.91	$128,693.91	1.0000	$128,693.91	$328,039.00	$4,054.91	$332,093.91	1.0000	$332,093.91
14	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
15	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
16	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
17	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
18	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
19	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
20	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
Totals	**$3,420,307.00**	**$81,098.20**	**$3,501,405.20**		**$3,501,405.20**	**$4,264,507.00**	**$81,098.20**	**$4,345,605.20**		**$4,345,605.20**

* Financing of $1,103,000 for 13 years at a 6% interest rate and $1,800,000 downpayment

** Discount Rate = 0.0%

*** Financing of $2,903,000 for 13 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $3,486,622.41

\- $3,501,405.20

= **-$14,782.79**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,501,405.20 / 16219640 kWh

= **$0.216 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $3,486,622.41 / $3,501,405.20

= **0.996**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 17**

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Statior

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.559M)
0	0			1.0000	$0.00	$0.00	-$1,000,000.00	$0.00
1	433535	0.16	$69,365.60	1.0000	$69,365.60	-$108,969.08	$4,030.93	$69,365.60
2	433535	0.1648	$71,446.57	1.0000	$71,446.57	-$106,888.11	$6,111.89	$140,812.17
3	433535	0.169744	$73,589.97	1.0000	$73,589.97	-$104,744.71	$8,255.29	$214,402.13
4	433535	0.17483632	$75,797.66	1.0000	$75,797.66	-$102,537.01	$10,462.99	$290,199.80
5	433535	0.18008141	$78,071.59	1.0000	$78,071.59	-$100,263.08	$12,736.92	$368,271.39
6	433535	0.185483852	$80,413.74	1.0000	$80,413.74	-$97,920.93	$15,079.07	$448,685.13
7	433535	0.191048367	$82,826.15	1.0000	$82,826.15	-$95,508.52	$17,491.48	$531,511.29
8	433535	0.196779818	$85,310.94	1.0000	$85,310.94	-$93,023.74	$19,976.26	$616,822.23
9	433535	0.202683213	$87,870.27	1.0000	$87,870.27	-$90,464.41	$22,535.59	$704,692.49
10	433535	0.208763709	$90,506.37	1.0000	$90,506.37	-$87,828.30	$25,171.70	$795,198.87
11	433535	0.215026621	$93,221.57	1.0000	$93,221.57	-$85,113.11	$27,886.89	$888,420.43
12	433535	0.221477419	$96,018.21	1.0000	$96,018.21	-$82,316.46	$30,683.54	$984,438.65
13	433535	0.228121742	$98,898.76	1.0000	$98,898.76	-$79,435.92	$33,564.08	$1,083,337.41
14	433535	0.234965394	$101,865.72	1.0000	$101,865.72	$99,698.05	$99,698.05	$1,185,203.13
15	433535	0.242014356	$104,921.69	1.0000	$104,921.69	$102,754.02	$102,754.02	$1,290,124.82
16	433535	0.249274787	$108,069.34	1.0000	$108,069.34	$105,901.67	$105,901.67	$1,398,194.17
17	433535	0.25675303	$111,311.42	1.0000	$111,311.42	$109,143.75	$109,143.75	**$1,509,505.59**
18	433535	0.264455621	$114,650.77	1.0000	$114,650.77	$112,483.09	$112,483.09	**$1,624,156.36**
19	433535	0.27238929	$118,090.29	1.0000	$118,090.29	$115,922.62	$115,922.62	$1,742,246.65
20	433535	0.280560968	$121,633.00	1.0000	$121,633.00	$119,465.32	$119,465.32	$1,863,879.65
21	433535	0.288977798	$125,281.99	1.0000	$125,281.99	$123,114.31	$123,114.31	$1,989,161.64
22	433535	0.297647131	$129,040.45	1.0000	$129,040.45	$126,872.77	$126,872.77	$2,118,202.09
23	433535	0.306576545	$132,911.66	1.0000	$132,911.66	$130,743.99	$130,743.99	$2,251,113.75
24	433535	0.315773842	$136,899.01	1.0000	$136,899.01	$134,731.34	$134,731.34	$2,388,012.76
25	433535	0.325247057	$141,005.98	1.0000	$141,005.98	$138,838.31	$138,838.31	$2,529,018.75
26	433535	0.335004469	$145,236.16	1.0000	$145,236.16	$143,068.49	$143,068.49	$2,674,254.91
27	433535	0.345054603	$149,593.25	1.0000	$149,593.25	$147,425.57	$147,425.57	$2,823,848.15
28	433535	0.355406241	$154,081.04	1.0000	$154,081.04	$151,913.37	$151,913.37	$2,977,929.20
29	433535	0.366068428	$158,703.48	1.0000	$158,703.48	$156,535.80	$156,535.80	$3,136,632.68
30	433535	0.377050481	$163,464.58	1.0000	$163,464.58	$161,296.91	$161,296.91	$3,300,097.26
Totals	**13006050**		**$3,300,097.26**		**$3,300,097.26**			

* Discount Rate= 0.0%

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Statior

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,000,000.00	$0.00	$1,000,000.00	1.0000	$1,000,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
2	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
3	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
4	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
5	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
6	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
7	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
8	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
9	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
10	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
11	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
12	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
13	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$176,167.00	$2,167.68	$178,334.68	1.0000	$178,334.68
14	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
15	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
16	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
17	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
18	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
19	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
20	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
21	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
22	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
23	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
24	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
25	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
26	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
27	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
28	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
29	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
30	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
Totals	$1,821,171.00	$65,030.25	$1,886,201.25		$1,886,201.25	$2,290,171.00	$65,030.25	$2,355,201.25		$2,355,201.25

* Financing of $559,000 for 13 years at a 6% interest rate and $1,00,000 downpaymen
** Discount Rate = 0.0%
*** Financing of $1,559,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Statior

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $3,300,097.26
\- $1,886,201.25
= **$1,413,896.01**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,886,201.25 / 13006050 kWh

= **$0.145 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $3,300,097.26 / $1,886,201.25

= **1.750**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 17**

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.529M)
0	0.00		$0.00	1.0000	$0.00	$0.00	-$1,050,000.00	$0.00
1	368664	0.16	$58,986.24	1.0000	$58,986.24	-$115,634.08	$3,015.92	$58,986.24
2	368664	0.1648	$60,755.83	1.0000	$60,755.83	-$113,864.49	$4,785.51	$119,742.07
3	368664	0.169744	$62,578.50	1.0000	$62,578.50	-$112,041.82	$6,608.18	$182,320.57
4	368664	0.17483632	$64,455.86	1.0000	$64,455.86	-$110,164.46	$8,485.54	$246,776.43
5	368664	0.18008141	$66,389.53	1.0000	$66,389.53	-$108,230.79	$10,419.21	$313,165.96
6	368664	0.185483852	$68,381.22	1.0000	$68,381.22	-$106,239.10	$12,410.90	$381,547.18
7	368664	0.191048367	$70,432.66	1.0000	$70,432.66	-$104,187.66	$14,462.34	$451,979.83
8	368664	0.196779818	$72,545.63	1.0000	$72,545.63	-$102,074.69	$16,575.31	$524,525.47
9	368664	0.202683213	$74,722.00	1.0000	$74,722.00	-$99,898.32	$18,751.68	$599,247.47
10	368664	0.208763709	$76,963.66	1.0000	$76,963.66	-$97,656.66	$20,993.34	$676,211.14
11	368664	0.215026621	$79,272.57	1.0000	$79,272.57	-$95,347.75	$23,302.25	$755,483.71
12	368664	0.221477419	$81,650.75	1.0000	$81,650.75	-$92,969.57	$25,680.43	$837,134.46
13	368664	0.228121742	$84,100.27	1.0000	$84,100.27	-$90,520.05	$28,129.95	$921,234.74
14	368664	0.234965394	$86,623.28	1.0000	$86,623.28	$84,779.96	$84,779.96	$1,007,858.02
15	368664	0.242014356	$89,221.98	1.0000	$89,221.98	$87,378.66	$87,378.66	$1,097,080.00
16	368664	0.249274787	$91,898.64	1.0000	$91,898.64	$90,055.32	$90,055.32	$1,188,978.64
17	368664	0.25675303	$94,655.60	1.0000	$94,655.60	$92,812.28	$92,812.28	$1,283,634.24
18	368664	0.264455621	$97,495.27	1.0000	$97,495.27	$95,651.95	$95,651.95	$1,381,129.50
19	368664	0.27238929	$100,420.13	1.0000	$100,420.13	$98,576.81	$98,576.81	**$1,481,549.63**
20	368664	0.280560968	$103,432.73	1.0000	$103,432.73	$101,589.41	$101,589.41	**$1,584,982.36**
21	368664	0.288977798	$106,535.71	1.0000	$106,535.71	$104,692.39	$104,692.39	$1,691,518.07
22	368664	0.297647131	$109,731.78	1.0000	$109,731.78	$107,888.46	$107,888.46	$1,801,249.85
23	368664	0.306576545	$113,023.74	1.0000	$113,023.74	$111,180.42	$111,180.42	$1,914,273.59
24	368664	0.315773842	$116,414.45	1.0000	$116,414.45	$114,571.13	$114,571.13	$2,030,688.03
25	368664	0.325247057	$119,906.88	1.0000	$119,906.88	$118,063.56	$118,063.56	$2,150,594.92
26	368664	0.335004469	$123,504.09	1.0000	$123,504.09	$121,660.77	$121,660.77	$2,274,099.00
27	368664	0.345054603	$127,209.21	1.0000	$127,209.21	$125,365.89	$125,365.89	$2,401,308.21
28	368664	0.355406241	$131,025.49	1.0000	$131,025.49	$129,182.17	$129,182.17	$2,532,333.70
29	368664	0.366068428	$134,956.25	1.0000	$134,956.25	$133,112.93	$133,112.93	$2,667,289.95
30	368664	0.377050481	$139,004.94	1.0000	$139,004.94	$137,161.62	$137,161.62	$2,806,294.89
Totals	**11059920**		**$2,806,294.89**		**$2,806,294.89**			

* Discount Rate = 0.0%

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,050,000.00	$0.00	$1,050,000.00	1.0000	$1,050,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
2	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
3	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
4	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
5	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
6	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
7	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
8	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
9	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
10	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
11	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
12	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
13	$54,127.00	$1,843.32	$55,970.32	1.0000	$55,970.32	$172,777.00	$1,843.32	$174,620.32	1.0000	$174,620.32
14	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
15	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
16	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
17	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
18	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
19	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
20	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
21	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
22	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
23	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
24	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
25	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
26	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
27	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
28	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
29	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
30	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
Totals	**$1,753,651.00**	**$55,299.60**	**$1,808,950.60**		**$1,808,950.60**	**$2,246,101.00**	**$55,299.60**	**$2,301,400.60**		**$2,301,400.60**

* Financing of $479,000 for 13 years at a 6% interest rate and $1,050,000 downpayment
** Discount Rate = 0.0%
*** Financing of $1,529,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $2,806,294.89
\- $1,808,950.60
= **$997,344.29**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,808,950.60 / 11059920 kWh
= **$0.164 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $2,806,294.89 / $1,808,950.60
= **1.551**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 19**

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.221M)
0	0		$0.00	1.0000	$0.00	$0.00	-$800,000.00	$0.00
1	321043	0.16	$51,366.88	1.0000	$51,366.88	-$88,211.34	$2,188.67	$51,366.88
2	321043	0.1648	$52,907.89	1.0000	$52,907.89	-$86,670.33	$3,729.67	$104,274.77
3	321043	0.169744	$54,495.12	1.0000	$54,495.12	-$85,083.09	$5,316.91	$158,769.89
4	321043	0.17483632	$56,129.98	1.0000	$56,129.98	-$83,448.24	$6,951.76	$214,899.87
5	321043	0.18008141	$57,813.88	1.0000	$57,813.88	-$81,764.34	$8,635.66	$272,713.74
6	321043	0.185483852	$59,548.29	1.0000	$59,548.29	-$80,029.92	$10,370.08	$332,262.03
7	321043	0.191048367	$61,334.74	1.0000	$61,334.74	-$78,243.47	$12,156.53	$393,596.78
8	321043	0.196779818	$63,174.78	1.0000	$63,174.78	-$76,403.43	$13,996.57	$456,771.56
9	321043	0.202683213	$65,070.03	1.0000	$65,070.03	-$74,508.19	$15,891.81	$521,841.59
10	321043	0.208763709	$67,022.13	1.0000	$67,022.13	-$72,556.09	$17,843.91	$588,863.71
11	321043	0.215026621	$69,032.79	1.0000	$69,032.79	-$70,545.42	$19,854.58	$657,896.50
12	321043	0.221477419	$71,103.78	1.0000	$71,103.78	-$68,474.44	$21,925.56	$729,000.28
13	321043	0.228121742	$73,236.89	1.0000	$73,236.89	-$66,341.33	$24,058.67	$802,237.17
14	321043	0.234965394	$75,434.00	1.0000	$75,434.00	$73,828.78	$73,828.78	$877,671.16
15	321043	0.242014356	$77,697.01	1.0000	$77,697.01	$76,091.80	$76,091.80	$955,368.18
16	321043	0.249274787	$80,027.93	1.0000	$80,027.93	$78,422.71	$78,422.71	$1,035,396.10
17	321043	0.25675303	$82,428.76	1.0000	$82,428.76	$80,823.55	$80,823.55	$1,117,824.87
18	321043	0.264455621	$84,901.63	1.0000	$84,901.63	$83,296.41	$83,296.41	**$1,202,726.49**
19	321043	0.27238929	$87,448.67	1.0000	$87,448.67	$85,843.46	$85,843.46	**$1,290,175.17**
20	321043	0.280560968	$90,072.14	1.0000	$90,072.14	$88,466.92	$88,466.92	$1,380,247.30
Totals	**6420860**		**$1,380,247.30**		**$1,380,247.30**			

* Discount Rate = 0.0%

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$800,000.00	$0.00	$800,000.00	1.0000	$800,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
2	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
3	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
4	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
5	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
6	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
7	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
8	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
9	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
10	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
11	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
12	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
13	$47,573.00	$1,605.22	$49,178.22	1.0000	$49,178.22	$137,973.00	$1,605.22	$139,578.22	1.0000	$139,578.22
14	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
15	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
16	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
17	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
18	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
19	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
20	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
Totals	**$1,418,449.00**	**$32,104.30**	**$1,450,553.30**		**$1,450,553.30**	**$1,793,649.00**	**$32,104.30**	**$1,825,753.30**		**$1,825,753.30**

* Financing of $421,000 for 13 years at a 6% interest rate and $800,000 downpayment
** Discount Rate = 0.0%
*** Financing of $1,221,000 for 13 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $1,380,247.30
- $1,450,553.30
= **-$70,306.00**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,450,553.30 / 6420860 kWh

= **$0.226 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $1,380,247.30 / $1,450,553.30

= **0.952**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 18**

Appendix D:
Economic Analysis Spreadsheets
For
Base Case Scenario of PV System Options
Utilizing the 20-Year Financing Mechanism

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Statior

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$7.384M)
0	0			1.0000	$0.00	$0.00	-$3,400,000.00	$0.00
1	2241576	0.16	$358,652.16	0.9569	$343,194.25	-$283,663.93	$37.78	$343,194.25
2	2241576	0.1648	$369,411.72	0.9157	$338,270.32	-$261,598.05	$9,888.69	$681,464.57
3	2241576	0.169744	$380,494.08	0.8763	$333,426.96	-$240,630.76	$19,174.67	$1,014,891.53
4	2241576	0.17483632	$391,908.90	0.8386	$328,654.80	-$220,705.92	$27,922.21	$1,343,546.33
5	2241576	0.18008141	$403,666.17	0.8025	$323,942.10	-$201,769.78	$36,155.42	$1,667,488.43
6	2241576	0.185483852	$415,776.15	0.7679	$319,274.51	-$183,771.16	$43,895.83	$1,986,762.93
7	2241576	0.191048367	$428,249.44	0.7348	$314,677.69	-$166,684.42	$51,169.09	$2,301,440.62
8	2241576	0.196779818	$441,096.92	0.7032	$310,179.35	-$150,481.82	$58,002.92	$2,611,619.97
9	2241576	0.202683213	$454,329.83	0.6729	$305,718.54	-$135,093.32	$64,408.07	$2,917,338.51
10	2241576	0.208763709	$467,959.72	0.6439	$301,319.26	-$120,494.91	$70,408.56	$3,218,657.78
11	2241576	0.215026621	$481,998.51	0.6162	$297,007.48	-$106,660.63	$76,030.35	$3,515,665.26
12	2241576	0.221477419	$496,458.47	0.5897	$292,761.56	-$93,546.60	$81,287.66	$3,808,426.82
13	2241576	0.228121742	$511,352.22	0.5643	$288,556.06	-$81,112.74	$86,190.92	$4,096,982.88
14	2241576	0.234965394	$526,692.79	0.54	$284,414.11	-$69,335.94	$90,763.26	$4,381,396.98
15	2241576	0.242014356	$542,493.57	0.5167	$280,306.43	-$58,179.96	$95,011.26	$4,661,703.41
16	2241576	0.249274787	$558,768.38	0.4945	$276,310.96	-$47,632.37	$98,976.99	$4,938,014.37
17	2241576	0.25675303	$575,531.43	0.4732	$272,341.47	-$37,648.38	$102,645.95	$5,210,355.85
18	2241576	0.264455621	$592,797.37	0.4528	$268,418.65	-$28,207.31	$106,038.83	$5,478,774.50
19	2241576	0.27238929	$610,581.29	0.4333	$264,564.87	-$19,286.78	$109,178.00	$5,743,339.37
20	2241576	0.280560968	$628,898.73	0.4146	$260,741.41	-$10,860.01	$112,060.60	$6,004,080.79
21	2241576	0.288977798	$647,765.70	0.3968	$257,033.43	$252,586.14	$252,586.14	$6,261,114.22
22	2241576	0.297647131	$667,198.67	0.3797	$253,335.33	$249,079.70	$249,079.70	$6,514,449.55
23	2241576	0.306576545	$687,214.63	0.3634	$249,733.80	$245,660.85	$245,660.85	$6,764,183.35
24	2241576	0.315773842	$707,831.07	0.3477	$246,112.86	$242,215.88	$242,215.88	$7,010,296.21
25	2241576	0.325247057	$729,066.00	0.3327	$242,560.26	$238,831.40	$238,831.40	**$7,252,856.46**
26	2241576	0.335004469	$750,937.98	0.3184	$239,098.65	$235,530.06	$235,530.06	**$7,491,955.12**
27	2241576	0.345054603	$773,466.12	0.3047	$235,675.13	$232,260.08	$232,260.08	$7,727,630.24
28	2241576	0.355406241	$796,670.10	0.2916	$232,309.00	$229,040.78	$229,040.78	$7,959,939.24
29	2241576	0.366068428	$820,570.20	0.279	$228,939.09	$225,812.09	$225,812.09	$8,188,878.33
30	2241576	0.377050481	$845,187.31	0.267	$225,665.01	$222,672.51	$222,672.51	$8,414,543.34
Totals	**67247280**		**$17,063,025.61**		**$8,414,543.34**			

* Discount Rate= 4.5%

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Statior

Net Present Value of Costs with a Downpayment						Net Present Value of Costs without a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$3,400,000.00	$0.00	$3,400,000.00	1.0000	$3,400,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$347,404.80	$11,207.88	$358,612.68	0.9569	$343,156.47	$643,884.80	$11,207.88	$655,092.68	0.9569	$626,858.19
2	$347,404.80	$11,207.88	$358,612.68	0.9157	$328,381.63	$643,884.80	$11,207.88	$655,092.68	0.9157	$599,868.37
3	$347,404.80	$11,207.88	$358,612.68	0.8763	$314,252.29	$643,884.80	$11,207.88	$655,092.68	0.8763	$574,057.72
4	$347,404.80	$11,207.88	$358,612.68	0.8386	$300,732.59	$643,884.80	$11,207.88	$655,092.68	0.8386	$549,360.72
5	$347,404.80	$11,207.88	$358,612.68	0.8025	$287,786.68	$643,884.80	$11,207.88	$655,092.68	0.8025	$525,711.88
6	$347,404.80	$11,207.88	$358,612.68	0.7679	$275,378.68	$643,884.80	$11,207.88	$655,092.68	0.7679	$503,045.67
7	$347,404.80	$11,207.88	$358,612.68	0.7348	$263,508.60	$643,884.80	$11,207.88	$655,092.68	0.7348	$481,362.10
8	$347,404.80	$11,207.88	$358,612.68	0.7032	$252,176.44	$643,884.80	$11,207.88	$655,092.68	0.7032	$460,661.17
9	$347,404.80	$11,207.88	$358,612.68	0.6729	$241,310.47	$643,884.80	$11,207.88	$655,092.68	0.6729	$440,811.86
10	$347,404.80	$11,207.88	$358,612.68	0.6439	$230,910.70	$643,884.80	$11,207.88	$655,092.68	0.6439	$421,814.18
11	$347,404.80	$11,207.88	$358,612.68	0.6162	$220,977.13	$643,884.80	$11,207.88	$655,092.68	0.6162	$403,668.11
12	$347,404.80	$11,207.88	$358,612.68	0.5897	$211,473.90	$643,884.80	$11,207.88	$655,092.68	0.5897	$386,308.15
13	$347,404.80	$11,207.88	$358,612.68	0.5643	$202,365.14	$643,884.80	$11,207.88	$655,092.68	0.5643	$369,668.80
14	$347,404.80	$11,207.88	$358,612.68	0.54	$193,650.85	$643,884.80	$11,207.88	$655,092.68	0.54	$353,750.05
15	$347,404.80	$11,207.88	$358,612.68	0.5167	$185,295.17	$643,884.80	$11,207.88	$655,092.68	0.5167	$338,486.39
16	$347,404.80	$11,207.88	$358,612.68	0.4945	$177,333.97	$643,884.80	$11,207.88	$655,092.68	0.4945	$323,943.33
17	$347,404.80	$11,207.88	$358,612.68	0.4732	$169,695.52	$643,884.80	$11,207.88	$655,092.68	0.4732	$309,989.86
18	$347,404.80	$11,207.88	$358,612.68	0.4528	$162,379.82	$643,884.80	$11,207.88	$655,092.68	0.4528	$296,625.97
19	$347,404.80	$11,207.88	$358,612.68	0.4333	$155,386.87	$643,884.80	$11,207.88	$655,092.68	0.4333	$283,851.66
20	$347,404.80	$11,207.88	$358,612.68	0.4146	$148,680.82	$643,884.80	$11,207.88	$655,092.68	0.4146	$271,601.43
21	$0.00	$11,207.88	$11,207.88	0.3968	$4,447.29	$0.00	$11,207.88	$11,207.88	0.3968	$4,447.29
22	$0.00	$11,207.88	$11,207.88	0.3797	$4,255.63	$0.00	$11,207.88	$11,207.88	0.3797	$4,255.63
23	$0.00	$11,207.88	$11,207.88	0.3634	$4,072.94	$0.00	$11,207.88	$11,207.88	0.3634	$4,072.94
24	$0.00	$11,207.88	$11,207.88	0.3477	$3,896.98	$0.00	$11,207.88	$11,207.88	0.3477	$3,896.98
25	$0.00	$11,207.88	$11,207.88	0.3327	$3,728.86	$0.00	$11,207.88	$11,207.88	0.3327	$3,728.86
26	$0.00	$11,207.88	$11,207.88	0.3184	$3,568.59	$0.00	$11,207.88	$11,207.88	0.3184	$3,568.59
27	$0.00	$11,207.88	$11,207.88	0.3047	$3,415.04	$0.00	$11,207.88	$11,207.88	0.3047	$3,415.04
28	$0.00	$11,207.88	$11,207.88	0.2916	$3,268.22	$0.00	$11,207.88	$11,207.88	0.2916	$3,268.22
29	$0.00	$11,207.88	$11,207.88	0.279	$3,127.00	$0.00	$11,207.88	$11,207.88	0.279	$3,127.00
30	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50
Totals	**$10,348,096.00**	**$336,236.40**	**$10,684,332.40**		**$8,101,606.80**	**$12,877,696.00**	**$336,236.40**	**$13,213,932.40**		**$8,558,218.64**

* Financing of $3,984,000 for 20 years at a 6.0% interest rate and $3,400,000 downpaymen
** Discount Rate = 4.5%
*** Financing of $7,384,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Statior

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,414,543.34
\- $8,101,606.80
= **$312,936.54**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $8,101,606.80 / 67247280 kWh

= **$0.120 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,414,543.34 / $8,101,606.80

= **1.039**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 25**

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$7.184M)
0	0		$0.00	1.0000	$0.00	$0.00	-$3,850,000.00	$0.00
1	1903050	0.16	$304,488.00	0.9569	$291,364.57	-$317,185.60	$4,064.86	$291,364.57
2	1903050	0.1648	$313,622.64	0.9157	$287,184.25	-$295,164.37	$12,254.44	$578,548.82
3	1903050	0.169744	$323,031.32	0.8763	$283,072.35	-$274,219.45	$19,971.99	$861,621.16
4	1903050	0.17483632	$332,722.26	0.8386	$279,020.89	-$254,295.21	$27,239.58	$1,140,642.05
5	1903050	0.18008141	$342,703.93	0.8025	$275,019.90	-$235,338.04	$34,077.26	$1,415,661.95
6	1903050	0.185483852	$352,985.04	0.7679	$271,057.22	-$217,296.51	$40,502.88	$1,686,719.17
7	1903050	0.191048367	$363,574.60	0.7348	$267,154.61	-$200,148.83	$46,538.22	$1,953,873.78
8	1903050	0.196779818	$374,481.83	0.7032	$263,335.63	-$183,871.48	$52,206.82	$2,217,209.40
9	1903050	0.202683213	$385,716.29	0.6729	$259,548.49	-$168,389.03	$57,516.96	$2,476,757.90
10	1903050	0.208763709	$397,287.78	0.6439	$255,813.60	-$153,681.08	$62,489.03	$2,732,571.49
11	1903050	0.215026621	$409,206.41	0.6162	$252,152.99	-$139,725.59	$67,145.07	$2,984,724.49
12	1903050	0.221477419	$421,482.60	0.5897	$248,548.29	-$126,477.35	$71,496.73	$3,233,272.78
13	1903050	0.228121742	$434,127.08	0.5643	$244,977.91	-$113,894.34	$75,552.45	$3,478,250.69
14	1903050	0.234965394	$447,150.89	0.54	$241,461.48	-$101,956.94	$79,331.86	$3,719,712.17
15	1903050	0.242014356	$460,565.42	0.5167	$237,974.15	-$90,626.41	$82,840.12	$3,957,686.32
16	1903050	0.249274787	$474,382.38	0.4945	$234,582.09	-$79,900.16	$86,113.38	$4,192,268.41
17	1903050	0.25675303	$488,613.85	0.4732	$231,212.08	-$69,724.22	$89,138.48	$4,423,480.49
18	1903050	0.264455621	$503,272.27	0.4528	$227,881.68	-$60,081.03	$91,932.99	$4,651,362.17
19	1903050	0.27238929	$518,370.44	0.4333	$224,609.91	-$50,951.58	$94,515.90	$4,875,972.08
20	1903050	0.280560968	$533,921.55	0.4146	$221,363.88	-$42,305.16	$96,884.35	$5,097,335.96
21	1903050	0.288977798	$549,939.20	0.3968	$218,215.87	$214,440.22	$214,440.22	$5,315,551.83
22	1903050	0.297647131	$566,437.37	0.3797	$215,076.27	$211,463.33	$211,463.33	$5,530,628.10
23	1903050	0.306576545	$583,430.49	0.3634	$212,018.64	$208,560.80	$208,560.80	$5,742,646.74
24	1903050	0.315773842	$600,933.41	0.3477	$208,944.55	$205,636.09	$205,636.09	$5,951,591.29
25	1903050	0.325247057	$618,961.41	0.3327	$205,928.46	$202,762.74	$202,762.74	$6,157,519.75
26	1903050	0.335004469	$637,530.25	0.3184	$202,989.63	$199,959.98	$199,959.98	$6,360,509.38
27	1903050	0.345054603	$656,656.16	0.3047	$200,083.13	$197,183.84	$197,183.84	$6,560,592.52
28	1903050	0.355406241	$676,355.85	0.2916	$197,225.36	$194,450.72	$194,450.72	$6,757,817.88
29	1903050	0.366068428	$696,646.52	0.279	$194,364.38	$191,709.62	$191,709.62	$6,952,182.26
30	1903050	0.377050481	$717,545.92	0.267	$191,584.76	$189,044.19	$189,044.19	**$7,143,767.02**
Totals	**57091500**		**$14,486,143.18**		**$7,143,767.02**			

* Discount Rate = 4.5%

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$3,850,000.00	$0.00	$3,850,000.00	1.0000	$3,850,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$290,724.80	$9,515.25	$300,240.05	0.9569	$287,299.70	$626,444.80	$9,515.25	$635,960.05	0.9569	$608,550.1718
2	$290,724.80	$9,515.25	$300,240.05	0.9157	$274,929.81	$626,444.80	$9,515.25	$635,960.05	0.9157	$582,348.6178
3	$290,724.80	$9,515.25	$300,240.05	0.8763	$263,100.36	$626,444.80	$9,515.25	$635,960.05	0.8763	$557,291.7918
4	$290,724.80	$9,515.25	$300,240.05	0.8386	$251,781.31	$626,444.80	$9,515.25	$635,960.05	0.8386	$533,316.0979
5	$290,724.80	$9,515.25	$300,240.05	0.8025	$240,942.64	$626,444.80	$9,515.25	$635,960.05	0.8025	$510,357.9401
6	$290,724.80	$9,515.25	$300,240.05	0.7679	$230,554.33	$626,444.80	$9,515.25	$635,960.05	0.7679	$488,353.7224
7	$290,724.80	$9,515.25	$300,240.05	0.7348	$220,616.39	$626,444.80	$9,515.25	$635,960.05	0.7348	$467,303.4447
8	$290,724.80	$9,515.25	$300,240.05	0.7032	$211,128.80	$626,444.80	$9,515.25	$635,960.05	0.7032	$447,207.1072
9	$290,724.80	$9,515.25	$300,240.05	0.6729	$202,031.53	$626,444.80	$9,515.25	$635,960.05	0.6729	$427,937.5176
10	$290,724.80	$9,515.25	$300,240.05	0.6439	$193,324.57	$626,444.80	$9,515.25	$635,960.05	0.6439	$409,494.6762
11	$290,724.80	$9,515.25	$300,240.05	0.6162	$185,007.92	$626,444.80	$9,515.25	$635,960.05	0.6162	$391,878.5828
12	$290,724.80	$9,515.25	$300,240.05	0.5897	$177,051.56	$626,444.80	$9,515.25	$635,960.05	0.5897	$375,025.6415
13	$290,724.80	$9,515.25	$300,240.05	0.5643	$169,425.46	$626,444.80	$9,515.25	$635,960.05	0.5643	$358,872.2562
14	$290,724.80	$9,515.25	$300,240.05	0.54	$162,129.63	$626,444.80	$9,515.25	$635,960.05	0.54	$343,418.4270
15	$290,724.80	$9,515.25	$300,240.05	0.5167	$155,134.03	$626,444.80	$9,515.25	$635,960.05	0.5167	$328,600.5578
16	$290,724.80	$9,515.25	$300,240.05	0.4945	$148,468.70	$626,444.80	$9,515.25	$635,960.05	0.4945	$314,482.2447
17	$290,724.80	$9,515.25	$300,240.05	0.4732	$142,073.59	$626,444.80	$9,515.25	$635,960.05	0.4732	$300,936.2957
18	$290,724.80	$9,515.25	$300,240.05	0.4528	$135,948.69	$626,444.80	$9,515.25	$635,960.05	0.4528	$287,962.7106
19	$290,724.80	$9,515.25	$300,240.05	0.4333	$130,094.01	$626,444.80	$9,515.25	$635,960.05	0.4333	$275,561.4897
20	$290,724.80	$9,515.25	$300,240.05	0.4146	$124,479.52	$626,444.80	$9,515.25	$635,960.05	0.4146	$263,669.0367
21	$0.00	$9,515.25	$9,515.25	0.3968	$3,775.65	$0.00	$9,515.25	$9,515.25	0.3968	$3,775.6512
22	$0.00	$9,515.25	$9,515.25	0.3797	$3,612.94	$0.00	$9,515.25	$9,515.25	0.3797	$3,612.9404
23	$0.00	$9,515.25	$9,515.25	0.3634	$3,457.84	$0.00	$9,515.25	$9,515.25	0.3634	$3,457.8419
24	$0.00	$9,515.25	$9,515.25	0.3477	$3,308.45	$0.00	$9,515.25	$9,515.25	0.3477	$3,308.4524
25	$0.00	$9,515.25	$9,515.25	0.3327	$3,165.72	$0.00	$9,515.25	$9,515.25	0.3327	$3,165.7237
26	$0.00	$9,515.25	$9,515.25	0.3184	$3,029.66	$0.00	$9,515.25	$9,515.25	0.3184	$3,029.6556
27	$0.00	$9,515.25	$9,515.25	0.3047	$2,899.30	$0.00	$9,515.25	$9,515.25	0.3047	$2,899.2967
28	$0.00	$9,515.25	$9,515.25	0.2916	$2,774.65	$0.00	$9,515.25	$9,515.25	0.2916	$2,774.6469
29	$0.00	$9,515.25	$9,515.25	0.279	$2,654.75	$0.00	$9,515.25	$9,515.25	0.279	$2,654.7548
30	$0.00	$9,515.25	$9,515.25	0.267	$2,540.57	$0.00	$9,515.25	$9,515.25	0.267	$2,540.5718
Totals	**$9,664,496.00**	**$285,457.50**	**$9,949,953.50**		**$7,786,742.11**	**$12,528,896.00**	**$285,457.50**	**$12,814,353.50**		**$8,303,787.87**

* Financing of $3,334,000 for 20 years at a 6% interest rate and $3,850,000 downpayment
** Discount Rate = 4.5%
*** Financing of $7,184,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 1MW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $7,143,767.02
- $7,786,742.11
= **-$642,975.08**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $7,786,742.11 / 57091500 kWh

= **$0.136 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $7,143,767.02 / $7,786,742.11

= **0.917**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 30**

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$5.622M)
0	0		$0.00	1.0000	$0.00	$0.00	-$2,750,000.00	$0.00
1	1644958	0.16	$263,193.28	0.9569	$251,849.65	-$225,129.78	$4,334.84	$251,849.65
2	1644958	0.1648	$271,089.08	0.9157	$248,236.27	-$208,206.47	$11,378.39	$500,085.92
3	1644958	0.169744	$279,221.75	0.8763	$244,682.02	-$192,121.27	$18,015.47	$744,767.94
4	1644958	0.17483632	$287,598.40	0.8386	$241,180.02	-$176,831.21	$24,265.07	$985,947.96
5	1644958	0.18008141	$296,226.36	0.8025	$237,721.65	-$162,295.06	$30,144.44	$1,223,669.61
6	1644958	0.185483852	$305,113.15	0.7679	$234,296.38	-$148,473.50	$35,668.92	$1,457,965.99
7	1644958	0.191048367	$314,266.54	0.7348	$230,923.05	-$135,347.70	$40,857.34	$1,688,889.05
8	1644958	0.196779818	$323,694.54	0.7032	$227,622.00	-$122,897.32	$45,730.04	$1,916,511.05
9	1644958	0.202683213	$333,405.37	0.6729	$224,348.48	-$111,067.41	$50,294.01	$2,140,859.52
10	1644958	0.208763709	$343,407.53	0.6439	$221,120.11	-$99,840.34	$54,566.88	$2,361,979.63
11	1644958	0.215026621	$353,709.76	0.6162	$217,955.95	-$89,197.06	$58,567.70	$2,579,935.59
12	1644958	0.221477419	$364,321.05	0.5897	$214,840.12	-$79,103.62	$62,306.44	$2,794,775.71
13	1644958	0.228121742	$375,250.68	0.5643	$211,753.96	-$69,528.82	$65,790.32	$3,006,529.67
14	1644958	0.234965394	$386,508.20	0.54	$208,714.43	-$60,455.69	$69,036.31	$3,215,244.10
15	1644958	0.242014356	$398,103.45	0.5167	$205,700.05	-$51,855.88	$72,048.78	$3,420,944.16
16	1644958	0.249274787	$410,046.55	0.4945	$202,768.02	-$43,722.03	$74,859.07	$3,623,712.18
17	1644958	0.25675303	$422,347.95	0.4732	$199,855.05	-$36,017.73	$77,455.63	$3,823,567.23
18	1644958	0.264455621	$435,018.39	0.4528	$196,976.33	-$28,727.81	$79,853.63	$4,020,543.56
19	1644958	0.27238929	$448,068.94	0.4333	$194,148.27	-$21,835.83	$82,069.51	$4,214,691.83
20	1644958	0.280560968	$461,511.01	0.4146	$191,342.46	-$15,320.37	$84,100.71	$4,406,034.29
Totals	**32899160**		**$7,072,102.00**		**$4,406,034.29**			

* Discount Rate = 4.5%

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,750,000.00	$0.00	$2,750,000.00	1.0000	$2,750,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$250,438.40	$8,224.79	$258,663.19	0.9569	$247,514.81	$490,238.40	$8,224.79	$498,463.19	0.9569	$476,979.43
2	$250,438.40	$8,224.79	$258,663.19	0.9157	$236,857.88	$490,238.40	$8,224.79	$498,463.19	0.9157	$456,442.74
3	$250,438.40	$8,224.79	$258,663.19	0.8763	$226,666.55	$490,238.40	$8,224.79	$498,463.19	0.8763	$436,803.29
4	$250,438.40	$8,224.79	$258,663.19	0.8386	$216,914.95	$490,238.40	$8,224.79	$498,463.19	0.8386	$418,011.23
5	$250,438.40	$8,224.79	$258,663.19	0.8025	$207,577.21	$490,238.40	$8,224.79	$498,463.19	0.8025	$400,016.71
6	$250,438.40	$8,224.79	$258,663.19	0.7679	$198,627.46	$490,238.40	$8,224.79	$498,463.19	0.7679	$382,769.88
7	$250,438.40	$8,224.79	$258,663.19	0.7348	$190,065.71	$490,238.40	$8,224.79	$498,463.19	0.7348	$366,270.75
8	$250,438.40	$8,224.79	$258,663.19	0.7032	$181,891.96	$490,238.40	$8,224.79	$498,463.19	0.7032	$350,519.32
9	$250,438.40	$8,224.79	$258,663.19	0.6729	$174,054.46	$490,238.40	$8,224.79	$498,463.19	0.6729	$335,415.88
10	$250,438.40	$8,224.79	$258,663.19	0.6439	$166,553.23	$490,238.40	$8,224.79	$498,463.19	0.6439	$320,960.45
11	$250,438.40	$8,224.79	$258,663.19	0.6162	$159,388.26	$490,238.40	$8,224.79	$498,463.19	0.6162	$307,153.02
12	$250,438.40	$8,224.79	$258,663.19	0.5897	$152,533.68	$490,238.40	$8,224.79	$498,463.19	0.5897	$293,943.74
13	$250,438.40	$8,224.79	$258,663.19	0.5643	$145,963.64	$490,238.40	$8,224.79	$498,463.19	0.5643	$281,282.78
14	$250,438.40	$8,224.79	$258,663.19	0.54	$139,678.12	$490,238.40	$8,224.79	$498,463.19	0.54	$269,170.12
15	$250,438.40	$8,224.79	$258,663.19	0.5167	$133,651.27	$490,238.40	$8,224.79	$498,463.19	0.5167	$257,555.93
16	$250,438.40	$8,224.79	$258,663.19	0.4945	$127,908.95	$490,238.40	$8,224.79	$498,463.19	0.4945	$246,490.05
17	$250,438.40	$8,224.79	$258,663.19	0.4732	$122,399.42	$490,238.40	$8,224.79	$498,463.19	0.4732	$235,872.78
18	$250,438.40	$8,224.79	$258,663.19	0.4528	$117,122.69	$490,238.40	$8,224.79	$498,463.19	0.4528	$225,704.13
19	$250,438.40	$8,224.79	$258,663.19	0.4333	$112,078.76	$490,238.40	$8,224.79	$498,463.19	0.4333	$215,984.10
20	$250,438.40	$8,224.79	$258,663.19	0.4146	$107,241.76	$490,238.40	$8,224.79	$498,463.19	0.4146	$206,662.84
Totals	**$7,758,768.00**	**$164,495.80**	**$7,923,263.80**		**$6,114,690.78**	**$9,804,768.00**	**$164,495.80**	**$9,969,263.80**		**$6,484,009.18**

* Financing of $2,872,000 for 20 years at a 6% interest rate and $2,750,000 downpayment

** Discount Rate = 4.5%

*** Financing of $5,622,000 for 20 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 1MW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,406,034.29

\- $6,114,690.78

= **-$1,708,656.48**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $6,114,690.78 / 32899160 kWh

= **$0.186 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,406,034.29 / $6,114,690.78

= **0.721**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **20+ Years**

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$1,900,000.00	$0.00
1	1093952	0.16	$175,032.32	0.9569	$167,488.43	-$157,911.31	$627.88	$167,488.43
2	1093952	0.1648	$180,283.29	0.9157	$165,085.41	-$146,304.02	$5,409.16	$332,573.84
3	1093952	0.169744	$185,691.79	0.8763	$162,721.71	-$135,269.50	$9,915.89	$495,295.55
4	1093952	0.17483632	$191,262.54	0.8386	$160,392.77	-$124,778.33	$14,160.92	$655,688.32
5	1093952	0.18008141	$197,000.42	0.8025	$158,092.84	-$114,802.23	$18,155.97	$813,781.15
6	1093952	0.185483852	$202,910.43	0.7679	$155,814.92	-$105,314.21	$21,911.47	$969,596.07
7	1093952	0.191048367	$208,997.74	0.7348	$153,571.54	-$96,301.72	$25,439.94	$1,123,167.61
8	1093952	0.196779818	$215,267.68	0.7032	$151,376.23	-$87,751.26	$28,754.91	$1,274,543.84
9	1093952	0.202683213	$221,725.71	0.6729	$149,199.23	-$79,624.56	$31,861.51	$1,423,743.07
10	1093952	0.208763709	$228,377.48	0.6439	$147,052.26	-$71,909.90	$34,771.45	$1,570,795.33
11	1093952	0.215026621	$235,228.80	0.6162	$144,947.99	-$64,594.62	$37,497.40	$1,715,743.32
12	1093952	0.221477419	$242,285.67	0.5897	$142,875.86	-$57,655.26	$40,046.24	$1,858,619.17
13	1093952	0.228121742	$249,554.24	0.5643	$140,823.46	-$51,070.24	$42,422.99	$1,999,442.63
14	1093952	0.234965394	$257,040.86	0.54	$138,802.07	-$44,828.26	$44,638.94	$2,138,244.70
15	1093952	0.242014356	$264,752.09	0.5167	$136,797.40	-$38,909.61	$46,697.24	$2,275,042.10
16	1093952	0.249274787	$272,694.65	0.4945	$134,847.51	-$33,310.27	$48,618.49	$2,409,889.61
17	1093952	0.25675303	$280,875.49	0.4732	$132,910.28	-$28,004.29	$50,395.48	$2,542,799.89
18	1093952	0.264455621	$289,301.76	0.4528	$130,995.83	-$22,981.59	$52,038.31	$2,673,795.72
19	1093952	0.27238929	$297,980.81	0.4333	$129,115.08	-$18,231.25	$53,557.89	$2,802,910.81
20	1093952	0.280560968	$306,920.23	0.4146	$127,249.13	-$13,738.16	$54,952.77	$2,930,159.94
21	1093952	0.288977798	$316,127.84	0.3968	$125,439.53	$123,269.13	$123,269.13	$3,055,599.46
22	1093952	0.297647131	$325,611.67	0.3797	$123,634.75	$121,557.89	$121,557.89	$3,179,234.21
23	1093952	0.306576545	$335,380.03	0.3634	$121,877.10	$119,889.39	$119,889.39	$3,301,111.32
24	1093952	0.315773842	$345,441.43	0.3477	$120,109.98	$118,208.15	$118,208.15	$3,421,221.30
25	1093952	0.325247057	$355,804.67	0.3327	$118,376.21	$116,556.42	$116,556.42	$3,539,597.51
26	1093952	0.335004469	$366,478.81	0.3184	$116,686.85	$114,945.28	$114,945.28	$3,656,284.37
27	1093952	0.345054603	$377,473.17	0.3047	$115,016.08	$113,349.44	$113,349.44	**$3,771,300.44**
28	1093952	0.355406241	$388,797.37	0.2916	$113,373.31	$111,778.33	$111,778.33	**$3,884,673.75**
29	1093952	0.366068428	$400,461.29	0.279	$111,728.70	$110,202.64	$110,202.64	$3,996,402.45
30	1093952	0.377050481	$412,475.13	0.267	$110,130.86	$107,138.36	$108,670.43	$4,106,533.31
Totals	**32818560**		**$8,327,235.39**		**$4,106,533.31**			

* Discount Rate= 4.5%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of Costs with a Downpayment						Net Present Value of Costs Without a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,900,000.00	$0.00	$1,900,000.00	1.0000	$1,900,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$168,906.40	$5,469.76	$174,376.16	0.9569	$166,860.55	$334,586.40	$5,469.76	$340,056.16	0.9569	$325,399.74
2	$168,906.40	$5,469.76	$174,376.16	0.9157	$159,676.25	$334,586.40	$5,469.76	$340,056.16	0.9157	$311,389.43
3	$168,906.40	$5,469.76	$174,376.16	0.8763	$152,805.83	$334,586.40	$5,469.76	$340,056.16	0.8763	$297,991.21
4	$168,906.40	$5,469.76	$174,376.16	0.8386	$146,231.85	$334,586.40	$5,469.76	$340,056.16	0.8386	$285,171.10
5	$168,906.40	$5,469.76	$174,376.16	0.8025	$139,936.87	$334,586.40	$5,469.76	$340,056.16	0.8025	$272,895.07
6	$168,906.40	$5,469.76	$174,376.16	0.7679	$133,903.45	$334,586.40	$5,469.76	$340,056.16	0.7679	$261,129.13
7	$168,906.40	$5,469.76	$174,376.16	0.7348	$128,131.60	$334,586.40	$5,469.76	$340,056.16	0.7348	$249,873.27
8	$168,906.40	$5,469.76	$174,376.16	0.7032	$122,621.32	$334,586.40	$5,469.76	$340,056.16	0.7032	$239,127.49
9	$168,906.40	$5,469.76	$174,376.16	0.6729	$117,337.72	$334,586.40	$5,469.76	$340,056.16	0.6729	$228,823.79
10	$168,906.40	$5,469.76	$174,376.16	0.6439	$112,280.81	$334,586.40	$5,469.76	$340,056.16	0.6439	$218,962.16
11	$168,906.40	$5,469.76	$174,376.16	0.6162	$107,450.59	$334,586.40	$5,469.76	$340,056.16	0.6162	$209,542.61
12	$168,906.40	$5,469.76	$174,376.16	0.5897	$102,829.62	$334,586.40	$5,469.76	$340,056.16	0.5897	$200,531.12
13	$168,906.40	$5,469.76	$174,376.16	0.5643	$98,400.47	$334,586.40	$5,469.76	$340,056.16	0.5643	$191,893.69
14	$168,906.40	$5,469.76	$174,376.16	0.54	$94,163.13	$334,586.40	$5,469.76	$340,056.16	0.54	$183,630.33
15	$168,906.40	$5,469.76	$174,376.16	0.5167	$90,100.16	$334,586.40	$5,469.76	$340,056.16	0.5167	$175,707.02
16	$168,906.40	$5,469.76	$174,376.16	0.4945	$86,229.01	$334,586.40	$5,469.76	$340,056.16	0.4945	$168,157.77
17	$168,906.40	$5,469.76	$174,376.16	0.4732	$82,514.80	$334,586.40	$5,469.76	$340,056.16	0.4732	$160,914.57
18	$168,906.40	$5,469.76	$174,376.16	0.4528	$78,957.53	$334,586.40	$5,469.76	$340,056.16	0.4528	$153,977.43
19	$168,906.40	$5,469.76	$174,376.16	0.4333	$75,557.19	$334,586.40	$5,469.76	$340,056.16	0.4333	$147,346.33
20	$168,906.40	$5,469.76	$174,376.16	0.4146	$72,296.36	$334,586.40	$5,469.76	$340,056.16	0.4146	$140,987.28
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50
Totals	**$5,278,128.00**	**$164,092.80**	**$5,442,220.80**		**$4,186,231.37**	**$6,691,728.00**	**$169,830.92**	**$6,861,558.92**		**$4,442,926.89**

* Financing of $1,937,000 for 20 years at a 6.0% interest rate and $1,900,000 downpayment
** Discount Rate = 4.5%
*** Financing of $3,837,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,106,533.31
- $4,186,231.37
= **-$79,698.06**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,186,231.37 / 32818560 kWh

= **$0.128 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,106,533.31 / $4,186,231.37

= **0.981**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 27**

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.672M)
0	0		$0.00	1.0000	$0.00	$0.00	-$2,050,000.00	$0.00
1	929632	0.16	$148,741.12	0.9569	$142,330.38	-$168,515.30	$2,540.15	$142,330.38
2	929632	0.1648	$153,203.35	0.9157	$140,288.31	-$157,173.68	$6,516.85	$282,618.69
3	929632	0.169744	$157,799.45	0.8763	$138,279.66	-$146,383.38	$10,264.01	$420,898.35
4	929632	0.17483632	$162,533.44	0.8386	$136,300.54	-$136,115.78	$13,792.35	$557,198.89
5	929632	0.18008141	$167,409.44	0.8025	$134,346.08	-$126,343.29	$17,111.61	$691,544.97
6	929632	0.185483852	$172,431.72	0.7679	$132,410.32	-$117,039.35	$20,230.45	$823,955.29
7	929632	0.191048367	$177,604.68	0.7348	$130,503.92	-$108,193.34	$23,159.51	$954,459.20
8	929632	0.196779818	$182,932.82	0.7032	$128,638.36	-$99,793.74	$25,910.29	$1,083,097.56
9	929632	0.202683213	$188,420.80	0.6729	$126,788.36	-$91,800.89	$28,486.71	$1,209,885.92
10	929632	0.208763709	$194,073.42	0.6439	$124,963.88	-$84,204.82	$30,898.74	$1,334,849.80
11	929632	0.215026621	$199,895.63	0.6162	$123,175.69	-$76,994.76	$33,157.15	$1,458,025.48
12	929632	0.221477419	$205,892.50	0.5897	$121,414.81	-$70,147.21	$35,267.56	$1,579,440.29
13	929632	0.228121742	$212,069.27	0.5643	$119,670.69	-$63,640.22	$37,234.04	$1,699,110.98
14	929632	0.234965394	$218,431.35	0.54	$117,952.93	-$57,464.21	$39,066.19	$1,817,063.90
15	929632	0.242014356	$224,984.29	0.5167	$116,249.38	-$51,598.84	$40,766.46	$1,933,313.29
16	929632	0.249274787	$231,733.82	0.4945	$114,592.37	-$46,044.25	$42,352.57	$2,047,905.66
17	929632	0.25675303	$238,685.83	0.4732	$112,946.14	-$40,771.26	$43,817.98	$2,160,851.80
18	929632	0.264455621	$245,846.41	0.4528	$111,319.25	-$35,771.27	$45,171.26	$2,272,171.05
19	929632	0.27238929	$253,221.80	0.4333	$109,721.01	-$31,035.01	$46,421.70	$2,381,892.06
20	929632	0.280560968	$260,818.45	0.4146	$108,135.33	-$26,546.05	$47,567.84	$2,490,027.39
21	929632	0.288977798	$268,643.01	0.3968	$106,597.55	$104,753.16	$104,753.16	$2,596,624.93
22	929632	0.297647131	$276,702.30	0.3797	$105,063.86	$103,298.96	$103,298.96	$2,701,688.80
23	929632	0.306576545	$285,003.37	0.3634	$103,570.22	$101,881.08	$101,881.08	$2,805,259.02
24	929632	0.315773842	$293,553.47	0.3477	$102,068.54	$100,452.38	$100,452.38	$2,907,327.56
25	929632	0.325247057	$302,360.07	0.3327	$100,595.20	$99,048.75	$99,048.75	$3,007,922.76
26	929632	0.335004469	$311,430.87	0.3184	$99,159.59	$97,679.62	$97,679.62	$3,107,082.35
27	929632	0.345054603	$320,773.80	0.3047	$97,739.78	$96,323.48	$96,323.48	$3,204,822.12
28	929632	0.355406241	$330,397.01	0.2916	$96,343.77	$94,988.37	$94,988.37	$3,301,165.89
29	929632	0.366068428	$340,308.92	0.279	$94,946.19	$93,649.35	$93,649.35	$3,396,112.08
30	929632	0.377050481	$350,518.19	0.267	$93,588.36	$92,347.30	$92,347.30	**$3,489,700.44**
Totals	**27888960**		**$7,076,420.62**		**$3,489,700.44**			

* Discount Rate = 4.5%

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,050,000.00	$0.00	$2,050,000.00	1.0000	$2,050,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$141,438.40	$4,648.16	$146,086.56	0.9569	$139,790.23	$320,198.40	$4,648.16	$324,846.56	0.9569	$310,845.6733
2	$141,438.40	$4,648.16	$146,086.56	0.9157	$133,771.46	$320,198.40	$4,648.16	$324,846.56	0.9157	$297,461.9950
3	$141,438.40	$4,648.16	$146,086.56	0.8763	$128,015.65	$320,198.40	$4,648.16	$324,846.56	0.8763	$284,663.0405
4	$141,438.40	$4,648.16	$146,086.56	0.8386	$122,508.19	$320,198.40	$4,648.16	$324,846.56	0.8386	$272,416.3252
5	$141,438.40	$4,648.16	$146,086.56	0.8025	$117,234.46	$320,198.40	$4,648.16	$324,846.56	0.8025	$260,689.3644
6	$141,438.40	$4,648.16	$146,086.56	0.7679	$112,179.87	$320,198.40	$4,648.16	$324,846.56	0.7679	$249,449.6734
7	$141,438.40	$4,648.16	$146,086.56	0.7348	$107,344.40	$320,198.40	$4,648.16	$324,846.56	0.7348	$238,697.2523
8	$141,438.40	$4,648.16	$146,086.56	0.7032	$102,728.07	$320,198.40	$4,648.16	$324,846.56	0.7032	$228,432.1010
9	$141,438.40	$4,648.16	$146,086.56	0.6729	$98,301.65	$320,198.40	$4,648.16	$324,846.56	0.6729	$218,589.2502
10	$141,438.40	$4,648.16	$146,086.56	0.6439	$94,065.14	$320,198.40	$4,648.16	$324,846.56	0.6439	$209,168.7000
11	$141,438.40	$4,648.16	$146,086.56	0.6162	$90,018.54	$320,198.40	$4,648.16	$324,846.56	0.6162	$200,170.4503
12	$141,438.40	$4,648.16	$146,086.56	0.5897	$86,147.24	$320,198.40	$4,648.16	$324,846.56	0.5897	$191,562.0164
13	$141,438.40	$4,648.16	$146,086.56	0.5643	$82,436.65	$320,198.40	$4,648.16	$324,846.56	0.5643	$183,310.9138
14	$141,438.40	$4,648.16	$146,086.56	0.54	$78,886.74	$320,198.40	$4,648.16	$324,846.56	0.54	$175,417.1424
15	$141,438.40	$4,648.16	$146,086.56	0.5167	$75,482.93	$320,198.40	$4,648.16	$324,846.56	0.5167	$167,848.2176
16	$141,438.40	$4,648.16	$146,086.56	0.4945	$72,239.80	$320,198.40	$4,648.16	$324,846.56	0.4945	$160,636.6239
17	$141,438.40	$4,648.16	$146,086.56	0.4732	$69,128.16	$320,198.40	$4,648.16	$324,846.56	0.4732	$153,717.3922
18	$141,438.40	$4,648.16	$146,086.56	0.4528	$66,147.99	$320,198.40	$4,648.16	$324,846.56	0.4528	$147,090.5224
19	$141,438.40	$4,648.16	$146,086.56	0.4333	$63,299.31	$320,198.40	$4,648.16	$324,846.56	0.4333	$140,756.0144
20	$141,438.40	$4,648.16	$146,086.56	0.4146	$60,567.49	$320,198.40	$4,648.16	$324,846.56	0.4146	$134,681.3838
21	$0.00	$4,648.16	$4,648.16	0.3968	$1,844.39	$0.00	$4,648.16	$4,648.16	0.3968	$1,844.3899
22	$0.00	$4,648.16	$4,648.16	0.3797	$1,764.91	$0.00	$4,648.16	$4,648.16	0.3797	$1,764.9064
23	$0.00	$4,648.16	$4,648.16	0.3634	$1,689.14	$0.00	$4,648.16	$4,648.16	0.3634	$1,689.1413
24	$0.00	$4,648.16	$4,648.16	0.3477	$1,616.17	$0.00	$4,648.16	$4,648.16	0.3477	$1,616.1652
25	$0.00	$4,648.16	$4,648.16	0.3327	$1,546.44	$0.00	$4,648.16	$4,648.16	0.3327	$1,546.4428
26	$0.00	$4,648.16	$4,648.16	0.3184	$1,479.97	$0.00	$4,648.16	$4,648.16	0.3184	$1,479.9741
27	$0.00	$4,648.16	$4,648.16	0.3047	$1,416.29	$0.00	$4,648.16	$4,648.16	0.3047	$1,416.2944
28	$0.00	$4,648.16	$4,648.16	0.2916	$1,355.40	$0.00	$4,648.16	$4,648.16	0.2916	$1,355.4035
29	$0.00	$4,648.16	$4,648.16	0.279	$1,296.84	$0.00	$4,648.16	$4,648.16	0.279	$1,296.8366
30	$0.00	$4,648.16	$4,648.16	0.267	$1,241.06	$0.00	$4,648.16	$4,648.16	0.267	$1,241.0587
Totals	**$4,878,768.00**	**$139,444.80**	**$5,018,212.80**		**$3,965,544.59**	**$6,403,968.00**	**$139,444.80**	**$6,543,412.80**		**$4,240,854.67**

* Financing of $1,622,000 for 20 years at a 6% interest rate and $2,050,000 downpayment
** Discount Rate = 4.5%
*** Financing of $3,672,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $3,489,700.44
- $3,965,544.59
= **-$475,844.14**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,965,544.59 / 27888960 kWh

= **$0.142 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $3,489,700.44 / $3,965,544.59

= **0.880**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 30+**

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.903M)
0	0		$0.00	1.0000	$0.00	$0.00	-$1,500,000.00	$0.00
1	810982	0.16	$129,757.12	0.9569	$124,164.59	-$121,946.75	$3,215.77	$124,164.59
2	810982	0.1648	$133,649.83	0.9157	$122,383.15	-$113,131.69	$6,641.87	$246,547.74
3	810982	0.169744	$137,659.33	0.8763	$120,630.87	-$104,750.43	$9,869.61	$367,178.61
4	810982	0.17483632	$141,789.11	0.8386	$118,904.35	-$96,780.65	$12,908.23	$486,082.96
5	810982	0.18008141	$146,042.78	0.8025	$117,199.33	-$89,200.87	$15,766.13	$603,282.29
6	810982	0.185483852	$150,424.07	0.7679	$115,510.64	-$81,990.56	$18,450.76	$718,792.93
7	810982	0.191048367	$154,936.79	0.7348	$113,847.55	-$75,140.44	$20,971.40	$832,640.48
8	810982	0.196779818	$159,584.89	0.7032	$112,220.10	-$68,640.49	$23,338.07	$944,860.58
9	810982	0.202683213	$164,372.44	0.6729	$110,606.21	-$62,461.32	$25,554.00	$1,055,466.79
10	810982	0.208763709	$169,303.61	0.6439	$109,014.59	-$56,594.24	$27,627.88	$1,164,481.38
11	810982	0.215026621	$174,382.72	0.6162	$107,454.63	-$51,029.86	$29,569.10	$1,271,936.01
12	810982	0.221477419	$179,614.20	0.5897	$105,918.49	-$45,750.29	$31,382.47	$1,377,854.51
13	810982	0.228121742	$185,002.63	0.5643	$104,396.98	-$40,739.01	$33,071.43	$1,482,251.49
14	810982	0.234965394	$190,552.71	0.54	$102,898.46	-$35,987.65	$34,644.35	$1,585,149.95
15	810982	0.242014356	$196,269.29	0.5167	$101,412.34	-$31,481.10	$36,103.26	$1,686,562.29
16	810982	0.249274787	$202,157.37	0.4945	$99,966.82	-$27,216.86	$37,463.74	$1,786,529.11
17	810982	0.25675303	$208,222.09	0.4732	$98,530.69	-$23,174.70	$38,719.86	$1,885,059.80
18	810982	0.264455621	$214,468.75	0.4528	$97,111.45	-$19,347.13	$39,879.11	$1,982,171.25
19	810982	0.27238929	$220,902.81	0.4333	$95,717.19	-$15,726.06	$40,949.58	$2,077,888.44
20	810982	0.280560968	$227,529.90	0.4146	$94,333.89	-$12,299.78	$41,929.90	$2,172,222.33
Totals	**16219640**		**$3,486,622.41**		**$2,172,222.33**			

* Discount Rate = 4.5%

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,500,000.00	$0.00	$1,500,000.00	1.0000	$1,500,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$122,341.60	$4,054.91	$126,396.51	0.9569	$120,948.82	$253,141.60	$4,054.91	$257,196.51	0.9569	$246,111.34
2	$122,341.60	$4,054.91	$126,396.51	0.9157	$115,741.28	$253,141.60	$4,054.91	$257,196.51	0.9157	$235,514.84
3	$122,341.60	$4,054.91	$126,396.51	0.8763	$110,761.26	$253,141.60	$4,054.91	$257,196.51	0.8763	$225,381.30
4	$122,341.60	$4,054.91	$126,396.51	0.8386	$105,996.11	$253,141.60	$4,054.91	$257,196.51	0.8386	$215,684.99
5	$122,341.60	$4,054.91	$126,396.51	0.8025	$101,433.20	$253,141.60	$4,054.91	$257,196.51	0.8025	$206,400.20
6	$122,341.60	$4,054.91	$126,396.51	0.7679	$97,059.88	$253,141.60	$4,054.91	$257,196.51	0.7679	$197,501.20
7	$122,341.60	$4,054.91	$126,396.51	0.7348	$92,876.16	$253,141.60	$4,054.91	$257,196.51	0.7348	$188,988.00
8	$122,341.60	$4,054.91	$126,396.51	0.7032	$88,882.03	$253,141.60	$4,054.91	$257,196.51	0.7032	$180,860.59
9	$122,341.60	$4,054.91	$126,396.51	0.6729	$85,052.21	$253,141.60	$4,054.91	$257,196.51	0.6729	$173,067.53
10	$122,341.60	$4,054.91	$126,396.51	0.6439	$81,386.71	$253,141.60	$4,054.91	$257,196.51	0.6439	$165,608.83
11	$122,341.60	$4,054.91	$126,396.51	0.6162	$77,885.53	$253,141.60	$4,054.91	$257,196.51	0.6162	$158,484.49
12	$122,341.60	$4,054.91	$126,396.51	0.5897	$74,536.02	$253,141.60	$4,054.91	$257,196.51	0.5897	$151,668.78
13	$122,341.60	$4,054.91	$126,396.51	0.5643	$71,325.55	$253,141.60	$4,054.91	$257,196.51	0.5643	$145,135.99
14	$122,341.60	$4,054.91	$126,396.51	0.54	$68,254.12	$253,141.60	$4,054.91	$257,196.51	0.54	$138,886.12
15	$122,341.60	$4,054.91	$126,396.51	0.5167	$65,309.08	$253,141.60	$4,054.91	$257,196.51	0.5167	$132,893.44
16	$122,341.60	$4,054.91	$126,396.51	0.4945	$62,503.07	$253,141.60	$4,054.91	$257,196.51	0.4945	$127,183.67
17	$122,341.60	$4,054.91	$126,396.51	0.4732	$59,810.83	$253,141.60	$4,054.91	$257,196.51	0.4732	$121,705.39
18	$122,341.60	$4,054.91	$126,396.51	0.4528	$57,232.34	$253,141.60	$4,054.91	$257,196.51	0.4528	$116,458.58
19	$122,341.60	$4,054.91	$126,396.51	0.4333	$54,767.61	$253,141.60	$4,054.91	$257,196.51	0.4333	$111,443.25
20	$122,341.60	$4,054.91	$126,396.51	0.4146	$52,403.99	$253,141.60	$4,054.91	$257,196.51	0.4146	$106,633.67
Totals	**$3,946,832.00**	**$81,098.20**	**$4,027,930.20**		**$3,144,165.80**	**$5,062,832.00**	**$81,098.20**	**$5,143,930.20**		**$3,345,612.20**

* Financing of $1,403,000 for 20 years at a 6% interest rate and $1,500,000 downpayment
** Discount Rate = 4.5%
*** Financing of $2,903,000 for 20 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 500 kW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $2,172,222.33
- $3,144,165.80
= **-$971,943.47**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,144,165.80 / 16219640 kWh

= **$0.194 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $2,172,222.33 / $3,144,165.80

= **0.691**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **20+ Years**

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.559M)
0	0			1.0000	$0.00	$0.00	-$800,000.00	$0.00
1	433535	0.16	$69,365.60	0.9569	$66,375.94	-$65,783.88	$969.46	$66,375.94
2	433535	0.1648	$71,446.57	0.9157	$65,423.62	-$61,045.97	$2,833.26	$131,799.56
3	433535	0.169744	$73,589.97	0.8763	$64,486.89	-$56,541.08	$4,589.61	$196,286.45
4	433535	0.17483632	$75,797.66	0.8386	$63,563.92	-$52,257.20	$6,243.54	$259,850.37
5	433535	0.18008141	$78,071.59	0.8025	$62,652.45	-$48,182.81	$7,799.59	$322,502.83
6	433535	0.185483852	$80,413.74	0.7679	$61,749.71	-$44,306.86	$9,261.85	$384,252.54
7	433535	0.191048367	$82,826.15	0.7348	$60,860.66	-$40,624.39	$10,635.26	$445,113.20
8	433535	0.196779818	$85,310.94	0.7032	$59,990.65	-$37,130.04	$11,925.19	$505,103.85
9	433535	0.202683213	$87,870.27	0.6729	$59,127.90	-$33,807.98	$13,133.52	$564,231.75
10	433535	0.208763709	$90,506.37	0.6439	$58,277.05	-$30,653.57	$14,264.90	$622,508.81
11	433535	0.215026621	$93,221.57	0.6162	$57,443.13	-$27,661.78	$15,324.33	$679,951.93
12	433535	0.221477419	$96,018.21	0.5897	$56,621.94	-$24,822.99	$16,314.49	$736,573.88
13	433535	0.228121742	$98,898.76	0.5643	$55,808.57	-$22,128.30	$17,237.27	$792,382.44
14	433535	0.234965394	$101,865.72	0.54	$55,007.49	-$19,573.25	$18,097.15	$847,389.93
15	433535	0.242014356	$104,921.69	0.5167	$54,213.04	-$17,149.68	$18,895.32	$901,602.97
16	433535	0.249274787	$108,069.34	0.4945	$53,440.29	-$14,856.33	$19,639.99	$955,043.27
17	433535	0.25675303	$111,311.42	0.4732	$52,672.57	-$12,682.26	$20,328.18	$1,007,715.83
18	433535	0.264455621	$114,650.77	0.4528	$51,913.87	-$10,623.46	$20,963.87	$1,059,629.70
19	433535	0.27238929	$118,090.29	0.4333	$51,168.52	-$8,675.61	$21,551.40	$1,110,798.22
20	433535	0.280560968	$121,633.00	0.4146	$50,429.04	-$6,832.39	$22,090.11	$1,161,227.26
21	433535	0.288977798	$125,281.99	0.3968	$49,711.89	$48,851.76	$48,851.76	$1,210,939.16
22	433535	0.297647131	$129,040.45	0.3797	$48,996.66	$48,173.59	$48,173.59	$1,259,935.82
23	433535	0.306576545	$132,911.66	0.3634	$48,300.10	$47,512.37	$47,512.37	$1,308,235.91
24	433535	0.315773842	$136,899.01	0.3477	$47,599.79	$46,846.09	$46,846.09	$1,355,835.70
25	433535	0.325247057	$141,005.98	0.3327	$46,912.69	$46,191.51	$46,191.51	$1,402,748.39
26	433535	0.335004469	$145,236.16	0.3184	$46,243.19	$45,553.01	$45,553.01	$1,448,991.58
27	433535	0.345054603	$149,593.25	0.3047	$45,581.06	$44,920.57	$44,920.57	$1,494,572.65
28	433535	0.355406241	$154,081.04	0.2916	$44,930.03	$44,297.94	$44,297.94	**$1,539,502.68**
29	433535	0.366068428	$158,703.48	0.279	$44,278.27	$43,673.49	$43,673.49	**$1,583,780.95**
30	433535	0.377050481	$163,464.58	0.267	$43,645.04	$40,652.54	$43,066.27	$1,627,425.99
Totals	**13006050**		**$3,300,097.26**		**$1,627,425.99**			

* Discount Rate= 4.5%

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of Costs with a Downpayment						Net Present Value of Costs without a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$800,000.00	$0.00	$800,000.00	1.0000	$800,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$66,184.80	$2,167.68	$68,352.48	0.9569	$65,406.48	$135,944.80	$2,167.68	$138,112.48	0.9569	$132,159.83
2	$66,184.80	$2,167.68	$68,352.48	0.9157	$62,590.36	$135,944.80	$2,167.68	$138,112.48	0.9157	$126,469.59
3	$66,184.80	$2,167.68	$68,352.48	0.8763	$59,897.27	$135,944.80	$2,167.68	$138,112.48	0.8763	$121,027.96
4	$66,184.80	$2,167.68	$68,352.48	0.8386	$57,320.39	$135,944.80	$2,167.68	$138,112.48	0.8386	$115,821.12
5	$66,184.80	$2,167.68	$68,352.48	0.8025	$54,852.86	$135,944.80	$2,167.68	$138,112.48	0.8025	$110,835.26
6	$66,184.80	$2,167.68	$68,352.48	0.7679	$52,487.87	$135,944.80	$2,167.68	$138,112.48	0.7679	$106,056.57
7	$66,184.80	$2,167.68	$68,352.48	0.7348	$50,225.40	$135,944.80	$2,167.68	$138,112.48	0.7348	$101,485.05
8	$66,184.80	$2,167.68	$68,352.48	0.7032	$48,065.46	$135,944.80	$2,167.68	$138,112.48	0.7032	$97,120.69
9	$66,184.80	$2,167.68	$68,352.48	0.6729	$45,994.38	$135,944.80	$2,167.68	$138,112.48	0.6729	$92,935.88
10	$66,184.80	$2,167.68	$68,352.48	0.6439	$44,012.16	$135,944.80	$2,167.68	$138,112.48	0.6439	$88,930.62
11	$66,184.80	$2,167.68	$68,352.48	0.6162	$42,118.80	$135,944.80	$2,167.68	$138,112.48	0.6162	$85,104.91
12	$66,184.80	$2,167.68	$68,352.48	0.5897	$40,307.45	$135,944.80	$2,167.68	$138,112.48	0.5897	$81,444.93
13	$66,184.80	$2,167.68	$68,352.48	0.5643	$38,571.30	$135,944.80	$2,167.68	$138,112.48	0.5643	$77,936.87
14	$66,184.80	$2,167.68	$68,352.48	0.54	$36,910.34	$135,944.80	$2,167.68	$138,112.48	0.54	$74,580.74
15	$66,184.80	$2,167.68	$68,352.48	0.5167	$35,317.72	$135,944.80	$2,167.68	$138,112.48	0.5167	$71,362.72
16	$66,184.80	$2,167.68	$68,352.48	0.4945	$33,800.30	$135,944.80	$2,167.68	$138,112.48	0.4945	$68,296.62
17	$66,184.80	$2,167.68	$68,352.48	0.4732	$32,344.39	$135,944.80	$2,167.68	$138,112.48	0.4732	$65,354.82
18	$66,184.80	$2,167.68	$68,352.48	0.4528	$30,950.00	$135,944.80	$2,167.68	$138,112.48	0.4528	$62,537.33
19	$66,184.80	$2,167.68	$68,352.48	0.4333	$29,617.13	$135,944.80	$2,167.68	$138,112.48	0.4333	$59,844.14
20	$66,184.80	$2,167.68	$68,352.48	0.4146	$28,338.94	$135,944.80	$2,167.68	$138,112.48	0.4146	$57,261.43
21	$0.00	$2,167.68	$2,167.68	0.3968	$860.13	$0.00	$2,167.68	$2,167.68	0.3968	$860.13
22	$0.00	$2,167.68	$2,167.68	0.3797	$823.07	$0.00	$2,167.68	$2,167.68	0.3797	$823.07
23	$0.00	$2,167.68	$2,167.68	0.3634	$787.73	$0.00	$2,167.68	$2,167.68	0.3634	$787.73
24	$0.00	$2,167.68	$2,167.68	0.3477	$753.70	$0.00	$2,167.68	$2,167.68	0.3477	$753.70
25	$0.00	$2,167.68	$2,167.68	0.3327	$721.19	$0.00	$2,167.68	$2,167.68	0.3327	$721.19
26	$0.00	$2,167.68	$2,167.68	0.3184	$690.19	$0.00	$2,167.68	$2,167.68	0.3184	$690.19
27	$0.00	$2,167.68	$2,167.68	0.3047	$660.49	$0.00	$2,167.68	$2,167.68	0.3047	$660.49
28	$0.00	$2,167.68	$2,167.68	0.2916	$632.09	$0.00	$2,167.68	$2,167.68	0.2916	$632.09
29	$0.00	$2,167.68	$2,167.68	0.279	$604.78	$0.00	$2,167.68	$2,167.68	0.279	$604.78
30	$0.00	$2,167.68	$2,167.68	0.267	$578.77	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50
Totals	$2,123,696.00	$65,030.29	$2,188,726.29		$1,696,241.14	$2,718,896.00	$74,070.46	$2,792,966.46		$1,806,092.95

* Financing of $759,000 for 20 years at a 6.0% interest rate and $800,000 downpayment

** Discount Rate = 4.5%

*** Financing of $1,559,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $1,627,425.99

\- $1,696,241.14

= **-$68,815.14**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,696,241.14 / 13006050 kWh

= **$0.130 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $1,627,425.99 / $1,696,241.14

= **0.959**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 28**

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.529M)
0	0		$0.00	1.0000	$0.00	$0.00	-$900,000.00	$0.00
1	368664	0.16	$58,986.24	0.9569	$56,443.93	-$72,902.27	$2,195.24	$56,443.93
2	368664	0.1648	$60,755.83	0.9157	$55,634.11	-$68,143.00	$3,721.14	$112,078.04
3	368664	0.169744	$62,578.50	0.8763	$54,837.54	-$63,613.79	$5,158.24	$166,915.59
4	368664	0.17483632	$64,455.86	0.8386	$54,052.68	-$59,302.66	$6,510.67	$220,968.27
5	368664	0.18008141	$66,389.53	0.8025	$53,277.60	-$55,198.03	$7,782.17	$274,245.87
6	368664	0.185483852	$68,381.22	0.7679	$52,509.94	-$51,288.73	$8,976.06	$326,755.81
7	368664	0.191048367	$70,432.66	0.7348	$51,753.92	-$47,570.56	$10,096.55	$378,509.72
8	368664	0.196779818	$72,545.63	0.7032	$51,014.09	-$44,038.94	$11,148.19	$429,523.81
9	368664	0.202683213	$74,722.00	0.6729	$50,280.44	-$40,676.88	$12,132.31	$479,804.25
10	368664	0.208763709	$76,963.66	0.6439	$49,556.90	-$37,480.42	$13,052.85	$529,361.15
11	368664	0.215026621	$79,272.57	0.6162	$48,847.76	-$34,445.30	$13,914.08	$578,208.91
12	368664	0.221477419	$81,650.75	0.5897	$48,149.45	-$31,561.55	$14,718.10	$626,358.36
13	368664	0.228121742	$84,100.27	0.5643	$47,457.78	-$28,819.84	$15,466.42	$673,816.14
14	368664	0.234965394	$86,623.28	0.54	$46,776.57	-$26,216.37	$16,162.83	$720,592.72
15	368664	0.242014356	$89,221.98	0.5167	$46,101.00	-$23,742.44	$16,808.18	$766,693.71
16	368664	0.249274787	$91,898.64	0.4945	$45,443.88	-$21,398.74	$17,409.62	$812,137.59
17	368664	0.25675303	$94,655.60	0.4732	$44,791.03	-$19,172.42	$17,964.32	$856,928.62
18	368664	0.264455621	$97,495.27	0.4528	$44,145.86	-$17,060.08	$18,475.67	$901,074.48
19	368664	0.27238929	$100,420.13	0.4333	$43,512.04	-$15,058.04	$18,947.34	$944,586.52
20	368664	0.280560968	$103,432.73	0.4146	$42,883.21	-$13,159.15	$19,378.66	$987,469.73
21	368664	0.288977798	$106,535.71	0.3968	$42,273.37	$41,541.94	$41,541.94	$1,029,743.10
22	368664	0.297647131	$109,731.78	0.3797	$41,665.16	$40,965.25	$40,965.25	$1,071,408.25
23	368664	0.306576545	$113,023.74	0.3634	$41,072.83	$40,402.96	$40,402.96	$1,112,481.08
24	368664	0.315773842	$116,414.45	0.3477	$40,477.30	$39,836.38	$39,836.38	$1,152,958.38
25	368664	0.325247057	$119,906.88	0.3327	$39,893.02	$39,279.75	$39,279.75	$1,192,851.40
26	368664	0.335004469	$123,504.09	0.3184	$39,323.70	$38,736.79	$38,736.79	$1,232,175.10
27	368664	0.345054603	$127,209.21	0.3047	$38,760.65	$38,198.99	$38,198.99	$1,270,935.75
28	368664	0.355406241	$131,025.49	0.2916	$38,207.03	$37,669.52	$37,669.52	$1,309,142.78
29	368664	0.366068428	$134,956.25	0.279	$37,652.79	$37,138.51	$37,138.51	$1,346,795.58
30	368664	0.377050481	$139,004.94	0.267	$37,114.32	$36,622.15	$36,622.15	**$1,383,909.89**
Totals	**11059920**		**$2,806,294.89**		**$1,383,909.89**			

* Discount Rate = 4.5%

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$900,000.00	$0.00	$900,000.00	1.0000	$900,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$54,848.80	$1,843.32	$56,692.12	0.9569	$54,248.69	$133,328.80	$1,843.32	$135,172.12	0.9569	$129,346.2016
2	$54,848.80	$1,843.32	$56,692.12	0.9157	$51,912.97	$133,328.80	$1,843.32	$135,172.12	0.9157	$123,777.1103
3	$54,848.80	$1,843.32	$56,692.12	0.8763	$49,679.30	$133,328.80	$1,843.32	$135,172.12	0.8763	$118,451.3288
4	$54,848.80	$1,843.32	$56,692.12	0.8386	$47,542.01	$133,328.80	$1,843.32	$135,172.12	0.8386	$113,355.3398
5	$54,848.80	$1,843.32	$56,692.12	0.8025	$45,495.43	$133,328.80	$1,843.32	$135,172.12	0.8025	$108,475.6263
6	$54,848.80	$1,843.32	$56,692.12	0.7679	$43,533.88	$133,328.80	$1,843.32	$135,172.12	0.7679	$103,798.6709
7	$54,848.80	$1,843.32	$56,692.12	0.7348	$41,657.37	$133,328.80	$1,843.32	$135,172.12	0.7348	$99,324.4738
8	$54,848.80	$1,843.32	$56,692.12	0.7032	$39,865.90	$133,328.80	$1,843.32	$135,172.12	0.7032	$95,053.0348
9	$54,848.80	$1,843.32	$56,692.12	0.6729	$38,148.13	$133,328.80	$1,843.32	$135,172.12	0.6729	$90,957.3195
10	$54,848.80	$1,843.32	$56,692.12	0.6439	$36,504.06	$133,328.80	$1,843.32	$135,172.12	0.6439	$87,037.3281
11	$54,848.80	$1,843.32	$56,692.12	0.6162	$34,933.68	$133,328.80	$1,843.32	$135,172.12	0.6162	$83,293.0603
12	$54,848.80	$1,843.32	$56,692.12	0.5897	$33,431.34	$133,328.80	$1,843.32	$135,172.12	0.5897	$79,710.9992
13	$54,848.80	$1,843.32	$56,692.12	0.5643	$31,991.36	$133,328.80	$1,843.32	$135,172.12	0.5643	$76,277.6273
14	$54,848.80	$1,843.32	$56,692.12	0.54	$30,613.74	$133,328.80	$1,843.32	$135,172.12	0.54	$72,992.9448
15	$54,848.80	$1,843.32	$56,692.12	0.5167	$29,292.82	$133,328.80	$1,843.32	$135,172.12	0.5167	$69,843.4344
16	$54,848.80	$1,843.32	$56,692.12	0.4945	$28,034.25	$133,328.80	$1,843.32	$135,172.12	0.4945	$66,842.6133
17	$54,848.80	$1,843.32	$56,692.12	0.4732	$26,826.71	$133,328.80	$1,843.32	$135,172.12	0.4732	$63,963.4472
18	$54,848.80	$1,843.32	$56,692.12	0.4528	$25,670.19	$133,328.80	$1,843.32	$135,172.12	0.4528	$61,205.9359
19	$54,848.80	$1,843.32	$56,692.12	0.4333	$24,564.70	$133,328.80	$1,843.32	$135,172.12	0.4333	$58,570.0796
20	$54,848.80	$1,843.32	$56,692.12	0.4146	$23,504.55	$133,328.80	$1,843.32	$135,172.12	0.4146	$56,042.3610
21	$0.00	$1,843.32	$1,843.32	0.3968	$731.43	$0.00	$1,843.32	$1,843.32	0.3968	$731.4294
22	$0.00	$1,843.32	$1,843.32	0.3797	$699.91	$0.00	$1,843.32	$1,843.32	0.3797	$699.9086
23	$0.00	$1,843.32	$1,843.32	0.3634	$669.86	$0.00	$1,843.32	$1,843.32	0.3634	$669.8625
24	$0.00	$1,843.32	$1,843.32	0.3477	$640.92	$0.00	$1,843.32	$1,843.32	0.3477	$640.9224
25	$0.00	$1,843.32	$1,843.32	0.3327	$613.27	$0.00	$1,843.32	$1,843.32	0.3327	$613.2726
26	$0.00	$1,843.32	$1,843.32	0.3184	$586.91	$0.00	$1,843.32	$1,843.32	0.3184	$586.9131
27	$0.00	$1,843.32	$1,843.32	0.3047	$561.66	$0.00	$1,843.32	$1,843.32	0.3047	$561.6596
28	$0.00	$1,843.32	$1,843.32	0.2916	$537.51	$0.00	$1,843.32	$1,843.32	0.2916	$537.5121
29	$0.00	$1,843.32	$1,843.32	0.279	$514.29	$0.00	$1,843.32	$1,843.32	0.279	$514.2863
30	$0.00	$1,843.32	$1,843.32	0.267	$492.17	$0.00	$1,843.32	$1,843.32	0.267	$492.1664
Totals	**$1,996,976.00**	**$55,299.60**	**$2,052,275.60**		**$1,643,499.03**	**$2,666,576.00**	**$55,299.60**	**$2,721,875.60**		**$1,764,366.87**

* Financing of $629,000 for 20 years at a 6% interest rate and $900,000 downpayment
** Discount Rate = 4.5%
*** Financing of $1,529,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 200 kW Crystalline Silicon PV Power Station
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $1,383,909.89
- $1,643,499.03
= **-$259,589.14**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,643,499.03 / 11059920 kWh
= **$0.149 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $1,383,909.89 / $1,643,499.03
= **0.842**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 30+**

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.221M)
0	0		$0.00	1.0000	$0.00	$0.00	-$700,000.00	$0.00
1	321043	0.16	$51,366.88	0.9569	$49,152.97	-$54,265.35	$4,143.82	$49,152.97
2	321043	0.1648	$52,907.89	0.9157	$48,447.75	-$50,517.82	$5,376.51	$97,600.72
3	321043	0.169744	$54,495.12	0.8763	$47,754.08	-$46,953.29	$6,536.07	$145,354.80
4	321043	0.17483632	$56,129.98	0.8386	$47,070.60	-$43,562.28	$7,625.86	$192,425.39
5	321043	0.18008141	$57,813.88	0.8025	$46,395.64	-$40,335.69	$8,648.91	$238,821.03
6	321043	0.185483852	$59,548.29	0.7679	$45,727.13	-$37,264.75	$9,607.87	$284,548.16
7	321043	0.191048367	$61,334.74	0.7348	$45,068.77	-$34,345.78	$10,506.41	$329,616.93
8	321043	0.196779818	$63,174.78	0.7032	$44,424.51	-$31,574.83	$11,348.50	$374,041.44
9	321043	0.202683213	$65,070.03	0.6729	$43,785.62	-$28,939.00	$12,134.82	$417,827.06
10	321043	0.208763709	$67,022.13	0.6439	$43,155.55	-$26,434.86	$12,868.80	$460,982.61
11	321043	0.215026621	$69,032.79	0.6162	$42,538.01	-$24,058.68	$13,554.17	$503,520.61
12	321043	0.221477419	$71,103.78	0.5897	$41,929.90	-$21,802.77	$14,192.52	$545,450.51
13	321043	0.228121742	$73,236.89	0.5643	$41,327.58	-$19,659.94	$14,784.93	$586,778.09
14	321043	0.234965394	$75,434.00	0.54	$40,734.36	-$17,626.91	$15,334.69	$627,512.44
15	321043	0.242014356	$77,697.01	0.5167	$40,146.05	-$15,697.04	$15,842.33	$667,658.49
16	321043	0.249274787	$80,027.93	0.4945	$39,573.81	-$13,869.98	$16,314.30	$707,232.30
17	321043	0.25675303	$82,428.76	0.4732	$39,005.29	-$12,136.47	$16,747.66	$746,237.59
18	321043	0.264455621	$84,901.63	0.4528	$38,443.46	-$10,493.54	$17,145.37	$784,681.05
19	321043	0.27238929	$87,448.67	0.4333	$37,891.51	-$8,938.00	$17,510.63	$822,572.56
20	321043	0.280560968	$90,072.14	0.4146	$37,343.91	-$7,464.57	$17,842.61	$859,916.46
Totals	**6420860**		**$1,380,247.30**		**$859,916.46**			

* Discount Rate = 4.5%

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$700,000.00	$0.00	$700,000.00	1.0000	$700,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$45,431.20	$1,605.22	$47,036.42	0.9569	$45,009.15	$106,471.20	$1,605.22	$108,076.42	0.9569	$103,418.32
2	$45,431.20	$1,605.22	$47,036.42	0.9157	$43,071.25	$106,471.20	$1,605.22	$108,076.42	0.9157	$98,965.57
3	$45,431.20	$1,605.22	$47,036.42	0.8763	$41,218.01	$106,471.20	$1,605.22	$108,076.42	0.8763	$94,707.36
4	$45,431.20	$1,605.22	$47,036.42	0.8386	$39,444.74	$106,471.20	$1,605.22	$108,076.42	0.8386	$90,632.88
5	$45,431.20	$1,605.22	$47,036.42	0.8025	$37,746.72	$106,471.20	$1,605.22	$108,076.42	0.8025	$86,731.32
6	$45,431.20	$1,605.22	$47,036.42	0.7679	$36,119.26	$106,471.20	$1,605.22	$108,076.42	0.7679	$82,991.88
7	$45,431.20	$1,605.22	$47,036.42	0.7348	$34,562.36	$106,471.20	$1,605.22	$108,076.42	0.7348	$79,414.55
8	$45,431.20	$1,605.22	$47,036.42	0.7032	$33,076.01	$106,471.20	$1,605.22	$108,076.42	0.7032	$75,999.34
9	$45,431.20	$1,605.22	$47,036.42	0.6729	$31,650.80	$106,471.20	$1,605.22	$108,076.42	0.6729	$72,724.62
10	$45,431.20	$1,605.22	$47,036.42	0.6439	$30,286.75	$106,471.20	$1,605.22	$108,076.42	0.6439	$69,590.40
11	$45,431.20	$1,605.22	$47,036.42	0.6162	$28,983.84	$106,471.20	$1,605.22	$108,076.42	0.6162	$66,596.69
12	$45,431.20	$1,605.22	$47,036.42	0.5897	$27,737.37	$106,471.20	$1,605.22	$108,076.42	0.5897	$63,732.66
13	$45,431.20	$1,605.22	$47,036.42	0.5643	$26,542.65	$106,471.20	$1,605.22	$108,076.42	0.5643	$60,987.52
14	$45,431.20	$1,605.22	$47,036.42	0.54	$25,399.66	$106,471.20	$1,605.22	$108,076.42	0.54	$58,361.26
15	$45,431.20	$1,605.22	$47,036.42	0.5167	$24,303.72	$106,471.20	$1,605.22	$108,076.42	0.5167	$55,843.08
16	$45,431.20	$1,605.22	$47,036.42	0.4945	$23,259.51	$106,471.20	$1,605.22	$108,076.42	0.4945	$53,443.79
17	$45,431.20	$1,605.22	$47,036.42	0.4732	$22,257.63	$106,471.20	$1,605.22	$108,076.42	0.4732	$51,141.76
18	$45,431.20	$1,605.22	$47,036.42	0.4528	$21,298.09	$106,471.20	$1,605.22	$108,076.42	0.4528	$48,937.00
19	$45,431.20	$1,605.22	$47,036.42	0.4333	$20,380.88	$106,471.20	$1,605.22	$108,076.42	0.4333	$46,829.51
20	$45,431.20	$1,605.22	$47,036.42	0.4146	$19,501.30	$106,471.20	$1,605.22	$108,076.42	0.4146	$44,808.48
Totals	**$1,608,624.00**	**$32,104.30**	**$1,640,728.30**		**$1,311,849.69**	**$2,129,424.00**	**$32,104.30**	**$2,161,528.30**		**$1,405,858.01**

* Financing of $521,000 for 20 years at a 6% interest rate and $700,000 downpayment

** Discount Rate = 4.5%

*** Financing of $1,221,000 for 20 years at a 6% interest rate and $0.00 downpayment

Baseline Financial Analysis 200 kW Amorphous Silicon PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $859,916.46

\- $1,311,849.69

= **-$451,933.22**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,311,849.69 / 6420860 kWh

= **$0.204 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $859,916.46 / $1,311,849.69

= **0.655**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **20+ Years**

Appendix E:
Economic Analysis Spreadsheets
For
Best Case Scenario of PV System Options
Utilizing the 13-Year Financing Mechanism

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Benefits									Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$6.134M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$2,800,000	$0.00
1	2241576	0.16	$358,652.16	$6,304.43	$0.0198	$26,224.96	$391,181.55	1.0000	$391,181.55	-$313,168.33	$3,231.67	$391,181.55
2	2241576	0.1648	$369,411.72	$6,304.43	$0.0204	$46,064.39	$421,780.54	1.0000	$421,780.54	-$282,569.34	$33,830.66	$812,962.10
3	2241576	0.169744	$380,494.08	$6,304.43	$0.0210	$47,409.33	$434,207.84	1.0000	$434,207.84	-$270,142.04	$46,257.96	$1,247,169.94
4	2241576	0.17483632	$391,908.90	$6,304.43	$0.0216	$48,754.28	$446,967.61	1.0000	$446,967.61	-$257,382.27	$59,017.73	$1,694,137.55
5	2241576	0.18008141	$403,666.17	$6,304.43	$0.0222	$50,099.22	$460,069.82	1.0000	$460,069.82	-$244,280.06	$72,119.94	$2,154,207.37
6	2241576	0.185483852	$415,776.15	$6,304.43	$0.0228	$51,444.17	$473,524.75	1.0000	$473,524.75	-$230,825.13	$85,574.87	$2,627,732.12
7	2241576	0.191048367	$428,249.44	$6,304.43	$0.0234	$52,789.11	$487,342.98	1.0000	$487,342.98	-$217,006.90	$99,393.10	$3,115,075.10
8	2241576	0.196779818	$441,096.92	$6,304.43	$0.0240	$54,134.06	$501,535.41	1.0000	$501,535.41	-$202,814.47	$113,585.53	$3,616,610.52
9	2241576	0.202683213	$454,329.83	$6,304.43	$0.0246	$55,479.01	$516,113.26	1.0000	$516,113.26	-$188,236.62	$128,163.38	$4,132,723.78
10	2241576	0.208763709	$467,959.72	$6,304.43	$0.0252	$56,823.95	$531,088.10	1.0000	$531,088.10	-$173,261.78	$143,138.22	$4,663,811.88
11	2241576	0.215026621	$481,998.51	$6,304.43	$0.0258	$58,168.90	$546,471.84	1.0000	$546,471.84	-$157,878.04	$158,521.96	$5,210,283.73
12	2241576	0.221477419	$496,458.47	$6,304.43	$0.0264	$59,513.84	$562,276.74	1.0000	$562,276.74	-$142,073.14	$174,326.86	**$5,772,560.47**
13	2241576	0.228121742	$511,352.22	$6,304.43	$0.0270	$45,391.91	$563,048.57	1.0000	$563,048.57	-$141,301.31	$175,098.69	**$6,335,609.04**
14	2241576	0.234965394	$526,692.79	$6,304.43	$0.00	$0.00	$532,997.22	1.0000	$532,997.22	$521,789.34	$521,789.34	$6,868,606.26
15	2241576	0.242014356	$542,493.57	$6,304.43	$0.00	$0.00	$548,798.00	1.0000	$548,798.00	$537,590.12	$537,590.12	$7,417,404.26
16	2241576	0.249274787	$558,768.38	$6,304.43	$0.00	$0.00	$565,072.81	1.0000	$565,072.81	$553,864.93	$553,864.93	$7,982,477.07
17	2241576	0.25675303	$575,531.43	$6,304.43	$0.00	$0.00	$581,835.86	1.0000	$581,835.86	$570,627.98	$570,627.98	$8,564,312.94
18	2241576	0.264455621	$592,797.37	$6,304.43	$0.00	$0.00	$599,101.81	1.0000	$599,101.81	$587,893.93	$587,893.93	$9,163,414.74
19	2241576	0.27238929	$610,581.29	$6,304.43	$0.00	$0.00	$616,885.73	1.0000	$616,885.73	$605,677.85	$605,677.85	$9,780,300.47
20	2241576	0.280560968	$628,898.73	$6,304.43	$0.00	$0.00	$635,203.17	1.0000	$635,203.17	$623,995.29	$623,995.29	$10,415,503.64
21	2241576	0.288977798	$647,765.70	$6,304.43	$0.00	$0.00	$654,070.13	1.0000	$654,070.13	$642,862.25	$642,862.25	$11,069,573.77
22	2241576	0.297647131	$667,198.67	$6,304.43	$0.00	$0.00	$673,503.10	1.0000	$673,503.10	$662,295.22	$662,295.22	$11,743,076.86
23	2241576	0.306576545	$687,214.63	$6,304.43	$0.00	$0.00	$693,519.06	1.0000	$693,519.06	$682,311.18	$682,311.18	$12,436,595.92
24	2241576	0.315773842	$707,831.07	$6,304.43	$0.00	$0.00	$714,135.50	1.0000	$714,135.50	$702,927.62	$702,927.62	$13,150,731.42
25	2241576	0.325247057	$729,066.00	$6,304.43	$0.00	$0.00	$735,370.43	1.0000	$735,370.43	$724,162.55	$724,162.55	$13,886,101.85
26	2241576	0.335004469	$750,937.98	$6,304.43	$0.00	$0.00	$757,242.41	1.0000	$757,242.41	$746,034.53	$746,034.53	$14,643,344.26
27	2241576	0.345054603	$773,466.12	$6,304.43	$0.00	$0.00	$779,770.55	1.0000	$779,770.55	$768,562.67	$768,562.67	$15,423,114.81
28	2241576	0.355406241	$796,670.10	$6,304.43	$0.00	$0.00	$802,974.53	1.0000	$802,974.53	$791,766.65	$791,766.65	$16,226,089.34
29	2241576	0.366068428	$820,570.20	$6,304.43	$0.00	$0.00	$826,874.64	1.0000	$826,874.64	$815,666.76	$815,666.76	$17,052,963.98
30	2241576	0.377050481	$845,187.31	$6,304.43	$0.00	$0.00	$851,491.74	1.0000	$851,491.74	$840,283.86	$840,283.86	$17,904,455.72
Totals	**67247280.00**		**$17,063,025.61**	**$189,132.98**		**$652,297.14**	**$17,904,455.72**		**$17,904,455.72**			

* Discount Rate= 0.0%

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,800,000.00	$0.00	$2,800,000.00	1.0000	$2,800,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
2	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
3	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
4	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
5	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
6	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
7	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
8	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
9	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
10	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
11	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
12	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
13	$376,742.00	$11,207.88	$387,949.88	1.0000	$387,949.88	$693,142.00	$11,207.88	$704,349.88	1.0000	$704,349.88
14	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
15	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
16	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
17	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
18	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
19	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
20	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
21	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
22	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
23	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
24	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
25	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
26	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
27	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
28	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
29	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
30	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88	$0.00	$11,207.88	$11,207.88	1.0000	$11,207.88
Totals	**$7,697,646.00**	**$336,236.40**	**$8,033,882.40**		**$8,033,882.40**	**$9,010,846.00**	**$336,236.40**	**$9,347,082.40**		**$9,347,082.40**

* Financing of $3,334,000 for 13 years at a 6% interest rate and $2,800,000 downpayment with $1,000,000 from CEC and $250,000 from AB970

** Discount Rate = 0.0%

*** Financing of $6,134,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $250,000 from AB970

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $17,904,455.72

\- $8,033,882.40

= **$9,870,573.32**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $8,033,882.40 / 67247280 kWh

= **$0.119 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $17,904,455.72 / $8,033,882.40

= **2.229**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 12**

Financial Analysis 1MW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Present Value of Benefits										Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$5.934M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$3,100,000	$0.00
1	1903050	0.16	$304,488.00	$5,352.33	$0.0198	$22,264.43	$332,104.76	1.0000	$332,104.76	-$347,952.49	$2,347.51	$332,104.76
2	1903050	0.1648	$313,622.64	$5,352.33	$0.0204	$39,107.68	$358,082.65	1.0000	$358,082.65	-$321,974.60	$28,325.40	$690,187.40
3	1903050	0.169744	$323,031.32	$5,352.33	$0.0210	$40,249.51	$368,633.15	1.0000	$368,633.15	-$311,424.10	$38,875.90	$1,058,820.56
4	1903050	0.17483632	$332,722.26	$5,352.33	$0.0216	$41,391.34	$379,465.92	1.0000	$379,465.92	-$300,591.33	$49,708.67	$1,438,286.48
5	1903050	0.18008141	$342,703.93	$5,352.33	$0.0222	$42,533.17	$390,589.42	1.0000	$390,589.42	-$289,467.83	$60,832.17	$1,828,875.90
6	1903050	0.185483852	$352,985.04	$5,352.33	$0.0228	$43,675.00	$402,012.37	1.0000	$402,012.37	-$278,044.88	$72,255.12	$2,230,888.27
7	1903050	0.191048367	$363,574.60	$5,352.33	$0.0234	$44,816.83	$413,743.75	1.0000	$413,743.75	-$266,313.50	$83,986.50	$2,644,632.03
8	1903050	0.196779818	$374,481.83	$5,352.33	$0.0240	$45,958.66	$425,792.82	1.0000	$425,792.82	-$254,264.43	$96,035.57	$3,070,424.84
9	1903050	0.202683213	$385,716.29	$5,352.33	$0.0246	$47,100.49	$438,169.10	1.0000	$438,169.10	-$241,888.15	$108,411.85	$3,508,593.95
10	1903050	0.208763709	$397,287.78	$5,352.33	$0.0252	$48,242.32	$450,882.42	1.0000	$450,882.42	-$229,174.83	$121,125.17	$3,959,476.37
11	1903050	0.215026621	$409,206.41	$5,352.33	$0.0258	$49,384.15	$463,942.89	1.0000	$463,942.89	-$216,114.36	$134,185.64	$4,423,419.26
12	1903050	0.221477419	$421,482.60	$5,352.33	$0.0264	$50,525.98	$477,360.91	1.0000	$477,360.91	-$202,696.34	$147,603.66	$4,900,780.17
13	1903050	0.228121742	$434,127.08	$5,352.33	$0.0270	$38,536.76	$478,016.17	1.0000	$478,016.17	-$202,041.08	$148,258.92	$5,378,796.34
14	1903050	0.234965394	$447,150.89	$5,352.33	$0.00	$0.00	$452,503.22	1.0000	$452,503.22	$442,987.97	$442,987.97	**$5,831,299.56**
15	1903050	0.242014356	$460,565.42	$5,352.33	$0.00	$0.00	$465,917.75	1.0000	$465,917.75	$456,402.50	$456,402.50	**$6,297,217.31**
16	1903050	0.249274787	$474,382.38	$5,352.33	$0.00	$0.00	$479,734.71	1.0000	$479,734.71	$470,219.46	$470,219.46	$6,776,952.02
17	1903050	0.25675303	$488,613.85	$5,352.33	$0.00	$0.00	$493,966.18	1.0000	$493,966.18	$484,450.93	$484,450.93	$7,270,918.20
18	1903050	0.264455621	$503,272.27	$5,352.33	$0.00	$0.00	$508,624.60	1.0000	$508,624.60	$499,109.35	$499,109.35	$7,779,542.80
19	1903050	0.27238929	$518,370.44	$5,352.33	$0.00	$0.00	$523,722.77	1.0000	$523,722.77	$514,207.52	$514,207.52	$8,303,265.56
20	1903050	0.280560968	$533,921.55	$5,352.33	$0.00	$0.00	$539,273.88	1.0000	$539,273.88	$529,758.63	$529,758.63	$8,842,539.44
21	1903050	0.288977798	$549,939.20	$5,352.33	$0.00	$0.00	$555,291.53	1.0000	$555,291.53	$545,776.28	$545,776.28	$9,397,830.97
22	1903050	0.297647131	$566,437.37	$5,352.33	$0.00	$0.00	$571,789.70	1.0000	$571,789.70	$562,274.45	$562,274.45	$9,969,620.67
23	1903050	0.306576545	$583,430.49	$5,352.33	$0.00	$0.00	$588,782.82	1.0000	$588,782.82	$579,267.57	$579,267.57	$10,558,403.49
24	1903050	0.315773842	$600,933.41	$5,352.33	$0.00	$0.00	$606,285.74	1.0000	$606,285.74	$596,770.49	$596,770.49	$11,164,689.23
25	1903050	0.325247057	$618,961.41	$5,352.33	$0.00	$0.00	$624,313.74	1.0000	$624,313.74	$614,798.49	$614,798.49	$11,789,002.97
36	1903050	0.335004469	$637,530.25	$5,352.33	$0.00	$0.00	$642,882.58	1.0000	$642,882.58	$633,367.33	$633,367.33	$12,431,885.55
27	1903050	0.345054603	$656,656.16	$5,352.33	$0.00	$0.00	$662,008.49	1.0000	$662,008.49	$652,493.24	$652,493.24	$13,093,894.04
28	1903050	0.355406241	$676,355.85	$5,352.33	$0.00	$0.00	$681,708.17	1.0000	$681,708.17	$672,192.92	$672,192.92	$13,775,602.22
29	1903050	0.366068428	$696,646.52	$5,352.33	$0.00	$0.00	$701,998.85	1.0000	$701,998.85	$692,483.60	$692,483.60	$14,477,601.07
30	1903050	0.377050481	$717,545.92	$5,352.33	$0.00	$0.00	$722,898.25	1.0000	$722,898.25	$713,383.00	$713,383.00	$15,200,499.32
Totals	**57091500**		**$14,486,143.18**	**$160,569.84**			**$15,200,499.32**		**$15,200,499.32**			

* Discount Rate= 0.0%

Financial Analysis 1MW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$3,100,000.00	$0.00	$3,100,000.00	1.0000	$3,100,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
2	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
3	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
4	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
5	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
6	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
7	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
8	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
9	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
10	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
11	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
12	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
13	$320,242.00	$9,515.25	$329,757.25	1.0000	$329,757.25	$670,542.00	$9,515.25	$680,057.25	1.0000	$680,057.25
14	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
15	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
16	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
17	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
18	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
19	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
20	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
21	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
22	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
23	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
24	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
26	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
27	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
28	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
29	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
30	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25	$0.00	$9,515.25	$9,515.25	1.0000	$9,515.25
Totals	**$7,263,146.00**	**$285,457.50**	**$7,548,603.50**		**$7,548,603.50**	**$8,717,046.00**	**$285,457.50**	**$9,002,503.50**		**$9,002,503.50**

* Financing of $2,634,000 for 13 years at a 6% interest rate and $3,100,000 downpayment with $1,000,000 from CEC and $250,000 from AB97(
** Discount Rate = 0.0%
*** Financing of $5,934,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $250,000 from AB97(

Financial Analysis 1MW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $15,200,499.32
\- $7,548,603.50
= **$7,651,895.82**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $7,548,603.50 / 57091500 kWh
= **$0.132 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $15,200,499.32 / $7,548,603.50
= **2.014**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 14**

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

	Present Value of Benefits									Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$4.372M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$1,950,000.00	$0.00
1	1644958	0.16	$263,193.28	$4,626.44	$0.0198	$19,244.92	$287,064.65	1.0000	$287,064.65	-$215,196.14	$5,153.86	$287,064.65
2	1644958	0.1648	$271,089.08	$4,626.44	$0.0204	$33,803.89	$309,519.41	1.0000	$309,519.41	-$192,741.38	$27,608.62	$596,584.06
3	1644958	0.169744	$279,221.75	$4,626.44	$0.0210	$34,790.86	$318,639.06	1.0000	$318,639.06	-$183,621.73	$36,728.27	$915,223.11
4	1644958	0.17483632	$287,598.40	$4,626.44	$0.0216	$35,777.84	$328,002.68	1.0000	$328,002.68	-$174,258.11	$46,091.89	$1,243,225.80
5	1644958	0.18008141	$296,226.36	$4,626.44	$0.0222	$36,764.81	$337,617.61	1.0000	$337,617.61	-$164,643.18	$55,706.82	$1,580,843.41
6	1644958	0.185483852	$305,113.15	$4,626.44	$0.0228	$37,751.79	$347,491.38	1.0000	$347,491.38	-$154,769.41	$65,580.59	$1,928,334.79
7	1644958	0.191048367	$314,266.54	$4,626.44	$0.0234	$38,738.76	$357,631.75	1.0000	$357,631.75	-$144,629.04	$75,720.96	$2,285,966.53
8	1644958	0.196779818	$323,694.54	$4,626.44	$0.0240	$39,725.74	$368,046.72	1.0000	$368,046.72	-$134,214.07	$86,135.93	$2,654,013.25
9	1644958	0.202683213	$333,405.37	$4,626.44	$0.0246	$40,712.71	$378,744.53	1.0000	$378,744.53	-$123,516.26	$96,833.74	$3,032,757.78
10	1644958	0.208763709	$343,407.53	$4,626.44	$0.0252	$41,699.69	$389,733.66	1.0000	$389,733.66	-$112,527.13	$107,822.87	$3,422,491.44
11	1644958	0.215026621	$353,709.76	$4,626.44	$0.0258	$42,686.66	$401,022.86	1.0000	$401,022.86	-$101,237.93	$119,112.07	$3,823,514.30
12	1644958	0.221477419	$364,321.05	$4,626.44	$0.0264	$43,673.63	$412,621.13	1.0000	$412,621.13	-$89,639.66	$130,710.34	**$4,236,135.44**
13	1644958	0.228121742	$375,250.68	$4,626.44	$0.0270	$33,310.40	$413,187.53	1.0000	$413,187.53	-$89,073.26	$131,276.74	**$4,649,322.96**
14	1644958	0.234965394	$386,508.20	$4,626.44	$0.00	$0.00	$391,134.65	1.0000	$391,134.65	$382,909.86	$382,909.86	$5,040,457.61
15	1644958	0.242014356	$398,103.45	$4,626.44	$0.00	$0.00	$402,729.90	1.0000	$402,729.90	$394,505.11	$394,505.11	$5,443,187.51
16	1644958	0.249274787	$410,046.55	$4,626.44	$0.00	$0.00	$414,673.00	1.0000	$414,673.00	$406,448.21	$406,448.21	$5,857,860.51
17	1644958	0.25675303	$422,347.95	$4,626.44	$0.00	$0.00	$426,974.40	1.0000	$426,974.40	$418,749.61	$418,749.61	$6,284,834.90
18	1644958	0.264455621	$435,018.39	$4,626.44	$0.00	$0.00	$439,644.83	1.0000	$439,644.83	$431,420.04	$431,420.04	$6,724,479.74
19	1644958	0.27238929	$448,068.94	$4,626.44	$0.00	$0.00	$452,695.39	1.0000	$452,695.39	$444,470.60	$444,470.60	$7,177,175.12
20	1644958	0.280560968	$461,511.01	$4,626.44	$0.00	$0.00	$466,137.45	1.0000	$466,137.45	$457,912.66	$457,912.66	$7,643,312.58
	32899160		**$7,072,102.00**	**$92,528.89**			**$7,643,312.58**		**$7,643,312.58**			

* Discount Rate = 0.0%

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,950,000.00	$0.00	$1,950,000.00	1.0000	$1,950,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
2	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
3	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
4	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
5	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
6	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
7	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
8	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
9	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
10	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
11	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
12	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
13	$273,686.00	$8,224.79	$281,910.79	1.0000	$281,910.79	$494,036.00	$8,224.79	$502,260.79	1.0000	$502,260.79
14	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
15	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
16	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
17	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
18	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
19	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
20	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79	$0.00	$8,224.79	$8,224.79	1.0000	$8,224.79
	$5,507,918.00	**$164,495.80**	**$5,672,413.80**		**$5,672,413.80**	**$6,422,468.00**	**$164,495.80**	**$6,586,963.80**		**$6,586,963.80**

* Financing of $2,422,000 for 13 years at a 6% interest rate and $1,950,000 downpayment with $1,000,000 from CEC and $250,000 from AB97(
** Discount Rate = 0.0%
*** Financing of $4,372,000 for 13 years at a 6% interest rate and $0.00 downpayment and $1,000,000 from the CEC and $250,000 from AB97(

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $7,643,312.58
- $5,672,413.80
= **$1,970,898.78**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $5,672,413.80 / 32899160 kWh

= **$0.172 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $7,643,312.58 / $5,672,413.80

= **1.347**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 12**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Benefits									Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$1,075,000	$0.00
1	1093952	0.16	$175,032.32	$3,076.74	$0.0198	$12,798.52	$190,907.58	1.0000	$190,907.58	-$121,018.18	$456.82	$190,907.58
2	1093952	0.1648	$180,283.29	$3,076.74	$0.0204	$22,480.71	$205,840.74	1.0000	$205,840.74	-$106,085.02	$15,389.98	$396,748.32
3	1093952	0.169744	$185,691.79	$3,076.74	$0.0210	$23,137.08	$211,905.61	1.0000	$211,905.61	-$100,020.15	$21,454.85	$608,653.93
4	1093952	0.17483632	$191,262.54	$3,076.74	$0.0216	$23,793.46	$218,132.74	1.0000	$218,132.74	-$93,793.02	$27,681.98	$826,786.67
5	1093952	0.18008141	$197,000.42	$3,076.74	$0.0222	$24,449.83	$224,526.99	1.0000	$224,526.99	-$87,398.77	$34,076.23	$1,051,313.66
6	1093952	0.185483852	$202,910.43	$3,076.74	$0.0228	$25,106.20	$231,093.37	1.0000	$231,093.37	-$80,832.39	$40,642.61	$1,282,407.03
7	1093952	0.191048367	$208,997.74	$3,076.74	$0.0234	$25,762.57	$237,837.05	1.0000	$237,837.05	-$74,088.71	$47,386.29	$1,520,244.08
8	1093952	0.196779818	$215,267.68	$3,076.74	$0.0240	$26,418.94	$244,763.36	1.0000	$244,763.36	-$67,162.40	$54,312.60	$1,765,007.44
9	1093952	0.202683213	$221,725.71	$3,076.74	$0.0246	$27,075.31	$251,877.76	1.0000	$251,877.76	-$60,048.00	$61,427.00	$2,016,885.19
10	1093952	0.208763709	$228,377.48	$3,076.74	$0.0252	$27,731.68	$259,185.90	1.0000	$259,185.90	-$52,739.86	$68,735.14	$2,276,071.09
11	1093952	0.215026621	$235,228.80	$3,076.74	$0.0258	$28,388.05	$266,693.60	1.0000	$266,693.60	-$45,232.16	$76,242.84	**$2,542,764.69**
12	1093952	0.221477419	$242,285.67	$3,076.74	$0.0264	$29,044.43	$274,406.83	1.0000	$274,406.83	-$37,518.93	$83,956.07	**$2,817,171.52**
13	1093952	0.228121742	$249,554.24	$3,076.74	$0.0270	$22,152.53	$274,783.50	1.0000	$274,783.50	-$37,142.26	$84,332.74	$3,091,955.03
14	1093952	0.234965394	$257,040.86	$3,076.74	$0.00	$0.00	$260,117.60	1.0000	$260,117.60	$254,647.84	$254,647.84	$3,352,072.63
15	1093952	0.242014356	$264,752.09	$3,076.74	$0.00	$0.00	$267,828.83	1.0000	$267,828.83	$262,359.07	$262,359.07	$3,619,901.46
16	1093952	0.249274787	$272,694.65	$3,076.74	$0.00	$0.00	$275,771.39	1.0000	$275,771.39	$270,301.63	$270,301.63	$3,895,672.85
17	1093952	0.25675303	$280,875.49	$3,076.74	$0.00	$0.00	$283,952.23	1.0000	$283,952.23	$278,482.47	$278,482.47	$4,179,625.08
18	1093952	0.264455621	$289,301.76	$3,076.74	$0.00	$0.00	$292,378.50	1.0000	$292,378.50	$286,908.74	$286,908.74	$4,472,003.58
19	1093952	0.27238929	$297,980.81	$3,076.74	$0.00	$0.00	$301,057.55	1.0000	$301,057.55	$295,587.79	$295,587.79	$4,773,061.12
20	1093952	0.280560968	$306,920.23	$3,076.74	$0.00	$0.00	$309,996.97	1.0000	$309,996.97	$304,527.21	$304,527.21	$5,083,058.10
21	1093952	0.288977798	$316,127.84	$3,076.74	$0.00	$0.00	$319,204.58	1.0000	$319,204.58	$313,734.82	$313,734.82	$5,402,262.68
22	1093952	0.297647131	$325,611.67	$3,076.74	$0.00	$0.00	$328,688.41	1.0000	$328,688.41	$323,218.65	$323,218.65	$5,730,951.09
23	1093952	0.306576545	$335,380.03	$3,076.74	$0.00	$0.00	$338,456.77	1.0000	$338,456.77	$332,987.01	$332,987.01	$6,069,407.86
24	1093952	0.315773842	$345,441.43	$3,076.74	$0.00	$0.00	$348,518.17	1.0000	$348,518.17	$343,048.41	$343,048.41	$6,417,926.02
25	1093952	0.325247057	$355,804.67	$3,076.74	$0.00	$0.00	$358,881.41	1.0000	$358,881.41	$353,411.65	$353,411.65	$6,776,807.43
26	1093952	0.335004469	$366,478.81	$3,076.74	$0.00	$0.00	$369,555.55	1.0000	$369,555.55	$364,085.79	$364,085.79	$7,146,362.98
27	1093952	0.345054603	$377,473.17	$3,076.74	$0.00	$0.00	$380,549.91	1.0000	$380,549.91	$375,080.15	$375,080.15	$7,526,912.89
28	1093952	0.355406241	$388,797.37	$3,076.74	$0.00	$0.00	$391,874.11	1.0000	$391,874.11	$386,404.35	$386,404.35	$7,918,787.00
29	1093952	0.366068428	$400,461.29	$3,076.74	$0.00	$0.00	$403,538.03	1.0000	$403,538.03	$398,068.27	$398,068.27	$8,322,325.03
30	1093952	0.377050481	$412,475.13	$3,076.74	$0.00	$0.00	$415,551.87	1.0000	$415,551.87	$410,082.11	$410,082.11	$8,737,876.90
	32818560		**$8,327,235.39**	**$92,302.20**		**$318,339.31**	**$8,737,876.90**		**$8,737,876.90**			

* Discount Rate= 0.0%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,075,000.00	$0.00	$1,075,000.00	1.0000	$1,075,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
2	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
3	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
4	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
5	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
6	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
7	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
8	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
9	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
10	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
11	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
12	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
13	$184,981.00	$5,469.76	$190,450.76	1.0000	$190,450.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
	$3,479,753	**$164,092.80**	**$3,643,845.80**		**$3,643,845.80**	**$3,983,928.00**	**$164,092.80**	**$4,148,020.80**		**$4,148,020.80**

* Financing of $1,637,000 for 13 years at a 6% interest rate and $1,075,000 downpayment with $1,000,000 from CEC and $125,000 from AB97
** Discount Rate = 0.0%
*** Financing of $2,712,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $125,000 from AB97

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,737,876.90
- $3,643,845.80
= **$5,094,031.10**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,643,845.80 / 32818560 kWh

= **$0.111 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,737,876.90 / $3,643,845.80

= **2.398**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 11**

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Present Value of Benefits									Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.547M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$1,175,000	$0.00
1	929632	0.16	$148,741.12	$2,614.59	$0.0198	$10,876.08	$162,231.79	1.0000	$162,231.79	-$130,227.37	$2,547.63	$162,231.79
2	929632	0.1648	$153,203.35	$2,614.59	$0.0204	$19,103.94	$174,921.88	1.0000	$174,921.88	-$117,537.28	$15,237.72	$337,153.67
3	929632	0.169744	$157,799.45	$2,614.59	$0.0210	$19,661.72	$180,075.76	1.0000	$180,075.76	-$112,383.40	$20,391.60	$517,229.43
4	929632	0.17483632	$162,533.44	$2,614.59	$0.0216	$20,219.50	$185,367.52	1.0000	$185,367.52	-$107,091.64	$25,683.36	$702,596.96
5	929632	0.18008141	$167,409.44	$2,614.59	$0.0222	$20,777.28	$190,801.31	1.0000	$190,801.31	-$101,657.85	$31,117.15	$893,398.26
6	929632	0.185483852	$172,431.72	$2,614.59	$0.0228	$21,335.05	$196,381.37	1.0000	$196,381.37	-$96,077.79	$36,697.21	$1,089,779.63
7	929632	0.191048367	$177,604.68	$2,614.59	$0.0234	$21,892.83	$202,112.10	1.0000	$202,112.10	-$90,347.06	$42,427.94	$1,291,891.73
8	929632	0.196779818	$182,932.82	$2,614.59	$0.0240	$22,450.61	$207,998.02	1.0000	$207,998.02	-$84,461.14	$48,313.86	$1,499,889.75
9	929632	0.202683213	$188,420.80	$2,614.59	$0.0246	$23,008.39	$214,043.78	1.0000	$214,043.78	-$78,415.38	$54,359.62	$1,713,933.53
10	929632	0.208763709	$194,073.42	$2,614.59	$0.0252	$23,566.17	$220,254.19	1.0000	$220,254.19	-$72,204.97	$60,570.03	$1,934,187.72
11	929632	0.215026621	$199,895.63	$2,614.59	$0.0258	$24,123.95	$226,634.17	1.0000	$226,634.17	-$65,824.99	$66,950.01	$2,160,821.89
12	929632	0.221477419	$205,892.50	$2,614.59	$0.0264	$24,681.73	$233,188.82	1.0000	$233,188.82	-$59,270.34	$73,504.66	**$2,394,010.70**
13	929632	0.228121742	$212,069.27	$2,614.59	$0.0270	$18,825.05	$233,508.91	1.0000	$233,508.91	-$58,950.25	$73,824.75	**$2,627,519.61**
14	929632	0.234965394	$218,431.35	$2,614.59	$0.00	$0.00	$221,045.94	1.0000	$221,045.94	$216,397.78	$216,397.78	$2,848,565.55
15	929632	0.242014356	$224,984.29	$2,614.59	$0.00	$0.00	$227,598.88	1.0000	$227,598.88	$222,950.72	$222,950.72	$3,076,164.43
16	929632	0.249274787	$231,733.82	$2,614.59	$0.00	$0.00	$234,348.41	1.0000	$234,348.41	$229,700.25	$229,700.25	$3,310,512.84
17	929632	0.25675303	$238,685.83	$2,614.59	$0.00	$0.00	$241,300.42	1.0000	$241,300.42	$236,652.26	$236,652.26	$3,551,813.26
18	929632	0.264455621	$245,846.41	$2,614.59	$0.00	$0.00	$248,461.00	1.0000	$248,461.00	$243,812.84	$243,812.84	$3,800,274.26
19	929632	0.27238929	$253,221.80	$2,614.59	$0.00	$0.00	$255,836.39	1.0000	$255,836.39	$251,188.23	$251,188.23	$4,056,110.65
20	929632	0.280560968	$260,818.45	$2,614.59	$0.00	$0.00	$263,433.04	1.0000	$263,433.04	$258,784.88	$258,784.88	$4,319,543.69
21	929632	0.288977798	$268,643.01	$2,614.59	$0.00	$0.00	$271,257.60	1.0000	$271,257.60	$266,609.44	$266,609.44	$4,590,801.29
22	929632	0.297647131	$276,702.30	$2,614.59	$0.00	$0.00	$279,316.89	1.0000	$279,316.89	$274,668.73	$274,668.73	$4,870,118.18
23	929632	0.306576545	$285,003.37	$2,614.59	$0.00	$0.00	$287,617.96	1.0000	$287,617.96	$282,969.80	$282,969.80	$5,157,736.14
24	929632	0.315773842	$293,553.47	$2,614.59	$0.00	$0.00	$296,168.06	1.0000	$296,168.06	$291,519.90	$291,519.90	$5,453,904.20
25	929632	0.325247057	$302,360.07	$2,614.59	$0.00	$0.00	$304,974.66	1.0000	$304,974.66	$300,326.50	$300,326.50	$5,758,878.86
36	929632	0.335004469	$311,430.87	$2,614.59	$0.00	$0.00	$314,045.46	1.0000	$314,045.46	$309,397.30	$309,397.30	$6,072,924.32
27	929632	0.345054603	$320,773.80	$2,614.59	$0.00	$0.00	$323,388.39	1.0000	$323,388.39	$318,740.23	$318,740.23	$6,396,312.71
28	929632	0.355406241	$330,397.01	$2,614.59	$0.00	$0.00	$333,011.60	1.0000	$333,011.60	$328,363.44	$328,363.44	$6,729,324.32
29	929632	0.366068428	$340,308.92	$2,614.59	$0.00	$0.00	$342,923.51	1.0000	$342,923.51	$338,275.35	$338,275.35	$7,072,247.83
30	929632	0.377050481	$350,518.19	$2,614.59	$0.00	$0.00	$353,132.78	1.0000	$353,132.78	$348,484.62	$348,484.62	$7,425,380.62
Totals	**27888960**		**$7,076,420.62**	**$78,437.70**			**$7,425,381**		**$7,425,380.62**			

* Discount Rate= 0.0%

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,175,000.00	$0.00	$1,175,000.00	1.0000	$1,175,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
2	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
3	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
4	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
5	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
6	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
7	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
8	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
9	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
10	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
11	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
12	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
13	$155,036.00	$4,648.16	$159,684.16	1.0000	$159,684.16	$287,811.00	$4,648.16	$292,459.16	1.0000	$292,459.16
14	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
15	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
17	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
18	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
19	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
20	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
21	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
22	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
23	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
24	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
25	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
26	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
27	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
28	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
29	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
30	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16	$0.00	$4,648.16	$4,648.16	1.0000	$4,648.16
Totals	**$3,190,468.00**	**$139,444.80**	**$3,329,912.80**		**$3,329,912.80**	**$3,741,543**	**$139,445**	**$3,880,987.80**		**$3,880,987.80**

* Financing of $1,372,000 for 13 years at a 6% interest rate and $1,175,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 0.0%
*** Financing of $2,547,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $7,425,380.62
- $3,329,912.80
= **$4,095,467.82**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System
= $3,329,912.80 / 27888960 kWh
= **$0.119 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System
= $7,425,380.62 / $3,329,912.80
= **2.230**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 12**

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

	Present Value of Benefits									Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.778M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$575,000.00	$0.00
1	810982	0.16	$129,757.12	$2,280.89	$0.0198	$9,487.95	$141,525.96	1.0000	$141,525.96	-$63,442.95	$1,532.05	$141,525.96
2	810982	0.1648	$133,649.83	$2,280.89	$0.0204	$16,665.68	$152,596.40	1.0000	$152,596.40	-$52,372.51	$12,602.49	$294,122.36
3	810982	0.169744	$137,659.33	$2,280.89	$0.0210	$17,152.27	$157,092.48	1.0000	$157,092.48	-$47,876.43	$17,098.57	$451,214.85
4	810982	0.17483632	$141,789.11	$2,280.89	$0.0216	$17,638.86	$161,708.85	1.0000	$161,708.85	-$43,260.06	$21,714.94	$612,923.70
5	810982	0.18008141	$146,042.78	$2,280.89	$0.0222	$18,125.45	$166,449.12	1.0000	$166,449.12	-$38,519.79	$26,455.21	$779,372.82
6	810982	0.185483852	$150,424.07	$2,280.89	$0.0228	$18,612.04	$171,316.99	1.0000	$171,316.99	-$33,651.92	$31,323.08	$950,689.81
7	810982	0.191048367	$154,936.79	$2,280.89	$0.0234	$19,098.63	$176,316.30	1.0000	$176,316.30	-$28,652.61	$36,322.39	$1,127,006.11
8	810982	0.196779818	$159,584.89	$2,280.89	$0.0240	$19,585.22	$181,450.99	1.0000	$181,450.99	-$23,517.92	$41,457.08	$1,308,457.10
9	810982	0.202683213	$164,372.44	$2,280.89	$0.0246	$20,071.80	$186,725.13	1.0000	$186,725.13	-$18,243.78	$46,731.22	$1,495,182.23
10	810982	0.208763709	$169,303.61	$2,280.89	$0.0252	$20,558.39	$192,142.89	1.0000	$192,142.89	-$12,826.02	$52,148.98	**$1,687,325.12**
11	810982	0.215026621	$174,382.72	$2,280.89	$0.0258	$21,044.98	$197,708.59	1.0000	$197,708.59	-$7,260.32	$57,714.68	**$1,885,033.71**
12	810982	0.221477419	$179,614.20	$2,280.89	$0.0264	$21,531.57	$203,426.66	1.0000	$203,426.66	-$1,542.25	$63,432.75	$2,088,460.37
13	810982	0.228121742	$185,002.63	$2,280.89	$0.0270	$16,422.39	$203,705.90	1.0000	$203,705.90	-$1,263.01	$63,711.99	$2,292,166.27
14	810982	0.234965394	$190,552.71	$2,280.89	$0.00	$0.00	$192,833.59	1.0000	$192,833.59	$188,778.68	$188,778.68	$2,484,999.86
15	810982	0.242014356	$196,269.29	$2,280.89	$0.00	$0.00	$198,550.17	1.0000	$198,550.17	$194,495.26	$194,495.26	$2,683,550.03
16	810982	0.249274787	$202,157.37	$2,280.89	$0.00	$0.00	$204,438.25	1.0000	$204,438.25	$200,383.34	$200,383.34	$2,887,988.28
17	810982	0.25675303	$208,222.09	$2,280.89	$0.00	$0.00	$210,502.97	1.0000	$210,502.97	$206,448.06	$206,448.06	$3,098,491.26
18	810982	0.264455621	$214,468.75	$2,280.89	$0.00	$0.00	$216,749.64	1.0000	$216,749.64	$212,694.73	$212,694.73	$3,315,240.89
19	810982	0.27238929	$220,902.81	$2,280.89	$0.00	$0.00	$223,183.70	1.0000	$223,183.70	$219,128.79	$219,128.79	$3,538,424.59
20	810982	0.280560968	$227,529.90	$2,280.89	$0.00	$0.00	$229,810.78	1.0000	$229,810.78	$225,755.87	$225,755.87	$3,768,235.37
	16219640		**$3,486,622.41**	**$45,617.74**			**$3,768,235.37**		**$3,768,235.37**			

* Discount Rate = 0.0%

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$575,000.00	$0.00	$575,000.00	1.0000	$575,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
2	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
3	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
4	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
5	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
6	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
7	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
8	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
9	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
10	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
11	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
12	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
13	$135,939.00	$4,054.91	$139,993.91	1.0000	$139,993.91	$200,914.00	$4,054.91	$204,968.91	1.0000	$204,968.91
14	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
15	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
16	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
17	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
18	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
19	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
20	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91	$0.00	$4,054.91	$4,054.91	1.0000	$4,054.91
	$2,342,207.00	**$81,098.20**	**$2,423,305.20**		**$2,423,305.20**	**$2,611,882.00**	**$81,098.20**	**$2,692,980.20**		**$2,692,980.20**

* Financing of $1,203,000 for 13 years at a 6% interest rate and $575,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 0.0%
*** Financing of $1,778,000 for 13 years at a 6% interest rate and $0.00 downpayment and $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $3,768,235.37
- $2,423,305.20
= **$1,344,930.17**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System
= $2,423,305.20 / 16219640 kWh
= **$0.149 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System
= $3,768,235.37 / $2,423,305.20
= **1.555**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 10**

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Present Value of Benefits												
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$1.059M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	-$425,000	$0.00
1	433535	0.16	$69,365.60	$1,219.32	$0.0198	$5,072.07	$75,656.99	1.0000	$75,656.99	-$977.68	$75,656.99
2	433535	0.1648	$71,446.57	$1,219.32	$0.0204	$8,909.14	$81,575.03	1.0000	$81,575.03	$16,240.35	$157,232.02
3	433535	0.169744	$73,589.97	$1,219.32	$0.0210	$9,169.27	$83,978.55	1.0000	$83,978.55	$18,643.87	$241,210.57
4	433535	0.17483632	$75,797.66	$1,219.32	$0.0216	$9,429.39	$86,446.37	1.0000	$86,446.37	$21,111.69	$327,656.93
5	433535	0.18008141	$78,071.59	$1,219.32	$0.0222	$9,689.51	$88,980.42	1.0000	$88,980.42	$23,645.74	$416,637.35
6	433535	0.185483852	$80,413.74	$1,219.32	$0.0228	$9,949.63	$91,582.69	1.0000	$91,582.69	$26,248.01	$508,220.04
7	433535	0.191048367	$82,826.15	$1,219.32	$0.0234	$10,209.75	$94,255.22	1.0000	$94,255.22	$28,920.55	$602,475.26
8	433535	0.196779818	$85,310.94	$1,219.32	$0.0240	$10,469.87	$97,000.13	1.0000	$97,000.13	$31,665.45	$699,475.39
9	433535	0.202683213	$87,870.27	$1,219.32	$0.0246	$10,729.99	$99,819.58	1.0000	$99,819.58	$34,484.90	$799,294.96
10	433535	0.208763709	$90,506.37	$1,219.32	$0.0252	$10,990.11	$102,715.80	1.0000	$102,715.80	$37,381.13	$902,010.77
11	433535	0.215026621	$93,221.57	$1,219.32	$0.0258	$11,250.23	$105,691.12	1.0000	$105,691.12	$40,356.44	**$1,007,701.88**
12	433535	0.221477419	$96,018.21	$1,219.32	$0.0264	$11,510.35	$108,747.88	1.0000	$108,747.88	$43,413.21	**$1,116,449.77**
13	433535	0.228121742	$98,898.76	$1,219.32	$0.0270	$8,779.08	$108,897.16	1.0000	$108,897.16	$43,562.49	$1,225,346.93
14	433535	0.234965394	$101,865.72	$1,219.32	$0.00	$0.00	$103,085.04	1.0000	$103,085.04	$100,917.36	$1,328,431.97
15	433535	0.242014356	$104,921.69	$1,219.32	$0.00	$0.00	$106,141.01	1.0000	$106,141.01	$103,973.34	$1,434,572.98
16	433535	0.249274787	$108,069.34	$1,219.32	$0.00	$0.00	$109,288.66	1.0000	$109,288.66	$107,120.99	$1,543,861.64
17	433535	0.25675303	$111,311.42	$1,219.32	$0.00	$0.00	$112,530.74	1.0000	$112,530.74	$110,363.07	$1,656,392.38
18	433535	0.264455621	$114,650.77	$1,219.32	$0.00	$0.00	$115,870.08	1.0000	$115,870.08	$113,702.41	$1,772,262.47
19	433535	0.27238929	$118,090.29	$1,219.32	$0.00	$0.00	$119,309.61	1.0000	$119,309.61	$117,141.93	$1,891,572.07
20	433535	0.280560968	$121,633.00	$1,219.32	$0.00	$0.00	$122,852.32	1.0000	$122,852.32	$120,684.64	$2,014,424.39
21	433535	0.288977798	$125,281.99	$1,219.32	$0.00	$0.00	$126,501.31	1.0000	$126,501.31	$124,333.63	$2,140,925.70
22	433535	0.297647131	$129,040.45	$1,219.32	$0.00	$0.00	$130,259.77	1.0000	$130,259.77	$128,092.09	$2,271,185.46
23	433535	0.306576545	$132,911.66	$1,219.32	$0.00	$0.00	$134,130.98	1.0000	$134,130.98	$131,963.30	$2,405,316.44
24	433535	0.315773842	$136,899.01	$1,219.32	$0.00	$0.00	$138,118.33	1.0000	$138,118.33	$135,950.65	$2,543,434.77
25	433535	0.325247057	$141,005.98	$1,219.32	$0.00	$0.00	$142,225.30	1.0000	$142,225.30	$140,057.63	$2,685,660.07
26	433535	0.335004469	$145,236.16	$1,219.32	$0.00	$0.00	$146,455.48	1.0000	$146,455.48	$144,287.80	$2,832,115.55
27	433535	0.345054603	$149,593.25	$1,219.32	$0.00	$0.00	$150,812.56	1.0000	$150,812.56	$148,644.89	$2,982,928.12
28	433535	0.355406241	$154,081.04	$1,219.32	$0.00	$0.00	$155,300.36	1.0000	$155,300.36	$153,132.69	$3,138,228.48
29	433535	0.366068428	$158,703.48	$1,219.32	$0.00	$0.00	$159,922.79	1.0000	$159,922.79	$157,755.12	$3,298,151.27
30	433535	0.377050481	$163,464.58	$1,219.32	$0.00	$0.00	$164,683.90	1.0000	$164,683.90	$162,516.22	$3,462,835.17
	13006050		**$3,300,097.26**	**$36,579.52**		**$126,158.40**	**$3,462,835.17**		**$3,462,835.17**		

* Discount Rate= 0.0%

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs					Present Value of Costs w/o a downpayment				
Yr	Annual PV Sys. Payment	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$425,000.00	$0.00	$425,000.00	1.0000	$425,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$74,467.00	$2,167.68	$76,634.68	1.0000	$76,634.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
2	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
3	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
4	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
5	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
6	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
7	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
8	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
9	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
10	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
11	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
12	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
13	$63,167.00	$2,167.68	$65,334.68	1.0000	$65,334.68	$119,667.00	$2,167.68	$121,834.68	1.0000	$121,834.68
14	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
15	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
16	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
17	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
18	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
19	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
20	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
21	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
22	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
23	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
24	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
25	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
26	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
27	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
28	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
29	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
30	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68	$0.00	$2,167.68	$2,167.68	1.0000	$2,167.68
	$1,257,471	**$65,030.25**	**$1,322,501.25**		**$1,322,501.25**	**$1,555,671**	**$65,030.25**	**$1,620,701.25**		**$1,620,701.25**

* Financing of $634,000 for 13 years at a 6% interest rate and $425,000 downpayment with $500,000 from CEC

** Discount Rate = 0.0%

*** Financing of $1,059,000 for 13 years at a 6% interest rate with $500,000 from the CEC

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $3,462,835.17

\- $1,322,501.25

= **$2,140,333.92**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,322,501.25 / 13006050 kWh

= **$0.102 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $3,462,835.17 / $1,322,501.25

= **2.618**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 11**

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

			Present Value of Benefits								
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$1.029M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	-$500,000	$0.00
1	368664	0.16	$58,986.24	$1,036.87	$0.0198	$4,313.13	$64,336.23	1.0000	$64,336.23	$2,715.91	$64,336.23
2	368664	0.1648	$60,755.83	$1,036.87	$0.0204	$7,576.05	$69,368.74	1.0000	$69,368.74	$7,748.42	$133,704.97
3	368664	0.169744	$62,578.50	$1,036.87	$0.0210	$7,797.24	$71,412.61	1.0000	$71,412.61	$9,792.29	$205,117.59
4	368664	0.17483632	$64,455.86	$1,036.87	$0.0216	$8,018.44	$73,511.17	1.0000	$73,511.17	$11,890.85	$278,628.75
5	368664	0.18008141	$66,389.53	$1,036.87	$0.0222	$8,239.64	$75,666.04	1.0000	$75,666.04	$14,045.72	$354,294.79
6	368664	0.185483852	$68,381.22	$1,036.87	$0.0228	$8,460.84	$77,878.93	1.0000	$77,878.93	$16,258.61	$432,173.72
7	368664	0.191048367	$70,432.66	$1,036.87	$0.0234	$8,682.04	$80,151.56	1.0000	$80,151.56	$18,531.24	$512,325.28
8	368664	0.196779818	$72,545.63	$1,036.87	$0.0240	$8,903.24	$82,485.74	1.0000	$82,485.74	$20,865.42	$594,811.02
9	368664	0.202683213	$74,722.00	$1,036.87	$0.0246	$9,124.43	$84,883.31	1.0000	$84,883.31	$23,262.99	$679,694.32
10	368664	0.208763709	$76,963.66	$1,036.87	$0.0252	$9,345.63	$87,346.16	1.0000	$87,346.16	$25,725.84	$767,040.49
11	368664	0.215026621	$79,272.57	$1,036.87	$0.0258	$9,566.83	$89,876.27	1.0000	$89,876.27	$28,255.95	$856,916.76
12	368664	0.221477419	$81,650.75	$1,036.87	$0.0264	$9,788.03	$92,475.65	1.0000	$92,475.65	$30,855.33	**$949,392.41**
13	368664	0.228121742	$84,100.27	$1,036.87	$0.0270	$7,465.45	$92,602.59	1.0000	$92,602.59	$30,982.27	**$1,041,994.99**
14	368664	0.234965394	$86,623.28	$1,036.87	$0.00	$0.00	$87,660.15	1.0000	$87,660.15	$85,816.83	$1,129,655.14
15	368664	0.242014356	$89,221.98	$1,036.87	$0.00	$0.00	$90,258.85	1.0000	$90,258.85	$88,415.53	$1,219,913.99
16	368664	0.249274787	$91,898.64	$1,036.87	$0.00	$0.00	$92,935.51	1.0000	$92,935.51	$91,092.19	$1,312,849.50
17	368664	0.25675303	$94,655.60	$1,036.87	$0.00	$0.00	$95,692.47	1.0000	$95,692.47	$93,849.15	$1,408,541.97
18	368664	0.264455621	$97,495.27	$1,036.87	$0.00	$0.00	$98,532.13	1.0000	$98,532.13	$96,688.81	$1,507,074.10
19	368664	0.27238929	$100,420.13	$1,036.87	$0.00	$0.00	$101,456.99	1.0000	$101,456.99	$99,613.67	$1,608,531.09
20	368664	0.280560968	$103,432.73	$1,036.87	$0.00	$0.00	$104,469.60	1.0000	$104,469.60	$102,626.28	$1,713,000.69
21	368664	0.288977798	$106,535.71	$1,036.87	$0.00	$0.00	$107,572.58	1.0000	$107,572.58	$105,729.26	$1,820,573.27
22	368664	0.297647131	$109,731.78	$1,036.87	$0.00	$0.00	$110,768.65	1.0000	$110,768.65	$108,925.33	$1,931,341.92
23	368664	0.306576545	$113,023.74	$1,036.87	$0.00	$0.00	$114,060.60	1.0000	$114,060.60	$112,217.28	$2,045,402.52
24	368664	0.315773842	$116,414.45	$1,036.87	$0.00	$0.00	$117,451.32	1.0000	$117,451.32	$115,608.00	$2,162,853.84
25	368664	0.325247057	$119,906.88	$1,036.87	$0.00	$0.00	$120,943.75	1.0000	$120,943.75	$119,100.43	$2,283,797.58
36	368664	0.335004469	$123,504.09	$1,036.87	$0.00	$0.00	$124,540.95	1.0000	$124,540.95	$122,697.63	$2,408,338.54
27	368664	0.345054603	$127,209.21	$1,036.87	$0.00	$0.00	$128,246.08	1.0000	$128,246.08	$126,402.76	$2,536,584.62
28	368664	0.355406241	$131,025.49	$1,036.87	$0.00	$0.00	$132,062.35	1.0000	$132,062.35	$130,219.03	$2,668,646.97
29	368664	0.366068428	$134,956.25	$1,036.87	$0.00	$0.00	$135,993.12	1.0000	$135,993.12	$134,149.80	$2,804,640.09
30	368664	0.377050481	$139,004.94	$1,036.87	$0.00	$0.00	$140,041.81	1.0000	$140,041.81	$138,198.49	$2,944,681.89
Totals	**11059920**		**$2,806,294.89**	**$31,106.03**			**$2,944,682**		**$2,944,681.89**		

* Discount Rate= 0.0%

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Net Present Cost of PV System					Net Present Cost of PV System				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$500,000.00	$0.00	$500,000.00	1.0000	$500,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
2	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
3	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
4	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
5	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
6	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
7	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
8	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
9	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
10	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
11	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
12	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
13	$59,777.00	$1,843.32	$61,620.32	1.0000	$61,620.32	$116,277.00	$1,843.32	$118,120.32	1.0000	$118,120.32
14	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
15	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
16	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
17	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
18	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
19	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
20	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
21	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
22	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
23	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
24	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
25	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
26	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
27	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
28	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
29	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
30	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32	$0.00	$1,843.32	$1,843.32	1.0000	$1,843.32
Totals	**$1,277,101.00**	**$55,299.60**	**$1,332,400.60**		**$1,332,400.60**	**$1,511,601.00**	**$55,299.60**	**$1,566,900.60**		**$1,566,900.60**

* Financing of $529,000 for 13 years at a 6% interest rate and $500,000 downpayment with $500,000 from CEC
** Discount Rate = 0.0%
*** Financing of $1,029,000 for 13 years at a 6% interest rate and $0.00 downpayment with $500,000 from the CEC

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $2,944,681.89
- $1,332,400.60
= **$1,612,281.29**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System
= $1,332,400.60 / 11059920 kWh
= **$0.120 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System
= $2,944,681.89 / $1,332,400.60
= **2.210**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 12**

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

Present Value of Benefits											
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$0.721M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	-$250,000.00	$0.00
1	321043	0.16	$51,366.88	$902.93	$0.0198	$3,755.99	$56,025.80	1.0000	$56,025.80	$1,197.59	$56,025.80
2	321043	0.1648	$52,907.89	$902.93	$0.0204	$6,597.43	$60,408.25	1.0000	$60,408.25	$5,580.04	$116,434.06
3	321043	0.169744	$54,495.12	$902.93	$0.0210	$6,790.06	$62,188.12	1.0000	$62,188.12	$7,359.90	$178,622.17
4	321043	0.17483632	$56,129.98	$902.93	$0.0216	$6,982.69	$64,015.60	1.0000	$64,015.60	$9,187.38	$242,637.77
5	321043	0.18008141	$57,813.88	$902.93	$0.0222	$7,175.31	$65,892.12	1.0000	$65,892.12	$11,063.91	$308,529.89
6	321043	0.185483852	$59,548.29	$902.93	$0.0228	$7,367.94	$67,819.16	1.0000	$67,819.16	$12,990.95	$376,349.05
7	321043	0.191048367	$61,334.74	$902.93	$0.0234	$7,560.56	$69,798.24	1.0000	$69,798.24	$14,970.02	$446,147.29
8	321043	0.196779818	$63,174.78	$902.93	$0.0240	$7,753.19	$71,830.91	1.0000	$71,830.91	$17,002.69	$517,978.19
9	321043	0.202683213	$65,070.03	$902.93	$0.0246	$7,945.81	$73,918.77	1.0000	$73,918.77	$19,090.56	$591,896.97
10	321043	0.208763709	$67,022.13	$902.93	$0.0252	$8,138.44	$76,063.50	1.0000	$76,063.50	$21,235.29	**$667,960.47**
11	321043	0.215026621	$69,032.79	$902.93	$0.0258	$8,331.07	$78,266.79	1.0000	$78,266.79	$23,438.58	**$746,227.26**
12	321043	0.221477419	$71,103.78	$902.93	$0.0264	$8,523.69	$80,530.40	1.0000	$80,530.40	$25,702.19	$826,757.66
13	321043	0.228121742	$73,236.89	$902.93	$0.0270	$6,501.12	$80,640.94	1.0000	$80,640.94	$25,812.73	$907,398.60
14	321043	0.234965394	$75,434.00	$902.93	$0.00	$0.00	$76,336.93	1.0000	$76,336.93	$74,731.71	$983,735.53
15	321043	0.242014356	$77,697.01	$902.93	$0.00	$0.00	$78,599.95	1.0000	$78,599.95	$76,994.73	$1,062,335.48
16	321043	0.249274787	$80,027.93	$902.93	$0.00	$0.00	$80,930.86	1.0000	$80,930.86	$79,325.64	$1,143,266.34
17	321043	0.25675303	$82,428.76	$902.93	$0.00	$0.00	$83,331.70	1.0000	$83,331.70	$81,726.48	$1,226,598.04
18	321043	0.264455621	$84,901.63	$902.93	$0.00	$0.00	$85,804.56	1.0000	$85,804.56	$84,199.34	$1,312,402.60
19	321043	0.27238929	$87,448.67	$902.93	$0.00	$0.00	$88,351.61	1.0000	$88,351.61	$86,746.39	$1,400,754.20
20	321043	0.280560968	$90,072.14	$902.93	$0.00	$0.00	$90,975.07	1.0000	$90,975.07	$89,369.85	$1,491,729.27
	6420860		**$1,380,247.30**	**$18,058.67**			**$1,491,729.27**		**$1,491,729.27**		

* Discount Rate = 0.0%

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

	Net Present Cost of PV System					Net Present Cost of PV System				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$250,000.00	$0.00	$250,000.00	1.0000	$250,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
2	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
3	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
4	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
5	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
6	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
7	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
8	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
9	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
10	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
11	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
12	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
13	$53,223.00	$1,605.22	$54,828.22	1.0000	$54,828.22	$81,473.00	$1,605.22	$83,078.22	1.0000	$83,078.22
14	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
15	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
16	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
17	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
18	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
19	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
20	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22	$0.00	$1,605.22	$1,605.22	1.0000	$1,605.22
	$941,899.00	**$32,104.30**	**$974,003.30**		**$974,003.30**	**$1,059,149.00**	**$32,104.30**	**$1,091,253.30**		**$1,091,253.30**

* Financing of $471,000 for 13 years at a 6% interest rate and $250,000 downpayment with $500,000 from CEC
** Discount Rate = 0.0%
*** Financing of $721,000 for 13 years at a 6% interest rate and $0.00 downpayment with $500,000 from CEC

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $1,491,729.27
- $974,003.30
= **$517,725.97**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $974,003.30 / 6420860 kWh

= **$0.152 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $1,491,729.27 / $974,003.30

= **1.532**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 10**

Appendix F:
Economic Analysis Spreadsheets
For
Best Case Scenario of PV System Options
Utilizing the 20-Year Financing Mechanism

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Benefits										Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Present Value of Costs w/o DP	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$6.134M)
0	0	0						1.0000	$0.00	$0.00	$0.00	-$1,800,000	$0.00
1	2241576	0.16	$358,652.16	$6,304.43	$0.0198	$26,224.96	$391,181.55	0.9569	$374,321.63	$522,556.09	-$148,234	$1,960.57	$374,321.63
2	2241576	0.1648	$369,411.72	$6,304.43	$0.0204	$46,064.39	$421,780.54	0.9157	$386,224.44	$500,057.07	-$113,833	$29,895.65	$760,546.07
3	2241576	0.169744	$380,494.08	$6,304.43	$0.0210	$47,409.33	$434,207.84	0.8763	$380,496.33	$478,541.02	-$98,045	$39,499.36	$1,141,042.40
4	2241576	0.17483632	$391,908.90	$6,304.43	$0.0216	$48,754.28	$446,967.61	0.8386	$374,827.04	$457,953.32	-$83,126	$48,500.37	$1,515,869.44
5	2241576	0.18008141	$403,666.17	$6,304.43	$0.0222	$50,099.22	$460,069.82	0.8025	$369,206.03	$438,239.38	-$69,033	$56,927.06	$1,885,075.47
6	2241576	0.185483852	$415,776.15	$6,304.43	$0.0228	$51,444.17	$473,524.75	0.7679	$363,619.66	$419,344.57	-$55,725	$64,804.67	$2,248,695.13
7	2241576	0.191048367	$428,249.44	$6,304.43	$0.0234	$52,789.11	$487,342.98	0.7348	$358,099.62	$401,268.90	-$43,169	$72,164.93	$2,606,794.75
8	2241576	0.196779818	$441,096.92	$6,304.43	$0.0240	$54,134.06	$501,535.41	0.7032	$352,679.70	$384,012.37	-$31,333	$79,041.60	$2,959,474.45
9	2241576	0.202683213	$454,329.83	$6,304.43	$0.0246	$55,479.01	$516,113.26	0.6729	$347,292.62	$367,465.76	-$20,173	$85,445.24	$3,306,767.07
10	2241576	0.208763709	$467,959.72	$6,304.43	$0.0252	$56,823.95	$531,088.10	0.6439	$341,967.63	$351,629.08	-$9,661	$91,405.10	$3,648,734.70
11	2241576	0.215026621	$481,998.51	$6,304.43	$0.0258	$58,168.90	$546,471.84	0.6162	$336,735.95	$336,502.31	$234	$96,952.39	$3,985,470.65
12	2241576	0.221477419	$496,458.47	$6,304.43	$0.0264	$59,513.84	$562,276.74	0.5897	$331,574.60	$322,030.85	$9,544	$102,103.05	$4,317,045.25
13	2241576	0.228121742	$511,352.22	$6,304.43	$0.0270	$45,391.91	$563,048.57	0.5643	$317,728.31	$308,160.10	$9,568	$98,140.74	$4,634,773.55
14	2241576	0.234965394	$526,692.79	$6,304.43	$0.00	$0.00	$532,997.22	0.54	$287,818.50	$294,890.05	-$7,072	$77,686.85	$4,922,592.05
15	2241576	0.242014356	$542,493.57	$6,304.43	$0.00	$0.00	$548,798.00	0.5167	$283,563.93	$282,166.09	$1,398	$82,499.07	$5,206,155.98
16	2241576	0.249274787	$558,768.38	$6,304.43	$0.00	$0.00	$565,072.81	0.4945	$279,428.51	$270,042.83	$9,386	$87,002.40	$5,485,584.49
17	2241576	0.25675303	$575,531.43	$6,304.43	$0.00	$0.00	$581,835.86	0.4732	$275,324.73	$258,411.06	$16,914	$91,187.15	$5,760,909.22
18	2241576	0.264455621	$592,797.37	$6,304.43	$0.00	$0.00	$599,101.81	0.4528	$271,273.30	$247,270.77	$24,003	$95,074.02	**$6,032,182.51**
19	2241576	0.27238929	$610,581.29	$6,304.43	$0.00	$0.00	$616,885.73	0.4333	$267,296.59	$236,621.96	$30,675	$98,685.40	**$6,299,479.10**
20	2241576	0.280560968	$628,898.73	$6,304.43	$0.00	$0.00	$635,203.17	0.4146	$263,355.23	$226,410.03	$36,945	$102,020.82	$6,562,834.33
21	2241576	0.288977798	$647,765.70	$6,304.43	$0.00	$0.00	$654,070.13	0.3968	$259,535.03	$4,447.29	$255,088	$255,087.74	$6,822,369.36
22	2241576	0.297647131	$667,198.67	$6,304.43	$0.00	$0.00	$673,503.10	0.3797	$255,729.13	$4,255.63	$251,473	$251,473.49	$7,078,098.49
23	2241576	0.306576545	$687,214.63	$6,304.43	$0.00	$0.00	$693,519.06	0.3634	$252,024.83	$4,072.94	$247,952	$247,951.88	$7,330,123.31
24	2241576	0.315773842	$707,831.07	$6,304.43	$0.00	$0.00	$714,135.50	0.3477	$248,304.91	$3,896.98	$244,408	$244,407.93	$7,578,428.22
25	2241576	0.325247057	$729,066.00	$6,304.43	$0.00	$0.00	$735,370.43	0.3327	$244,657.74	$3,728.86	$240,929	$240,928.88	$7,823,085.97
26	2241576	0.335004469	$750,937.98	$6,304.43	$0.00	$0.00	$757,242.41	0.3184	$241,105.98	$3,568.59	$237,537	$237,537.39	$8,064,191.95
27	2241576	0.345054603	$773,466.12	$6,304.43	$0.00	$0.00	$779,770.55	0.3047	$237,596.09	$3,415.04	$234,181	$234,181.05	$8,301,788.04
28	2241576	0.355406241	$796,670.10	$6,304.43	$0.00	$0.00	$802,974.53	0.2916	$234,147.37	$3,268.22	$230,879	$230,879.16	$8,535,935.41
29	2241576	0.366068428	$820,570.20	$6,304.43	$0.00	$0.00	$826,874.64	0.279	$230,698.02	$3,127.00	$227,571	$227,571.02	$8,766,633.43
30	2241576	0.377050481	$845,187.31	$6,304.43	$0.00	$0.00	$851,491.74	0.267	$227,348.29	$2,992.50	$224,356	$224,355.79	$8,993,981.73
Totals	**67247280**		**$17,063,026**	**$189,132.98**		**$652,297.14**	**$17,904,456**		**$8,993,982**				

* Discount Rate= 4.5%

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs with a Downpayment					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,800,000.00	$0.00	$1,800,000.00	1.0000	$1,800,000.00	0	$0.00	$0.00	1.0000	$0.0000
1	$377,924.80	$11,207.88	$389,132.68	0.9569	$372,361.06	534,884.80	$11,207.88	$546,092.68	0.9569	$522,556.0855
2	$377,924.80	$11,207.88	$389,132.68	0.9157	$356,328.80	534,884.80	$11,207.88	$546,092.68	0.9157	$500,057.0671
3	$377,924.80	$11,207.88	$389,132.68	0.8763	$340,996.97	534,884.80	$11,207.88	$546,092.68	0.8763	$478,541.0155
4	$377,924.80	$11,207.88	$389,132.68	0.8386	$326,326.67	534,884.80	$11,207.88	$546,092.68	0.8386	$457,953.3214
5	$377,924.80	$11,207.88	$389,132.68	0.8025	$312,278.98	534,884.80	$11,207.88	$546,092.68	0.8025	$438,239.3757
6	$377,924.80	$11,207.88	$389,132.68	0.7679	$298,814.98	534,884.80	$11,207.88	$546,092.68	0.7679	$419,344.5690
7	$377,924.80	$11,207.88	$389,132.68	0.7348	$285,934.69	534,884.80	$11,207.88	$546,092.68	0.7348	$401,268.9013
8	$377,924.80	$11,207.88	$389,132.68	0.7032	$273,638.10	534,884.80	$11,207.88	$546,092.68	0.7032	$384,012.3726
9	$377,924.80	$11,207.88	$389,132.68	0.6729	$261,847.38	534,884.80	$11,207.88	$546,092.68	0.6729	$367,465.7644
10	$377,924.80	$11,207.88	$389,132.68	0.6439	$250,562.53	534,884.80	$11,207.88	$546,092.68	0.6439	$351,629.0767
11	$377,924.80	$11,207.88	$389,132.68	0.6162	$239,783.56	534,884.80	$11,207.88	$546,092.68	0.6162	$336,502.3094
12	$377,924.80	$11,207.88	$389,132.68	0.5897	$229,471.54	534,884.80	$11,207.88	$546,092.68	0.5897	$322,030.8534
13	$377,924.80	$11,207.88	$389,132.68	0.5643	$219,587.57	534,884.80	$11,207.88	$546,092.68	0.5643	$308,160.0993
14	$377,924.80	$11,207.88	$389,132.68	0.54	$210,131.65	534,884.80	$11,207.88	$546,092.68	0.54	$294,890.0472
15	$377,924.80	$11,207.88	$389,132.68	0.5167	$201,064.86	534,884.80	$11,207.88	$546,092.68	0.5167	$282,166.0878
16	$377,924.80	$11,207.88	$389,132.68	0.4945	$192,426.11	534,884.80	$11,207.88	$546,092.68	0.4945	$270,042.8303
17	$377,924.80	$11,207.88	$389,132.68	0.4732	$184,137.58	534,884.80	$11,207.88	$546,092.68	0.4732	$258,411.0562
18	$377,924.80	$11,207.88	$389,132.68	0.4528	$176,199.28	534,884.80	$11,207.88	$546,092.68	0.4528	$247,270.7655
19	$377,924.80	$11,207.88	$389,132.68	0.4333	$168,611.19	534,884.80	$11,207.88	$546,092.68	0.4333	$236,621.9582
20	$377,924.80	$11,207.88	$389,132.68	0.4146	$161,334.41	534,884.80	$11,207.88	$546,092.68	0.4146	$226,410.0251
21	$0.00	$11,207.88	$11,207.88	0.3968	$4,447.29	0.00	$11,207.88	$11,207.88	0.3968	$4,447.2868
22	$0.00	$11,207.88	$11,207.88	0.3797	$4,255.63	0.00	$11,207.88	$11,207.88	0.3797	$4,255.6320
23	$0.00	$11,207.88	$11,207.88	0.3634	$4,072.94	0.00	$11,207.88	$11,207.88	0.3634	$4,072.9436
24	$0.00	$11,207.88	$11,207.88	0.3477	$3,896.98	0.00	$11,207.88	$11,207.88	0.3477	$3,896.9799
25	$0.00	$11,207.88	$11,207.88	0.3327	$3,728.86	0.00	$11,207.88	$11,207.88	0.3327	$3,728.8617
26	$0.00	$11,207.88	$11,207.88	0.3184	$3,568.59	0.00	$11,207.88	$11,207.88	0.3184	$3,568.5890
27	$0.00	$11,207.88	$11,207.88	0.3047	$3,415.04	0.00	$11,207.88	$11,207.88	0.3047	$3,415.0410
28	$0.00	$11,207.88	$11,207.88	0.2916	$3,268.22	0.00	$11,207.88	$11,207.88	0.2916	$3,268.2178
29	$0.00	$11,207.88	$11,207.88	0.279	$3,127.00	0.00	$11,207.88	$11,207.88	0.279	$3,126.9985
30	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50	0.00	$11,207.88	$11,207.88	0.267	$2,992.5040
Totals	**$9,358,496**	**$336,236.40**	**$9,694,732**		**$6,898,610.96**	**$10,697,696**	**$336,236**	**$11,033,932**		**$7,140,346.64**

* Financing of $4,334,000 for 20 years at a 6% interest rate and $1,800,000 downpayment with $1,000,000 from CEC and $250,000 from AB970

** Discount Rate = 4.5%

*** Financing of $6,134,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $250,000 from AB970

Financial Analysis 1MW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,993,981.73

\- $6,898,610.96

= **$2,095,370.77**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $6,898,610.96 / 67247280 kWh

= **$0.103 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,993,981.73 / $6,898,610.96

= **1.304**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 18**

Financial Analysis 1MW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Present Value of Benefits									Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$5.934M)
0	0.00		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.0000	##########	$0.00
1	1903050	0.16	$304,488.00	$5,352.33	$0.0198	$22,253.12	$332,093.45	0.9569	$317,780.23	-$186,467.8467	-$11,240.32	$317,780.23
2	1903050	0.1648	$313,622.64	$5,352.33	$0.0204	$39,107.68	$358,082.65	0.9157	$327,896.28	-$154,641.0392	$13,041.94	$645,676.50
3	1903050	0.169744	$323,031.32	$5,352.33	$0.0210	$40,249.51	$368,633.15	0.8763	$323,033.23	-$138,741.8582	$21,726.20	$968,709.74
4	1903050	0.17483632	$332,722.26	$5,352.33	$0.0216	$41,391.34	$379,465.92	0.8386	$318,220.12	-$123,688.5737	$29,875.86	$1,286,929.86
5	1903050	0.18008141	$342,703.93	$5,352.33	$0.0222	$42,533.17	$390,589.42	0.8025	$313,448.01	-$109,437.4288	$37,516.37	$1,600,377.87
6	1903050	0.185483852	$352,985.04	$5,352.33	$0.0228	$43,675.00	$402,012.37	0.7679	$308,705.30	-$95,947.3235	$44,670.52	$1,909,083.17
7	1903050	0.191048367	$363,574.60	$5,352.33	$0.0234	$44,816.83	$413,743.75	0.7348	$304,018.91	-$83,191.3363	$51,365.24	$2,213,102.08
8	1903050	0.196779818	$374,481.83	$5,352.33	$0.0240	$45,958.66	$425,792.82	0.7032	$299,417.51	-$71,140.7967	$57,629.19	$2,512,519.59
9	1903050	0.202683213	$385,716.29	$5,352.33	$0.0246	$47,100.49	$438,169.10	0.6729	$294,843.99	-$59,747.4275	$63,474.02	$2,807,363.58
10	1903050	0.208763709	$397,287.78	$5,352.33	$0.0252	$48,242.32	$450,882.42	0.6439	$290,323.19	-$48,986.3841	$68,924.58	$3,097,686.77
11	1903050	0.215026621	$409,206.41	$5,352.33	$0.0258	$49,384.15	$463,942.89	0.6162	$285,881.61	-$38,831.1764	$74,007.37	$3,383,568.38
12	1903050	0.221477419	$421,482.60	$5,352.33	$0.0264	$50,525.98	$477,360.91	0.5897	$281,499.73	-$29,248.6138	$78,737.25	$3,665,068.11
13	1903050	0.228121742	$434,127.08	$5,352.33	$0.0270	$38,536.76	$478,016.17	0.5643	$269,744.53	-$27,619.0306	$75,715.59	$3,934,812.63
14	1903050	0.234965394	$447,150.89	$5,352.33	$0.00	$0.00	$452,503.22	0.54	$244,351.74	-$40,206.6874	$58,678.11	$4,179,164.37
15	1903050	0.242014356	$460,565.42	$5,352.33	$0.00	$0.00	$465,917.75	0.5167	$240,739.70	-$31,540.5573	$63,077.55	$4,419,904.07
16	1903050	0.249274787	$474,382.38	$5,352.33	$0.00	$0.00	$479,734.71	0.4945	$237,228.81	-$23,352.9302	$67,199.91	$4,657,132.89
17	1903050	0.25675303	$488,613.85	$5,352.33	$0.00	$0.00	$493,966.18	0.4732	$233,744.80	-$15,612.6982	$71,039.69	$4,890,877.68
18	1903050	0.264455621	$503,272.27	$5,352.33	$0.00	$0.00	$508,624.60	0.4528	$230,305.22	-$8,302.2927	$74,614.44	$5,121,182.90
19	1903050	0.27238929	$518,370.44	$5,352.33	$0.00	$0.00	$523,722.77	0.4333	$226,929.07	-$1,402.7151	$77,943.18	$5,348,111.98
20	1903050	0.280560968	$533,921.55	$5,352.33	$0.00	$0.00	$539,273.88	0.4146	$223,582.95	$5,105.3136	$81,026.87	$5,571,694.93
21	1903050	0.288977798	$549,939.20	$5,352.33	$0.00	$0.00	$555,291.53	0.3968	$220,339.68	$216,564.0262	$216,564.03	**$5,792,034.60**
22	1903050	0.297647131	$566,437.37	$5,352.33	$0.00	$0.00	$571,789.70	0.3797	$217,108.55	$213,495.6093	$213,495.61	**$6,009,143.15**
23	1903050	0.306576545	$583,430.49	$5,352.33	$0.00	$0.00	$588,782.82	0.3634	$213,963.68	$210,505.8360	$210,505.84	$6,223,106.83
24	1903050	0.315773842	$600,933.41	$5,352.33	$0.00	$0.00	$606,285.74	0.3477	$210,805.55	$207,497.0986	$207,497.10	$6,433,912.38
25	1903050	0.325247057	$618,961.41	$5,352.33	$0.00	$0.00	$624,313.74	0.3327	$207,709.18	$204,543.4576	$204,543.46	$6,641,621.56
26	1903050	0.335004469	$637,530.25	$5,352.33	$0.00	$0.00	$642,882.58	0.3184	$204,693.81	$201,664.1586	$201,664.16	$6,846,315.38
27	1903050	0.345054603	$656,656.16	$5,352.33	$0.00	$0.00	$662,008.49	0.3047	$201,713.99	$198,814.6902	$198,814.69	$7,048,029.37
28	1903050	0.355406241	$676,355.85	$5,352.33	$0.00	$0.00	$681,708.17	0.2916	$198,786.10	$196,011.4569	$196,011.46	$7,246,815.47
29	1903050	0.366068428	$696,646.52	$5,352.33	$0.00	$0.00	$701,998.85	0.279	$195,857.68	$193,202.9245	$193,202.92	$7,442,673.15
30	1903050	0.377050481	$717,545.92	$5,352.33	$0.00	$0.00	$722,898.25	0.267	$193,013.83	$190,473.2599	$190,473.26	$7,635,686.98
Totals	**57091500**		**$14,486,143.18**	**$160,569.84**			**$15,200,488.01**		**$7,635,686.98**			

* Discount Rate= 4.5%

Financial Analysis 1MW Crystalline Silicon (Fixed) PV Power Station - Best Case

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,100,000.00	$0.00	$2,100,000.00	1.0000	$2,100,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$334,324.80	$9,515.25	$343,840.05	0.9569	$329,020.54	$517,444.80	$9,515.25	$526,960.05	0.9569	$504,248.0718
2	$334,324.80	$9,515.25	$343,840.05	0.9157	$314,854.33	$517,444.80	$9,515.25	$526,960.05	0.9157	$482,537.3178
3	$334,324.80	$9,515.25	$343,840.05	0.8763	$301,307.04	$517,444.80	$9,515.25	$526,960.05	0.8763	$461,775.0918
4	$334,324.80	$9,515.25	$343,840.05	0.8386	$288,344.27	$517,444.80	$9,515.25	$526,960.05	0.8386	$441,908.6979
5	$334,324.80	$9,515.25	$343,840.05	0.8025	$275,931.64	$517,444.80	$9,515.25	$526,960.05	0.8025	$422,885.4401
6	$334,324.80	$9,515.25	$343,840.05	0.7679	$264,034.77	$517,444.80	$9,515.25	$526,960.05	0.7679	$404,652.6224
7	$334,324.80	$9,515.25	$343,840.05	0.7348	$252,653.67	$517,444.80	$9,515.25	$526,960.05	0.7348	$387,210.2447
8	$334,324.80	$9,515.25	$343,840.05	0.7032	$241,788.32	$517,444.80	$9,515.25	$526,960.05	0.7032	$370,558.3072
9	$334,324.80	$9,515.25	$343,840.05	0.6729	$231,369.97	$517,444.80	$9,515.25	$526,960.05	0.6729	$354,591.4176
10	$334,324.80	$9,515.25	$343,840.05	0.6439	$221,398.61	$517,444.80	$9,515.25	$526,960.05	0.6439	$339,309.5762
11	$334,324.80	$9,515.25	$343,840.05	0.6162	$211,874.24	$517,444.80	$9,515.25	$526,960.05	0.6162	$324,712.7828
12	$334,324.80	$9,515.25	$343,840.05	0.5897	$202,762.48	$517,444.80	$9,515.25	$526,960.05	0.5897	$310,748.3415
13	$334,324.80	$9,515.25	$343,840.05	0.5643	$194,028.94	$517,444.80	$9,515.25	$526,960.05	0.5643	$297,363.5562
14	$334,324.80	$9,515.25	$343,840.05	0.54	$185,673.63	$517,444.80	$9,515.25	$526,960.05	0.54	$284,558.4270
15	$334,324.80	$9,515.25	$343,840.05	0.5167	$177,662.15	$517,444.80	$9,515.25	$526,960.05	0.5167	$272,280.2578
16	$334,324.80	$9,515.25	$343,840.05	0.4945	$170,028.90	$517,444.80	$9,515.25	$526,960.05	0.4945	$260,581.7447
17	$334,324.80	$9,515.25	$343,840.05	0.4732	$162,705.11	$517,444.80	$9,515.25	$526,960.05	0.4732	$249,357.4957
18	$334,324.80	$9,515.25	$343,840.05	0.4528	$155,690.77	$517,444.80	$9,515.25	$526,960.05	0.4528	$238,607.5106
19	$334,324.80	$9,515.25	$343,840.05	0.4333	$148,985.89	$517,444.80	$9,515.25	$526,960.05	0.4333	$228,331.7897
20	$334,324.80	$9,515.25	$343,840.05	0.4146	$142,556.08	$517,444.80	$9,515.25	$526,960.05	0.4146	$218,477.6367
21	$0.00	$9,515.25	$9,515.25	0.3968	$3,775.65	$0.00	$9,515.25	$9,515.25	0.3968	$3,775.6512
22	$0.00	$9,515.25	$9,515.25	0.3797	$3,612.94	$0.00	$9,515.25	$9,515.25	0.3797	$3,612.9404
23	$0.00	$9,515.25	$9,515.25	0.3634	$3,457.84	$0.00	$9,515.25	$9,515.25	0.3634	$3,457.8419
24	$0.00	$9,515.25	$9,515.25	0.3477	$3,308.45	$0.00	$9,515.25	$9,515.25	0.3477	$3,308.4524
25	$0.00	$9,515.25	$9,515.25	0.3327	$3,165.72	$0.00	$9,515.25	$9,515.25	0.3327	$3,165.7237
26	$0.00	$9,515.25	$9,515.25	0.3184	$3,029.66	$0.00	$9,515.25	$9,515.25	0.3184	$3,029.6556
27	$0.00	$9,515.25	$9,515.25	0.3047	$2,899.30	$0.00	$9,515.25	$9,515.25	0.3047	$2,899.2967
28	$0.00	$9,515.25	$9,515.25	0.2916	$2,774.65	$0.00	$9,515.25	$9,515.25	0.2916	$2,774.6469
29	$0.00	$9,515.25	$9,515.25	0.279	$2,654.75	$0.00	$9,515.25	$9,515.25	0.279	$2,654.7548
30	$0.00	$9,515.25	$9,515.25	0.267	$2,540.57	$0.00	$9,515.25	$9,515.25	0.267	$2,540.5718
Totals	**$8,786,496.00**	**$285,457.50**	**$9,071,953.50**		**$6,603,890.91**	**$10,348,896.00**	**$285,457.50**	**$10,634,353.50**		**$6,885,915.87**

* Financing of $3,834,000 for 20 years at a 6% interest rate and $2,100,000 downpayment with $1,000,000 from the CEC and $250,000 from AB970
** Discount Rate = 4.5%
*** Financing of $5,934,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $250,000 from AB970

Financial Analysis 1MW Crystalline Silicon (Fixed) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $7,635,686.98
- $6,603,890.91
= **$1,031,796.08**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $6,603,890.91 / 57091500 kWh

= **$0.116 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $7,635,686.98 / $6,603,890.91

= **1.156**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 21**

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

	Present Value of Benefits									Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$4.372M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$1,200,000	$0.00
1	1644958	0.16	$263,193.28	$4,626.44	$0.0198	$19,244.92	$287,064.65	0.9569	$274,692.16	-$97,985.17	$2,144.85	$274,692.16
2	1644958	0.1648	$271,089.08	$4,626.44	$0.0204	$33,803.89	$309,519.41	0.9157	$283,426.92	-$73,204.52	$22,614.33	$558,119.08
3	1644958	0.169744	$279,221.75	$4,626.44	$0.0210	$34,790.86	$318,639.06	0.8763	$279,223.41	-$62,063.19	$29,632.84	$837,342.49
4	1644958	0.17483632	$287,598.40	$4,626.44	$0.0216	$35,777.84	$328,002.68	0.8386	$275,063.05	-$51,540.78	$36,210.32	$1,112,405.54
5	1644958	0.18008141	$296,226.36	$4,626.44	$0.0222	$36,764.81	$337,617.61	0.8025	$270,938.13	-$41,606.08	$42,367.52	$1,383,343.67
6	1644958	0.185483852	$305,113.15	$4,626.44	$0.0228	$37,751.79	$347,491.38	0.7679	$266,838.63	-$32,230.16	$48,122.90	$1,650,182.30
7	1644958	0.191048367	$314,266.54	$4,626.44	$0.0234	$38,738.76	$357,631.75	0.7348	$262,787.81	-$23,389.75	$53,499.73	$1,912,970.11
8	1644958	0.196779818	$323,694.54	$4,626.44	$0.0240	$39,725.74	$368,046.72	0.7032	$258,810.45	-$15,060.06	$58,522.78	$2,171,780.56
9	1644958	0.202683213	$333,405.37	$4,626.44	$0.0246	$40,712.71	$378,744.53	0.6729	$254,857.19	-$7,212.59	$63,199.67	$2,426,637.75
10	1644958	0.208763709	$343,407.53	$4,626.44	$0.0252	$41,699.69	$389,733.66	0.6439	$250,949.51	$174.16	$67,551.85	$2,677,587.26
11	1644958	0.215026621	$353,709.76	$4,626.44	$0.0258	$42,686.66	$401,022.86	0.6162	$247,110.29	$7,123.07	$71,602.24	$2,924,697.55
12	1644958	0.221477419	$364,321.05	$4,626.44	$0.0264	$43,673.63	$412,621.13	0.5897	$243,322.68	$13,656.24	$75,362.45	$3,168,020.23
13	1644958	0.228121742	$375,250.68	$4,626.44	$0.0270	$33,310.40	$413,187.53	0.5643	$233,161.72	$13,387.64	$72,436.00	$3,401,181.95
14	1644958	0.234965394	$386,508.20	$4,626.44	$0.00	$0.00	$391,134.65	0.54	$211,212.71	$902.59	$57,408.19	$3,612,394.66
15	1644958	0.242014356	$398,103.45	$4,626.44	$0.00	$0.00	$402,729.90	0.5167	$208,090.54	$6,854.91	$60,922.39	$3,820,485.20
16	1644958	0.249274787	$410,046.55	$4,626.44	$0.00	$0.00	$414,673.00	0.4945	$205,055.80	$12,466.25	$64,210.73	$4,025,541.00
17	1644958	0.25675303	$422,347.95	$4,626.44	$0.00	$0.00	$426,974.40	0.4732	$202,044.28	$17,750.30	$67,265.95	**$4,227,585.28**
18	1644958	0.264455621	$435,018.39	$4,626.44	$0.00	$0.00	$439,644.83	0.4528	$199,071.18	$22,722.25	$70,103.24	**$4,426,656.46**
19	1644958	0.27238929	$448,068.94	$4,626.44	$0.00	$0.00	$452,695.39	0.4333	$196,152.91	$27,398.51	$72,739.02	$4,622,809.37
20	1644958	0.280560968	$461,511.01	$4,626.44	$0.00	$0.00	$466,137.45	0.4146	$193,260.59	$31,789.15	$75,172.89	$4,816,069.96
Totals	**32899160**		**$7,072,102.00**	**$92,528.89**			**$7,643,312.58**		**$4,816,069.96**			

* Discount Rate = 4.5%

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,200,000.00	$0.00	$1,200,000.00	1.0000	$1,200,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$276,598.40	$8,224.79	$284,823.19	0.9569	$272,547.31	$381,238.40	$8,224.79	$389,463.19	0.9569	$372,677.33
2	$276,598.40	$8,224.79	$284,823.19	0.9157	$260,812.60	$381,238.40	$8,224.79	$389,463.19	0.9157	$356,631.44
3	$276,598.40	$8,224.79	$284,823.19	0.8763	$249,590.56	$381,238.40	$8,224.79	$389,463.19	0.8763	$341,286.59
4	$276,598.40	$8,224.79	$284,823.19	0.8386	$238,852.73	$381,238.40	$8,224.79	$389,463.19	0.8386	$326,603.83
5	$276,598.40	$8,224.79	$284,823.19	0.8025	$228,570.61	$381,238.40	$8,224.79	$389,463.19	0.8025	$312,544.21
6	$276,598.40	$8,224.79	$284,823.19	0.7679	$218,715.73	$381,238.40	$8,224.79	$389,463.19	0.7679	$299,068.78
7	$276,598.40	$8,224.79	$284,823.19	0.7348	$209,288.08	$381,238.40	$8,224.79	$389,463.19	0.7348	$286,177.55
8	$276,598.40	$8,224.79	$284,823.19	0.7032	$200,287.67	$381,238.40	$8,224.79	$389,463.19	0.7032	$273,870.52
9	$276,598.40	$8,224.79	$284,823.19	0.6729	$191,657.52	$381,238.40	$8,224.79	$389,463.19	0.6729	$262,069.78
10	$276,598.40	$8,224.79	$284,823.19	0.6439	$183,397.65	$381,238.40	$8,224.79	$389,463.19	0.6439	$250,775.35
11	$276,598.40	$8,224.79	$284,823.19	0.6162	$175,508.05	$381,238.40	$8,224.79	$389,463.19	0.6162	$239,987.22
12	$276,598.40	$8,224.79	$284,823.19	0.5897	$167,960.24	$381,238.40	$8,224.79	$389,463.19	0.5897	$229,666.44
13	$276,598.40	$8,224.79	$284,823.19	0.5643	$160,725.73	$381,238.40	$8,224.79	$389,463.19	0.5643	$219,774.08
14	$276,598.40	$8,224.79	$284,823.19	0.54	$153,804.52	$381,238.40	$8,224.79	$389,463.19	0.54	$210,310.12
15	$276,598.40	$8,224.79	$284,823.19	0.5167	$147,168.14	$381,238.40	$8,224.79	$389,463.19	0.5167	$201,235.63
16	$276,598.40	$8,224.79	$284,823.19	0.4945	$140,845.07	$381,238.40	$8,224.79	$389,463.19	0.4945	$192,589.55
17	$276,598.40	$8,224.79	$284,823.19	0.4732	$134,778.33	$381,238.40	$8,224.79	$389,463.19	0.4732	$184,293.98
18	$276,598.40	$8,224.79	$284,823.19	0.4528	$128,967.94	$381,238.40	$8,224.79	$389,463.19	0.4528	$176,348.93
19	$276,598.40	$8,224.79	$284,823.19	0.4333	$123,413.89	$381,238.40	$8,224.79	$389,463.19	0.4333	$168,754.40
20	$276,598.40	$8,224.79	$284,823.19	0.4146	$118,087.69	$381,238.40	$8,224.79	$389,463.19	0.4146	$161,471.44
Totals	**$5,531,968.00**	**$164,495.80**	**$5,696,463.80**		**$3,704,980.06**	**$7,624,768.00**	**$164,495.80**	**$7,789,263.80**		**$5,066,137.18**

* Financing of $3,172,000 for 20 years at a 6% interest rate and $1,200,000 downpayment with $1,000,000 from CEC and $250,000 from AB970

** Discount Rate = 4.5%

*** Financing of $4,372,000 for 20 years at a 6% interest rate and $0.00 downpayment and $1,000,000 from the CEC and $250,000 from AB970

Financial Analysis 1MW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,816,069.96
- $3,704,980.06
= **$1,111,089.90**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,704,980.06 / 32899160 kWh

= **$0.113 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,816,069.96 / $3,704,980.06

= **1.300**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 17**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Benefits										Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Present Value of Costs w/o DP	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0	0						1.0000	$0.00	$0.00	$0.00	$750,000	$0.00
1	1093952	0.16	$175,032.32	$3,076.74	$0.0198	$12,798.52	$190,907.58	0.9569	$182,679.46	$231,527.85	-$48,848	$3,302.66	$182,679.46
2	1093952	0.1648	$180,283.29	$3,076.74	$0.0204	$22,480.71	$205,840.74	0.9157	$188,488.37	$221,559.26	-$33,071	$16,834.76	$371,167.83
3	1093952	0.169744	$185,691.79	$3,076.74	$0.0210	$23,137.08	$211,905.61	0.8763	$185,692.89	$212,026.18	-$26,333	$21,425.06	$556,860.72
4	1093952	0.17483632	$191,262.54	$3,076.74	$0.0216	$23,793.46	$218,132.74	0.8386	$182,926.11	$202,904.44	-$19,978	$25,725.38	$739,786.83
5	1093952	0.18008141	$197,000.42	$3,076.74	$0.0222	$24,449.83	$224,526.99	0.8025	$180,182.91	$194,169.82	-$13,987	$29,749.34	$919,969.74
6	1093952	0.185483852	$202,910.43	$3,076.74	$0.0228	$25,106.20	$231,093.37	0.7679	$177,456.60	$185,798.14	-$8,342	$33,509.01	$1,097,426.34
7	1093952	0.191048367	$208,997.74	$3,076.74	$0.0234	$25,762.57	$237,837.05	0.7348	$174,762.67	$177,789.39	-$3,027	$37,019.88	$1,272,189.00
8	1093952	0.196779818	$215,267.68	$3,076.74	$0.0240	$26,418.94	$244,763.36	0.7032	$172,117.59	$170,143.57	$1,974	$40,298.42	$1,444,306.59
9	1093952	0.202683213	$221,725.71	$3,076.74	$0.0246	$27,075.31	$251,877.76	0.6729	$169,488.54	$162,812.30	$6,676	$43,349.29	$1,613,795.14
10	1093952	0.208763709	$228,377.48	$3,076.74	$0.0252	$27,731.68	$259,185.90	0.6439	$166,889.80	$155,795.57	$11,094	$46,186.78	$1,780,684.94
11	1093952	0.215026621	$235,228.80	$3,076.74	$0.0258	$28,388.05	$266,693.60	0.6162	$164,336.59	$149,093.39	$15,243	$48,826.11	$1,945,021.53
12	1093952	0.221477419	$242,285.67	$3,076.74	$0.0264	$29,044.43	$274,406.83	0.5897	$161,817.71	$142,681.55	$19,136	$51,274.81	$2,106,839.24
13	1093952	0.228121742	$249,554.24	$3,076.74	$0.0270	$22,152.53	$274,783.50	0.5643	$155,060.33	$136,535.86	$18,524	$49,278.82	$2,261,899.57
14	1093952	0.234965394	$257,040.86	$3,076.74	$0.00	$0.00	$260,117.60	0.54	$140,463.51	$130,656.33	$9,807	$39,237.18	$2,402,363.08
15	1093952	0.242014356	$264,752.09	$3,076.74	$0.00	$0.00	$267,828.83	0.5167	$138,387.16	$125,018.75	$13,368	$41,528.56	$2,540,750.23
16	1093952	0.249274787	$272,694.65	$3,076.74	$0.00	$0.00	$275,771.39	0.4945	$136,368.95	$119,647.32	$16,722	$43,671.88	**$2,677,119.19**
17	1093952	0.25675303	$280,875.49	$3,076.74	$0.00	$0.00	$283,952.23	0.4732	$134,366.20	$114,493.65	$19,873	$45,661.94	**$2,811,485.38**
18	1093952	0.264455621	$289,301.76	$3,076.74	$0.00	$0.00	$292,378.50	0.4528	$132,388.98	$109,557.75	$22,831	$47,508.83	$2,943,874.37
19	1093952	0.27238929	$297,980.81	$3,076.74	$0.00	$0.00	$301,057.55	0.4333	$130,448.24	$104,839.60	$25,609	$49,223.48	$3,074,322.60
20	1093952	0.280560968	$306,920.23	$3,076.74	$0.00	$0.00	$309,996.97	0.4146	$128,524.74	$100,315.02	$28,210	$50,805.42	$3,202,847.35
21	1093952	0.288977798	$316,127.84	$3,076.74	$0.00	$0.00	$319,204.58	0.3968	$126,660.38	$2,170.40	$124,490	$124,489.98	$3,329,507.72
22	1093952	0.297647131	$325,611.67	$3,076.74	$0.00	$0.00	$328,688.41	0.3797	$124,802.99	$2,076.87	$122,726	$122,726.12	$3,454,310.71
23	1093952	0.306576545	$335,380.03	$3,076.74	$0.00	$0.00	$338,456.77	0.3634	$122,995.19	$1,987.71	$121,007	$121,007.48	$3,577,305.90
24	1093952	0.315773842	$345,441.43	$3,076.74	$0.00	$0.00	$348,518.17	0.3477	$121,179.77	$1,901.84	$119,278	$119,277.93	$3,698,485.67
25	1093952	0.325247057	$355,804.67	$3,076.74	$0.00	$0.00	$358,881.41	0.3327	$119,399.84	$1,819.79	$117,580	$117,580.06	$3,817,885.51
26	1093952	0.335004469	$366,478.81	$3,076.74	$0.00	$0.00	$369,555.55	0.3184	$117,666.49	$1,741.57	$115,925	$115,924.92	$3,935,552.00
27	1093952	0.345054603	$377,473.17	$3,076.74	$0.00	$0.00	$380,549.91	0.3047	$115,953.56	$1,666.64	$114,287	$114,286.92	$4,051,505.56
28	1093952	0.355406241	$388,797.37	$3,076.74	$0.00	$0.00	$391,874.11	0.2916	$114,270.49	$1,594.98	$112,676	$112,675.51	$4,165,776.05
29	1093952	0.366068428	$400,461.29	$3,076.74	$0.00	$0.00	$403,538.03	0.279	$112,587.11	$1,526.06	$111,061	$111,061.05	$4,278,363.16
30	1093952	0.377050481	$412,475.13	$3,076.74	$0.00	$0.00	$415,551.87	0.267	$110,952.35	$1,460.43	$109,492	$109,491.92	$4,389,315.51
	32818560		**$8,327,235.39**	**$92,302.20**		**$318,339.31**	**$8,737,877**		**$4,389,316**				

* Discount Rate= 4.5%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs with a Downpayment					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$625,000.00	$0.00	$625,000.00	1.0000	$625,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$181,986.40	$5,469.76	$187,456.16	0.9569	$179,376.80	$236,486.40	$5,469.76	$241,956.16	0.9569	$231,527.8495
2	$181,986.40	$5,469.76	$187,456.16	0.9157	$171,653.61	$236,486.40	$5,469.76	$241,956.16	0.9157	$221,559.2557
3	$181,986.40	$5,469.76	$187,456.16	0.8763	$164,267.83	$236,486.40	$5,469.76	$241,956.16	0.8763	$212,026.1830
4	$181,986.40	$5,469.76	$187,456.16	0.8386	$157,200.74	$236,486.40	$5,469.76	$241,956.16	0.8386	$202,904.4358
5	$181,986.40	$5,469.76	$187,456.16	0.8025	$150,433.57	$236,486.40	$5,469.76	$241,956.16	0.8025	$194,169.8184
6	$181,986.40	$5,469.76	$187,456.16	0.7679	$143,947.59	$236,486.40	$5,469.76	$241,956.16	0.7679	$185,798.1353
7	$181,986.40	$5,469.76	$187,456.16	0.7348	$137,742.79	$236,486.40	$5,469.76	$241,956.16	0.7348	$177,789.3864
8	$181,986.40	$5,469.76	$187,456.16	0.7032	$131,819.17	$236,486.40	$5,469.76	$241,956.16	0.7032	$170,143.5717
9	$181,986.40	$5,469.76	$187,456.16	0.6729	$126,139.25	$236,486.40	$5,469.76	$241,956.16	0.6729	$162,812.3001
10	$181,986.40	$5,469.76	$187,456.16	0.6439	$120,703.02	$236,486.40	$5,469.76	$241,956.16	0.6439	$155,795.5714
11	$181,986.40	$5,469.76	$187,456.16	0.6162	$115,510.49	$236,486.40	$5,469.76	$241,956.16	0.6162	$149,093.3858
12	$181,986.40	$5,469.76	$187,456.16	0.5897	$110,542.90	$236,486.40	$5,469.76	$241,956.16	0.5897	$142,681.5476
13	$181,986.40	$5,469.76	$187,456.16	0.5643	$105,781.51	$236,486.40	$5,469.76	$241,956.16	0.5643	$136,535.8611
14	$181,986.40	$5,469.76	$187,456.16	0.54	$101,226.33	$236,486.40	$5,469.76	$241,956.16	0.54	$130,656.3264
15	$181,986.40	$5,469.76	$187,456.16	0.5167	$96,858.60	$236,486.40	$5,469.76	$241,956.16	0.5167	$125,018.7479
16	$181,986.40	$5,469.76	$187,456.16	0.4945	$92,697.07	$236,486.40	$5,469.76	$241,956.16	0.4945	$119,647.3211
17	$181,986.40	$5,469.76	$187,456.16	0.4732	$88,704.25	$236,486.40	$5,469.76	$241,956.16	0.4732	$114,493.6549
18	$181,986.40	$5,469.76	$187,456.16	0.4528	$84,880.15	$236,486.40	$5,469.76	$241,956.16	0.4528	$109,557.7492
19	$181,986.40	$5,469.76	$187,456.16	0.4333	$81,224.75	$236,486.40	$5,469.76	$241,956.16	0.4333	$104,839.6041
20	$181,986.40	$5,469.76	$187,456.16	0.4146	$77,719.32	$236,486.40	$5,469.76	$241,956.16	0.4146	$100,315.0239
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.4008
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.8679
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.7108
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.8356
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.7892
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.5716
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.6359
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.9820
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.0630
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$5,469.76	$5,469.76	0.267	$1,460.4259
	$4,264,728	**$164,092.80**	**$4,428,820.80**		**$3,081,376.01**	**$4,729,728.00**	**$164,093**	**$4,893,820.80**		**$3,165,312.01**

* Financing of $2,087,000 for 20 years at a 6% interest rate and $625,000 downpayment with $1,000,000 from CEC and $125,000 from AB970

** Discount Rate = 4.5%

*** Financing of $2,712,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,389,315.51
- $3,081,376.01
= **$1,307,939.50**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,081,376.01 / 32818560 kWh

= **$0.094 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,389,315.51 / $3,081,376.01

= **1.424**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 16**

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Present Value of Benefits									Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.547M)
0	0.00		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.0000	-$675,000	$0.00
1	929632	0.16	$148,741.12	$2,614.59	$0.0198	$10,870.56	$162,226.27	0.9569	$155,234.32	-$61,739.4666	-$5,416.33	$155,234.32
2	929632	0.1648	$153,203.35	$2,614.59	$0.0204	$19,103.94	$174,921.88	0.9157	$160,175.97	-$47,455.8584	$6,442.24	$315,410.28
3	929632	0.169744	$157,799.45	$2,614.59	$0.0210	$19,661.72	$180,075.76	0.8763	$157,800.39	-$40,897.6212	$10,681.40	$473,210.67
4	929632	0.17483632	$162,533.44	$2,614.59	$0.0216	$20,219.50	$185,367.52	0.8386	$155,449.21	-$34,700.4597	$14,659.54	$628,659.88
5	929632	0.18008141	$167,409.44	$2,614.59	$0.0222	$20,777.28	$190,801.31	0.8025	$153,118.05	-$28,846.0662	$18,389.08	$781,777.93
6	929632	0.185483852	$172,431.72	$2,614.59	$0.0228	$21,335.05	$196,381.37	0.7679	$150,801.25	-$23,317.4305	$21,881.16	$932,579.18
7	929632	0.191048367	$177,604.68	$2,614.59	$0.0234	$21,892.83	$202,112.10	0.7348	$148,511.97	-$18,101.4016	$25,148.93	$1,081,091.15
8	929632	0.196779818	$182,932.82	$2,614.59	$0.0240	$22,450.61	$207,998.02	0.7032	$146,264.21	-$13,183.9740	$28,206.38	$1,227,355.36
9	929632	0.202683213	$188,420.80	$2,614.59	$0.0246	$23,008.39	$214,043.78	0.6729	$144,030.06	-$8,547.6989	$31,059.20	$1,371,385.42
10	929632	0.208763709	$194,073.42	$2,614.59	$0.0252	$23,566.17	$220,254.19	0.6439	$141,821.67	-$4,180.4397	$33,719.51	$1,513,207.09
11	929632	0.215026621	$199,895.63	$2,614.59	$0.0258	$24,123.95	$226,634.17	0.6162	$139,651.97	-$69.2560	$36,200.28	$1,652,859.06
12	929632	0.221477419	$205,892.50	$2,614.59	$0.0264	$24,681.73	$233,188.82	0.5897	$137,511.44	$3,798.9983	$38,508.74	$1,790,370.51
13	929632	0.228121742	$212,069.27	$2,614.59	$0.0270	$18,825.05	$233,508.91	0.5643	$131,769.08	$3,815.9936	$37,030.69	$1,922,139.59
14	929632	0.234965394	$218,431.35	$2,614.59	$0.00	$0.00	$221,045.94	0.54	$119,364.81	-$3,078.3352	$28,706.06	$2,041,504.39
15	929632	0.242014356	$224,984.29	$2,614.59	$0.00	$0.00	$227,598.88	0.5167	$117,600.34	$440.3936	$30,853.36	$2,159,104.73
16	929632	0.249274787	$231,733.82	$2,614.59	$0.00	$0.00	$234,348.41	0.4945	$115,885.29	$3,759.1141	$32,865.38	$2,274,990.02
17	929632	0.25675303	$238,685.83	$2,614.59	$0.00	$0.00	$241,300.42	0.4732	$114,183.36	$6,886.8880	$34,739.44	$2,389,173.38
18	929632	0.264455621	$245,846.41	$2,614.59	$0.00	$0.00	$248,461.00	0.4528	$112,503.14	$9,832.2975	$36,484.11	**$2,501,676.52**
19	929632	0.27238929	$253,221.80	$2,614.59	$0.00	$0.00	$255,836.39	0.4333	$110,853.91	$12,604.6234	$38,108.66	**$2,612,530.43**
20	929632	0.280560968	$260,818.45	$2,614.59	$0.00	$0.00	$263,433.04	0.4146	$109,219.34	$15,210.2164	$39,613.57	$2,721,749.77
21	929632	0.288977798	$268,643.01	$2,614.59	$0.00	$0.00	$271,257.60	0.3968	$107,635.01	$105,790.6250	$105,790.62	$2,829,384.78
22	929632	0.297647131	$276,702.30	$2,614.59	$0.00	$0.00	$279,316.89	0.3797	$106,056.62	$104,291.7161	$104,291.72	$2,935,441.41
23	929632	0.306576545	$285,003.37	$2,614.59	$0.00	$0.00	$287,617.96	0.3634	$104,520.37	$102,831.2243	$102,831.22	$3,039,961.77
24	929632	0.315773842	$293,553.47	$2,614.59	$0.00	$0.00	$296,168.06	0.3477	$102,977.63	$101,361.4686	$101,361.47	$3,142,939.41
25	929632	0.325247057	$302,360.07	$2,614.59	$0.00	$0.00	$304,974.66	0.3327	$101,465.07	$99,918.6273	$99,918.63	$3,244,404.48
26	929632	0.335004469	$311,430.87	$2,614.59	$0.00	$0.00	$314,045.46	0.3184	$99,992.08	$98,512.1017	$98,512.10	$3,344,396.55
27	929632	0.345054603	$320,773.80	$2,614.59	$0.00	$0.00	$323,388.39	0.3047	$98,536.44	$97,120.1482	$97,120.15	$3,442,932.99
28	929632	0.355406241	$330,397.01	$2,614.59	$0.00	$0.00	$333,011.60	0.2916	$97,106.18	$95,750.7804	$95,750.78	$3,540,039.18
29	929632	0.366068428	$340,308.92	$2,614.59	$0.00	$0.00	$342,923.51	0.279	$95,675.66	$94,378.8240	$94,378.82	$3,635,714.84
30	929632	0.377050481	$350,518.19	$2,614.59	$0.00	$0.00	$353,132.78	0.267	$94,286.45	$93,045.3943	$93,045.39	$3,730,001.29
Totals	**27888960**		**$7,076,420.62**	**$78,437.70**			**$7,425,375.09**		**$3,730,001.29**			

* Discount Rate= 4.5%

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$675,000.00	$0.00	$675,000.00	1.0000	$675,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$163,238.40	$4,648.16	$167,886.56	0.9569	$160,650.65	$222,098.40	$4,648.16	$226,746.56	0.9569	$216,973.7833
2	$163,238.40	$4,648.16	$167,886.56	0.9157	$153,733.72	$222,098.40	$4,648.16	$226,746.56	0.9157	$207,631.8250
3	$163,238.40	$4,648.16	$167,886.56	0.8763	$147,118.99	$222,098.40	$4,648.16	$226,746.56	0.8763	$198,698.0105
4	$163,238.40	$4,648.16	$167,886.56	0.8386	$140,789.67	$222,098.40	$4,648.16	$226,746.56	0.8386	$190,149.6652
5	$163,238.40	$4,648.16	$167,886.56	0.8025	$134,728.96	$222,098.40	$4,648.16	$226,746.56	0.8025	$181,964.1144
6	$163,238.40	$4,648.16	$167,886.56	0.7679	$128,920.09	$222,098.40	$4,648.16	$226,746.56	0.7679	$174,118.6834
7	$163,238.40	$4,648.16	$167,886.56	0.7348	$123,363.04	$222,098.40	$4,648.16	$226,746.56	0.7348	$166,613.3723
8	$163,238.40	$4,648.16	$167,886.56	0.7032	$118,057.83	$222,098.40	$4,648.16	$226,746.56	0.7032	$159,448.1810
9	$163,238.40	$4,648.16	$167,886.56	0.6729	$112,970.87	$222,098.40	$4,648.16	$226,746.56	0.6729	$152,577.7602
10	$163,238.40	$4,648.16	$167,886.56	0.6439	$108,102.16	$222,098.40	$4,648.16	$226,746.56	0.6439	$146,002.1100
11	$163,238.40	$4,648.16	$167,886.56	0.6162	$103,451.70	$222,098.40	$4,648.16	$226,746.56	0.6162	$139,721.2303
12	$163,238.40	$4,648.16	$167,886.56	0.5897	$99,002.70	$222,098.40	$4,648.16	$226,746.56	0.5897	$133,712.4464
13	$163,238.40	$4,648.16	$167,886.56	0.5643	$94,738.39	$222,098.40	$4,648.16	$226,746.56	0.5643	$127,953.0838
14	$163,238.40	$4,648.16	$167,886.56	0.54	$90,658.74	$222,098.40	$4,648.16	$226,746.56	0.54	$122,443.1424
15	$163,238.40	$4,648.16	$167,886.56	0.5167	$86,746.99	$222,098.40	$4,648.16	$226,746.56	0.5167	$117,159.9476
16	$163,238.40	$4,648.16	$167,886.56	0.4945	$83,019.90	$222,098.40	$4,648.16	$226,746.56	0.4945	$112,126.1739
17	$163,238.40	$4,648.16	$167,886.56	0.4732	$79,443.92	$222,098.40	$4,648.16	$226,746.56	0.4732	$107,296.4722
18	$163,238.40	$4,648.16	$167,886.56	0.4528	$76,019.03	$222,098.40	$4,648.16	$226,746.56	0.4528	$102,670.8424
19	$163,238.40	$4,648.16	$167,886.56	0.4333	$72,745.25	$222,098.40	$4,648.16	$226,746.56	0.4333	$98,249.2844
20	$163,238.40	$4,648.16	$167,886.56	0.4146	$69,605.77	$222,098.40	$4,648.16	$226,746.56	0.4146	$94,009.1238
21	$0.00	$4,648.16	$4,648.16	0.3968	$1,844.39	$0.00	$4,648.16	$4,648.16	0.3968	$1,844.3899
22	$0.00	$4,648.16	$4,648.16	0.3797	$1,764.91	$0.00	$4,648.16	$4,648.16	0.3797	$1,764.9064
23	$0.00	$4,648.16	$4,648.16	0.3634	$1,689.14	$0.00	$4,648.16	$4,648.16	0.3634	$1,689.1413
24	$0.00	$4,648.16	$4,648.16	0.3477	$1,616.17	$0.00	$4,648.16	$4,648.16	0.3477	$1,616.1652
25	$0.00	$4,648.16	$4,648.16	0.3327	$1,546.44	$0.00	$4,648.16	$4,648.16	0.3327	$1,546.4428
26	$0.00	$4,648.16	$4,648.16	0.3184	$1,479.97	$0.00	$4,648.16	$4,648.16	0.3184	$1,479.9741
27	$0.00	$4,648.16	$4,648.16	0.3047	$1,416.29	$0.00	$4,648.16	$4,648.16	0.3047	$1,416.2944
28	$0.00	$4,648.16	$4,648.16	0.2916	$1,355.40	$0.00	$4,648.16	$4,648.16	0.2916	$1,355.4035
29	$0.00	$4,648.16	$4,648.16	0.279	$1,296.84	$0.00	$4,648.16	$4,648.16	0.279	$1,296.8366
30	$0.00	$4,648.16	$4,648.16	0.267	$1,241.06	$0.00	$4,648.16	$4,648.16	0.267	$1,241.0587
Totals	**$3,939,768.00**	**$139,444.80**	**$4,079,212.80**		**$2,874,118.99**	**$4,441,968.00**	**$139,444.80**	**$4,581,412.80**		**$2,964,769.87**

* Financing of $1,872,000 for 20 years at a 6% interest rate and $675,000 downpayment with $1,000,000 from the CEC and $125,000 from AB970
** Discount Rate = 4.5%
*** Financing of $2,547,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $3,730,001.29
\- $2,874,118.99
= **$855,882.31**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $2,874,118.99 / 27888960 kWh

= **$0.103 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $3,730,001.29 / $2,874,118.99

= **1.298**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 18**

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

Present Value of Benefits										Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$1.778M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$225,000	$0.00
1	810982	0.16	$129,757.12	$2,280.89	$0.0198	$9,487.95	$141,525.96	0.9569	$135,426.19	-$16,813.26	$1,961.12	$135,426.19
2	810982	0.1648	$133,649.83	$2,280.89	$0.0204	$16,665.68	$152,596.40	0.9157	$139,732.52	-$5,952.15	$12,013.88	$275,158.72
3	810982	0.169744	$137,659.33	$2,280.89	$0.0210	$17,152.27	$157,092.48	0.8763	$137,660.14	-$1,756.13	$15,436.88	$412,818.86
4	810982	0.17483632	$141,789.11	$2,280.89	$0.0216	$17,638.86	$161,708.85	0.8386	$135,609.04	$2,190.71	$18,644.04	$548,427.91
5	810982	0.18008141	$146,042.78	$2,280.89	$0.0222	$18,125.45	$166,449.12	0.8025	$133,575.42	$5,900.47	$21,645.52	$682,003.32
6	810982	0.185483852	$150,424.07	$2,280.89	$0.0228	$18,612.04	$171,316.99	0.7679	$131,554.32	$9,384.11	$24,450.30	$813,557.64
7	810982	0.191048367	$154,936.79	$2,280.89	$0.0234	$19,098.63	$176,316.30	0.7348	$129,557.22	$12,653.10	$27,069.88	$943,114.85
8	810982	0.196779818	$159,584.89	$2,280.89	$0.0240	$19,585.22	$181,450.99	0.7032	$127,596.34	$15,719.67	$29,516.46	$1,070,711.19
9	810982	0.202683213	$164,372.44	$2,280.89	$0.0246	$20,071.80	$186,725.13	0.6729	$125,647.34	$18,591.30	$31,793.60	$1,196,358.53
10	810982	0.208763709	$169,303.61	$2,280.89	$0.0252	$20,558.39	$192,142.89	0.6439	$123,720.81	$21,278.56	$33,911.88	$1,320,079.34
11	810982	0.215026621	$174,382.72	$2,280.89	$0.0258	$21,044.98	$197,708.59	0.6162	$121,828.03	$23,792.76	$35,882.61	$1,441,907.37
12	810982	0.221477419	$179,614.20	$2,280.89	$0.0264	$21,531.57	$203,426.66	0.5897	$119,960.70	$26,141.49	$37,711.40	$1,561,868.07
13	810982	0.228121742	$185,002.63	$2,280.89	$0.0270	$16,422.39	$203,705.90	0.5643	$114,951.24	$25,173.08	$36,244.64	**$1,676,819.31**
14	810982	0.234965394	$190,552.71	$2,280.89	$0.00	$0.00	$192,833.59	0.54	$104,130.14	$18,218.02	$28,812.82	**$1,780,949.45**
15	810982	0.242014356	$196,269.29	$2,280.89	$0.00	$0.00	$198,550.17	0.5167	$102,590.87	$20,385.71	$30,523.36	$1,883,540.33
16	810982	0.249274787	$202,157.37	$2,280.89	$0.00	$0.00	$204,438.25	0.4945	$101,094.72	$22,421.49	$32,123.58	$1,984,635.04
17	810982	0.25675303	$208,222.09	$2,280.89	$0.00	$0.00	$210,502.97	0.4732	$99,610.01	$24,325.54	$33,609.72	$2,084,245.05
18	810982	0.264455621	$214,468.75	$2,280.89	$0.00	$0.00	$216,749.64	0.4528	$98,144.23	$26,105.34	$34,989.27	$2,182,389.28
19	810982	0.27238929	$220,902.81	$2,280.89	$0.00	$0.00	$223,183.70	0.4333	$96,705.50	$27,768.98	$36,270.32	$2,279,094.78
20	810982	0.280560968	$227,529.90	$2,280.89	$0.00	$0.00	$229,810.78	0.4146	$95,279.55	$29,318.14	$37,452.59	$2,374,374.33
Totals	**16219640**		**$3,486,622.41**	**$45,617.74**			**$3,768,235.37**		**$2,374,374.33**			

* Discount Rate = 4.5%

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$225,000.00	$0.00	$225,000.00	1.0000	$225,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$135,421.60	$4,054.91	$139,476.51	0.9569	$133,465.07	$155,041.60	$4,054.91	$159,096.51	0.9569	$152,239.45
2	$135,421.60	$4,054.91	$139,476.51	0.9157	$127,718.64	$155,041.60	$4,054.91	$159,096.51	0.9157	$145,684.67
3	$135,421.60	$4,054.91	$139,476.51	0.8763	$122,223.27	$155,041.60	$4,054.91	$159,096.51	0.8763	$139,416.27
4	$135,421.60	$4,054.91	$139,476.51	0.8386	$116,965.00	$155,041.60	$4,054.91	$159,096.51	0.8386	$133,418.33
5	$135,421.60	$4,054.91	$139,476.51	0.8025	$111,929.90	$155,041.60	$4,054.91	$159,096.51	0.8025	$127,674.95
6	$135,421.60	$4,054.91	$139,476.51	0.7679	$107,104.01	$155,041.60	$4,054.91	$159,096.51	0.7679	$122,170.21
7	$135,421.60	$4,054.91	$139,476.51	0.7348	$102,487.34	$155,041.60	$4,054.91	$159,096.51	0.7348	$116,904.12
8	$135,421.60	$4,054.91	$139,476.51	0.7032	$98,079.88	$155,041.60	$4,054.91	$159,096.51	0.7032	$111,876.67
9	$135,421.60	$4,054.91	$139,476.51	0.6729	$93,853.74	$155,041.60	$4,054.91	$159,096.51	0.6729	$107,056.04
10	$135,421.60	$4,054.91	$139,476.51	0.6439	$89,808.92	$155,041.60	$4,054.91	$159,096.51	0.6439	$102,442.24
11	$135,421.60	$4,054.91	$139,476.51	0.6162	$85,945.43	$155,041.60	$4,054.91	$159,096.51	0.6162	$98,035.27
12	$135,421.60	$4,054.91	$139,476.51	0.5897	$82,249.30	$155,041.60	$4,054.91	$159,096.51	0.5897	$93,819.21
13	$135,421.60	$4,054.91	$139,476.51	0.5643	$78,706.59	$155,041.60	$4,054.91	$159,096.51	0.5643	$89,778.16
14	$135,421.60	$4,054.91	$139,476.51	0.54	$75,317.32	$155,041.60	$4,054.91	$159,096.51	0.54	$85,912.12
15	$135,421.60	$4,054.91	$139,476.51	0.5167	$72,067.51	$155,041.60	$4,054.91	$159,096.51	0.5167	$82,205.17
16	$135,421.60	$4,054.91	$139,476.51	0.4945	$68,971.13	$155,041.60	$4,054.91	$159,096.51	0.4945	$78,673.22
17	$135,421.60	$4,054.91	$139,476.51	0.4732	$66,000.28	$155,041.60	$4,054.91	$159,096.51	0.4732	$75,284.47
18	$135,421.60	$4,054.91	$139,476.51	0.4528	$63,154.96	$155,041.60	$4,054.91	$159,096.51	0.4528	$72,038.90
19	$135,421.60	$4,054.91	$139,476.51	0.4333	$60,435.17	$155,041.60	$4,054.91	$159,096.51	0.4333	$68,936.52
20	$135,421.60	$4,054.91	$139,476.51	0.4146	$57,826.96	$155,041.60	$4,054.91	$159,096.51	0.4146	$65,961.41
Totals	**$2,708,432.00**	**$81,098.20**	**$2,789,530.20**		**$1,814,310.44**	**$3,100,832.00**	**$81,098.20**	**$3,181,930.20**		**$2,069,527.40**

* Financing of $1,553,000 for 20 years at a 6% interest rate and $225,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 4.5%
*** Financing of $1,778,000 for 20 years at a 6% interest rate and $0.00 downpayment and $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $2,374,374.33
\- $1,814,310.44
= **$560,063.89**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,814,310.44 / 16219640 kWh
= **$0.112 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $2,374,374.33 / $1,814,310.44
= **1.309**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 13**

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Present Value of Benefits												
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$1.059M)
0	0	0						1.0000	$0.00	$0	$0.00
1	433535	0.16	$69,365.60	$1,219.32	$0.0198	$5,072.07	$75,656.99	0.9569	$72,396.17	$731.56	$72,396.17
2	433535	0.1648	$71,446.57	$1,219.32	$0.0204	$8,909.14	$81,575.03	0.9157	$74,698.25	$6,119.22	$147,094.43
3	433535	0.169744	$73,589.97	$1,219.32	$0.0210	$9,169.27	$83,978.55	0.8763	$73,590.40	$7,962.13	$220,684.83
4	433535	0.17483632	$75,797.66	$1,219.32	$0.0216	$9,429.39	$86,446.37	0.8386	$72,493.92	$9,689.09	$293,178.75
5	433535	0.18008141	$78,071.59	$1,219.32	$0.0222	$9,689.51	$88,980.42	0.8025	$71,406.79	$11,305.57	$364,585.54
6	433535	0.185483852	$80,413.74	$1,219.32	$0.0228	$9,949.63	$91,582.69	0.7679	$70,326.35	$12,816.41	$434,911.88
7	433535	0.191048367	$82,826.15	$1,219.32	$0.0234	$10,209.75	$94,255.22	0.7348	$69,258.74	$14,227.75	$504,170.62
8	433535	0.196779818	$85,310.94	$1,219.32	$0.0240	$10,469.87	$97,000.13	0.7032	$68,210.49	$15,546.10	$572,381.11
9	433535	0.202683213	$87,870.27	$1,219.32	$0.0246	$10,729.99	$99,819.58	0.6729	$67,168.59	$16,773.45	$639,549.70
10	433535	0.208763709	$90,506.37	$1,219.32	$0.0252	$10,990.11	$102,715.80	0.6439	$66,138.71	$17,915.44	$705,688.41
11	433535	0.215026621	$93,221.57	$1,219.32	$0.0258	$11,250.23	$105,691.12	0.6162	$65,126.87	$18,978.12	$770,815.27
12	433535	0.221477419	$96,018.21	$1,219.32	$0.0264	$11,510.35	$108,747.88	0.5897	$64,128.63	$19,964.53	$834,943.90
13	433535	0.228121742	$98,898.76	$1,219.32	$0.0270	$8,779.08	$108,897.16	0.5643	$61,450.67	$19,188.84	$896,394.57
14	433535	0.234965394	$101,865.72	$1,219.32	$0.00	$0.00	$103,085.04	0.54	$55,665.92	$15,223.98	$952,060.49
15	433535	0.242014356	$104,921.69	$1,219.32	$0.00	$0.00	$106,141.01	0.5167	$54,843.06	$16,146.12	**$1,006,903.55**
16	433535	0.249274787	$108,069.34	$1,219.32	$0.00	$0.00	$109,288.66	0.4945	$54,043.24	$17,008.91	**$1,060,946.79**
17	433535	0.25675303	$111,311.42	$1,219.32	$0.00	$0.00	$112,530.74	0.4732	$53,249.55	$17,810.43	$1,114,196.34
18	433535	0.264455621	$114,650.77	$1,219.32	$0.00	$0.00	$115,870.08	0.4528	$52,465.97	$18,554.66	$1,166,662.32
19	433535	0.27238929	$118,090.29	$1,219.32	$0.00	$0.00	$119,309.61	0.4333	$51,696.85	$19,245.94	$1,218,359.17
20	433535	0.280560968	$121,633.00	$1,219.32	$0.00	$0.00	$122,852.32	0.4146	$50,934.57	$19,884.15	$1,269,293.74
21	433535	0.288977798	$125,281.99	$1,219.32	$0.00	$0.00	$126,501.31	0.3968	$50,195.72	$49,335.59	$1,319,489.46
22	433535	0.297647131	$129,040.45	$1,219.32	$0.00	$0.00	$130,259.77	0.3797	$49,459.63	$48,636.57	$1,368,949.09
23	433535	0.306576545	$132,911.66	$1,219.32	$0.00	$0.00	$134,130.98	0.3634	$48,743.20	$47,955.46	$1,417,692.29
24	433535	0.315773842	$136,899.01	$1,219.32	$0.00	$0.00	$138,118.33	0.3477	$48,023.74	$47,270.04	$1,465,716.03
25	433535	0.325247057	$141,005.98	$1,219.32	$0.00	$0.00	$142,225.30	0.3327	$47,318.36	$46,597.17	$1,513,034.39
26	433535	0.335004469	$145,236.16	$1,219.32	$0.00	$0.00	$146,455.48	0.3184	$46,631.42	$45,941.24	$1,559,665.81
27	433535	0.345054603	$149,593.25	$1,219.32	$0.00	$0.00	$150,812.56	0.3047	$45,952.59	$45,292.10	$1,605,618.40
28	433535	0.355406241	$154,081.04	$1,219.32	$0.00	$0.00	$155,300.36	0.2916	$45,285.59	$44,653.49	$1,650,903.99
29	433535	0.366068428	$158,703.48	$1,219.32	$0.00	$0.00	$159,922.79	0.279	$44,618.46	$44,013.68	$1,695,522.45
30	433535	0.377050481	$163,464.58	$1,219.32	$0.00	$0.00	$164,683.90	0.267	$43,970.60	$43,391.83	$1,739,493.05
	13006050		**$3,300,097.26**	**$36,579.52**		**$126,158.40**	**$3,462,835**		**$1,739,493**		

* Discount Rate= 4.5%

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs with a Downpayment					Present Value of Costs without a Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$225,000.00	$0.00	$225,000.00	1.0000	$225,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$72,724.80	$2,167.68	$74,892.48	0.9569	$71,664.61	$92,344.80	$2,167.68	$94,512.48	0.9569	$90,438.99
2	$72,724.80	$2,167.68	$74,892.48	0.9157	$68,579.04	$92,344.80	$2,167.68	$94,512.48	0.9157	$86,545.07
3	$72,724.80	$2,167.68	$74,892.48	0.8763	$65,628.28	$92,344.80	$2,167.68	$94,512.48	0.8763	$82,821.28
4	$72,724.80	$2,167.68	$74,892.48	0.8386	$62,804.83	$92,344.80	$2,167.68	$94,512.48	0.8386	$79,258.16
5	$72,724.80	$2,167.68	$74,892.48	0.8025	$60,101.21	$92,344.80	$2,167.68	$94,512.48	0.8025	$75,846.26
6	$72,724.80	$2,167.68	$74,892.48	0.7679	$57,509.93	$92,344.80	$2,167.68	$94,512.48	0.7679	$72,576.13
7	$72,724.80	$2,167.68	$74,892.48	0.7348	$55,030.99	$92,344.80	$2,167.68	$94,512.48	0.7348	$69,447.77
8	$72,724.80	$2,167.68	$74,892.48	0.7032	$52,664.39	$92,344.80	$2,167.68	$94,512.48	0.7032	$66,461.17
9	$72,724.80	$2,167.68	$74,892.48	0.6729	$50,395.15	$92,344.80	$2,167.68	$94,512.48	0.6729	$63,597.44
10	$72,724.80	$2,167.68	$74,892.48	0.6439	$48,223.26	$92,344.80	$2,167.68	$94,512.48	0.6439	$60,856.58
11	$72,724.80	$2,167.68	$74,892.48	0.6162	$46,148.74	$92,344.80	$2,167.68	$94,512.48	0.6162	$58,238.59
12	$72,724.80	$2,167.68	$74,892.48	0.5897	$44,164.09	$92,344.80	$2,167.68	$94,512.48	0.5897	$55,734.01
13	$72,724.80	$2,167.68	$74,892.48	0.5643	$42,261.82	$92,344.80	$2,167.68	$94,512.48	0.5643	$53,333.39
14	$72,724.80	$2,167.68	$74,892.48	0.54	$40,441.94	$92,344.80	$2,167.68	$94,512.48	0.54	$51,036.74
15	$72,724.80	$2,167.68	$74,892.48	0.5167	$38,696.94	$92,344.80	$2,167.68	$94,512.48	0.5167	$48,834.60
16	$72,724.80	$2,167.68	$74,892.48	0.4945	$37,034.33	$92,344.80	$2,167.68	$94,512.48	0.4945	$46,736.42
17	$72,724.80	$2,167.68	$74,892.48	0.4732	$35,439.12	$92,344.80	$2,167.68	$94,512.48	0.4732	$44,723.30
18	$72,724.80	$2,167.68	$74,892.48	0.4528	$33,911.31	$92,344.80	$2,167.68	$94,512.48	0.4528	$42,795.25
19	$72,724.80	$2,167.68	$74,892.48	0.4333	$32,450.91	$92,344.80	$2,167.68	$94,512.48	0.4333	$40,952.26
20	$72,724.80	$2,167.68	$74,892.48	0.4146	$31,050.42	$92,344.80	$2,167.68	$94,512.48	0.4146	$39,184.87
21	$0.00	$2,167.68	$2,167.68	0.3968	$860.13	$0.00	$2,167.68	$2,167.68	0.3968	$860.13
22	$0.00	$2,167.68	$2,167.68	0.3797	$823.07	$0.00	$2,167.68	$2,167.68	0.3797	$823.07
23	$0.00	$2,167.68	$2,167.68	0.3634	$787.73	$0.00	$2,167.68	$2,167.68	0.3634	$787.73
24	$0.00	$2,167.68	$2,167.68	0.3477	$753.70	$0.00	$2,167.68	$2,167.68	0.3477	$753.70
25	$0.00	$2,167.68	$2,167.68	0.3327	$721.19	$0.00	$2,167.68	$2,167.68	0.3327	$721.19
26	$0.00	$2,167.68	$2,167.68	0.3184	$690.19	$0.00	$2,167.68	$2,167.68	0.3184	$690.19
27	$0.00	$2,167.68	$2,167.68	0.3047	$660.49	$0.00	$2,167.68	$2,167.68	0.3047	$660.49
28	$0.00	$2,167.68	$2,167.68	0.2916	$632.09	$0.00	$2,167.68	$2,167.68	0.2916	$632.09
29	$0.00	$2,167.68	$2,167.68	0.279	$604.78	$0.00	$2,167.68	$2,167.68	0.279	$604.78
30	$0.00	$2,167.68	$2,167.68	0.267	$578.77	$0.00	$2,167.68	$2,167.68	0.267	$578.77
	$1,679,496	**$65,030.25**	**$1,744,526.25**		**$1,206,313.46**	**$1,846,896**	**$65,030.25**	**$1,911,926.25**		**$1,236,530.42**

* Financing of $834,000 for 20 years at a 6% interest rate and $225,000 downpayment with $500,000 from CEC

** Discount Rate = 4.5%

*** Financing of $1,059,000 for 20 years at a 6% interest rate with $500,000 from the CEC

Financial Analysis 200 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $1,739,493.05

\- $1,206,313.46

= **$533,179.59**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $1,206,313.46 / 13006050 kWh

= **$0.093 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $1,739,493.05 / $1,206,313.46

= **1.442**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 15**

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

	Present Value of Benefits										
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$1.029M)
0	0.00		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	-$325,000	$0.00
1	368664	0.16	$58,986.24	$1,036.87	$0.0198	$4,310.94	$64,334.04	0.9569	$61,561.25	$1,054.43	$61,561.25
2	368664	0.1648	$60,755.83	$1,036.87	$0.0204	$7,576.05	$69,368.74	0.9157	$63,520.96	$5,619.30	$125,082.20
3	368664	0.169744	$62,578.50	$1,036.87	$0.0210	$7,797.24	$71,412.61	0.8763	$62,578.87	$7,168.57	$187,661.07
4	368664	0.17483632	$64,455.86	$1,036.87	$0.0216	$8,018.44	$73,511.17	0.8386	$61,646.46	$8,620.01	$249,307.54
5	368664	0.18008141	$66,389.53	$1,036.87	$0.0222	$8,239.64	$75,666.04	0.8025	$60,722.00	$9,978.22	$310,029.54
6	368664	0.185483852	$68,381.22	$1,036.87	$0.0228	$8,460.84	$77,878.93	0.7679	$59,803.23	$11,247.28	$369,832.76
7	368664	0.191048367	$70,432.66	$1,036.87	$0.0234	$8,682.04	$80,151.56	0.7348	$58,895.37	$12,432.40	$428,728.13
8	368664	0.196779818	$72,545.63	$1,036.87	$0.0240	$8,903.24	$82,485.74	0.7032	$58,003.97	$13,539.14	$486,732.10
9	368664	0.202683213	$74,722.00	$1,036.87	$0.0246	$9,124.43	$84,883.31	0.6729	$57,117.98	$14,569.08	$543,850.08
10	368664	0.208763709	$76,963.66	$1,036.87	$0.0252	$9,345.63	$87,346.16	0.6439	$56,242.20	$15,527.03	$600,092.27
11	368664	0.215026621	$79,272.57	$1,036.87	$0.0258	$9,566.83	$89,876.27	0.6162	$55,381.76	$16,418.13	$655,474.03
12	368664	0.221477419	$81,650.75	$1,036.87	$0.0264	$9,788.03	$92,475.65	0.5897	$54,532.89	$17,244.91	$710,006.92
13	368664	0.228121742	$84,100.27	$1,036.87	$0.0270	$7,465.45	$92,602.59	0.5643	$52,255.64	$16,573.75	$762,262.56
14	368664	0.234965394	$86,623.28	$1,036.87	$0.00	$0.00	$87,660.15	0.54	$47,336.48	$13,191.14	$809,599.04
15	368664	0.242014356	$89,221.98	$1,036.87	$0.00	$0.00	$90,258.85	0.5167	$46,636.75	$13,964.71	$856,235.79
16	368664	0.249274787	$91,898.64	$1,036.87	$0.00	$0.00	$92,935.51	0.4945	$45,956.61	$14,688.33	$902,192.40
17	368664	0.25675303	$94,655.60	$1,036.87	$0.00	$0.00	$95,692.47	0.4732	$45,281.68	$15,360.24	$947,474.07
18	368664	0.264455621	$97,495.27	$1,036.87	$0.00	$0.00	$98,532.13	0.4528	$44,615.35	$15,983.85	**$992,089.42**
19	368664	0.27238929	$100,420.13	$1,036.87	$0.00	$0.00	$101,456.99	0.4333	$43,961.31	$16,562.84	**$1,036,050.74**
20	368664	0.280560968	$103,432.73	$1,036.87	$0.00	$0.00	$104,469.60	0.4146	$43,313.09	$17,097.06	$1,079,363.83
21	368664	0.288977798	$106,535.71	$1,036.87	$0.00	$0.00	$107,572.58	0.3968	$42,684.80	$41,953.37	$1,122,048.63
22	368664	0.297647131	$109,731.78	$1,036.87	$0.00	$0.00	$110,768.65	0.3797	$42,058.86	$41,358.95	$1,164,107.49
23	368664	0.306576545	$113,023.74	$1,036.87	$0.00	$0.00	$114,060.60	0.3634	$41,449.62	$40,779.76	$1,205,557.11
24	368664	0.315773842	$116,414.45	$1,036.87	$0.00	$0.00	$117,451.32	0.3477	$40,837.82	$40,196.90	$1,246,394.93
25	368664	0.325247057	$119,906.88	$1,036.87	$0.00	$0.00	$120,943.75	0.3327	$40,237.99	$39,624.71	$1,286,632.92
26	368664	0.335004469	$123,504.09	$1,036.87	$0.00	$0.00	$124,540.95	0.3184	$39,653.84	$39,066.93	$1,326,286.76
27	368664	0.345054603	$127,209.21	$1,036.87	$0.00	$0.00	$128,246.08	0.3047	$39,076.58	$38,514.92	$1,365,363.34
28	368664	0.355406241	$131,025.49	$1,036.87	$0.00	$0.00	$132,062.35	0.2916	$38,509.38	$37,971.87	$1,403,872.72
29	368664	0.366068428	$134,956.25	$1,036.87	$0.00	$0.00	$135,993.12	0.279	$37,942.08	$37,427.79	$1,441,814.80
30	368664	0.377050481	$139,004.94	$1,036.87	$0.00	$0.00	$140,041.81	0.267	$37,391.16	$36,899.00	$1,479,205.96
Totals	**11059920**		**$2,806,294.89**	**$31,106.03**			**$2,944,679.70**		**$1,479,205.96**		

* Discount Rate= 4.5%

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Cost of PV System						Net Present Cost of PV System w/o a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$325,000.00	$0.00	$325,000.00	1.0000	$325,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$61,388.80	$1,843.32	$63,232.12	0.9569	$60,506.82	$89,728.80	$1,843.32	$91,572.12	0.9569	$87,625.36
2	$61,388.80	$1,843.32	$63,232.12	0.9157	$57,901.65	$89,728.80	$1,843.32	$91,572.12	0.9157	$83,852.59
3	$61,388.80	$1,843.32	$63,232.12	0.8763	$55,410.31	$89,728.80	$1,843.32	$91,572.12	0.8763	$80,244.65
4	$61,388.80	$1,843.32	$63,232.12	0.8386	$53,026.46	$89,728.80	$1,843.32	$91,572.12	0.8386	$76,792.38
5	$61,388.80	$1,843.32	$63,232.12	0.8025	$50,743.78	$89,728.80	$1,843.32	$91,572.12	0.8025	$73,486.63
6	$61,388.80	$1,843.32	$63,232.12	0.7679	$48,555.94	$89,728.80	$1,843.32	$91,572.12	0.7679	$70,318.23
7	$61,388.80	$1,843.32	$63,232.12	0.7348	$46,462.96	$89,728.80	$1,843.32	$91,572.12	0.7348	$67,287.19
8	$61,388.80	$1,843.32	$63,232.12	0.7032	$44,464.83	$89,728.80	$1,843.32	$91,572.12	0.7032	$64,393.51
9	$61,388.80	$1,843.32	$63,232.12	0.6729	$42,548.89	$89,728.80	$1,843.32	$91,572.12	0.6729	$61,618.88
10	$61,388.80	$1,843.32	$63,232.12	0.6439	$40,715.16	$89,728.80	$1,843.32	$91,572.12	0.6439	$58,963.29
11	$61,388.80	$1,843.32	$63,232.12	0.6162	$38,963.63	$89,728.80	$1,843.32	$91,572.12	0.6162	$56,426.74
12	$61,388.80	$1,843.32	$63,232.12	0.5897	$37,287.98	$89,728.80	$1,843.32	$91,572.12	0.5897	$54,000.08
13	$61,388.80	$1,843.32	$63,232.12	0.5643	$35,681.89	$89,728.80	$1,843.32	$91,572.12	0.5643	$51,674.15
14	$61,388.80	$1,843.32	$63,232.12	0.54	$34,145.34	$89,728.80	$1,843.32	$91,572.12	0.54	$49,448.94
15	$61,388.80	$1,843.32	$63,232.12	0.5167	$32,672.04	$89,728.80	$1,843.32	$91,572.12	0.5167	$47,315.31
16	$61,388.80	$1,843.32	$63,232.12	0.4945	$31,268.28	$89,728.80	$1,843.32	$91,572.12	0.4945	$45,282.41
17	$61,388.80	$1,843.32	$63,232.12	0.4732	$29,921.44	$89,728.80	$1,843.32	$91,572.12	0.4732	$43,331.93
18	$61,388.80	$1,843.32	$63,232.12	0.4528	$28,631.50	$89,728.80	$1,843.32	$91,572.12	0.4528	$41,463.86
19	$61,388.80	$1,843.32	$63,232.12	0.4333	$27,398.48	$89,728.80	$1,843.32	$91,572.12	0.4333	$39,678.20
20	$61,388.80	$1,843.32	$63,232.12	0.4146	$26,216.04	$89,728.80	$1,843.32	$91,572.12	0.4146	$37,965.80
21	$0.00	$1,843.32	$1,843.32	0.3968	$731.43	$0.00	$1,843.32	$1,843.32	0.3968	$731.43
22	$0.00	$1,843.32	$1,843.32	0.3797	$699.91	$0.00	$1,843.32	$1,843.32	0.3797	$699.91
23	$0.00	$1,843.32	$1,843.32	0.3634	$669.86	$0.00	$1,843.32	$1,843.32	0.3634	$669.86
24	$0.00	$1,843.32	$1,843.32	0.3477	$640.92	$0.00	$1,843.32	$1,843.32	0.3477	$640.92
25	$0.00	$1,843.32	$1,843.32	0.3327	$613.27	$0.00	$1,843.32	$1,843.32	0.3327	$613.27
26	$0.00	$1,843.32	$1,843.32	0.3184	$586.91	$0.00	$1,843.32	$1,843.32	0.3184	$586.91
27	$0.00	$1,843.32	$1,843.32	0.3047	$561.66	$0.00	$1,843.32	$1,843.32	0.3047	$561.66
28	$0.00	$1,843.32	$1,843.32	0.2916	$537.51	$0.00	$1,843.32	$1,843.32	0.2916	$537.51
29	$0.00	$1,843.32	$1,843.32	0.279	$514.29	$0.00	$1,843.32	$1,843.32	0.279	$514.29
30	$0.00	$1,843.32	$1,843.32	0.267	$492.17	$0.00	$1,843.32	$1,843.32	0.267	$492.17
Totals	**$1,552,776.00**	**$55,299.60**	**$1,608,075.60**		**$1,153,571.35**	**$1,794,576.00**	**$55,299.60**	**$1,849,875.60**		**$1,197,218.07**

* Financing of $704,000 for 20 years at a 6% interest rate and $325,000 downpayment with $500,000 from the CEC
** Discount Rate = 4.5%
*** Financing of $1,029,000 for 20 years at a 6% interest rate and $0.00 downpayment with $500,000 from the CEC

Financial Analysis 200 kW Crystalline Silicon PV Power Station - Best Case
(Fixed System)

Net Present Value of PV System = Present Value of Benefits - Present Value of Costs

= $1,479,205.96
\- $1,153,571.35
= **$325,634.61**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System
= $1,153,571.35 / 11059920 kWh
= **$0.104 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System
= $1,479,205.96 / $1,153,571.35
= **1.282**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.
= **Year 18**

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

	Present Value of Benefits										
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$0.721M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	-$100,000	$0.00
1	321043	0.16	$51,366.88	$902.93	$0.0198	$3,755.99	$56,025.80	0.9569	$53,611.09	$257.78	$53,611.09
2	321043	0.1648	$52,907.89	$902.93	$0.0204	$6,597.43	$60,408.25	0.9157	$55,315.84	$4,259.69	$108,926.93
3	321043	0.169744	$54,495.12	$902.93	$0.0210	$6,790.06	$62,188.12	0.8763	$54,495.45	$5,636.10	$163,422.38
4	321043	0.17483632	$56,129.98	$902.93	$0.0216	$6,982.69	$64,015.60	0.8386	$53,683.48	$6,926.15	$217,105.85
5	321043	0.18008141	$57,813.88	$902.93	$0.0222	$7,175.31	$65,892.12	0.8025	$52,878.43	$8,133.90	$269,984.28
6	321043	0.185483852	$59,548.29	$902.93	$0.0228	$7,367.94	$67,819.16	0.7679	$52,078.33	$9,262.98	$322,062.62
7	321043	0.191048367	$61,334.74	$902.93	$0.0234	$7,560.56	$69,798.24	0.7348	$51,287.74	$10,317.93	$373,350.36
8	321043	0.196779818	$63,174.78	$902.93	$0.0240	$7,753.19	$71,830.91	0.7032	$50,511.49	$11,303.58	$423,861.85
9	321043	0.202683213	$65,070.03	$902.93	$0.0246	$7,945.81	$73,918.77	0.6729	$49,739.94	$12,221.45	$473,601.80
10	321043	0.208763709	$67,022.13	$902.93	$0.0252	$8,138.44	$76,063.50	0.6439	$48,977.29	$13,075.73	$522,579.08
11	321043	0.215026621	$69,032.79	$902.93	$0.0258	$8,331.07	$78,266.79	0.6162	$48,228.00	$13,870.89	$570,807.08
12	321043	0.221477419	$71,103.78	$902.93	$0.0264	$8,523.69	$80,530.40	0.5897	$47,488.78	$14,609.22	$618,295.86
13	321043	0.228121742	$73,236.89	$902.93	$0.0270	$6,501.12	$80,640.94	0.5643	$45,505.68	$14,042.34	$663,801.54
14	321043	0.234965394	$75,434.00	$902.93	$0.00	$0.00	$76,336.93	0.54	$41,221.94	$11,113.48	**$705,023.48**
15	321043	0.242014356	$77,697.01	$902.93	$0.00	$0.00	$78,599.95	0.5167	$40,612.59	$11,803.25	**$745,636.08**
16	321043	0.249274787	$80,027.93	$902.93	$0.00	$0.00	$80,930.86	0.4945	$40,020.31	$12,448.76	$785,656.39
17	321043	0.25675303	$82,428.76	$902.93	$0.00	$0.00	$83,331.70	0.4732	$39,432.56	$13,048.62	$825,088.95
18	321043	0.264455621	$84,901.63	$902.93	$0.00	$0.00	$85,804.56	0.4528	$38,852.30	$13,605.80	$863,941.25
19	321043	0.27238929	$87,448.67	$902.93	$0.00	$0.00	$88,351.61	0.4333	$38,282.75	$14,123.50	$902,224.00
20	321043	0.280560968	$90,072.14	$902.93	$0.00	$0.00	$90,975.07	0.4146	$37,718.26	$14,601.65	$939,942.26
Totals	**6420860**		**$1,380,247.30**	**$18,058.67**			**$1,491,729.27**		**$939,942.26**		

* Discount Rate = 4.5%

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

	Net Present Cost of PV System					Net Present Cost of PV System w/o a downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$100,000.00	$0.00	$100,000.00	1.0000	$100,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$54,151.20	$1,605.22	$55,756.42	0.9569	$53,353.31	$62,871.20	$1,605.22	$64,476.42	0.9569	$61,697.48
2	$54,151.20	$1,605.22	$55,756.42	0.9157	$51,056.15	$62,871.20	$1,605.22	$64,476.42	0.9157	$59,041.05
3	$54,151.20	$1,605.22	$55,756.42	0.8763	$48,859.35	$62,871.20	$1,605.22	$64,476.42	0.8763	$56,500.68
4	$54,151.20	$1,605.22	$55,756.42	0.8386	$46,757.33	$62,871.20	$1,605.22	$64,476.42	0.8386	$54,069.92
5	$54,151.20	$1,605.22	$55,756.42	0.8025	$44,744.52	$62,871.20	$1,605.22	$64,476.42	0.8025	$51,742.32
6	$54,151.20	$1,605.22	$55,756.42	0.7679	$42,815.35	$62,871.20	$1,605.22	$64,476.42	0.7679	$49,511.44
7	$54,151.20	$1,605.22	$55,756.42	0.7348	$40,969.81	$62,871.20	$1,605.22	$64,476.42	0.7348	$47,377.27
8	$54,151.20	$1,605.22	$55,756.42	0.7032	$39,207.91	$62,871.20	$1,605.22	$64,476.42	0.7032	$45,339.82
9	$54,151.20	$1,605.22	$55,756.42	0.6729	$37,518.49	$62,871.20	$1,605.22	$64,476.42	0.6729	$43,386.18
10	$54,151.20	$1,605.22	$55,756.42	0.6439	$35,901.56	$62,871.20	$1,605.22	$64,476.42	0.6439	$41,516.36
11	$54,151.20	$1,605.22	$55,756.42	0.6162	$34,357.10	$62,871.20	$1,605.22	$64,476.42	0.6162	$39,730.37
12	$54,151.20	$1,605.22	$55,756.42	0.5897	$32,879.56	$62,871.20	$1,605.22	$64,476.42	0.5897	$38,021.74
13	$54,151.20	$1,605.22	$55,756.42	0.5643	$31,463.34	$62,871.20	$1,605.22	$64,476.42	0.5643	$36,384.04
14	$54,151.20	$1,605.22	$55,756.42	0.54	$30,108.46	$62,871.20	$1,605.22	$64,476.42	0.54	$34,817.26
15	$54,151.20	$1,605.22	$55,756.42	0.5167	$28,809.34	$62,871.20	$1,605.22	$64,476.42	0.5167	$33,314.96
16	$54,151.20	$1,605.22	$55,756.42	0.4945	$27,571.55	$62,871.20	$1,605.22	$64,476.42	0.4945	$31,883.59
17	$54,151.20	$1,605.22	$55,756.42	0.4732	$26,383.94	$62,871.20	$1,605.22	$64,476.42	0.4732	$30,510.24
18	$54,151.20	$1,605.22	$55,756.42	0.4528	$25,246.50	$62,871.20	$1,605.22	$64,476.42	0.4528	$29,194.92
19	$54,151.20	$1,605.22	$55,756.42	0.4333	$24,159.25	$62,871.20	$1,605.22	$64,476.42	0.4333	$27,937.63
20	$54,151.20	$1,605.22	$55,756.42	0.4146	$23,116.61	$62,871.20	$1,605.22	$64,476.42	0.4146	$26,731.92
Totals	**$1,083,024.00**	**$32,104.30**	**$1,115,128.30**		**$725,279.45**	**$1,257,424.00**	**$32,104.30**	**$1,289,528.30**		**$838,709.21**

* Financing of $621,000 for 20 years at a 6% interest rate and $100,000 downpayment with $500,000 from CEC

** Discount Rate = 4.5%

*** Financing of $721,000 for 20 years at a 6% interest rate and $0.00 downpayment with $500,000 from CEC

Financial Analysis 200 kW Amorphous Silicon PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $939,942.26

\- $725,279.45

= **$214,662.82**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $725,279.45 / 6420860 kWh

= **$0.113 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $939,942.26 / $725,279.45

= **1.296**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 14**

Appendix G:
Economic Analysis Spreadsheets
For
Best Case Scenario of PV System Options
Utilizing the 10-Year Financing and Direct Purchase Options

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

			Present Value of Benefits							Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$1,350,000	$0.00
1	1093952	0.16	$175,032.32	$3,076.74	$0.0198	$12,798.52	$190,907.58	1.0000	$190,907.58	-$183,122.98	$342.02	$190,907.58
2	1093952	0.1648	$180,283.29	$3,076.74	$0.0204	$22,480.71	$205,840.74	1.0000	$205,840.74	-$168,189.82	$15,275.18	$396,748.32
3	1093952	0.169744	$185,691.79	$3,076.74	$0.0210	$23,137.08	$211,905.61	1.0000	$211,905.61	-$162,124.95	$21,340.05	$608,653.93
4	1093952	0.17483632	$191,262.54	$3,076.74	$0.0216	$23,793.46	$218,132.74	1.0000	$218,132.74	-$155,897.82	$27,567.18	$826,786.67
5	1093952	0.18008141	$197,000.42	$3,076.74	$0.0222	$24,449.83	$224,526.99	1.0000	$224,526.99	-$149,503.57	$33,961.43	$1,051,313.66
6	1093952	0.185483852	$202,910.43	$3,076.74	$0.0228	$25,106.20	$231,093.37	1.0000	$231,093.37	-$142,937.19	$40,527.81	$1,282,407.03
7	1093952	0.191048367	$208,997.74	$3,076.74	$0.0234	$25,762.57	$237,837.05	1.0000	$237,837.05	-$136,193.51	$47,271.49	$1,520,244.08
8	1093952	0.196779818	$215,267.68	$3,076.74	$0.0240	$26,418.94	$244,763.36	1.0000	$244,763.36	-$129,267.20	$54,197.80	$1,765,007.44
9	1093952	0.202683213	$221,725.71	$3,076.74	$0.0246	$27,075.31	$251,877.76	1.0000	$251,877.76	-$122,152.80	$61,312.20	$2,016,885.19
10	1093952	0.208763709	$228,377.48	$3,076.74	$0.0252	$27,731.68	$259,185.90	1.0000	$259,185.90	-$114,844.66	$68,620.34	$2,276,071.09
11	1093952	0.215026621	$235,228.80	$3,076.74	$0.0258	$28,388.05	$266,693.60	1.0000	$266,693.60	$261,223.84	$261,223.84	**$2,542,764.69**
12	1093952	0.221477419	$242,285.67	$3,076.74	$0.0264	$29,044.43	$274,406.83	1.0000	$274,406.83	$268,937.07	$268,937.07	**$2,817,171.52**
13	1093952	0.228121742	$249,554.24	$3,076.74	$0.0270	$22,152.53	$274,783.50	1.0000	$274,783.50	$269,313.74	$269,313.74	$3,091,955.03
14	1093952	0.234965394	$257,040.86	$3,076.74	$0.00	$0.00	$260,117.60	1.0000	$260,117.60	$254,647.84	$254,647.84	$3,352,072.63
15	1093952	0.242014356	$264,752.09	$3,076.74	$0.00	$0.00	$267,828.83	1.0000	$267,828.83	$262,359.07	$262,359.07	$3,619,901.46
16	1093952	0.249274787	$272,694.65	$3,076.74	$0.00	$0.00	$275,771.39	1.0000	$275,771.39	$270,301.63	$270,301.63	$3,895,672.85
17	1093952	0.25675303	$280,875.49	$3,076.74	$0.00	$0.00	$283,952.23	1.0000	$283,952.23	$278,482.47	$278,482.47	$4,179,625.08
18	1093952	0.264455621	$289,301.76	$3,076.74	$0.00	$0.00	$292,378.50	1.0000	$292,378.50	$286,908.74	$286,908.74	$4,472,003.58
19	1093952	0.27238929	$297,980.81	$3,076.74	$0.00	$0.00	$301,057.55	1.0000	$301,057.55	$295,587.79	$295,587.79	$4,773,061.12
20	1093952	0.280560968	$306,920.23	$3,076.74	$0.00	$0.00	$309,996.97	1.0000	$309,996.97	$304,527.21	$304,527.21	$5,083,058.10
21	1093952	0.288977798	$316,127.84	$3,076.74	$0.00	$0.00	$319,204.58	1.0000	$319,204.58	$313,734.82	$313,734.82	$5,402,262.68
22	1093952	0.297647131	$325,611.67	$3,076.74	$0.00	$0.00	$328,688.41	1.0000	$328,688.41	$323,218.65	$323,218.65	$5,730,951.09
23	1093952	0.306576545	$335,380.03	$3,076.74	$0.00	$0.00	$338,456.77	1.0000	$338,456.77	$332,987.01	$332,987.01	$6,069,407.86
24	1093952	0.315773842	$345,441.43	$3,076.74	$0.00	$0.00	$348,518.17	1.0000	$348,518.17	$343,048.41	$343,048.41	$6,417,926.02
25	1093952	0.325247057	$355,804.67	$3,076.74	$0.00	$0.00	$358,881.41	1.0000	$358,881.41	$353,411.65	$353,411.65	$6,776,807.43
26	1093952	0.335004469	$366,478.81	$3,076.74	$0.00	$0.00	$369,555.55	1.0000	$369,555.55	$364,085.79	$364,085.79	$7,146,362.98
27	1093952	0.345054603	$377,473.17	$3,076.74	$0.00	$0.00	$380,549.91	1.0000	$380,549.91	$375,080.15	$375,080.15	$7,526,912.89
28	1093952	0.355406241	$388,797.37	$3,076.74	$0.00	$0.00	$391,874.11	1.0000	$391,874.11	$386,404.35	$386,404.35	$7,918,787.00
29	1093952	0.366068428	$400,461.29	$3,076.74	$0.00	$0.00	$403,538.03	1.0000	$403,538.03	$398,068.27	$398,068.27	$8,322,325.03
30	1093952	0.377050481	$412,475.13	$3,076.74	$0.00	$0.00	$415,551.87	1.0000	$415,551.87	$410,082.11	$410,082.11	$8,737,876.90
	32818560		**$8,327,235.39**	**$92,302.20**		**$318,339.31**	**$8,737,876.90**		**$8,737,876.90**			

* Discount Rate= 0.0%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	###########	$0.00	$1,350,000.00	1.0000	$1,350,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
2	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
3	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
4	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
5	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
6	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
7	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
8	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
9	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
10	$185,095.80	$5,469.76	$190,565.56	1.0000	$190,565.56	$368,560.80	$5,469.76	$374,030.56	1.0000	$374,030.56
11	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
12	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
13	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
	$3,200,958	**$164,092.80**	**$3,365,050.80**		**$3,365,050.80**	**$3,685,608.00**	**$164,092.80**	**$3,849,700.80**		**$3,849,700.80**

* Financing of $1,362,000 for 10 years at a 6% interest rate and $1,350,000 downpayment with $1,000,000 from CEC and $125,000 from AB970

** Discount Rate = 0.0%

*** Financing of $2,712,000 for 10 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,737,876.90

\- $3,365,050.80

= **$5,372,826.10**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,365,050.80 / 32818560 kWh

= **$0.103 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,737,876.90 / $3,365,050.80

= **2.597**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 11**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Benefits										Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Present Value of Costs w/o DP	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0	0						1.0000	$0.00	$0.00	$0.00	-$2,712,000	$0.00
1	1093952	0.16	$175,032.32	$3,076.74	$0.0198	$12,798.52	$190,907.58	0.9569	$182,679.46	$231,527.85	-$48,848	$177,445.45	$182,679.46
2	1093952	0.1648	$180,283.29	$3,076.74	$0.0204	$22,480.71	$205,840.74	0.9157	$188,488.37	$221,559.26	-$33,071	$183,479.71	$371,167.83
3	1093952	0.169744	$185,691.79	$3,076.74	$0.0210	$23,137.08	$211,905.61	0.8763	$185,692.89	$212,026.18	-$26,333	$180,899.74	$556,860.72
4	1093952	0.17483632	$191,262.54	$3,076.74	$0.0216	$23,793.46	$218,132.74	0.8386	$182,926.11	$202,904.44	-$19,978	$178,339.17	$739,786.83
5	1093952	0.18008141	$197,000.42	$3,076.74	$0.0222	$24,449.83	$224,526.99	0.8025	$180,182.91	$194,169.82	-$13,987	$175,793.42	$919,969.74
6	1093952	0.185483852	$202,910.43	$3,076.74	$0.0228	$25,106.20	$231,093.37	0.7679	$177,456.60	$185,798.14	-$8,342	$173,256.37	$1,097,426.34
7	1093952	0.191048367	$208,997.74	$3,076.74	$0.0234	$25,762.57	$237,837.05	0.7348	$174,762.67	$177,789.39	-$3,027	$170,743.49	$1,272,189.00
8	1093952	0.196779818	$215,267.68	$3,076.74	$0.0240	$26,418.94	$244,763.36	0.7032	$172,117.59	$170,143.57	$1,974	$168,271.26	$1,444,306.59
9	1093952	0.202683213	$221,725.71	$3,076.74	$0.0246	$27,075.31	$251,877.76	0.6729	$169,488.54	$162,812.30	$6,676	$165,807.94	$1,613,795.14
10	1093952	0.208763709	$228,377.48	$3,076.74	$0.0252	$27,731.68	$259,185.90	0.6439	$166,889.80	$155,795.57	$11,094	$163,367.82	$1,780,684.94
11	1093952	0.215026621	$235,228.80	$3,076.74	$0.0258	$28,388.05	$266,693.60	0.6162	$164,336.59	$149,093.39	$15,243	$160,966.13	$1,945,021.53
12	1093952	0.221477419	$242,285.67	$3,076.74	$0.0264	$29,044.43	$274,406.83	0.5897	$161,817.71	$142,681.55	$19,136	$158,592.19	$2,106,839.24
13	1093952	0.228121742	$249,554.24	$3,076.74	$0.0270	$22,152.53	$274,783.50	0.5643	$155,060.33	$136,535.86	$18,524	$151,973.75	$2,261,899.57
14	1093952	0.234965394	$257,040.86	$3,076.74	$0.00	$0.00	$260,117.60	0.54	$140,463.51	$130,656.33	$9,807	$137,509.84	$2,402,363.08
15	1093952	0.242014356	$264,752.09	$3,076.74	$0.00	$0.00	$267,828.83	0.5167	$138,387.16	$125,018.75	$13,368	$135,560.93	$2,540,750.23
16	1093952	0.249274787	$272,694.65	$3,076.74	$0.00	$0.00	$275,771.39	0.4945	$136,368.95	$119,647.32	$16,722	$133,664.16	**$2,677,119.19**
17	1093952	0.25675303	$280,875.49	$3,076.74	$0.00	$0.00	$283,952.23	0.4732	$134,366.20	$114,493.65	$19,873	$131,777.91	**$2,811,485.38**
18	1093952	0.264455621	$289,301.76	$3,076.74	$0.00	$0.00	$292,378.50	0.4528	$132,388.98	$109,557.75	$22,831	$129,912.28	$2,943,874.37
19	1093952	0.27238929	$297,980.81	$3,076.74	$0.00	$0.00	$301,057.55	0.4333	$130,448.24	$104,839.60	$25,609	$128,078.19	$3,074,322.60
20	1093952	0.280560968	$306,920.23	$3,076.74	$0.00	$0.00	$309,996.97	0.4146	$128,524.74	$100,315.02	$28,210	$126,256.98	$3,202,847.35
21	1093952	0.288977798	$316,127.84	$3,076.74	$0.00	$0.00	$319,204.58	0.3968	$126,660.38	$2,170.40	$124,490	$124,489.98	$3,329,507.72
22	1093952	0.297647131	$325,611.67	$3,076.74	$0.00	$0.00	$328,688.41	0.3797	$124,802.99	$2,076.87	$122,726	$122,726.12	$3,454,310.71
23	1093952	0.306576545	$335,380.03	$3,076.74	$0.00	$0.00	$338,456.77	0.3634	$122,995.19	$1,987.71	$121,007	$121,007.48	$3,577,305.90
24	1093952	0.315773842	$345,441.43	$3,076.74	$0.00	$0.00	$348,518.17	0.3477	$121,179.77	$1,901.84	$119,278	$119,277.93	$3,698,485.67
25	1093952	0.325247057	$355,804.67	$3,076.74	$0.00	$0.00	$358,881.41	0.3327	$119,399.84	$1,819.79	$117,580	$117,580.06	$3,817,885.51
26	1093952	0.335004469	$366,478.81	$3,076.74	$0.00	$0.00	$369,555.55	0.3184	$117,666.49	$1,741.57	$115,925	$115,924.92	$3,935,552.00
27	1093952	0.345054603	$377,473.17	$3,076.74	$0.00	$0.00	$380,549.91	0.3047	$115,953.56	$1,666.64	$114,287	$114,286.92	$4,051,505.56
28	1093952	0.355406241	$388,797.37	$3,076.74	$0.00	$0.00	$391,874.11	0.2916	$114,270.49	$1,594.98	$112,676	$112,675.51	$4,165,776.05
29	1093952	0.366068428	$400,461.29	$3,076.74	$0.00	$0.00	$403,538.03	0.279	$112,587.11	$1,526.06	$111,061	$111,061.05	$4,278,363.16
30	1093952	0.377050481	$412,475.13	$3,076.74	$0.00	$0.00	$415,551.87	0.267	$110,952.35	$1,460.43	$109,492	$109,491.92	$4,389,315.51
	32818560		**$8,327,235.39**	**$92,302.20**		**$318,339.31**	**$8,737,877**		**$4,389,316**				

* Discount Rate= 4.5%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

	Present Value of Costs with a Downpayment					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,712,000.00	$0.00	$2,712,000.00	1.0000	$2,712,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$0.00	$5,469.76	$5,469.76	0.9569	$5,234.01	$236,486.40	$5,469.76	$241,956.16	0.9569	$231,527.8495
2	$0.00	$5,469.76	$5,469.76	0.9157	$5,008.66	$236,486.40	$5,469.76	$241,956.16	0.9157	$221,559.2557
3	$0.00	$5,469.76	$5,469.76	0.8763	$4,793.15	$236,486.40	$5,469.76	$241,956.16	0.8763	$212,026.1830
4	$0.00	$5,469.76	$5,469.76	0.8386	$4,586.94	$236,486.40	$5,469.76	$241,956.16	0.8386	$202,904.4358
5	$0.00	$5,469.76	$5,469.76	0.8025	$4,389.48	$236,486.40	$5,469.76	$241,956.16	0.8025	$194,169.8184
6	$0.00	$5,469.76	$5,469.76	0.7679	$4,200.23	$236,486.40	$5,469.76	$241,956.16	0.7679	$185,798.1353
7	$0.00	$5,469.76	$5,469.76	0.7348	$4,019.18	$236,486.40	$5,469.76	$241,956.16	0.7348	$177,789.3864
8	$0.00	$5,469.76	$5,469.76	0.7032	$3,846.34	$236,486.40	$5,469.76	$241,956.16	0.7032	$170,143.5717
9	$0.00	$5,469.76	$5,469.76	0.6729	$3,680.60	$236,486.40	$5,469.76	$241,956.16	0.6729	$162,812.3001
10	$0.00	$5,469.76	$5,469.76	0.6439	$3,521.98	$236,486.40	$5,469.76	$241,956.16	0.6439	$155,795.5714
11	$0.00	$5,469.76	$5,469.76	0.6162	$3,370.47	$236,486.40	$5,469.76	$241,956.16	0.6162	$149,093.3858
12	$0.00	$5,469.76	$5,469.76	0.5897	$3,225.52	$236,486.40	$5,469.76	$241,956.16	0.5897	$142,681.5476
13	$0.00	$5,469.76	$5,469.76	0.5643	$3,086.59	$236,486.40	$5,469.76	$241,956.16	0.5643	$136,535.8611
14	$0.00	$5,469.76	$5,469.76	0.54	$2,953.67	$236,486.40	$5,469.76	$241,956.16	0.54	$130,656.3264
15	$0.00	$5,469.76	$5,469.76	0.5167	$2,826.22	$236,486.40	$5,469.76	$241,956.16	0.5167	$125,018.7479
16	$0.00	$5,469.76	$5,469.76	0.4945	$2,704.80	$236,486.40	$5,469.76	$241,956.16	0.4945	$119,647.3211
17	$0.00	$5,469.76	$5,469.76	0.4732	$2,588.29	$236,486.40	$5,469.76	$241,956.16	0.4732	$114,493.6549
18	$0.00	$5,469.76	$5,469.76	0.4528	$2,476.71	$236,486.40	$5,469.76	$241,956.16	0.4528	$109,557.7492
19	$0.00	$5,469.76	$5,469.76	0.4333	$2,370.05	$236,486.40	$5,469.76	$241,956.16	0.4333	$104,839.6041
20	$0.00	$5,469.76	$5,469.76	0.4146	$2,267.76	$236,486.40	$5,469.76	$241,956.16	0.4146	$100,315.0239
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.4008
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.8679
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.7108
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.8356
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.7892
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.5716
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.6359
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.9820
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.0630
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$5,469.76	$5,469.76	0.267	$1,460.4259
	$2,712,000	**$164,092.80**	**$2,876,092.80**		**$2,801,096.92**	**$4,729,728.00**	**$164,093**	**$4,893,820.80**		**$3,165,312.01**

* Full payment of $2,712,000 for the 500kW system after $1,000,000 from CEC and $125,000 from AB970 rebates; so downpayment = full payment of the system after the rebates.
** Discount Rate = 4.5%
*** Financing of $2,712,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,389,315.51
- $2,801,096.92
= **$1,588,218.59**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $2,801,096.92 / 32818560 kWh

= **$0.085 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,389,315.51 / $2,801,096.92

= **1.567**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 16**

Supplemental Appendix:
Economic Analysis Spreadsheets
For
San Diego Brightfield
Base Case and Best Case Scenarios of 500 kW PV System Options
Utilizing the 13-Year and 20-Year Financing Mechanisms and
Power Sales Valuations of $0.19 and $0.22 per kWh

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$1,550,000.00	$0.00
1	1093952	0.19	$207,850.88	0.9569	$198,892.51	-$126,507.23	$2,827.37	$198,892.51
2	1093952	0.1938	$212,007.90	0.9157	$194,135.63	-$117,253.79	$6,512.22	$393,028.14
3	1093952	0.197676	$216,248.06	0.8763	$189,498.17	-$108,493.04	$9,947.67	$582,526.31
4	1093952	0.20162952	$220,573.02	0.8386	$184,972.53	-$100,198.56	$13,146.61	$767,498.84
5	1093952	0.20566211	$224,984.48	0.8025	$180,550.04	-$92,345.03	$16,120.87	$948,048.88
6	1093952	0.209775353	$229,484.17	0.7679	$176,220.89	-$84,908.23	$18,881.13	$1,124,269.78
7	1093952	0.21397086	$234,073.85	0.7348	$171,997.46	-$77,875.80	$21,439.77	$1,296,267.24
8	1093952	0.218250277	$238,755.33	0.7032	$167,892.75	-$71,234.75	$23,809.77	$1,464,159.99
9	1093952	0.222615282	$243,530.43	0.6729	$163,871.63	-$64,952.16	$25,997.00	$1,628,031.62
10	1093952	0.227067588	$248,401.04	0.6439	$159,945.43	-$59,016.73	$28,012.79	$1,787,977.05
11	1093952	0.23160894	$253,369.06	0.6162	$156,126.02	-$53,416.59	$29,869.00	$1,944,103.06
12	1093952	0.236241119	$258,436.44	0.5897	$152,399.97	-$48,131.15	$31,572.71	$2,096,503.03
13	1093952	0.240965941	$263,605.17	0.5643	$148,752.40	-$43,141.29	$33,129.50	$2,245,255.43
14	1093952	0.24578526	$268,877.28	0.54	$145,193.73	-$38,436.60	$34,549.80	$2,390,449.16
15	1093952	0.250700965	$274,254.82	0.5167	$141,707.47	-$33,999.55	$35,837.62	$2,532,156.63
16	1093952	0.255714984	$279,739.92	0.4945	$138,331.39	-$29,826.38	$37,010.24	$2,670,488.02
17	1093952	0.260829284	$285,334.72	0.4732	$135,020.39	-$25,894.19	$38,063.53	$2,805,508.41
18	1093952	0.26604587	$291,041.41	0.4528	$131,783.55	-$22,193.88	$39,006.57	$2,937,291.96
19	1093952	0.271366787	$296,862.24	0.4333	$128,630.41	-$18,715.93	$39,848.90	$3,065,922.37
20	1093952	0.276794123	$302,799.48	0.4146	$125,540.67	-$15,446.62	$40,590.72	$3,191,463.03
21	1093952	0.282330005	$308,855.47	0.3968	$122,553.85	$120,383.45	$120,383.45	$3,314,016.88
22	1093952	0.287976605	$315,032.58	0.3797	$119,617.87	$117,541.00	$117,541.00	$3,433,634.76
23	1093952	0.293736137	$321,333.24	0.3634	$116,772.50	$114,784.79	$114,784.79	$3,550,407.25
24	1093952	0.29961086	$327,759.90	0.3477	$113,962.12	$112,060.28	$112,060.28	$3,664,369.37
25	1093952	0.305603077	$334,315.10	0.3327	$111,226.63	$109,406.84	$109,406.84	**$3,775,596.00**
26	1093952	0.311715139	$341,001.40	0.3184	$108,574.85	$106,833.27	$106,833.27	**$3,884,170.85**
27	1093952	0.317949442	$347,821.43	0.3047	$105,981.19	$104,314.55	$104,314.55	$3,990,152.04
28	1093952	0.324308431	$354,777.86	0.2916	$103,453.22	$101,858.24	$101,858.24	$4,093,605.26
29	1093952	0.330794599	$361,873.41	0.279	$100,962.68	$99,436.62	$99,436.62	$4,194,567.94
30	1093952	0.337410491	$369,110.88	0.267	$98,552.61	$95,560.10	$97,092.18	$4,293,120.55
Totals	**32818560**		**$8,432,110.96**		**$4,293,120.55**			

* Discount Rate= 4.5%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of Costs with a Downpayment						Net Present Value of Costs Without a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,550,000.00	$0.00	$1,550,000.00	1.0000	$1,550,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$199,426.40	$5,469.76	$204,896.16	0.9569	$196,065.14	$334,586.40	$5,469.76	$340,056.16	0.9569	$325,399.74
2	$199,426.40	$5,469.76	$204,896.16	0.9157	$187,623.41	$334,586.40	$5,469.76	$340,056.16	0.9157	$311,389.43
3	$199,426.40	$5,469.76	$204,896.16	0.8763	$179,550.51	$334,586.40	$5,469.76	$340,056.16	0.8763	$297,991.21
4	$199,426.40	$5,469.76	$204,896.16	0.8386	$171,825.92	$334,586.40	$5,469.76	$340,056.16	0.8386	$285,171.10
5	$199,426.40	$5,469.76	$204,896.16	0.8025	$164,429.17	$334,586.40	$5,469.76	$340,056.16	0.8025	$272,895.07
6	$199,426.40	$5,469.76	$204,896.16	0.7679	$157,339.76	$334,586.40	$5,469.76	$340,056.16	0.7679	$261,129.13
7	$199,426.40	$5,469.76	$204,896.16	0.7348	$150,557.70	$334,586.40	$5,469.76	$340,056.16	0.7348	$249,873.27
8	$199,426.40	$5,469.76	$204,896.16	0.7032	$144,082.98	$334,586.40	$5,469.76	$340,056.16	0.7032	$239,127.49
9	$199,426.40	$5,469.76	$204,896.16	0.6729	$137,874.63	$334,586.40	$5,469.76	$340,056.16	0.6729	$228,823.79
10	$199,426.40	$5,469.76	$204,896.16	0.6439	$131,932.64	$334,586.40	$5,469.76	$340,056.16	0.6439	$218,962.16
11	$199,426.40	$5,469.76	$204,896.16	0.6162	$126,257.01	$334,586.40	$5,469.76	$340,056.16	0.6162	$209,542.61
12	$199,426.40	$5,469.76	$204,896.16	0.5897	$120,827.27	$334,586.40	$5,469.76	$340,056.16	0.5897	$200,531.12
13	$199,426.40	$5,469.76	$204,896.16	0.5643	$115,622.90	$334,586.40	$5,469.76	$340,056.16	0.5643	$191,893.69
14	$199,426.40	$5,469.76	$204,896.16	0.54	$110,643.93	$334,586.40	$5,469.76	$340,056.16	0.54	$183,630.33
15	$199,426.40	$5,469.76	$204,896.16	0.5167	$105,869.85	$334,586.40	$5,469.76	$340,056.16	0.5167	$175,707.02
16	$199,426.40	$5,469.76	$204,896.16	0.4945	$101,321.15	$334,586.40	$5,469.76	$340,056.16	0.4945	$168,157.77
17	$199,426.40	$5,469.76	$204,896.16	0.4732	$96,956.86	$334,586.40	$5,469.76	$340,056.16	0.4732	$160,914.57
18	$199,426.40	$5,469.76	$204,896.16	0.4528	$92,776.98	$334,586.40	$5,469.76	$340,056.16	0.4528	$153,977.43
19	$199,426.40	$5,469.76	$204,896.16	0.4333	$88,781.51	$334,586.40	$5,469.76	$340,056.16	0.4333	$147,346.33
20	$199,426.40	$5,469.76	$204,896.16	0.4146	$84,949.95	$334,586.40	$5,469.76	$340,056.16	0.4146	$140,987.28
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50
Totals	**$5,538,528.00**	**$164,092.80**	**$5,702,620.80**		**$4,233,235.53**	**$6,691,728.00**	**$169,830.92**	**$6,861,558.92**		**$4,442,928.89**

* Financing of $2,287,000 for 20 years at a 6.0% interest rate and $1,550,000 downpayment
** Discount Rate = 4.5%
*** Financing of $3,837,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,293,120.55
- $4,233,235.53
= **$59,885.02**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,233,235.53 / 32818560 kWh
= **$0.129 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,293,120.55 / $4,233,235.53
= **1.014**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 25**

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$1,150,000.00	$0.00
1	1093952	0.22	$240,669.44	0.9569	$230,296.59	-$95,103.15	$854.78	$230,296.59
2	1093952	0.2244	$245,482.83	0.9157	$224,788.63	-$86,600.80	$5,225.60	$455,085.21
3	1093952	0.228888	$250,392.49	0.8763	$219,418.93	-$78,572.28	$9,303.09	$674,504.15
4	1093952	0.23346576	$255,400.34	0.8386	$214,178.72	-$70,992.37	$13,102.43	$888,682.87
5	1093952	0.238135075	$260,508.34	0.8025	$209,057.94	-$63,837.12	$16,637.58	$1,097,740.81
6	1093952	0.242897777	$265,718.51	0.7679	$204,045.24	-$57,083.88	$19,921.13	$1,301,786.06
7	1093952	0.247755732	$271,032.88	0.7348	$199,154.96	-$50,718.31	$22,967.44	$1,500,941.02
8	1093952	0.252710847	$276,453.54	0.7032	$194,402.13	-$44,725.36	$25,791.53	$1,695,343.14
9	1093952	0.257765064	$281,982.61	0.6729	$189,746.10	-$39,077.69	$28,400.72	$1,885,089.24
10	1093952	0.262920365	$287,622.26	0.6439	$185,199.97	-$33,762.19	$30,808.10	$2,070,289.21
11	1093952	0.268178772	$293,374.70	0.6162	$180,777.49	-$28,765.11	$33,027.42	$2,251,066.70
12	1093952	0.273542348	$299,242.20	0.5897	$176,463.12	-$24,067.99	$35,067.12	$2,427,529.83
13	1093952	0.279013195	$305,227.04	0.5643	$172,239.62	-$19,654.07	$36,933.93	$2,599,769.45
14	1093952	0.284593459	$311,331.58	0.54	$168,119.05	-$15,511.27	$38,639.93	$2,767,888.50
15	1093952	0.290285328	$317,558.21	0.5167	$164,082.33	-$11,624.69	$40,189.99	$2,931,970.83
16	1093952	0.296091034	$323,909.38	0.4945	$160,173.19	-$7,984.58	$41,603.88	$3,092,144.02
17	1093952	0.302012855	$330,387.57	0.4732	$156,339.40	-$4,575.18	$42,877.32	$3,248,483.42
18	1093952	0.308053112	$336,995.32	0.4528	$152,591.48	-$1,385.95	$44,020.83	$3,401,074.90
19	1093952	0.314214174	$343,735.22	0.4333	$148,940.47	$1,594.14	$45,045.46	$3,550,015.37
20	1093952	0.320498458	$350,609.93	0.4146	$145,362.88	$4,375.59	$45,951.68	**$3,695,378.25**
21	1093952	0.326908427	$357,622.13	0.3968	$141,904.46	$139,734.06	$139,734.06	**$3,837,282.71**
22	1093952	0.333446596	$364,774.57	0.3797	$138,504.90	$136,428.04	$136,428.04	$3,975,787.61
23	1093952	0.340115528	$372,070.06	0.3634	$135,210.26	$133,222.55	$133,222.55	$4,110,997.87
24	1093952	0.346917838	$379,511.46	0.3477	$131,956.14	$130,054.30	$130,054.30	$4,242,954.01
25	1093952	0.353856195	$387,101.69	0.3327	$128,788.73	$126,968.94	$126,968.94	$4,371,742.74
26	1093952	0.360933319	$394,843.73	0.3184	$125,718.24	$123,976.67	$123,976.67	$4,497,460.98
27	1093952	0.368151985	$402,740.60	0.3047	$122,715.06	$121,048.43	$121,048.43	$4,620,176.04
28	1093952	0.375515025	$410,795.41	0.2916	$119,787.94	$118,192.96	$118,192.96	$4,739,963.99
29	1093952	0.383025325	$419,011.32	0.279	$116,904.16	$115,378.10	$115,378.10	$4,856,868.15
30	1093952	0.390685832	$427,391.55	0.267	$114,113.54	$111,121.04	$112,653.12	$4,970,981.69
Totals	**32818560**		**$9,763,496.90**		**$4,970,981.69**			

* Discount Rate= 4.5%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of Costs with a Downpayment						Net Present Value of Costs Without a Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,150,000.00	$0.00	$1,150,000.00	1.0000	$1,150,000.00	$0.00	$0.00	$0.00	1.0000	$0.00
1	$234,306.40	$5,469.76	$239,776.16	0.9569	$229,441.81	$334,586.40	$5,469.76	$340,056.16	0.9569	$325,399.74
2	$234,306.40	$5,469.76	$239,776.16	0.9157	$219,563.03	$334,586.40	$5,469.76	$340,056.16	0.9157	$311,389.43
3	$234,306.40	$5,469.76	$239,776.16	0.8763	$210,115.85	$334,586.40	$5,469.76	$340,056.16	0.8763	$297,991.21
4	$234,306.40	$5,469.76	$239,776.16	0.8386	$201,076.29	$334,586.40	$5,469.76	$340,056.16	0.8386	$285,171.10
5	$234,306.40	$5,469.76	$239,776.16	0.8025	$192,420.37	$334,586.40	$5,469.76	$340,056.16	0.8025	$272,895.07
6	$234,306.40	$5,469.76	$239,776.16	0.7679	$184,124.11	$334,586.40	$5,469.76	$340,056.16	0.7679	$261,129.13
7	$234,306.40	$5,469.76	$239,776.16	0.7348	$176,187.52	$334,586.40	$5,469.76	$340,056.16	0.7348	$249,873.27
8	$234,306.40	$5,469.76	$239,776.16	0.7032	$168,610.60	$334,586.40	$5,469.76	$340,056.16	0.7032	$239,127.49
9	$234,306.40	$5,469.76	$239,776.16	0.6729	$161,345.38	$334,586.40	$5,469.76	$340,056.16	0.6729	$228,823.79
10	$234,306.40	$5,469.76	$239,776.16	0.6439	$154,391.87	$334,586.40	$5,469.76	$340,056.16	0.6439	$218,962.16
11	$234,306.40	$5,469.76	$239,776.16	0.6162	$147,750.07	$334,586.40	$5,469.76	$340,056.16	0.6162	$209,542.61
12	$234,306.40	$5,469.76	$239,776.16	0.5897	$141,396.00	$334,586.40	$5,469.76	$340,056.16	0.5897	$200,531.12
13	$234,306.40	$5,469.76	$239,776.16	0.5643	$135,305.69	$334,586.40	$5,469.76	$340,056.16	0.5643	$191,893.69
14	$234,306.40	$5,469.76	$239,776.16	0.54	$129,479.13	$334,586.40	$5,469.76	$340,056.16	0.54	$183,630.33
15	$234,306.40	$5,469.76	$239,776.16	0.5167	$123,892.34	$334,586.40	$5,469.76	$340,056.16	0.5167	$175,707.02
16	$234,306.40	$5,469.76	$239,776.16	0.4945	$118,569.31	$334,586.40	$5,469.76	$340,056.16	0.4945	$168,157.77
17	$234,306.40	$5,469.76	$239,776.16	0.4732	$113,462.08	$334,586.40	$5,469.76	$340,056.16	0.4732	$160,914.57
18	$234,306.40	$5,469.76	$239,776.16	0.4528	$108,570.65	$334,586.40	$5,469.76	$340,056.16	0.4528	$153,977.43
19	$234,306.40	$5,469.76	$239,776.16	0.4333	$103,895.01	$334,586.40	$5,469.76	$340,056.16	0.4333	$147,346.33
20	$234,306.40	$5,469.76	$239,776.16	0.4146	$99,411.20	$334,586.40	$5,469.76	$340,056.16	0.4146	$140,987.28
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$11,207.88	$11,207.88	0.267	$2,992.50
Totals	**$5,836,128.00**	**$164,092.80**	**$6,000,220.80**		**$4,286,954.57**	**$6,691,728.00**	**$169,830.92**	**$6,861,558.92**		**$4,442,928.89**

* Financing of $2,687,000 for 20 years at a 6.0% interest rate and $1,150,000 downpayment
** Discount Rate = 4.5%
*** Financing of $3,837,000 for 20 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,970,981.69
- $4,286,954.57
= **$684,027.12**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,286,954.57 / 32818560 kWh
= **$0.131 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,970,981.69 / $4,286,954.57
= **1.160**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 20**

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Present Value of Benefits						Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$2,100,000.00	$0.00
1	1093952	0.19	$207,850.88	1.0000	$207,850.88	-$231,199.88	$6,100.12	$207,850.88
2	1093952	0.1938	$212,007.90	1.0000	$212,007.90	-$227,042.86	$10,257.14	$419,858.78
3	1093952	0.197676	$216,248.06	1.0000	$216,248.06	-$222,802.70	$14,497.30	$636,106.83
4	1093952	0.20162952	$220,573.02	1.0000	$220,573.02	-$218,477.74	$18,822.26	$856,679.85
5	1093952	0.20566211	$224,984.48	1.0000	$224,984.48	-$214,066.28	$23,233.72	$1,081,664.33
6	1093952	0.209775353	$229,484.17	1.0000	$229,484.17	-$209,566.59	$27,733.41	$1,311,148.49
7	1093952	0.21397086	$234,073.85	1.0000	$234,073.85	-$204,976.91	$32,323.09	$1,545,222.34
8	1093952	0.218250277	$238,755.33	1.0000	$238,755.33	-$200,295.43	$37,004.57	$1,783,977.67
9	1093952	0.222615282	$243,530.43	1.0000	$243,530.43	-$195,520.33	$41,779.67	$2,027,508.10
10	1093952	0.227067588	$248,401.04	1.0000	$248,401.04	-$190,649.72	$46,650.28	$2,275,909.15
11	1093952	0.23160894	$253,369.06	1.0000	$253,369.06	-$185,681.70	$51,618.30	$2,529,278.21
12	1093952	0.236241119	$258,436.44	1.0000	$258,436.44	-$180,614.32	$56,685.68	$2,787,714.65
13	1093952	0.240965941	$263,605.17	1.0000	$263,605.17	-$175,445.59	$61,854.41	$3,051,319.83
14	1093952	0.24578526	$268,877.28	1.0000	$268,877.28	$263,407.52	$263,407.52	$3,320,197.10
15	1093952	0.250700965	$274,254.82	1.0000	$274,254.82	$268,785.06	$268,785.06	**$3,594,451.92**
16	1093952	0.255714984	$279,739.92	1.0000	$279,739.92	$274,270.16	$274,270.16	**$3,874,191.84**
17	1093952	0.260829284	$285,334.72	1.0000	$285,334.72	$279,864.96	$279,864.96	$4,159,526.56
18	1093952	0.26604587	$291,041.41	1.0000	$291,041.41	$285,571.65	$285,571.65	$4,450,567.97
19	1093952	0.271366787	$296,862.24	1.0000	$296,862.24	$291,392.48	$291,392.48	$4,747,430.21
20	1093952	0.276794123	$302,799.48	1.0000	$302,799.48	$297,329.72	$297,329.72	$5,050,229.69
21	1093952	0.282330005	$308,855.47	1.0000	$308,855.47	$303,385.71	$303,385.71	$5,359,085.17
22	1093952	0.287976605	$315,032.58	1.0000	$315,032.58	$309,562.82	$309,562.82	$5,674,117.75
23	1093952	0.293736137	$321,333.24	1.0000	$321,333.24	$315,863.48	$315,863.48	$5,995,450.99
24	1093952	0.29961086	$327,759.90	1.0000	$327,759.90	$322,290.14	$322,290.14	$6,323,210.89
25	1093952	0.305603077	$334,315.10	1.0000	$334,315.10	$328,845.34	$328,845.34	$6,657,525.98
26	1093952	0.311715139	$341,001.40	1.0000	$341,001.40	$335,531.64	$335,531.64	$6,998,527.38
27	1093952	0.317949442	$347,821.43	1.0000	$347,821.43	$342,351.67	$342,351.67	$7,346,348.81
28	1093952	0.324308431	$354,777.86	1.0000	$354,777.86	$349,308.10	$349,308.10	$7,701,126.67
29	1093952	0.330794599	$361,873.41	1.0000	$361,873.41	$356,403.65	$356,403.65	$8,063,000.08
30	1093952	0.337410491	$369,110.88	1.0000	$369,110.88	$363,641.12	$363,641.12	$8,432,110.96
Totals	**32818560**		**$8,432,110.96**		**$8,432,110.96**			

* Discount Rate= 0.0%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Cost of PV System						Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$2,100,000.00	$0.00	$2,100,000.00	1.0000	$2,100,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
2	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
3	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
4	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
5	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
6	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
7	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
8	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
9	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
10	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
11	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
12	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
13	$196,281.00	$5,469.76	$201,750.76	1.0000	$201,750.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
Totals	**$4,651,653.00**	**$164,092.80**	**$4,815,745.80**		**$4,815,745.80**	**$5,636,553.00**	**$164,092.80**	**$5,800,645.80**		**$5,800,645.80**

* Financing of $1,737,000 for 13 years at a 6% interest rate and $2,100,000 downpayment

** Discount Rate = 0.0%

*** Financing of $3,837,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,432,110.96
- $4,815,745.80
= **$3,616,365.16**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,815,745.80 / 32818560 kWh

= **$0.147 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,432,110.96 / $4,815,745.80

= **1.751**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 15**

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

	Present Value of Benefits					Net Cash Flows		
Year	kWh Generated	Ave. Cost $/kWh	Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$3.837M)
0	0			1.0000	$0.00	$0.00	-$1,800,000.00	$0.00
1	1093952	0.22	$240,669.44	1.0000	$240,669.44	-$198,381.32	$5,018.68	$240,669.44
2	1093952	0.2244	$245,482.83	1.0000	$245,482.83	-$193,567.93	$9,832.07	$486,152.27
3	1093952	0.228888	$250,392.49	1.0000	$250,392.49	-$188,658.27	$14,741.73	$736,544.75
4	1093952	0.23346576	$255,400.34	1.0000	$255,400.34	-$183,650.42	$19,749.58	$991,945.09
5	1093952	0.238135075	$260,508.34	1.0000	$260,508.34	-$178,542.42	$24,857.58	$1,252,453.43
6	1093952	0.242897777	$265,718.51	1.0000	$265,718.51	-$173,332.25	$30,067.75	$1,518,171.94
7	1093952	0.247755732	$271,032.88	1.0000	$271,032.88	-$168,017.88	$35,382.12	$1,789,204.82
8	1093952	0.252710847	$276,453.54	1.0000	$276,453.54	-$162,597.22	$40,802.78	$2,065,658.35
9	1093952	0.257765064	$281,982.61	1.0000	$281,982.61	-$157,068.15	$46,331.85	$2,347,640.96
10	1093952	0.262920365	$287,622.26	1.0000	$287,622.26	-$151,428.50	$51,971.50	$2,635,263.22
11	1093952	0.268178772	$293,374.70	1.0000	$293,374.70	-$145,676.06	$57,723.94	$2,928,637.93
12	1093952	0.273542348	$299,242.20	1.0000	$299,242.20	-$139,808.56	$63,591.44	$3,227,880.12
13	1093952	0.279013195	$305,227.04	1.0000	$305,227.04	-$133,823.72	$69,576.28	**$3,533,107.17**
14	1093952	0.284593459	$311,331.58	1.0000	$311,331.58	$305,861.82	$305,861.82	**$3,844,438.75**
15	1093952	0.290285328	$317,558.21	1.0000	$317,558.21	$312,088.45	$312,088.45	$4,161,996.96
16	1093952	0.296091034	$323,909.38	1.0000	$323,909.38	$318,439.62	$318,439.62	$4,485,906.34
17	1093952	0.302012855	$330,387.57	1.0000	$330,387.57	$324,917.81	$324,917.81	$4,816,293.91
18	1093952	0.308053112	$336,995.32	1.0000	$336,995.32	$331,525.56	$331,525.56	$5,153,289.23
19	1093952	0.314214174	$343,735.22	1.0000	$343,735.22	$338,265.46	$338,265.46	$5,497,024.45
20	1093952	0.320498458	$350,609.93	1.0000	$350,609.93	$345,140.17	$345,140.17	$5,847,634.38
21	1093952	0.326908427	$357,622.13	1.0000	$357,622.13	$352,152.37	$352,152.37	$6,205,256.51
22	1093952	0.333446596	$364,774.57	1.0000	$364,774.57	$359,304.81	$359,304.81	$6,570,031.08
23	1093952	0.340115528	$372,070.06	1.0000	$372,070.06	$366,600.30	$366,600.30	$6,942,101.14
24	1093952	0.346917838	$379,511.46	1.0000	$379,511.46	$374,041.70	$374,041.70	$7,321,612.61
25	1093952	0.353856195	$387,101.69	1.0000	$387,101.69	$381,631.93	$381,631.93	$7,708,714.30
26	1093952	0.360933319	$394,843.73	1.0000	$394,843.73	$389,373.97	$389,373.97	$8,103,558.02
27	1093952	0.368151985	$402,740.60	1.0000	$402,740.60	$397,270.84	$397,270.84	$8,506,298.62
28	1093952	0.375515025	$410,795.41	1.0000	$410,795.41	$405,325.65	$405,325.65	$8,917,094.04
29	1093952	0.383025325	$419,011.32	1.0000	$419,011.32	$413,541.56	$413,541.56	$9,336,105.36
30	1093952	0.390685832	$427,391.55	1.0000	$427,391.55	$421,921.79	$421,921.79	$9,763,496.90
Totals	**32818560**		**$9,763,496.90**		**$9,763,496.90**			

* Discount Rate= 0.0%

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

	Net Present Cost of PV System					Present Value of Costs w/o Downpayment				
Year	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$1,800,000.00	$0.00	$1,800,000.00	1.0000	$1,800,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
2	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
3	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
4	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
5	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
6	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
7	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
8	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
9	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
10	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
11	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
12	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
13	$230,181.00	$5,469.76	$235,650.76	1.0000	$235,650.76	$433,581.00	$5,469.76	$439,050.76	1.0000	$439,050.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
Totals	**$4,792,353.00**	**$164,092.80**	**$4,956,445.80**		**$4,956,445.80**	**$5,636,553.00**	**$164,092.80**	**$5,800,645.80**		**$5,800,645.80**

* Financing of $2,037,000 for 13 years at a 6% interest rate and $1,800,000 downpayment

** Discount Rate = 0.0%

*** Financing of $3,837,000 for 13 years at a 6% interest rate and $0.0 downpayment

Baseline Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $9,763,496.90
- $4,956,445.80
= **$4,807,051.10**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $4,956,445.80 / 32818560 kWh

= **$0.151 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $9,763,496.90 / $4,956,445.80

= **1.970**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 13**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 4.5%

	Present Value of Benefits										Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Present Value of Costs w/o DP	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2,712M)
0	0	0						1.0000	$0.00	$0.00	$0.00	$750,000	$0.00
1	1093952	0.19	$207,850.88	$3,076.74	$0.0198	$12,798.52	$223,726.14	0.9569	$214,083.54	$231,527.85	-$17,444	$1,330.07	$214,083.54
2	1093952	0.1938	$212,007.90	$3,076.74	$0.0204	$22,480.71	$237,565.35	0.9157	$217,538.59	$221,559.26	-$4,021	$13,945.37	$431,622.13
3	1093952	0.197676	$216,248.06	$3,076.74	$0.0210	$23,137.08	$242,461.88	0.8763	$212,469.35	$212,026.18	$443	$17,636.17	$644,091.48
4	1093952	0.20162952	$220,573.02	$3,076.74	$0.0216	$23,793.46	$247,443.21	0.8386	$207,505.88	$202,904.44	$4,601	$21,054.77	$851,597.36
5	1093952	0.20566211	$224,984.48	$3,076.74	$0.0222	$24,449.83	$252,511.04	0.8025	$202,640.11	$194,169.82	$8,470	$24,215.34	$1,054,237.47
6	1093952	0.209775353	$229,484.17	$3,076.74	$0.0228	$25,106.20	$257,667.10	0.7679	$197,862.57	$185,798.14	$12,064	$27,130.63	$1,252,100.04
7	1093952	0.21397086	$234,073.85	$3,076.74	$0.0234	$25,762.57	$262,913.16	0.7348	$193,188.59	$177,789.39	$15,399	$29,815.98	$1,445,288.63
8	1093952	0.218250277	$238,755.33	$3,076.74	$0.0240	$26,418.94	$268,251.01	0.7032	$188,634.11	$170,143.57	$18,491	$32,287.32	$1,633,922.74
9	1093952	0.222615282	$243,530.43	$3,076.74	$0.0246	$27,075.31	$273,682.49	0.6729	$184,160.94	$162,812.30	$21,349	$34,550.94	$1,818,083.68
10	1093952	0.227067588	$248,401.04	$3,076.74	$0.0252	$27,731.68	$279,209.47	0.6439	$179,782.97	$155,795.57	$23,987	$36,620.72	$1,997,866.66
11	1093952	0.23160894	$253,369.06	$3,076.74	$0.0258	$28,388.05	$284,833.86	0.6162	$175,514.62	$149,093.39	$26,421	$38,511.08	$2,173,381.28
12	1093952	0.236241119	$258,436.44	$3,076.74	$0.0264	$29,044.43	$290,557.61	0.5897	$171,341.82	$142,681.55	$28,660	$40,230.19	$2,344,723.10
13	1093952	0.240965941	$263,605.17	$3,076.74	$0.0270	$22,152.53	$288,834.44	0.5643	$162,989.28	$136,535.86	$26,453	$37,524.98	$2,507,712.38
14	1093952	0.24578526	$268,877.28	$3,076.74	$0.00	$0.00	$271,954.02	0.54	$146,855.17	$130,656.33	$16,199	$26,793.64	**$2,654,567.55**
15	1093952	0.250700965	$274,254.82	$3,076.74	$0.00	$0.00	$277,331.56	0.5167	$143,297.22	$125,018.75	$18,278	$28,416.12	**$2,797,864.76**
16	1093952	0.255714984	$279,739.92	$3,076.74	$0.00	$0.00	$282,816.66	0.4945	$139,852.84	$119,647.32	$20,206	$29,907.61	$2,937,717.60
17	1093952	0.260829284	$285,334.72	$3,076.74	$0.00	$0.00	$288,411.46	0.4732	$136,476.30	$114,493.65	$21,983	$31,266.83	$3,074,193.90
18	1093952	0.26604587	$291,041.41	$3,076.74	$0.00	$0.00	$294,118.15	0.4528	$133,176.70	$109,557.75	$23,619	$32,502.89	$3,207,370.60
19	1093952	0.271366787	$296,862.24	$3,076.74	$0.00	$0.00	$299,938.98	0.4333	$129,963.56	$104,839.60	$25,124	$33,625.30	$3,337,334.16
20	1093952	0.276794123	$302,799.48	$3,076.74	$0.00	$0.00	$305,876.22	0.4146	$126,816.28	$100,315.02	$26,501	$34,635.71	$3,464,150.44
21	1093952	0.282330005	$308,855.47	$3,076.74	$0.00	$0.00	$311,932.21	0.3968	$123,774.70	$2,170.40	$121,604	$121,604.30	$3,587,925.15
22	1093952	0.287976605	$315,032.58	$3,076.74	$0.00	$0.00	$318,109.32	0.3797	$120,786.11	$2,076.87	$118,709	$118,709.24	$3,708,711.26
23	1093952	0.293736137	$321,333.24	$3,076.74	$0.00	$0.00	$324,409.98	0.3634	$117,890.58	$1,987.71	$115,903	$115,902.87	$3,826,601.84
24	1093952	0.29961086	$327,759.90	$3,076.74	$0.00	$0.00	$330,836.64	0.3477	$115,031.90	$1,901.84	$113,130	$113,130.06	$3,941,633.74
25	1093952	0.305603077	$334,315.10	$3,076.74	$0.00	$0.00	$337,391.84	0.3327	$112,250.26	$1,819.79	$110,430	$110,430.48	$4,053,884.01
26	1093952	0.311715139	$341,001.40	$3,076.74	$0.00	$0.00	$344,078.14	0.3184	$109,554.48	$1,741.57	$107,813	$107,812.91	$4,163,438.48
27	1093952	0.317949442	$347,821.43	$3,076.74	$0.00	$0.00	$350,898.17	0.3047	$106,918.67	$1,666.64	$105,252	$105,252.04	$4,270,357.16
28	1093952	0.324308431	$354,777.86	$3,076.74	$0.00	$0.00	$357,854.60	0.2916	$104,350.40	$1,594.98	$102,755	$102,755.42	$4,374,707.56
29	1093952	0.330794599	$361,873.41	$3,076.74	$0.00	$0.00	$364,950.15	0.279	$101,821.09	$1,526.06	$100,295	$100,295.03	$4,476,528.65
30	1093952	0.337410491	$369,110.88	$3,076.74	$0.00	$0.00	$372,187.62	0.267	$99,374.09	$1,460.43	$97,914	$97,913.67	$4,575,902.74
	32818560		**$8,432,110.96**	**$92,302.20**		**$318,339.31**	**$8,842,752.47**		**$4,575,902.74**				

* Discount Rate= 4.5%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 4.5%

	Present Value of Costs with a Downpayment					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$225,000.00	$0.00	$225,000.00	1.0000	$225,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$216,866.40	$5,469.76	$222,336.16	0.9569	$212,753.47	$236,486.40	$5,469.76	$241,956.16	0.9569	$231,527.8495
2	$216,866.40	$5,469.76	$222,336.16	0.9157	$203,593.22	$236,486.40	$5,469.76	$241,956.16	0.9157	$221,559.2557
3	$216,866.40	$5,469.76	$222,336.16	0.8763	$194,833.18	$236,486.40	$5,469.76	$241,956.16	0.8763	$212,026.1830
4	$216,866.40	$5,469.76	$222,336.16	0.8386	$186,451.10	$236,486.40	$5,469.76	$241,956.16	0.8386	$202,904.4358
5	$216,866.40	$5,469.76	$222,336.16	0.8025	$178,424.77	$236,486.40	$5,469.76	$241,956.16	0.8025	$194,169.8184
6	$216,866.40	$5,469.76	$222,336.16	0.7679	$170,731.94	$236,486.40	$5,469.76	$241,956.16	0.7679	$185,798.1353
7	$216,866.40	$5,469.76	$222,336.16	0.7348	$163,372.61	$236,486.40	$5,469.76	$241,956.16	0.7348	$177,789.3864
8	$216,866.40	$5,469.76	$222,336.16	0.7032	$156,346.79	$236,486.40	$5,469.76	$241,956.16	0.7032	$170,143.5717
9	$216,866.40	$5,469.76	$222,336.16	0.6729	$149,610.00	$236,486.40	$5,469.76	$241,956.16	0.6729	$162,812.3001
10	$216,866.40	$5,469.76	$222,336.16	0.6439	$143,162.25	$236,486.40	$5,469.76	$241,956.16	0.6439	$155,795.5714
11	$216,866.40	$5,469.76	$222,336.16	0.6162	$137,003.54	$236,486.40	$5,469.76	$241,956.16	0.6162	$149,093.3858
12	$216,866.40	$5,469.76	$222,336.16	0.5897	$131,111.63	$236,486.40	$5,469.76	$241,956.16	0.5897	$142,681.5476
13	$216,866.40	$5,469.76	$222,336.16	0.5643	$125,464.30	$236,486.40	$5,469.76	$241,956.16	0.5643	$136,535.8611
14	$216,866.40	$5,469.76	$222,336.16	0.54	$120,061.53	$236,486.40	$5,469.76	$241,956.16	0.54	$130,656.3264
15	$216,866.40	$5,469.76	$222,336.16	0.5167	$114,881.09	$236,486.40	$5,469.76	$241,956.16	0.5167	$125,018.7479
16	$216,866.40	$5,469.76	$222,336.16	0.4945	$109,945.23	$236,486.40	$5,469.76	$241,956.16	0.4945	$119,647.3211
17	$216,866.40	$5,469.76	$222,336.16	0.4732	$105,209.47	$236,486.40	$5,469.76	$241,956.16	0.4732	$114,493.6549
18	$216,866.40	$5,469.76	$222,336.16	0.4528	$100,673.81	$236,486.40	$5,469.76	$241,956.16	0.4528	$109,557.7492
19	$216,866.40	$5,469.76	$222,336.16	0.4333	$96,338.26	$236,486.40	$5,469.76	$241,956.16	0.4333	$104,839.6041
20	$216,866.40	$5,469.76	$222,336.16	0.4146	$92,180.57	$236,486.40	$5,469.76	$241,956.16	0.4146	$100,315.0239
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.4008
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.8679
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.7108
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.8356
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.7892
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.5716
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.6359
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.9820
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06	$0.00	$5,469.76	$5,469.76	0.279	$1,526.0630
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43	$0.00	$5,469.76	$5,469.76	0.267	$1,460.4259
	$4,562,328	**$164,092.80**	**$4,726,420.80**		**$3,135,095.05**	**$4,729,728.00**	**$164,092.80**	**$4,893,820.80**		**$3,165,312.01**

* Financing of $2,487,000 for 20 years at a 6% interest rate and $225,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 4.5%
*** Financing of $2,712,000 for 20 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from the CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 4.5%

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $4,575,902.74
- $3,135,095.05
= **$1,440,807.69**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,135,095.05 / 32818560 kWh

= **$0.096 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $4,575,902.74 / $3,135,095.05

= **1.460**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 14**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 0.0%

			Present Value of Benefits							Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$825,000.00	$0.00
1	1093952	0.19	$207,850.88	$3,076.74	$0.0198	$12,798.52	$223,726.14	1.0000	$223,726.14	-$88,199.62	$5,025.38	$223,726.14
2	1093952	0.1938	$212,007.90	$3,076.74	$0.0204	$22,480.71	$237,565.35	1.0000	$237,565.35	-$74,360.41	$18,864.59	$461,291.49
3	1093952	0.197676	$216,248.06	$3,076.74	$0.0210	$23,137.08	$242,461.88	1.0000	$242,461.88	-$69,463.88	$23,761.12	$703,753.37
4	1093952	0.20162952	$220,573.02	$3,076.74	$0.0216	$23,793.46	$247,443.21	1.0000	$247,443.21	-$64,482.55	$28,742.45	$951,196.58
5	1093952	0.20566211	$224,984.48	$3,076.74	$0.0222	$24,449.83	$252,511.04	1.0000	$252,511.04	-$59,414.72	$33,810.28	$1,203,707.62
6	1093952	0.209775353	$229,484.17	$3,076.74	$0.0228	$25,106.20	$257,667.10	1.0000	$257,667.10	-$54,258.66	$38,966.34	$1,461,374.73
7	1093952	0.21397086	$234,073.85	$3,076.74	$0.0234	$25,762.57	$262,913.16	1.0000	$262,913.16	-$49,012.60	$44,212.40	$1,724,287.89
8	1093952	0.218250277	$238,755.33	$3,076.74	$0.0240	$26,418.94	$268,251.01	1.0000	$268,251.01	-$43,674.75	$49,550.25	$1,992,538.90
9	1093952	0.222615282	$243,530.43	$3,076.74	$0.0246	$27,075.31	$273,682.49	1.0000	$273,682.49	-$38,243.27	$54,981.73	$2,266,221.38
10	1093952	0.227067588	$248,401.04	$3,076.74	$0.0252	$27,731.68	$279,209.47	1.0000	$279,209.47	-$32,716.29	$60,508.71	**$2,545,430.85**
11	1093952	0.23160894	$253,369.06	$3,076.74	$0.0258	$28,388.05	$284,833.86	1.0000	$284,833.86	-$27,091.90	$66,133.10	**$2,830,264.70**
12	1093952	0.236241119	$258,436.44	$3,076.74	$0.0264	$29,044.43	$290,557.61	1.0000	$290,557.61	-$21,368.15	$71,856.85	$3,120,822.31
13	1093952	0.240965941	$263,605.17	$3,076.74	$0.0270	$22,152.53	$288,834.44	1.0000	$288,834.44	-$23,091.32	$70,133.68	$3,409,656.76
14	1093952	0.24578526	$268,877.28	$3,076.74	$0.00	$0.00	$271,954.02	1.0000	$271,954.02	$266,484.26	$266,484.26	$3,681,610.77
15	1093952	0.250700965	$274,254.82	$3,076.74	$0.00	$0.00	$277,331.56	1.0000	$277,331.56	$271,861.80	$271,861.80	$3,958,942.33
16	1093952	0.255714984	$279,739.92	$3,076.74	$0.00	$0.00	$282,816.66	1.0000	$282,816.66	$277,346.90	$277,346.90	$4,241,758.99
17	1093952	0.260829284	$285,334.72	$3,076.74	$0.00	$0.00	$288,411.46	1.0000	$288,411.46	$282,941.70	$282,941.70	$4,530,170.45
18	1093952	0.26604587	$291,041.41	$3,076.74	$0.00	$0.00	$294,118.15	1.0000	$294,118.15	$288,648.39	$288,648.39	$4,824,288.60
19	1093952	0.271366787	$296,862.24	$3,076.74	$0.00	$0.00	$299,938.98	1.0000	$299,938.98	$294,469.22	$294,469.22	$5,124,227.58
20	1093952	0.276794123	$302,799.48	$3,076.74	$0.00	$0.00	$305,876.22	1.0000	$305,876.22	$300,406.46	$300,406.46	$5,430,103.80
21	1093952	0.282330005	$308,855.47	$3,076.74	$0.00	$0.00	$311,932.21	1.0000	$311,932.21	$306,462.45	$306,462.45	$5,742,036.02
22	1093952	0.287976605	$315,032.58	$3,076.74	$0.00	$0.00	$318,109.32	1.0000	$318,109.32	$312,639.56	$312,639.56	$6,060,145.34
23	1093952	0.293736137	$321,333.24	$3,076.74	$0.00	$0.00	$324,409.98	1.0000	$324,409.98	$318,940.22	$318,940.22	$6,384,555.32
24	1093952	0.29961086	$327,759.90	$3,076.74	$0.00	$0.00	$330,836.64	1.0000	$330,836.64	$325,366.88	$325,366.88	$6,715,391.96
25	1093952	0.305603077	$334,315.10	$3,076.74	$0.00	$0.00	$337,391.84	1.0000	$337,391.84	$331,922.08	$331,922.08	$7,052,783.79
26	1093952	0.311715139	$341,001.40	$3,076.74	$0.00	$0.00	$344,078.14	1.0000	$344,078.14	$338,608.38	$338,608.38	$7,396,861.93
27	1093952	0.317949442	$347,821.43	$3,076.74	$0.00	$0.00	$350,898.17	1.0000	$350,898.17	$345,428.41	$345,428.41	$7,747,760.10
28	1093952	0.324308431	$354,777.86	$3,076.74	$0.00	$0.00	$357,854.60	1.0000	$357,854.60	$352,384.84	$352,384.84	$8,105,614.70
29	1093952	0.330794599	$361,873.41	$3,076.74	$0.00	$0.00	$364,950.15	1.0000	$364,950.15	$359,480.39	$359,480.39	$8,470,564.85
30	1093952	0.337410491	$369,110.88	$3,076.74	$0.00	$0.00	$372,187.62	1.0000	$372,187.62	$366,717.86	$366,717.86	$8,842,752.47
	32818560		**$8,432,110.96**	**$92,302.20**		**$318,339.31**	**$8,842,752.47**		**$8,842,752.47**			

* Discount Rate= 0.0%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 0.0%

	Present Value of Costs					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$825,000.00	$0.00	$825,000.00	1.0000	$825,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
2	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
3	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
4	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
5	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
6	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
7	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
8	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
9	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
10	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
11	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
12	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
13	$213,231.00	$5,469.76	$218,700.76	1.0000	$218,700.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
	$3,597,003	**$164,092.80**	**$3,761,095.80**		**$3,761,095.80**	**$3,983,928.00**	**$164,092.80**	**$4,148,020.80**		**$4,148,020.80**

* Financing of $1,887,000 for 13 years at a 6% interest rate and $825,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 0.0%
*** Financing of $2,712,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.19/kWhr; Discount Rate = 0.0%

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $8,842,752.47
\- $3,761,095.80
= **$5,081,656.67**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,761,095.80 / 32818560 kWh

= **$0.115 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $8,842,752.47 / $3,761,095.80

= **2.351**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 10**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 4.5%

			Present Value of Benefits									
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0	0						1.0000	$0.00	$750,000.00	$0.00
1	1093952	0.22	$240,669.44	$3,076.74	$0.0198	$12,798.52	$256,544.70	0.9569	$245,487.62	$13,959.77	$245,487.62
2	1093952	0.2244	$245,482.83	$3,076.74	$0.0204	$22,480.71	$271,040.28	0.9157	$248,191.59	$26,632.33	$493,679.21
3	1093952	0.228888	$250,392.49	$3,076.74	$0.0210	$23,137.08	$276,606.31	0.8763	$242,390.11	$30,363.93	$736,069.32
4	1093952	0.23346576	$255,400.34	$3,076.74	$0.0216	$23,793.46	$282,270.53	0.8386	$236,712.07	$33,807.63	$972,781.38
5	1093952	0.238135075	$260,508.34	$3,076.74	$0.0222	$24,449.83	$288,034.91	0.8025	$231,148.01	$36,978.20	$1,203,929.40
6	1093952	0.242897777	$265,718.51	$3,076.74	$0.0228	$25,106.20	$293,901.45	0.7679	$225,686.92	$39,888.79	$1,429,616.32
7	1093952	0.247755732	$271,032.88	$3,076.74	$0.0234	$25,762.57	$299,872.19	0.7348	$220,346.08	$42,556.70	$1,649,962.40
8	1093952	0.252710847	$276,453.54	$3,076.74	$0.0240	$26,418.94	$305,949.22	0.7032	$215,143.49	$44,999.92	$1,865,105.89
9	1093952	0.257765064	$281,982.61	$3,076.74	$0.0246	$27,075.31	$312,134.66	0.6729	$210,035.41	$47,223.11	$2,075,141.30
10	1093952	0.262920365	$287,622.26	$3,076.74	$0.0252	$27,731.68	$318,430.68	0.6439	$205,037.52	$49,241.94	$2,280,178.82
11	1093952	0.268178772	$293,374.70	$3,076.74	$0.0258	$28,388.05	$324,839.50	0.6162	$200,166.10	$51,072.71	$2,480,344.92
12	1093952	0.273542348	$299,242.20	$3,076.74	$0.0264	$29,044.43	$331,363.36	0.5897	$195,404.98	$52,723.43	**$2,675,749.90**
13	1093952	0.279013195	$305,227.04	$3,076.74	$0.0270	$22,152.53	$330,456.31	0.5643	$186,476.50	$49,940.63	**$2,862,226.39**
14	1093952	0.284593459	$311,331.58	$3,076.74	$0.00	$0.00	$314,408.32	0.54	$169,780.49	$39,124.17	$3,032,006.89
15	1093952	0.290285328	$317,558.21	$3,076.74	$0.00	$0.00	$320,634.95	0.5167	$165,672.08	$40,653.33	$3,197,678.97
16	1093952	0.296091034	$323,909.38	$3,076.74	$0.00	$0.00	$326,986.12	0.4945	$161,694.64	$42,047.31	$3,359,373.60
17	1093952	0.302012855	$330,387.57	$3,076.74	$0.00	$0.00	$333,464.31	0.4732	$157,795.31	$43,301.66	$3,517,168.91
18	1093952	0.308053112	$336,995.32	$3,076.74	$0.00	$0.00	$340,072.06	0.4528	$153,984.63	$44,426.88	$3,671,153.54
19	1093952	0.314214174	$343,735.22	$3,076.74	$0.00	$0.00	$346,811.96	0.4333	$150,273.62	$45,434.02	$3,821,427.17
20	1093952	0.320498458	$350,609.93	$3,076.74	$0.00	$0.00	$353,686.67	0.4146	$146,638.49	$46,323.47	$3,968,065.66
21	1093952	0.326908427	$357,622.13	$3,076.74	$0.00	$0.00	$360,698.87	0.3968	$143,125.31	$140,954.91	$4,111,190.97
22	1093952	0.333446596	$364,774.57	$3,076.74	$0.00	$0.00	$367,851.31	0.3797	$139,673.14	$137,596.27	$4,250,864.11
23	1093952	0.340115528	$372,070.06	$3,076.74	$0.00	$0.00	$375,146.80	0.3634	$136,328.35	$134,340.64	$4,387,192.46
24	1093952	0.346917838	$379,511.46	$3,076.74	$0.00	$0.00	$382,588.20	0.3477	$133,025.92	$131,124.08	$4,520,218.38
25	1093952	0.353856195	$387,101.69	$3,076.74	$0.00	$0.00	$390,178.43	0.3327	$129,812.36	$127,992.58	$4,650,030.74
26	1093952	0.360933319	$394,843.73	$3,076.74	$0.00	$0.00	$397,920.47	0.3184	$126,697.88	$124,956.30	$4,776,728.62
27	1093952	0.368151985	$402,740.60	$3,076.74	$0.00	$0.00	$405,817.34	0.3047	$123,652.54	$121,985.91	$4,900,381.16
28	1093952	0.375515025	$410,795.41	$3,076.74	$0.00	$0.00	$413,872.15	0.2916	$120,685.12	$119,090.14	$5,021,066.28
29	1093952	0.383025325	$419,011.32	$3,076.74	$0.00	$0.00	$422,088.06	0.279	$117,762.57	$116,236.51	$5,138,828.85
30	1093952	0.390685832	$427,391.55	$3,076.74	$0.00	$0.00	$430,468.29	0.267	$114,935.03	$113,474.61	$5,253,763.88
	32818560.00		**$9,763,496.90**	**$92,302.20**		**$318,339.31**	**$10,174,138.41**		**$5,253,763.88**		

* Discount Rate= 4.5%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 4.5%

	Present Value of Costs with a Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$0.00	$0.00	$0.00	1.0000	$0.00
1	$236,486.40	$5,469.76	$241,956.16	0.9569	$231,527.85
2	$236,486.40	$5,469.76	$241,956.16	0.9157	$221,559.26
3	$236,486.40	$5,469.76	$241,956.16	0.8763	$212,026.18
4	$236,486.40	$5,469.76	$241,956.16	0.8386	$202,904.44
5	$236,486.40	$5,469.76	$241,956.16	0.8025	$194,169.82
6	$236,486.40	$5,469.76	$241,956.16	0.7679	$185,798.14
7	$236,486.40	$5,469.76	$241,956.16	0.7348	$177,789.39
8	$236,486.40	$5,469.76	$241,956.16	0.7032	$170,143.57
9	$236,486.40	$5,469.76	$241,956.16	0.6729	$162,812.30
10	$236,486.40	$5,469.76	$241,956.16	0.6439	$155,795.57
11	$236,486.40	$5,469.76	$241,956.16	0.6162	$149,093.39
12	$236,486.40	$5,469.76	$241,956.16	0.5897	$142,681.55
13	$236,486.40	$5,469.76	$241,956.16	0.5643	$136,535.86
14	$236,486.40	$5,469.76	$241,956.16	0.54	$130,656.33
15	$236,486.40	$5,469.76	$241,956.16	0.5167	$125,018.75
16	$236,486.40	$5,469.76	$241,956.16	0.4945	$119,647.32
17	$236,486.40	$5,469.76	$241,956.16	0.4732	$114,493.65
18	$236,486.40	$5,469.76	$241,956.16	0.4528	$109,557.75
19	$236,486.40	$5,469.76	$241,956.16	0.4333	$104,839.60
20	$236,486.40	$5,469.76	$241,956.16	0.4146	$100,315.02
21	$0.00	$5,469.76	$5,469.76	0.3968	$2,170.40
22	$0.00	$5,469.76	$5,469.76	0.3797	$2,076.87
23	$0.00	$5,469.76	$5,469.76	0.3634	$1,987.71
24	$0.00	$5,469.76	$5,469.76	0.3477	$1,901.84
25	$0.00	$5,469.76	$5,469.76	0.3327	$1,819.79
26	$0.00	$5,469.76	$5,469.76	0.3184	$1,741.57
27	$0.00	$5,469.76	$5,469.76	0.3047	$1,666.64
28	$0.00	$5,469.76	$5,469.76	0.2916	$1,594.98
29	$0.00	$5,469.76	$5,469.76	0.279	$1,526.06
30	$0.00	$5,469.76	$5,469.76	0.267	$1,460.43
	$4,729,728.00	**$164,092.80**	**$4,893,820.80**		**$3,165,312.01**

* Financing of $2,712,000 for 20 years at a 6% interest rate and $0.00 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 4.5%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 4.5%

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $5,253,763.88
- $3,165,312.01
= **$2,088,451.87**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,165,312.01 / 32818560 kWh

= **$0.096 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $5,253,763.88 / $3,165,312.01

= **1.660**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 12**

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 0.0%

			Present Value of Benefits							Net Cash Flows		
Yr	kWh Generated	Ave. Cost $/kWh	Value of Energy	Clean Air Credits	Tax Credit $/kWhr	Production Tax Credits	Total Value of Energy	Present Value Factor*	Present Value of Benefits	Net Cash Flow w/o DP	Net Cash Flow w/ DP	Payback (Cost=$2.712M)
0	0		$0.00	$0.00	$0.00	$0.00	$0.00	1.0000	$0.00	$0.00	-$525,000.00	$0.00
1	1093952	0.22	$240,669.44	$3,076.74	$0.0198	$12,798.52	$256,544.70	1.0000	$256,544.70	-$55,381.06	$3,943.94	$256,544.70
2	1093952	0.2244	$245,482.83	$3,076.74	$0.0204	$22,480.71	$271,040.28	1.0000	$271,040.28	-$40,885.48	$18,439.52	$527,584.98
3	1093952	0.228888	$250,392.49	$3,076.74	$0.0210	$23,137.08	$276,606.31	1.0000	$276,606.31	-$35,319.45	$24,005.55	$804,191.29
4	1093952	0.23346576	$255,400.34	$3,076.74	$0.0216	$23,793.46	$282,270.53	1.0000	$282,270.53	-$29,655.23	$29,669.77	$1,086,461.82
5	1093952	0.238135075	$260,508.34	$3,076.74	$0.0222	$24,449.83	$288,034.91	1.0000	$288,034.91	-$23,890.85	$35,434.15	$1,374,496.73
6	1093952	0.242897777	$265,718.51	$3,076.74	$0.0228	$25,106.20	$293,901.45	1.0000	$293,901.45	-$18,024.31	$41,300.69	$1,668,398.18
7	1093952	0.247755732	$271,032.88	$3,076.74	$0.0234	$25,762.57	$299,872.19	1.0000	$299,872.19	-$12,053.57	$47,271.43	$1,968,270.36
8	1093952	0.252710847	$276,453.54	$3,076.74	$0.0240	$26,418.94	$305,949.22	1.0000	$305,949.22	-$5,976.54	$53,348.46	$2,274,219.58
9	1093952	0.257765064	$281,982.61	$3,076.74	$0.0246	$27,075.31	$312,134.66	1.0000	$312,134.66	$208.90	$59,533.90	**$2,586,354.24**
10	1093952	0.262920365	$287,622.26	$3,076.74	$0.0252	$27,731.68	$318,430.68	1.0000	$318,430.68	$6,504.92	$65,829.92	**$2,904,784.92**
11	1093952	0.268178772	$293,374.70	$3,076.74	$0.0258	$28,388.05	$324,839.50	1.0000	$324,839.50	$12,913.74	$72,238.74	$3,229,624.42
12	1093952	0.273542348	$299,242.20	$3,076.74	$0.0264	$29,044.43	$331,363.36	1.0000	$331,363.36	$19,437.60	$78,762.60	$3,560,987.79
13	1093952	0.279013195	$305,227.04	$3,076.74	$0.0270	$22,152.53	$330,456.31	1.0000	$330,456.31	$18,530.55	$77,855.55	$3,891,444.10
14	1093952	0.284593459	$311,331.58	$3,076.74	$0.00	$0.00	$314,408.32	1.0000	$314,408.32	$308,938.56	$308,938.56	$4,205,852.42
15	1093952	0.290285328	$317,558.21	$3,076.74	$0.00	$0.00	$320,634.95	1.0000	$320,634.95	$315,165.19	$315,165.19	$4,526,487.37
16	1093952	0.296091034	$323,909.38	$3,076.74	$0.00	$0.00	$326,986.12	1.0000	$326,986.12	$321,516.36	$321,516.36	$4,853,473.49
17	1093952	0.302012855	$330,387.57	$3,076.74	$0.00	$0.00	$333,464.31	1.0000	$333,464.31	$327,994.55	$327,994.55	$5,186,937.80
18	1093952	0.308053112	$336,995.32	$3,076.74	$0.00	$0.00	$340,072.06	1.0000	$340,072.06	$334,602.30	$334,602.30	$5,527,009.86
19	1093952	0.314214174	$343,735.22	$3,076.74	$0.00	$0.00	$346,811.96	1.0000	$346,811.96	$341,342.20	$341,342.20	$5,873,821.82
20	1093952	0.320498458	$350,609.93	$3,076.74	$0.00	$0.00	$353,686.67	1.0000	$353,686.67	$348,216.91	$348,216.91	$6,227,508.49
21	1093952	0.326908427	$357,622.13	$3,076.74	$0.00	$0.00	$360,698.87	1.0000	$360,698.87	$355,229.11	$355,229.11	$6,588,207.36
22	1093952	0.333446596	$364,774.57	$3,076.74	$0.00	$0.00	$367,851.31	1.0000	$367,851.31	$362,381.55	$362,381.55	$6,956,058.67
23	1093952	0.340115528	$372,070.06	$3,076.74	$0.00	$0.00	$375,146.80	1.0000	$375,146.80	$369,677.04	$369,677.04	$7,331,205.47
24	1093952	0.346917838	$379,511.46	$3,076.74	$0.00	$0.00	$382,588.20	1.0000	$382,588.20	$377,118.44	$377,118.44	$7,713,793.68
25	1093952	0.353856195	$387,101.69	$3,076.74	$0.00	$0.00	$390,178.43	1.0000	$390,178.43	$384,708.67	$384,708.67	$8,103,972.11
26	1093952	0.360933319	$394,843.73	$3,076.74	$0.00	$0.00	$397,920.47	1.0000	$397,920.47	$392,450.71	$392,450.71	$8,501,892.57
27	1093952	0.368151985	$402,740.60	$3,076.74	$0.00	$0.00	$405,817.34	1.0000	$405,817.34	$400,347.58	$400,347.58	$8,907,709.91
28	1093952	0.375515025	$410,795.41	$3,076.74	$0.00	$0.00	$413,872.15	1.0000	$413,872.15	$408,402.39	$408,402.39	$9,321,582.07
29	1093952	0.383025325	$419,011.32	$3,076.74	$0.00	$0.00	$422,088.06	1.0000	$422,088.06	$416,618.30	$416,618.30	$9,743,670.13
30	1093952	0.390685832	$427,391.55	$3,076.74	$0.00	$0.00	$430,468.29	1.0000	$430,468.29	$424,998.53	$424,998.53	$10,174,138.41
	32818560		**$9,763,496.90**	**$92,302.20**		**$318,339.31**	**$10,174,138.41**		**$10,174,138.41**			

* Discount Rate= 0.0%

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 0.0%

	Present Value of Costs					Present Value of Costs w/o Downpayment				
Yr	Annual PV Sys. Payment*	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs	Annual PV Sys. Payment***	Annual O&M Costs	Total Annual Costs	Present Value Factor**	Present Value of Costs
0	$525,000.00	$0.00	$525,000.00	1.0000	$525,000.00	$0.00	$0.00	$0.00	1.0000	$0.0000
1	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
2	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
3	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
4	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
5	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
6	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
7	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
8	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
9	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
10	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
11	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
12	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
13	$247,131.00	$5,469.76	$252,600.76	1.0000	$252,600.76	$306,456.00	$5,469.76	$311,925.76	1.0000	$311,925.76
14	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
15	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
16	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
17	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
18	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
19	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
20	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
21	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
22	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
23	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
24	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
25	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
26	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
27	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
28	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
29	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
30	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76	$0.00	$5,469.76	$5,469.76	1.0000	$5,469.76
	$3,737,703	**$164,092.80**	**$3,901,795.80**		**$3,901,795.80**	**$3,983,928.00**	**$164,092.80**	**$4,148,020.80**		**$4,148,020.80**

* Financing of $2,187,000 for 13 years at a 6% interest rate and $525,000 downpayment with $1,000,000 from CEC and $125,000 from AB970
** Discount Rate = 0.0%
*** Financing of $2,712,000 for 13 years at a 6% interest rate and $0.0 downpayment with $1,000,000 from CEC and $125,000 from AB970

Financial Analysis 500 kW Crystalline Silicon (Tracking) PV Power Station - Best Case
$0.22/kWhr; Discount Rate = 0.0%

Net Present Value of PV System = Present Value of Benefits - Present Worth of Costs

= $10,174,138.41
- $3,901,795.80
= **$6,272,342.61**

Cost of Generation = Net Present Cost of PV System / Total kWh Generated over Life of System

= $3,901,795.80 / 32818560 kWh
= **$0.119 /kWh**

Benefit-Cost Ratio = Net Present Benefit of the PV System / Net Present Cost of the PV System

= $10,174,138.41 / $3,901,795.80
= **2.608**

Payback = The period of time required for the profit or other benefits of the system to equal the cost of the initial investment.

= **Year 9**

(Place on City of San Diego Letterhead)

PROPOSAL APPLICATION
For
City of San Diego's Proposed Brightfield Project
Solar Power Plant at Miramar Landfill

Submitted to:
Committee for Land and Airspace Management Policy (CLAMP)
MCAS Miramar
Installations and Logistics, Public Works Division
Code 5JD, POB 452013
San Diego, CA 92145-2013

Submitted by:
City of San Diego
Environmental Services Department
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

March 1, 2001

INTRODUCTION

The City of San Diego Environmental Services Department submits this Proposal Application to the MCAS Miramar Committee for Land and Airspace Management Policy (CLAMP) for review and consideration of approval. The City of San Diego currently holds a lease with approximately thirty years remaining for the operation of the City's landfill operations at Miramar. The purpose of this application is to explore opportunities for the development of up to a 1 MegaWatt Solar Power Plant on top of capped landfill within the City's existing lease area. The opportunity for development of the proposed solar plant has been supported through the US Department of Energy and its "Brightfield" initiative. This program supports local government efforts to transform existing "brownfield" sites, such as capped landfill areas that have limited development potential into productive economic development opportunities.

For the Miramar landfill site, the development of innovative and environmentally sensitive solar power generation can provide a natural and cost-effective solution to energy price volatility, reliability concerns, and air quality issues currently being experienced in the energy-stressed San Diego region. In fact, based on estimates provided through a US DOE funded feasibility study for this proposed project (see attached), energy cost savings will likely result for City operations at the Miramar site. Similarly, the MCAS Miramar facility may also share in these benefits should it decide to utilize power from this environmentally sensitive and technologically proven on-site resource.

The following sections of this application are directly in line with the CLAMP application guidelines, and detail the "who", "what", "when", "where", "why" and "how" of the proposed solar power plant at the Miramar Landfill site.

PROJECT PARTICIPANTS

The lead entity for this proposed project is the City of San Diego Environmental Services Department (ESD). The ESD will finance, develop, own, operate, maintain and manage the proposed solar electric plant to be located on the Miramar Landfill.

The ESD is a municipal government entity, and was created by the San Diego City Council in 1988 as the Waste Management Department to ensure that all residents of San Diego are provided with a clean, safe, and ecologically sound environment. The ongoing priorities of the Department are public health and safety, environmental conservation and preservation. More specifically, it pursues waste management strategies that emphasize waste reduction and recycling, composting, and environmentally sound landfill management to meet the City's long-term disposal needs.

With a staff of approximately 450, the ESD is the City of San Diego's primary environmental representative. The Department is divided into five divisions:

1. Refuse Collection:

- Provides weekly-trash, and biweekly-recycling and greenery collection to more than 310,000 households in the City of San Diego.

2. Refuse Disposal:

- Miramar Landfill Operations
- Fee Collection
- Closed Landfills/Regulatory Compliance

3. Environmental Programs

- AB 939 Compliance
- Solid Waste Code Enforcement
- Curbside Recycling Planning
- Support Services

4. Resource Management

- Community Sustainability

- Customer Service
- Facilities maintenance
- Fiscal Planning and Management
- Human Resources
- Information Technology and Education
- Management Information Services
- Organization Development and Training
- Public Information
- Safety

5. Environmental Protection:

- Burn Ash Site Remediation
- Hazardous Materials
- Asbestos/Lead Management
- Storm Water Pollution Prevention

Again, the proposed solar plant at Miramar Landfill will be developed, financed, owned, operated, maintained and managed by the Environmental Programs division. Letters of support for this effort from the Department Director and the Mayor of San Diego are attached in Appendix A to this application.

The mission of the ESD is to sustain and improve the quality of life in San Diego. This mission is achieved through integrity, creativity, teamwork and innovative technology by dedicated and competent employees who are committed to fully meeting community needs. The City of San Diego is dedicated to developing innovative environmental programs as evidenced by our acclaimed Ridgehaven Green Building, refuse truck diesel-to-natural gas conversion and landfill gas liquefaction programs. Our household hazardous waste handling facility and expanded curbside recycling programs further confirm our commitment to progressive waste management principles. These activities serve to demonstrate the commitment to the EDS mission through educating the community on technologies, services, and practices that benefit both the environment and local businesses' bottom line. The proposed solar plant at the Miramar Landfill continues this department mission to demonstrate technologies that are cost-effective, environmentally sensitive, and make good business sense for the department and the local economy.

The City of San Diego's Environmental Services Department (ESD) has served as a catalyst for sustainability in the San Diego region, pursuing its goals of fostering an environmental conservation ethic, encouraging the use of recycled products, significantly reducing energy and water consumption, and promoting a transition to renewable energy sources.

The ESD has taken a cooperative, integrative approach, forming partnerships with the local electric utility, state and federal governments, nonprofit organizations, and private companies to pursue greenhouse gas reduction and green building projects that demonstrate to the community the value of collaboration. This cooperative approach is being employed for the proposed solar plant at Miramar Landfill through partnerships with the US DOE, potential additional funding support from the California Energy Commission, and collaboration with the local electric utility.

The US DOE is supporting this proposed project via its "Brightfield" initiative. One of DOE's missions is to support the development and commercialization of cost-effective renewable energy technologies that demonstrate environmental benefits and support local economic development through the transformation of local sites that are currently unavailable for development. The proposed solar plant for the Miramar Landfill site is directly in line with this mission, and as such, the DOE has provided programmatic support as well as funding to develop a feasibility study and design assistance for the proposed project. A

letter of support from the US DOE's Assistant Secretary of Energy Efficiency and Renewable Energy is attached in Appendix A.

PROJECT DESCRIPTION

The City of San Diego proposes to develop, finance, own, operate, maintain and manage a solar electric (photovoltaic) power plant, up to 1 MegaWatt in size, on MCAS Miramar land currently leased to the City for its landfill operations. The plant will be sited on a capped area of the landfill that currently has limited options for development. Photovoltaics, or PV arrays, are a technologically proven power generation source, and are environment friendly. PV power sources do not emit air emissions, do not require cooling water as with conventional power plants, do not require extensive site preparation, produce no waste from their operation, and do not pose any reflectivity issues with respect to air traffic flight patterns. An example of the type and layout of the PV system proposed for this site is depicted in the picture below.

The City is currently exploring several system sizing options for the plant, including array configurations with output capacities of 200 kW, 500 kW and 1 MW. The City is also investigating several system types, including amorphous silicon PV modules with a fixed axis stationary mount, crystalline silicon modules with a fixed axis stationary mount, and crystalline silicon PV modules utilizing a tracking system mount. At this time, it appears that the crystalline silicon modules with tracking system configuration may be the best candidate system for this site based on its economic and peak period performance characteristics. The preliminary system design developed for the 1 MW PV plant specifies 10 rows of 100 kW arrays each to maximize system performance and reliability. System components for a 1 MW crystalline silicon PV plant with a tracking system mount would include:

- 4,320 300 watt crystalline silicon modules (432 parallel strings of 10 in series) in 10 sub-arrays;
- 10 Trace 100 kW line tied inverters (1 per sub-array);
- 10 single axis azimuth tracking mount structures; and
- Balance of system components (hardware, wire, disconnects, metering, and NEC required components).

Schematic diagrams of a 1 MW PV system detailing the preliminary system design are included in the feasibility study provided as a supplement to this application. Smaller systems under consideration (i.e., 200 kW and 500 kW) would include the same system components, but the number of each of the components would be reduced proportionately.

The estimated capital cost of the 1 MW PV plant with tracking system is ~$7.4 million. Results from the feasibility study for this proposed project indicate that power from this system configuration can be generated at a busbar cost of under 15 cents per kWh. Current utility energy costs in the San Diego region for large General Service customers are averaging in the 18-22 cent per kWh range. The City plans to utilize a portion of the PV system output to power loads at the existing Miramar Landfill Fee Station to provide net savings on the utility bills for this account. However, the Fee Station consumes less than 2.5% of the annual output of the largest proposed PV plant size.

Benefits to the MCAS Miramar could potentially be accrued through similar reductions in utility bills if it opted to utilize power generated by the on-site PV plant. Significant reductions in utility bills could be realized particularly in the peak summer months when PV plant output is highest, and has a high degree

of coincidence with high cost utility peak power periods. For example, during the summer of 2000, peak utility energy costs spiked up to the 75-80 cent per kWh range. In addition, MCAS Miramar may also benefit from the additional voltage support provided to the local power distribution system by the proposed PV plant. A more thorough discussion of the economics of solar electricity purchases by MCAS Miramar is contained in the feasibility study included with this submittal.

PROJECT TIMELINE

The City of San Diego proposes an aggressive schedule for the proposed project's implementation. Upon approval of the project through MCAS Miramar's CLAMP application process, the City will immediately initiate the necessary environmental review, consultant selection, project design and construction process utilizing an expedited process. It is anticipated that this process will take approximately 18 months from initiation to acceptance of the completed project. This timeline does not include provision for federal environmental review nor a modification to the current Ground Lease. It is anticipated that these actions might be required, and that they could be run in parallel where possible to expedite the process.

The proposed plant will have a project life of a minimum of thirty years. This thirty-year period coincides with the remaining years left on the existing lease to the City from MCAS Miramar for its landfill operations. At the end of the thirty-year period, the City will assess the performance of the plant to determine if it should be decommissioned to recover any salvage value, or if the power plant operations should be continued by the City, a third party, and/or MCAS Miramar. Any decommissioning or conveyance of the facility will take place in conformance with the terms and conditions in Section 9 "Maintenance and Restoration" of the Ground Lease.

PROJECT SITING

Based on an analysis of the site characteristics at the Miramar landfill, two potential sites have been identified for the location of the solar plant. Site One is adjacent to the cogeneration plant near the Sludge Dewatering Facility. Site Two is adjacent to the Fee Station at the northern end of South Miramar Landfill. The boundaries of these two potential sites are clearly marked in the two maps provided as supplemental materials to this application package. For more detail on each of these site's characteristics please refer the feasibility study supplement.

The amount of acreage required for the project will depend on the final system size and technology selected. For example, a 1 MW crystalline silicon array would require approximately 6.5 acres of available land, while a 1 MW amorphous silicon array would require approximately 13 acres. Smaller system sizes will reduce the acreage requirements proportionately.

PROJECT PURPOSE, NEED AND BENEFITS

The purpose of this project is to convert capped landfill area with limited development potential into a productive, economically viable, and environmentally sensitive electrical power generation facility. This facility will provide benefits to the City, MCAS Miramar, and the community at large. One of the major drivers behind the need for this project is the current energy situation in the San Diego region. Since the spring of 2000, the San Diego area has been hit hard by volatile energy prices caused by a restructured energy industry. Electricity price spikes during the summer of 2000 were as high as 75-80 cents per kWh, and at year-end, prices still remain well over 60% above those of the previous year. With California State and other Federal and local incentives, solar electric generation, at a generation cost of under 15 cents per kWh, can easily beat these volatile prices.

While the largest of the proposed plants (1 MW) is small in relation to San Diego's overall energy needs, it can play a role in meeting the need for more power generation in the region. The use of solar power can bypass many of the development hurdles that block most conventional power plants. In fact, with

available land for new generation sites extremely scarce in the San Diego region, the proposed solar plant at the MCAS Miramar landfill site provides an historic opportunity to demonstrate cost-effective, zero emission generation technology. Once successful, this project can serve as model for the development of additional solar plants in the region to bring fast track sources of power into the energy stressed region.

The benefits of this proposed project to the City include developing a cost-effective source of power that will provide utility bill cost savings to the Landfill Station. In addition, this project is directly in line with the Department's mission of demonstrating and promoting the use of technologies to provide a clean, safe, and ecologically sound environment for the residents of the region.

Finally, the MCAS Miramar will be provided a number of benefits through the successful development of this project. First and foremost, the MCAS Miramar facility may be provided utility cost savings should it opt to utilize power generated from the solar plant. Recently, one large power marketing company has begun to offer 5 year, fixed price power contracts to large customers in California at a rate of 11.7 cents per kWh. The solar plant proposed at the Miramar Landfill is competitive with this offering, and would certainly provide utility cost savings if utilized to offset power purchases via the existing SDG&E Time-of-Use (T-O-U) rate tariff. It should be noted that purchases of solar electric power should be evaluated against the SDG&E retail rate, which are significantly higher than the current rates charged to MCAS Miramar via the Public Works Center. Based on the current T-O-U rates charged by SDG&E, and the expected increases to be passed on by the PWC to Miramar in the future, solar electricity from the Miramar Landfill could provide MCAS Miramar with cost savings in the short term, and hedge against future price increases in the long-term.

In addition, should the MCAS Miramar facility chose to utilize power from the solar plant, it would assist in meeting the energy goals specified in Executive Order 13123 - which calls for a 30% reduction in greenhouse gases via utilization of energy efficiency and/or renewable energy technologies. Lastly, should this project proceed, the MCAS Miramar would enjoy a positive public perception through supporting common community energy goals of developing environmentally sensitive generation technologies that reduce San Diego's peak demand and its associated high costs.

Project Lease Agreements

The City proposes to site the solar plant on top of capped landfill area currently under lease from Miramar MCAS for City landfill operations. Therefore, the City does not anticipate the need to enter into any additional land leases for this project, as the site proposed would fall under the existing lease agreement with the City of San Diego.

Appendix A:
Letters of Endorsement