BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	)))))	R.06-03-004

DECLARATION OF BENJAMIN S. COLLINWOOD

I, Benjamin S. Collinwood, declare as follows:

1. I am currently employed as Market Development Specialist for Sanyo Energy, (USA) Corporation. My business address is SANYO Energy (USA) Corporation, 2055 Sanyo Ave., San Diego, California, 92154.

2. I am currently responsible for product management for all H.I.T. (heterojunction with intrinsic thin layer) solar panels sold by Sanyo in the United States market. Since Sanyo initiated direct operations in the United States over three years ago, I have been responsible for North American solar sales operations. In the course of my work with Sanyo, I have gained in-depth knowledge of Sanyo solar panel technology and regularly speak at conferences and events as an expert about the solar market and Sanyo module technology. I am familiar with product design and rating systems used in the North American market.

3. Sanyo is a major participant in the worldwide market for photovoltaic panels, and has in the past three years made a major investment in the North American market, including a 22MW capacity silicon wafer manufacturing facility in the region of Los Angeles, CA. Sanyo has most recently focused on development and marketing of bifacial photovoltaic modules. Bifacial modules provide increased power generation compared to conventional single-sided panels because

the back-side of the panel generates electricity from diffuse light that has passed through the panel or is reflected off surrounding surfaces. These panels have been independently verified by Sandia National Labs in several independent tests validating their increased performance. I would be happy to provide this information if requested.

4. Bifacial panels produce from 0 to 20 percent more power (measured in kWh) than single-sided panels. The amount of increased generation depends on albedo, the amount of diffuse and reflected light, which varies depending on site characteristics and installation conditions, but averages approximately 10-15 percent.

5. The CEC AC rating process is not capable of determining system output when using the Sanyo bifacial solar panels. The CEC AC rating is based on Standard Test Condition (STC) ratings that only measure the output from one side of a panel. Since the STC rating system was developed without consideration of bifacial panels, STC ratings are measured with a solar simulator flash test of only one side of a photovoltaic panel. Output from the second side is ignored in the flash test. Because of this, the CEC AC rating process will systematically understate performance of all bifacial panels by approximately 10-15 percent.

6. We discussed this problem with CEC staff earlier in 2006, and CEC staff members have acknowledged this shortcoming of the CEC AC rating process. CEC staff members have also acknowledged that the CEC AC rating process cannot be adapted to account for back-side output from bifacial modules. When we discussed adapting the CEC rating calculation to account for the average

increased performance of bifacial modules, the CEC staff indicated that adjusting the CEC AC calculation equation could not appropriately capture the variation in performance due to installation conditions and site characteristics.

7. The CEC is correct in understanding that the back-side generation may vary by up to 20 percent, depending on whether the site and installation are optimized. Basically, the back-side produces only minimal electricity if it is flat against a roof, but it is capable of producing up to 20% of the output of the front side if it is installed at an optimal site at an optimal angle, with high albedo. Assigning a value of zero to the output of the back-side makes the CEC AC rating completely erroneous for the vast majority of bifacial installations. In short, using a CEC AC rating to calculate rebates for bifacial panels results in underpayments for virtually all installations involving bifacial modules. This would also be the case if the CPUC adopts the proposed "system" AC approach.

8. Bifacial modules are a recent major innovation in the market. I am aware that the following companies are already manufacturing bifacial solar panels: Hitachi Ltd. (Japan), Origin Energy Australia (Sliver Technology), Solar Wind Europe (Russian/Spanish joint venture), and there may be others of which I am not yet aware. Bifacial panels can be used in a variety of solar installations including commercial, residential, new construction, and architectural applications. Examples of such are: carports, awnings, canopies, facades, trellises, deck coverings, balcony coverings, vertical installations (such as fences), architectural structures, and building integrated photovoltaics (BIPV). In my opinion, bifacial modules will constitute a growing market share in the future.

9. If California uses an incentive structure that completely ignores the significantly higher output level of bifacial panels, then marketers and customers will have no incentive to use this improved product in the California market.

10. Performance-based incentives that are based on actual metered output will correctly reflect differences in technology and site specific characteristics and appropriately reward systems that generate more electricity per unit. I believe that it is extremely important that the California Solar Initiative adopt an incentive structure as soon as possible that is based on metered output.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 24, 2006, at 2055 Sanyo Ave, San Diego, CA 92154.

By: Benjamin S. Collinwood

Benjamin S. Collinwood

EUROPEAN PV ASSOCIATIONS' POSITION PAPER ON A FEED-IN TARIFF FOR PHOTOVOLTAIC SOLAR ELECTRICITY

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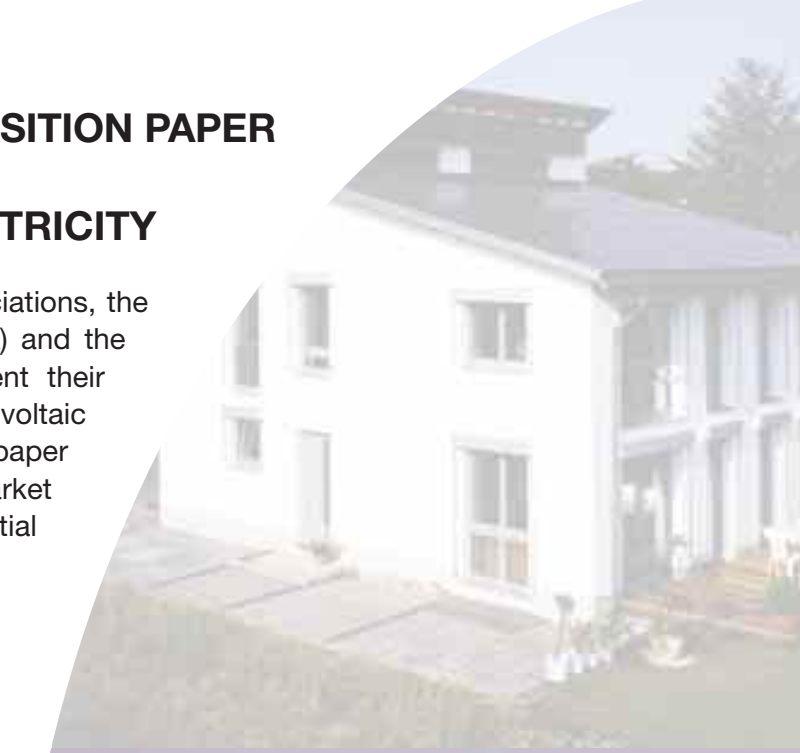
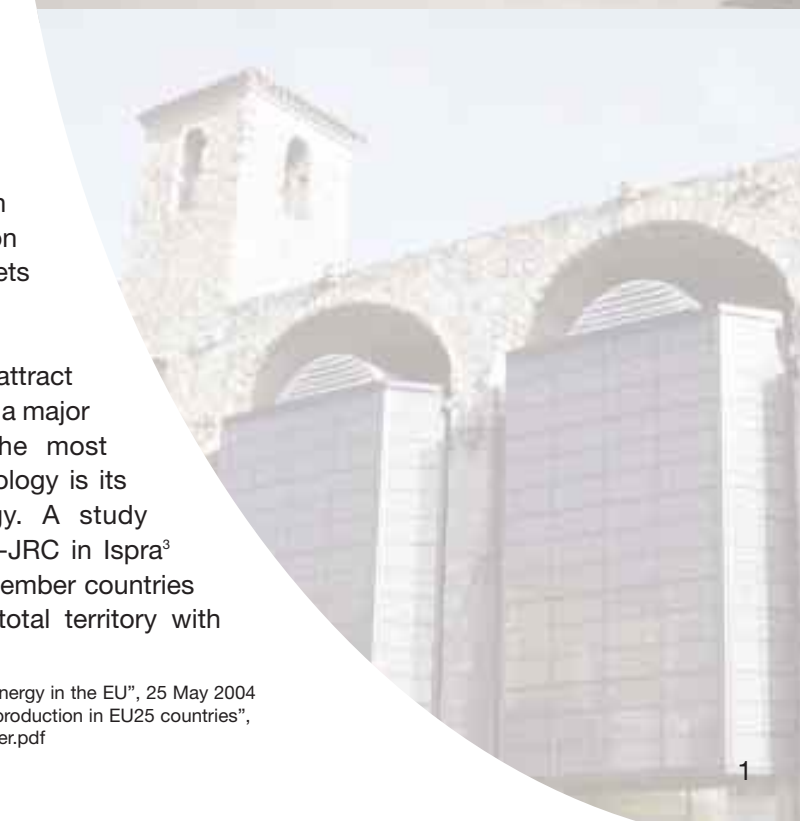
EUROPEAN PV ASSOCIATIONS' POSITION PAPER ON A FEED-IN TARIFF FOR PHOTOVOLTAIC SOLAR ELECTRICITY

The national European photovoltaic industry associations, the European Photovoltaic Industry Association (EPIA) and the Centre of Photovoltaics in Poland hereby present their common position on a Feed-in Tariff (FiT) for photovoltaic solar electricity in the European Union. This paper discusses the advantages of FiT schemes in the market development of photovoltaics and addresses potential concerns in regarding implementation.





1. Background

It is widely known and accepted by experts that current levels of dependence on fossil fuels are unsustainable. The main driving forces that necessitate a change in our energy consumption patterns include natural resource depletion, climate change, a need for security of supply, lack of access to basic energy services by one third of the world's population and the predicted economic growth of emerging markets (especially in the BRIC countries – namely Brazil, Russia, India and China).

The transition to a sustainable global energy system is one of the largest challenges to face mankind in the coming century. Increased electricity generation from renewable energy sources (RES-e) contributes substantially to the easing of geo-, climate- and energy-political areas of conflict and should therefore be prioritised at all levels - local, national and global.

The European Union has set an ambitious target of 21 % of RES-e in 2010[1], obliging all member states to intensify efforts and reach the common objective. The European Commission's report entitled "The share of renewable energy in the EU" concludes however that: "Only a few member states have until now implemented an attractive framework for renewable energy sources. In view of the meagre results so far the Commission calls on member states to ensure the fulfilment of the 2010 targets by the implementation of appropriate measures"[2].

Within various technologies photovoltaics seems to attract considerable attention due to its potential of contributing a major share of renewable energy in coming decades. The most appreciated advantage of this hi-tech innovative technology is its free, abundant and inexhaustible source of energy. A study conducted by the Renewable Energies Unit of the DG-JRC in Ispra[3] shows that the entire electricity consumption of EU25 member countries would be satisfied by covering app. 0.71% of their total territory with

1 Initially the target was 22,1% of RES-E for EU15
2 Communication of the European Commission on "The share of renewable energy in the EU", 25 May 2004
3 M. Suri, T. A. Huld, E. D. Dunlop "Regional differences of the PV electricity production in EU25 countries", http://sunbird.jrc.it/pvgis/pv/doc/other/2004-eupvsec_suri-huld-dunlop_paper.pdf

PV modules. Assuming that installed PV capacity in the EU may increase to that of approximately 200 GWp in 2030[4], emission of close to 180 Mt of CO_2 will be avoided through the deployment of photovoltaic technology alone. Another important advantage of photovoltaics is its high reliability in crisis situations, such as blackouts and natural disasters. In the context of our transition towards a sustainable global energy system, and as a distributed, decentralized form of electricity generation PV therefore constitutes a key technology.

In addition to the objective of decreasing our reliance on fossil fuels through PV electricity, the EU also strives to ensure that the photovoltaic industry remains competitive on the worldwide market. To achieve this complementary goal, effective support mechanisms must be adopted.

Just as in any industry so also in the case of the PV sector, widespread application and therefore increased demand eventually translates into larger economies of production scale which in turn implie lower cost per unit and consumer friendly prices, all of which together ultimately results in attractive returns on investment.
As it is risky to assume that the increase of competitiveness of PV electricity will be ensured by market forces driving the prices for conventional energy to higher levels only, and ultimately favouring alternative energy resources, there is a need to launch support mechanisms aimed at ensuring both:

1. Lower inception costs for the investor and
2. Adequate gains generated throughout the life-cycle of a PV system regardless of size

Ensuring that these two 'objectives are realized will result in favourable returns for both private users (small investors) and large investors.
The two above-mentioned factors determine the development of the PV market.
One should not underestimate the role of support mechanisms aimed at reducing investment cost in the purchase of PV systems (such as low interest credits/loans, investment subsidies, tax rebates, etc.). However, we believe such measures to be of little use without the basic support of a feed-in tariff for **photovoltaic solar electricity** (PV electricity) to 'ensure adequate gains throughout the life-cycle of the PV system'.

2. What is a feed-in tariff (FiT)?

A feed-in tariff involves the obligation on the part of a utility to purchase electricity generated by renewable energy producers in its service area at a tariff determined by public authorities and guaranteed for a specific period of time (generally 20 years). A FiT's value represents the full price per kWh received by an independent producer of renewable energy, i.e. including a premium above or additional to the market price, but excluding tax rebates or other production subsidies paid by the government. Different tariffs can be defined for different

4 "A vision for Photovoltaic Technology for 2030 and Beyond" – a report by PV-TRAC, http://europa.eu.int/comm/research/energy/photovoltaics/vision_report_en.html

technologies (wind, solar, biomass, etc.) or different countries depending on resource conditions (e.g. solar irradiation). The rate of a FiT is furthermore reduced each year for new installations in order to stimulate decrease in production costs.

Historically, feed-in laws have been the primary mechanism used to support RE development in both Europe and the US. They have a track record of some two decades and are well established throughout the European Union. At present, they are being applied in 16 EU member countries.

Whilst many countries in Europe have introduced a FiT on different levels, only some of them (e.g. Germany) have adopted appropriate rates specifically for PV. Others used inadequate FiT parameters (for instance Austria – too low a ceiling on total installed PV capacity) and thus failed to stimulate significant investor interest. In other cases (e.g. Belgium, Slovenia) it is still too early to reflect on the efficiency and effectiveness of FiT programmes. The introduction of a ***feed-in tariff*** is also being considered beyond Europe (e.g. in Australia, and China). By contrast, there is little practical experience on the efficiency and effectiveness of other relatively new support instruments (e.g. RPS) (see explanatory frame below and section 4.1).

3. Other support schemes

Support schemes to stimulate renewable energy introduction and technology deployment differ greatly among EU member states. It is widely accepted that a vivid research environment and public information campaigns combined with demonstration projects are of major importance for successful market development. In stimulation of PV market growth, a **feed-in tariff *is the single most important and most successful driver*,** when applied correctly. Other market support mechanisms, as described below, will merely prove effective as and when all sources of energy (fossil fuels, nuclear energy and RES) reach the same level of competitiveness.

Investment support primarily consists of subsidies, tax facilities or subsidized low-interest rates. These are important support mechanisms as they enable PV market take-off. One should observe that investment support is important for relatively expensive technology and is used in many countries all over Europe.

Quota scheme or Renewable Portfolio Standard (RPS) - a requirement for electricity producers or retail suppliers to source a minimum percentage of their electricity consumption from eligible renewable sources. An RPS is usually combined with a ***Tradable Green Certificate (TGC)*** system, which is based on open market competition that is hence inherently price sensitive. These certificates have an economic value generating an extra income for RE electricity producers.

Tendering (or bidding) scheme – a variation of FiT and RPS; under an RES-e tendering system, the government awards power purchase contracts by way of tenders for a certain aggregate volume of eligible RES-e to project developers who submit the lowest asking price for a kWh.

4. Why a Feed-in tariff?

This position paper, as a voice for the European PV industry , is intended as an important contribution to the European debate on the future of support systems for the promotion of electricity from renewable energy sources, and photovoltaic solar electricity in particular. Discussing the advantages of FiT schemes and addressing potential concerns of implementation, the position is thus intended to be a useful tool for the European Commission, which is to present an evaluation report on RES support mechanisms by 27th October 2005 and may propose a relevant Community framework. Finally, this common position hopes to be a tool also for national legislators.

4.1 Effectiveness in terms of capacity expansion and RES-E production growth (comparative overview)

Countries with feed-in tariffs for wind power (e.g. Germany, Spain, Denmark) have seen the largest growth of RES electricity. After the Electricity Feed-in Law (EEG) was passed in Germany, installed capacity of wind energy more than doubled year-on-year during the 1990-95 period. At the same time, a viable RES–E manufacturing industry was being established in these countries. The adequate FIT also significantly contributed to surpassing capacity targets. This was the case in both Denmark and Germany, where targets set for the future were reached years in advance with regard to wind.

The German case is also a good example of the FiT effect on installed PV capacity. Although the “100,000 Rooftop Programme” did contribute to the enhancement of installed PV capacity, it was the FiT introduction and later optimisation of its rate that really enabled market take-off, as shown in Fig. 1.

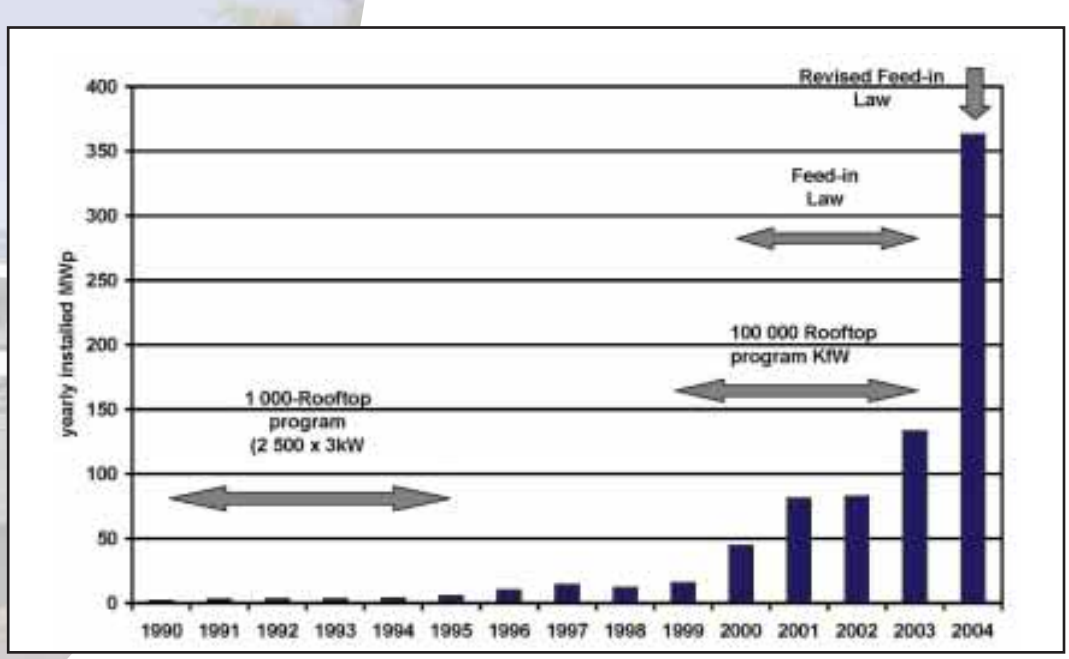


Fig. 1. Market pull by the “100,000 Rooftop Programme” and FiT in Germany *(Source: EPIA)*

Until 2004 yearly installed PV power increased almost thirtyfold to 363 MW and system price decreased by more than 20% since 1999. During this period German PV industry created about 10,000 jobs in production, installation, trade and maintenance of PV systems. It is also interesting to note that since 1999 the majority of investments in solar cell production facilities in Europe were made in Germany and Spain, the two countries that offer the most stable and realistic legal framework conditions for citizens investing in a PV system[5].

Competitive bidding systems (e.g. applied in the UK) in contrast are not as effective in building RES-E capacity. In the past (2001) for instance Germany boasted over 8000 MW of installed wind power capacity whereas the UK showed a mere 500 MW despite a much more favourable wind regime.

Another support mechanism – renewable portfolio standard, is unlikely to have comparable impact on PV deployment as the FiT scheme and may even cause unforeseen negative implications. This arises because an RPS requirement for renewable energy may encourage the lowest direct cost for renewable energy options, so as to minimize electricity retail price. Without specific targets for PV, any portfolio standard will stifle growth of PV markets and impede the technology development.

Green certificate systems are not suitable for PV either as the Danish and Swedish cases clearly demonstrate. In Denmark, a forced transition from the FiT scheme to a green certificate system has led to a collapse of the Danish wind energy market (acc. to the WWEA[6]). In 2000, 600 MW of new capacity were installed based on FiT, whereas during the first half of 2001 new installations dropped to a mere 18 MW, bringing construction of wind power plants to an almost standstill.

4.2 High level of investment confidence to independent (risk-averse) producers of renewable electricity

Investors in renewable energy technology applications demand stable, durable and predictable policy frameworks, some 15 - 20 years ahead. Long-term stability of income provided by the FiT scheme thus enables long term investment planning and facilitates access to low interest credit and loans. A feed-in tariff proves effective in stimulating new investments, resulting in the augmentation of RES-E installed capacity. As was the case for the wind industry, the application of the FiT scheme could once again prove to be highly effective in the rapid development of a pan European PV market and an innovative industry in Europe.

Tradable Green Certificates in contrast offer much less resistance to entrepreneurial risk. Competitive bidding systems create uncertainties -as tendering processes generally include uncertain timescales and tariffs developers are unsure of whether they will be successful in their bids to develop PV projects.

5 A. Jäger-Waldau et al., “Status Report 2004 – Energy End-Use Efficiency and Electricity from Biomass, Wind and Photovoltaics in the European Union”, 2004 EC EUR 21297 EN

6 World Wind Energy Association

4.3 Energy generation cost competitiveness in the longer term

If one agrees that photovoltaics is an energy technology which will significantly contribute to the future energy production due to its efficient conversion of abundant solar radiation and low environmental impact, then it is necessary to consider the point in time when PV will become competitive. The figure below presents the answer to that important question.

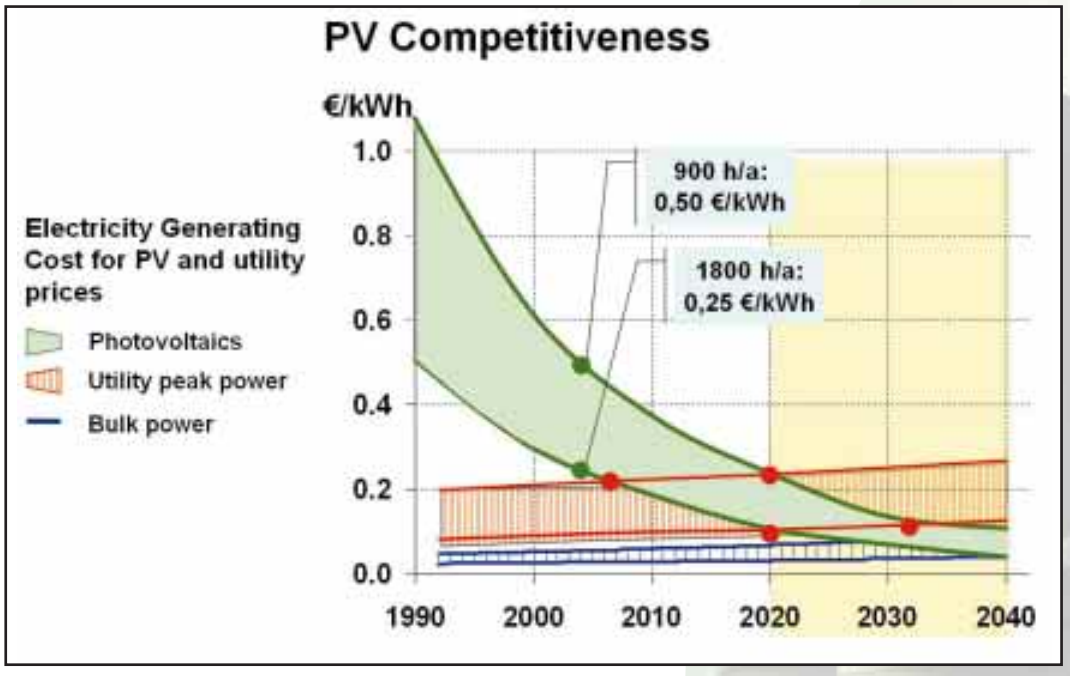


Fig. 2. PV Competitiveness (Source: W. Hoffmann "Towards an Effective European Industrial Policy for PV Solar Electricity")

The market segment "grid connected systems" will be competitive, when PV electricity generating costs based on private investments are lower compared to utility prices in a liberalised market. This will most likely happen as most PV generated kWh are produced in peak hour time and future electricity bills will charge higher prices during peak times compared to the standard flat rate. Fig. 3 shows a respective correlation between (a) spot market prices at the Amsterdam (APX) as well as European (EEX) Power Exchanges and (b) the power output of PV roof top systems installed in Germany (June 2001). It clearly presents that photovoltaic solar electricity is produced at the highest demand when conventional electricity prices are also the highest.

It is estimated that competitiveness of solar photovoltaic electricity for peak power price rates will be reached around 2015 in regions with higher irradiation (e.g. southern Europe) while for Central Europe one should add another 10 years. Competition with bulk power is projected to require 10 additional years for both regions[7].

Some critics say that even in the longer term the FiT system tends to be costly and may become hard to sustain. This is hardly a convincing argument as the PV market potential is enormous, assuming a swift and successful introduction of FiT on a wide-scale in the whole European Union, as illustrated on Fig. 4.

7 W. Hoffmann, S. Pietruszko, M. Viaud "Towards an Effective European Industrial Policy for PV Solar Electricity", Proceedings of the 19th European PV Conference and Exhibition, Paris, 6-10th June 2004, p. 2711

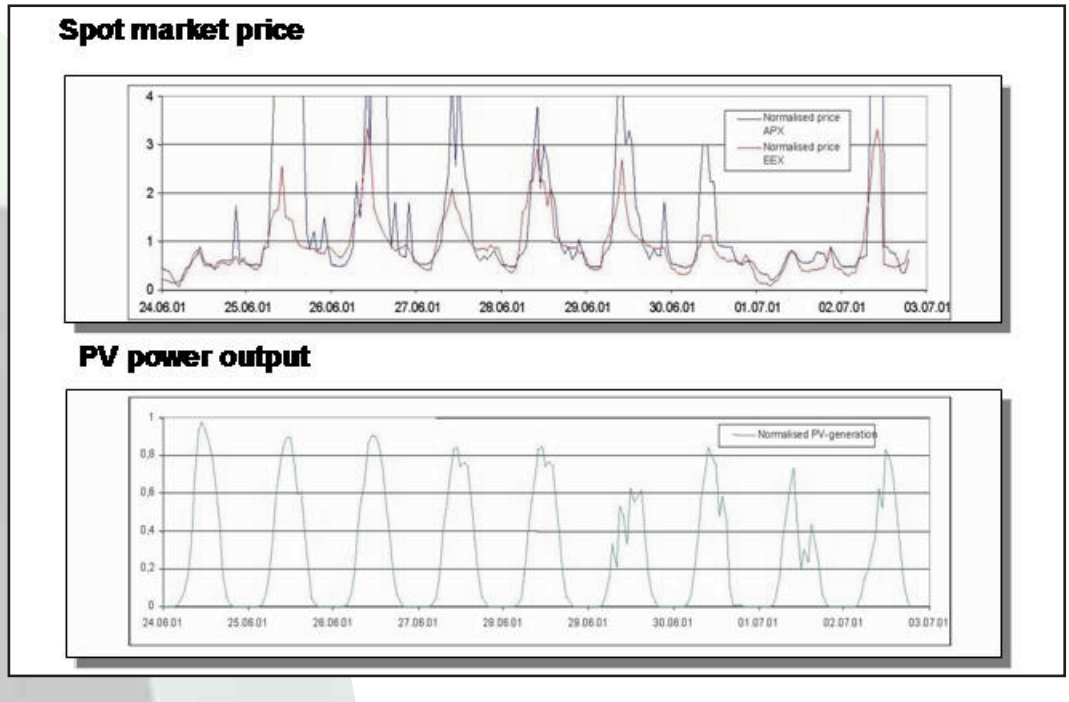


Fig. 3. Spot Market prices in correlation with PV electricity generation in Germany (Source: FhG-ISE)

Assuming that a FiT is coupled to the annual sun hours of a respective region in Europe but otherwise similar to the German EEG (20 years payment, 5% decrease p.a.) one can calculate the total amount of resources required for the next 20 years when the system will expire due to solar PV electricity 'breaking even' also in the grid connected market segment and the phasing out of the 20 years period during which the FiT gets paid for newly installed systems.

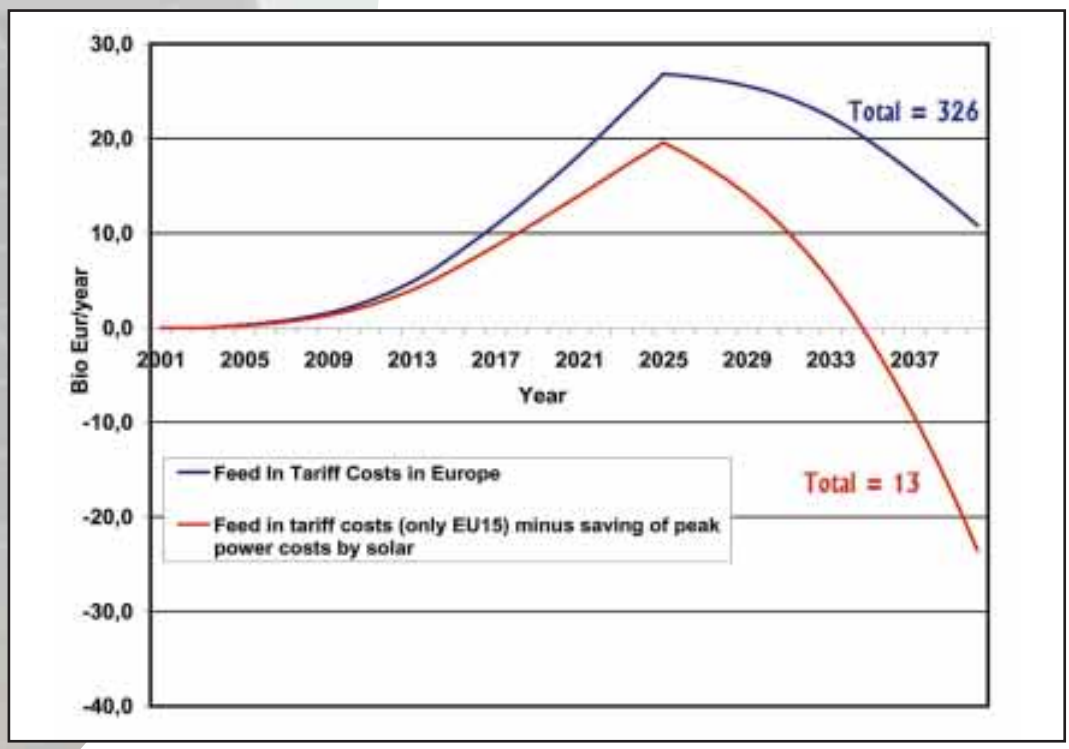


Fig. 4. Costs of FiT implementation in the whole Europe (Source: W. Hoffmann "Towards an Effective European Industrial Policy for PV Solar Electricity")

The integral curve (upper blue one) of the FiT resources over the total of 40 years shown in the above graph may present a daunting figure of several hundred billion Euro at first sight. However, as PV kWh are mostly delivered during peak-power times, a customer may value this produced electricity from his own PV system against the price he would have to pay otherwise to his local utility. Hence, the new integral over 40 years (lower red one) decreases the total sum considerably (to 13 billion EUR only).

Adding job creation[8], necessary investments into production equipment[9], tax revenue from sold goods such as wafers, cells and modules[10] and without further consideration of the socio-economic value of producing pollution free electricity, one can safely conclude that over the 40 years duration of an assumed feed-in tariff there is a well balanced budget of money collected from all electricity users which is distributed amongst investors in PV systems and the political-economic benefit as described above[11].

Further criticism with regard to the feed-in tariff claims it to be inefficient in ensuring that electricity is generated and sold at minimum costs. However, as different companies will compete on the market to sell their products, this will ensure price decrease of the system. Additionally, annual tariff decrease for new PV installations will favour cost efficiency. This in turn will lead to price reductions in PV generated electricity. However, as this process will take time, at present only a feed-in model can create a secure future market for "less cost-competitive" technologies like PV.

Besides, competitiveness of photovoltaic solar electricity will be reached faster because of increasing prices for conventional electricity in the middle to long-term.

4.4 Independence from state budgets

A FiT, unlike investment subsidies, tax rebates etc. does not create burdens on the state budget and as such will gain political acceptance more easily.

The costs of a FiT are borne by electricity consumers. Therefore, proper information and consultation measures (preferably combined with demonstration activities) should be taken to raise environmental awareness and gain consumer approval of the FiT application. European Commission impact studies have shown that a majority of the European population (EU-15) is ready to accept an increase of their electricity bill, if related to renewable energy[12]. This willingness to pay more may, however, vary from country to country. The German experience shows that the real cost charged from a household using PV electricity may be low (in 2003 it was as little as one additional Euro per month)[13]. This goes hand in hand with a conviction of the imperative to increase solar energy's role in ensuring future energy security, expressed by German citizens in 2004 opinion polls[14].

8 An Epia/Greenpeace study projects 100 000 PV jobs by 2010 and 2 million jobs by 2020 in Europe (Renewable Energy World, v.7, nr 6, 2004, p.106)
9 about 6 billion Euro until 2010, 30 billion Euro until 2020 and more than 200 billion Euro until 2030; see the footnote 6
10 1,12 billion Euro in 2010, 4,8 billion Euro in 2020 and 32 billion Euro in 2030; ibidem (assumption of a 16% VAT)
11 ibidem
12 EORG report "Energy: Issues, Options and Technologies Science and Society"; http://europa.eu.int/comm/research/energy/pdf/eurobarometer_energy_en.pdf
13 "Solar Generation" Greenpeace and Epia's Report, 2004
14 According to Allensbach Institute 2004, http://www.ifd-allensbach.de/index.html

4.5 Low and simple administration demands

From a consumer point of view the FiT is a clear and easily understandable mechanism. The one-page text of the EEG was one of the shortest and simplest laws implemented in Germany. Tendering and RPS schemes by contrast are more complex to implement. Besides, administration costs of a FiT are usually lower than for the implementation of a national trading scheme (TGCs). This fact is especially important for small countries where a competitive national trading scheme is difficult to implement. Even in Sweden, energy utilities are refraining from trade of certificates in expectation of the creation of a larger, more liquid and lucrative, pan-Nordic market for certificates.

4.6 Encouragement of technological development and high quality

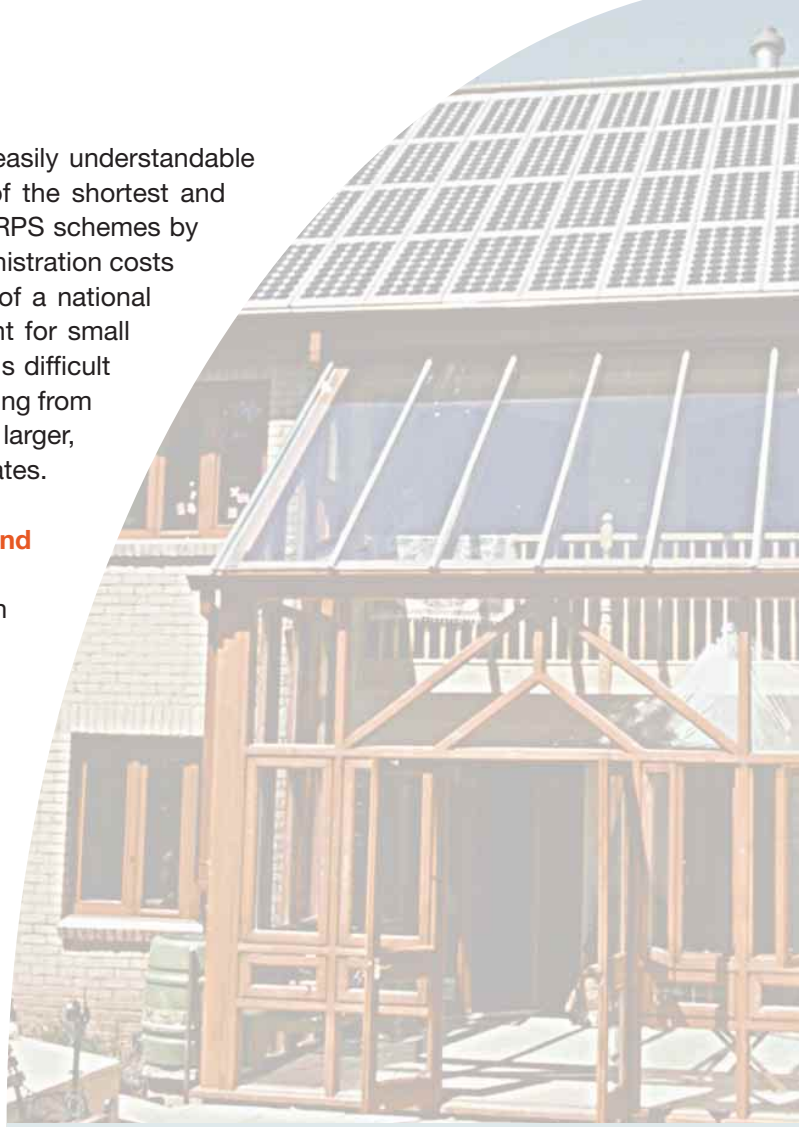
This process is stimulated through the application of an annual decrease in FiT rate for new installations. Producers with lower turnover aim at improving their efficiency through technology development to stay competitive on the market. This is also important with regard to competitiveness of European production companies, since a FiT supports them by stimulating demand in the changing macroeconomic environment.

4.7 Accessibility

A FiT appears to be the most democratic support mechanism, since it is more likely to appeal also to small investors. Participation in FiT schemes is open to any system installed, regardless of its energy generation volume. In case of an RPS combined with green certificates, by contrast, larger generators are more willing to risk selling electricity and certificates under uncertain conditions. Critics point out that TGC schemes obliterate small, decentralised RES-E generation, since it is designed for a different target group: utilities, banks, pension funds, etc.[15]

As far as tendering schemes are concerned, the intense price competition among renewable energy suppliers favours large RE developers and suppliers who are able to reduce cost and thus offer lower prices.

Feed-in-tariffs are therefore the most effective mechanism with regard to a number of potential beneficiaries. Practice has proven that FiT create superior conditions for small and medium investors and offer improved grounds for economic development.



5. Why government support is crucial in accelerating the development of PV-specific green power schemes.

State's role

As experience shows, governments do have a vital role to play in both establishing a realistic and supportive policy framework, and in accelerating the development of PV-specific green power schemes.

15 V. Lauber "REFITs v. RPS: Regulatory competition between support schemes in the EU"

The issue of the decisive role of state in FiT introduction has been examined by the European Court and thus has legal precedence. In 2001 this institution declared that the German feed-in law was compatible with EU law.

State intervention for renewable energies is also justified given a twofold obstacle they are facing in the domestic electricity market:

1) Externalities not always adequately included in the cost of conventional energy
   The electricity wholesale price reflects an incomplete picture of the real, external and internal production cost. As it does not take into account the cost of pollution control inherent in the use of fossil fuels, it prevents the environmental benefits from being considered at face value, and thus denies renewable energy sources the widely acclaimed competitive advantages they were developed to provide in the first place.

   Therefore public intervention may be fully justified by the imperative to take into account external costs related to the environment (not fully included in the cost of electricity produced from fossil fuels), leading to a level playing field on the market and to stimulate technological change.

2) PV markets and technologies are in its infancy – they need support to become sustainable
   As renewable energy technologies like photovoltaics are not completely mature, they cannot enter into direct competition on the market with conventional technologies. Without the widespread dissemination of a technological learning process and economies of scale to occur properly, these technologies cannot aim to be competitive.

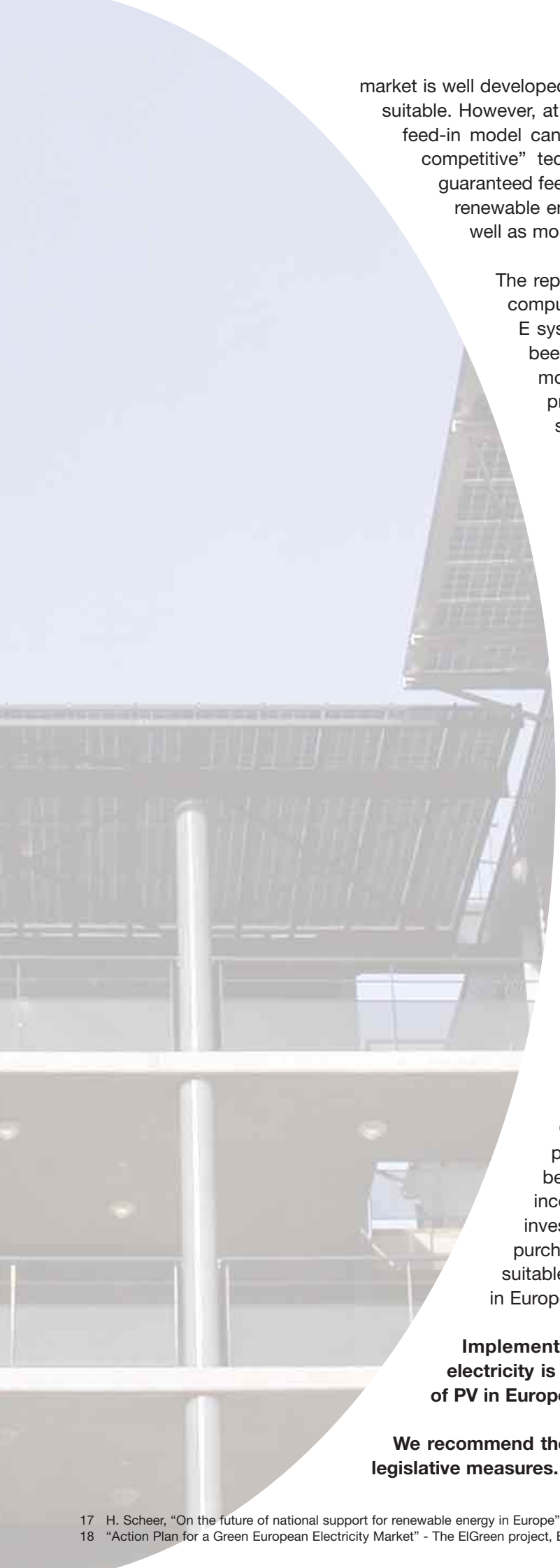
FiT vs. free electricity market

There is an issue that is being heavily discussed: as a national system of feed-in tariff is available only to domestic generators of green electricity it excludes imports of renewable electricity. This situation may be in conflict with the EU rules regarding non-discrimination of domestic versus foreign producers and free international trade among member states. On the other hand, non-discrimination of producers and free international trade may lead to major imports of green electricity and major outflows of financial resources, which may be unacceptable for a country offering relatively high feed-in tariffs[16]. In the Community Guidelines on State Aid for Environmental Protection it is stated that state aid for renewables should result in an overall increase of renewable energy sources and not in shifts from one member state with less favourable RE incentives to another with more favourable state aid.

CONCLUSIONS

Comparing the performance of different support mechanisms applied to RES-E market development one can conclude that a feed-in tariff is at present the best support proposal for the PV market. In the future, when this

16 J.P.M. Sijm: “The performance of Feed-in Tariffs to Promote Renewable Electricity in European Countries” (ECN-C--02-083)



market is well developed, other mechanisms (e.g. net metering) may prove more suitable. However, at the present stage of PV development in Europe, only a feed-in model can create a secure future market for today's "less cost-competitive" technologies such as PV. And only a model based on guaranteed feed-in tariffs enables a quick and broad implementation of renewable energy, better supports its technological development, as well as more efficiently promotes cost reduction[17].

The report produced in 2001 for the EU, based on the ElGreen computer model which reviews all options for supporting RES-E systems comes down on the side of a FiT scheme. It has been successful for triggering substantial dissemination in most of the countries where it has been introduced. It has proven to be the preferable national instrument for significant development of RES-E. The major advantage of a feed-in tariff is that it is effective, flexible, fast and easy to establish (and to adapt if there are difficulties)[18].

However, FiT criticism and improper applications are also a reality. Therefore this particular support instrument should be very carefully designed. As past experience shows administrative burdens should be removed and low ceilings of total system power avoided (consider Spanish and Austrian cases). There is also a need for a favourable legal and administrative framework (e.g. building regulations, grid access-related procedures). Hence, a successful feed-in policy includes the following design features:

- long-term contracts (15-20 years),
- guaranteed price that offers reasonable rates of return for producers, easing access to financing sources (e.g. preferential credit lines) due to clear payback periods,
- integration into long-term planning with other policy options (i.e. investment conditions),
- annual rate decrease according to technological progress for newly installed systems,
- independence from state budgets,
- simple structure,
- low administrative costs and demands,
- supportive in the changing macroeconomic environment (e.g. currency exchange rate).

Considering large investments needed to establish photovoltaic solar electricity in energy systems, it must become a magnet for private capital. Long-term stability of income is a pre-condition to attract investors in long-term investments such as RE power plants. Thus, long-term power purchase agreements guaranteed by a feed-in-tariff are a suitable means at the present stage of PV market development in Europe.

Implementation of a feed-in tariff for photovoltaic solar electricity is a necessity to significantly increase the deployment of PV in Europe!

We recommend the establishment of task-forces to prepare necessary legislative measures.

17 H. Scheer, "On the future of national support for renewable energy in Europe" in Photon International, Feb. 2005, page 80
18 "Action Plan for a Green European Electricity Market" - The ElGreen project, European Communities 2001

Prepared within the PV Catapult Project by:

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- European Photovoltaic Industry Association, Belgium
- Bundesverband Photovoltaik Österreich, Austria
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RWE Schott Solar - Shell Solar - Solar World - Total Energie

Please contact us
for more details
and cooperation!

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	)))))	R.06-03-004

DECLARATION OF JOHN BERDNER

I, John Berdner, declare as follows:

1. I am President of SMA America, Inc., U.S. subsidiary of SMA Technologie, AG. My business address is: 12438 Loma Rica Drive, Grass Valley, CA 95945

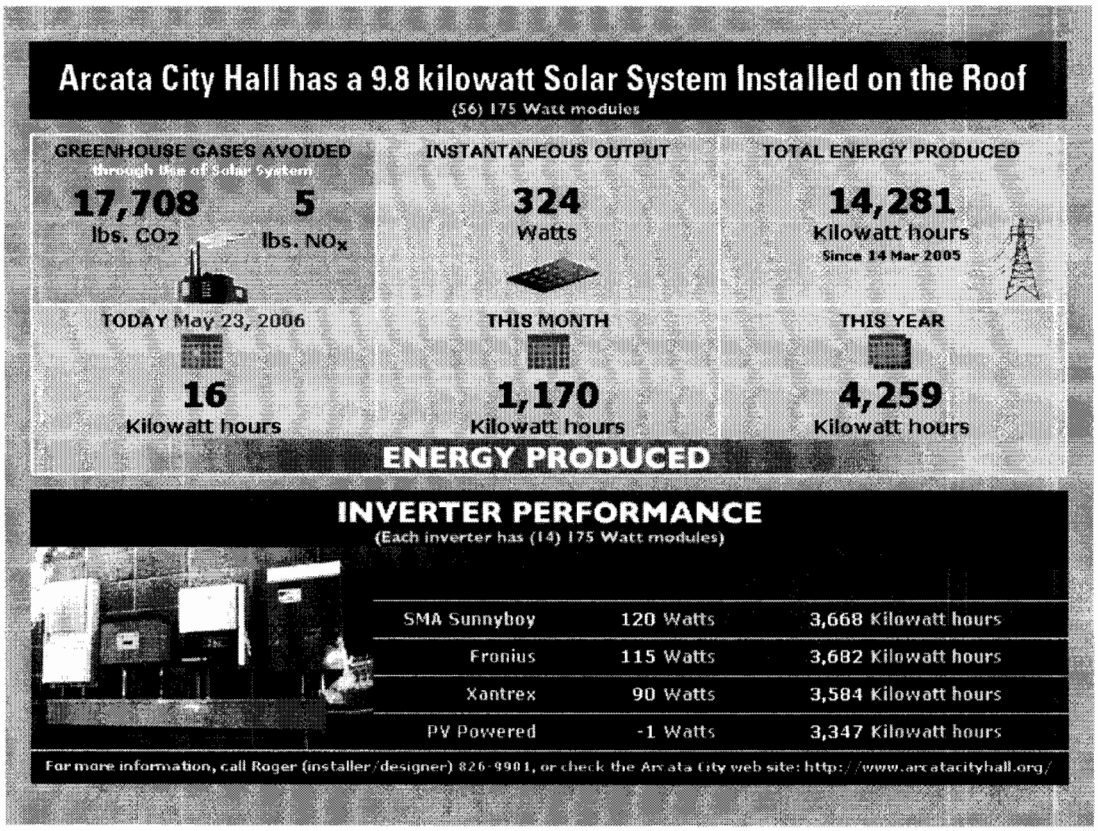
2. SMA Technologie, AG was founded in 1981 and is the oldest and largest supplier of photovoltaic (PV) inverters in the world, with more than 400,000 inverters installed worldwide. SMA has extensive experience in the development of the PV programs in Germany.

3. I have been working in the field of PV system engineering for 23 years. I am a voting member of the Standards Technical panel for Underwriters Laboratory, Inc. (UL) Standard 1741 (the PV inverter safety standard). I am a member of the industry advisory group for National Electric Code (NEC) Article 690 (the portion of the Code addressing PV standards). I am also one of the United States experts for the Institute of Energy Conversion (IEC) PV Task Group.

4. The California Energy Commission's (CEC) inverter and module rating is not an appropriate benchmark for determining system output for purposes of calculating PV incentive payments. The CEC testing model does not address accuracy of inverter power tacking and other aspects of inverter operation. In addition, there are numerous external factors, including verified module rating, wire size, and installation practices, that are not included in the CEC calculation. These other factors cumulatively can have a greater impact on system output than CEC weighted inverter efficiency.

5. The Arcata City Hall provides a real world example of the inaccuracy of the CEC AC rating system. The system consists of four matched solar arrays with inverters from four different manufacturers. The installation practices were identical but verification

tests have shown that the actual energy production varies by approximately 10%. The large variance in energy production is inconsistent with results predicted using CEC inverter efficiency ratings. The CEC efficiency ratings of the four inverters displayed, from top to bottom, are: Sunny Boy 92.5%, Fronius 93%, Xantrex 94.5%, and PV Powered 94%. The actual energy yield as of May 23, 2006, shown in the screen capture below, shows significantly lower energy production for most highly rated inverters and significantly higher production from lower rated inverters.



5. The "system" AC approach proposed by the California Public Utilities Commission Staff for the proposed "Expected Performance" Buydown Incentive does *not* address the accuracy and verification problems we have observed in the CEC AC inverter rating, and has the additional problem of being untested and requiring verification. In my opinion, the use of AC rating will complicate the application process by requiring complicated calculations. The additional information required for array orientation and shading will require a verification process that apparently has not yet been developed.

6. It appears from the limited information provided that the proposed verification process would also require extensive testing and on-site visits. The on-site verification process would be random in nature and therefore inherently inefficient at detecting underperforming systems. In addition, on site verification would require the creation of additional bureaucracy that will divert budget and resources away from installations.

7. A simple performance-based incentive (PBI) would be vastly superior to the inaccurate ratings currently used by the CEC and proposed by the CPUC. Rebates based on output meters are inherently preferable to rating approaches, which rely on proxies for prediction and verification. PBI based programs intrinsically provide proper market drivers encompassing all of the many variables found in PV system design and installation. Over time, market forces then act to reward high performance installation and system design and penalize underperforming systems. Public dissemination of comparative performance data would create informed consumers, thereby accelerating the corrective action of market forces.

8. With a simple PBI payment based on metered output of system performance. The CPUC will not need a complicated on-site verification system as web-based monitoring solutions are available today from multiple vendors. These web-based solutions will provide accurate verification at low initial cost and little or no recurring costs.

9. Basically, it is my observation, based on my years of experience and knowledge of the market, that basing payments for PV incentives on AC inverter ratings is and will always be problematic. Using easily verifiable, accurate and reliable metered output for calculating performance-based incentives is preferable for all of the reasons I have discussed above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 24, 2006, at Grass Valley, CA.

By: 

Total California Solar Initiative / SB1 Program Generation, Capacity and Funding

1. Solar Electricity Production (MWh)

Initial Year of Operation*	Total Solar Electricity Produced	% of Total CA Load	Commercial (Larger than 10 kW)	Residential New Home	Residential (Smaller than 10kW)
2007	122,029	0.048%	24,840	20,530	76,659
2008	209,823	0.082%	27,324	45,771	136,728
2009	320,693	0.124%	30,056	83,293	207,344
2010	452,387	0.173%	36,068	135,637	280,683
2011	642,035	0.242%	50,495	211,057	380,483
2012	887,354	0.330%	70,693	322,282	494,379
2013	1,255,846	0.462%	103,211	323,774	828,861
2014	1,739,972	0.633%	152,753	301,371	1,285,848
2015	2,259,060	0.812%	267,317	288,381	1,703,362
2016	2,503,753	0.889%	528,923	285,946	1,688,883

INVISIBLE CALCULATIONS - DO NOT MOVE

2. Solar Electric Capacity Installed/Reserved (MW)

Initial Year of Operation*	*New Solar Capacity Installed*	*Cumulative Solar Capacity*	Commercial (Larger than 10 kW)	Residential New Home	Residential (Smaller than 10kW)
2007	*60.0*	*60.0*	25.0	5.0	30.0
2008	*69.3*	*129.4*	27.5	8.8	33.0
2009	*83.1*	*212.5*	30.3	13.3	39.6
2010	*105.7*	*318.2*	36.3	19.9	49.5
2011	*142.4*	*460.5*	50.8	29.8	61.7
2012	*196.5*	*657.1*	71.1	44.7	80.7
2013	*273.9*	*931.0*	103.9	67.1	102.9
2014	*399.8*	*1330.8*	153.7	69.1	177.0
2015	*640.4*	*1971.2*	269.0	70.5	300.8
2016	*1029.0*	*3000.3*	532.3	71.9	424.8
Totals:	**3,000**		**1,300**	**400**	**1,300**

PV Installations, California Curve (MW)

Initial Year of Operation*	Commercial (Larger than 10 kW)	Residential New Home	Residential (Smaller than 10kW)	Total CA Electricity Retail Sales (MWh)
2007	25.0	5.0	30.0	253,000,000
2008	27.5	8.8	33.0	256,036,000
2009	30.3	13.3	39.6	259,108,432
2010	36.3	19.9	49.5	262,217,733
2011	50.8	29.8	61.7	265,364,346
2012	71.1	44.7	80.7	268,548,718
2013	103.9	67.1	102.9	271,771,303
2014	153.7	69.1	177.0	275,032,558
2015	269.0	70.5	300.8	278,332,949
2016	532.3	71.9	424.8	281,672,944
	1,300	**400**	**1,300**	285,053,020
CAGR + 100%	140%	134%	134%	

3. Total Funding Requirement

Initial Year of Operation*	Total Direct Incentives Budget	Admin Costs	Total Annual Funding Available to Projects	Interest Earned on Escrow Account	Cumulative Rolling Funding Carried Forward	Direct Incentive Sub-Totals: Commercial (Larger than 10 kW)	Direct Incentive Sub-Totals: Residential New Home	Direct Incentive Sub-Totals: Residential (Smaller than 10kW)	Average Cost to CA Retail Consumers ($/kWh)
2007	$280,000,000	$45,000,000	$235,000,000	**4.0%**	$100,255,629	$75,368,659	$14,126,112	$84,000,000	$0.00093
2008	$280,000,000	$45,000,000	$235,000,000	$4,010,225	$189,808,899	$68,450,203	$21,652,240	$80,850,000	$0.00092
2009	$280,000,000	$45,000,000	$235,000,000	$7,592,356	$266,353,701	$59,628,204	$27,838,594	$83,160,000	$0.00091
2010	$280,000,000	$45,000,000	$235,000,000	$10,654,148	$295,754,099	$112,290,261	$35,792,478	$89,100,000	$0.00090
2011	$280,000,000	$45,000,000	$235,000,000	$11,830,164	$291,402,390	$126,462,619	$44,740,597	$92,584,913	$0.00089
2012	$280,000,000	$45,000,000	$235,000,000	$11,656,096	$261,972,248	$137,495,624	$53,688,717	$96,787,359	$0.00088
2013	$280,000,000	$45,000,000	$235,000,000	$10,478,890	$217,670,234	$144,535,400	$60,399,806	$92,652,994	$0.00086
2014	$280,000,000	$45,000,000	$235,000,000	$8,706,809	$168,794,404	$142,608,262	$41,474,534	$106,174,746	$0.00085
2015	$280,000,000	$45,000,000	$235,000,000	$6,751,776	$123,797,703	$124,782,229	$28,202,683	$120,331,379	$0.00084
2016	$280,000,000	$45,000,000	$235,000,000	$4,951,908	$3,181,201	$82,299,526	$14,383,368	$84,957,293	$0.00083
Subtotals:	$2,800,000,000	$450,000,000	$2,350,000,000			$1,073,920,988	$342,299,128	$930,598,683	

Avg. Annual Totals (2007-2016)	**$280,000,000**	$45,000,000	$235,000,000	$107,392,099	$34,229,913	$93,059,868	$0.00079

$2,800,000,000 **TOTAL FUNDING REQUIREMENT (2007-2025)**

*** Reflects actual payment schedule; incentives and rebates will be reserved 6 months to 1 year prior to being paid.**

A	B	C	D	E	F	G	H	I	J	K	L	M	N

***reflects both CPUC and CEC money for this**

Avg. Production per kWac-real	1,840	IOU Annual Avg. Rate Increase	1.0%
In-State Bonus	0%	AC-cec rating to AC-real rating factor	86%
Distributed Energy Bonus	0%	IOU Peak Residential Elec. Rate ($/kWh)	0.210

Assumptions
From Other Chart

Initial Year of Operation*	Annual PBI plus rebate expenditures	California Solar Initiative Program					
		Solar MWhs annually eligible for PBI Program	ANNUAL SOLAR MWac-cec Installed	PBI payment per MWh	Customer Bill Savings per kWh	Capital Rebate	Value of PBI ($/Wac-cec)
			See Data Table on the Right				
2007	$14,126,112	2,435	5.0		0.210	$2.80	$0.00
2008	$21,652,240	20,530	8.8		0.212	$2.45	$0.00
2009	$27,838,594	45,771	13.3		0.214	$2.10	$0.00
2010	$35,792,478	83,293	19.9		0.216	$1.80	$0.00
2011	$44,740,597	135,637	29.8		0.219	$1.50	$0.00
2012	$53,688,717	211,057	44.7		0.221	$1.20	$0.00
2013	$60,399,806	322,282	67.1		0.223	$0.90	$0.00
2014	$41,474,534	323,774	69.1		0.225	$0.60	$0.00
2015	$28,202,683	301,371	70.5		0.227	$0.40	$0.00
2016	$14,383,368	288,381	71.9		0.230	$0.20	$0.00
2017	$0	285,946			0.232		
2018	$0	267,851			0.234		
2019	$0	242,610			0.237		
2020	$0	205,089			0.239		
2021	$0	152,744			0.241		
2022	$0	77,324			0.244		
2023	$0	-33,901			0.246		
2024	$0	-35,393			0.249		
2025	$0	-12,990			0.251		
2026	$0	0			0.254		
2027	$0				0.256		
2028	$0				0.259		
2029	$0				0.261		
2030	$0				0.264		
2031	$0				0.267		
2032	$0				0.269		
2033	$0				0.272		
2034	$0				0.275		
2035	$0				0.277		
2036	$0				0.280		
Total for Program	**$342,299,128**	**2,883,812**	**400**		**Average $/Wac-cec =**	$0.86	

System Cost Decline	Calendar Year	Project Year 2007	2008
	2007	0	
7%	2008	0	0
7%	2009	0	0
7%	2010	0	0
7%	2011	0	0
7%	2012	0	0
7%	2013	0	0
7%	2014	0	0
7%	2015	0	0
7%	2016	0	0
1%	2017		0
1%	2018		
1%	2019		
1%	2020		
1%	2021		
1%	2022		
1%	2023		
1%	2024		
1%	2025		
1%	2026		
1%	2027		
1%	2028		
1%	2029		
1%	2030		
1%	2031		
1%	2032		
1%	2033		
1%	2034		
1%	2035		
1%	2036		

*** Reflects actual payment schedule; incentives and rebates will be reserved 6 months to 1 year prior to being paid.**

California New Home Law Potential Impact					
California Program Summary					
	Solar Homes	Eligible New Homes	% of Home Covered	Avg Sys. Size (kWac)	INPUT Total MW (AC)
2007	2,523	100,000	2.5%	2.0 kWs	5
2008	4,017	103,000	3.9%	2.2 kWs	9
2009	5,478	106,090	5.2%	2.4 kWs	13
2010	7,470	109,273	6.8%	2.7 kWs	20
2011	10,186	112,551	9.1%	2.9 kWs	30
2012	13,890	115,927	12.0%	3.2 kWs	45
2013	18,941	119,405	15.9%	3.5 kWs	67
2014	17,736	122,987	14.4%	3.9 kWs	69
2015	16,446	126,677	13.0%	4.3 kWs	71
2016	15,250	130,477	11.7%	4.7 kWs	72
Growth		3.0%		10.0%	

Tax Credits	
Per Installation	Per Watt
$2,000.00	$1.00
$2,000.00	$0.91
$2,000.00	$0.83
$0.00	$0.00
$0.00	$0.00
$0.00	$0.00
$0.00	$0.00
$0.00	$0.00
$0.00	$0.00
$0.00	$0.00

PBI per MWH																			
2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
0																			
0	0																		
0	0	0																	
0	0	0	0																
0	0	0	0	0															
0	0	0	0	0	0														
0	0	0	0	0	0	0													
0	0	0	0	0	0	0	0												
0	0	0	0	0	0	0	0	0											
0	0	0	0	0	0	0	0	0	0										
	0	0	0	0	0	0	0	0	0	0									
		0	0	0	0	0	0	0	0	0	0								
			0	0	0	0	0	0	0	0	0	0							
				0	0	0	0	0	0	0	0	0	0						
					0	0	0	0	0	0	0	0	0	0					
						0	0	0	0	0	0	0	0	0	0				
							0	0	0	0	0	0	0	0	0	0			
								0	0	0	0	0	0	0	0	0	0		
									0	0	0	0	0	0	0	0	0	0	
										0	0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0	0
													0	0	0	0	0	0	0
														0	0	0	0	0	0
															0	0	0	0	0
																0	0	0	0
																	0	0	0
																		0	0
																			0

New Eligible MWhs for PBI		
	2007	2008
2007	2,435	0
2008	18,095	0
2009	25,241	0
2010	37,522	0
2011	52,344	0
2012	75,420	0
2013	111,225	0
2014	1,492	0
2015	-22,403	0
2016	-12,990	0
2017	-2,435	0
2018	-18,095	0
2019	-25,241	0
2020	-37,522	0
2021	-52,344	0
2022	-75,420	0
2023	-111,225	0
2024	-1,492	0
2025	22,403	0
2026	12,990	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0
2035	0	0
2036	0	0

Calculate Total Cost of PBI ($/Year)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	
0																				$ -	2007
0																				$ -	2008
0	0																			$ -	2009
0	0	0																		$ -	2010
0	0	0	0																	$ -	2011
0	0	0	0	0																$ -	2012
0	0	0	0	0	0															$ -	2013
0	0	0	0	0	0	0														$ -	2014
0	0	0	0	0	0	0	0													$ -	2015
0	0	0	0	0	0	0	0	0												$ -	2016
0	0	0	0	0	0	0	0	0	0											$ -	2017
0	0	0	0	0	0	0	0	0	0	0										$ -	2018
0	0	0	0	0	0	0	0	0	0	0	0									$ -	2019
0	0	0	0	0	0	0	0	0	0	0	0	0								$ -	2020
0	0	0	0	0	0	0	0	0	0	0	0	0	0							$ -	2021
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						$ -	2022
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					$ -	2023
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				$ -	2024
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			$ -	2025
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		$ -	2026
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2027
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2028
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2029
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2030
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2031
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2032
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2033
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2034
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2035
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2036
																	Total for Program			$ -	

A	B	C	D	E	F	G	H	I	J	K	L	M	N

Avg. Production per kWac-real	1,840	IOU Annual Avg. Rate Increase	1.0%
In-State Bonus	0%	AC-cec rating to AC-real rating factor	86%
Distributed Energy Bonus	0%	IOU Peak Residential Elec. Rate ($/kWh)	0.210

Assumptions
From Other Chart

California Solar Initiative Program

Initial Year of Operation*	Annual PBI plus rebate expenditures	Solar MWhs annually eligible for PBI Program	ANNUAL SOLAR MWac-cec Installed	PBI payment per MWh	Customer Bill Savings per kWh	Capital Rebate	Value of PBI ($/Wac-cec)
			See Data Table on the Right				
2007	$84,000,000	14,479	30.0		0.210	$2.80	$0.00
2008	$80,850,000	76,659	33.0		0.212	$2.45	$0.00
2009	$83,160,000	136,728	39.6		0.214	$2.10	$0.00
2010	$89,100,000	207,344	49.5		0.216	$1.80	$0.00
2011	$92,584,913	280,683	61.7		0.219	$1.50	$0.00
2012	$96,787,359	380,483	80.7		0.221	$1.20	$0.00
2013	$92,652,994	494,379	102.9		0.223	$0.90	$0.00
2014	$106,174,746	828,861	177.0		0.225	$0.60	$0.00
2015	$120,331,379	1,285,848	300.8		0.227	$0.40	$0.00
2016	$84,957,293	1,703,362	424.8		0.230	$0.20	$0.00
2017	$0	1,688,883			0.232		
2018	$0	1,626,703			0.234		
2019	$0	1,566,634			0.237		
2020	$0	1,496,018			0.239		
2021	$0	1,422,679			0.241		
2022	$0	1,322,879			0.244		
2023	$0	1,208,983			0.246		
2024	$0	874,501			0.249		
2025	$0	417,514			0.251		
2026	$0	0			0.254		
2027	$0				0.256		
2028	$0				0.259		
2029	$0				0.261		
2030	$0				0.264		
2031	$0				0.267		
2032	$0				0.269		
2033	$0				0.272		
2034	$0				0.275		
2035	$0				0.277		
2036	$0				0.280		
Total for Program	**$930,598,683**	**17,033,621**	**1,300**		**Average $/Wac-cec =**	$0.72	

System Cost Decline	Calendar Year	Project Year	2007	2008
	2007	0		
7%	2008	0	0	
7%	2009	0	0	
7%	2010	0	0	
7%	2011	0	0	
7%	2012	0	0	
7%	2013	0	0	
7%	2014	0	0	
7%	2015	0	0	
7%	2016	0	0	
1%	2017		0	
1%	2018			
1%	2019			
1%	2020			
1%	2021			
1%	2022			
1%	2023			
1%	2024			
1%	2025			
1%	2026			
1%	2027			
1%	2028			
1%	2029			
1%	2030			
1%	2031			
1%	2032			
1%	2033			
1%	2034			
1%	2035			
1%	2036			

*** Reflects actual payment schedule; incentives and rebates will be reserved 6 months to 1 year prior to being paid.**

California Retrofit Market

California Program Summary	Residential Retrofit Installation Only	Avg Sys. Size (kWac)	INPUT SOLAR VISION Total MWs (AC)	Tax Credits Per Installation	Tax Credits Per Watt
2007	8,571	3.5 kWs	30	$2,000.00	$0.57
2008	8,980	3.7 kWs	33	$2,000.00	$0.54
2009	10,262	3.9 kWs	40	$2,000.00	$0.52
2010	12,217	4.1 kWs	50	$0.00	$0.00
2011	14,509	4.3 kWs	62	$0.00	$0.00
2012	18,056	4.5 kWs	81	$0.00	$0.00
2013	21,949	4.7 kWs	103	$0.00	$0.00
2014	35,932	4.9 kWs	177	$0.00	$0.00
2015	58,175	5.2 kWs	301	$0.00	$0.00
2016	78,235	5.4 kWs	425	$0.00	$0.00
Growth		5.0%			

PBI ($/MWh)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
0																			
0	0																		
0	0	0																	
0	0	0	0																
0	0	0	0	0															
0	0	0	0	0	0														
0	0	0	0	0	0	0													
0	0	0	0	0	0	0	0												
0	0	0	0	0	0	0	0	0											
0	0	0	0	0	0	0	0	0	0										
	0	0	0	0	0	0	0	0	0	0									
		0	0	0	0	0	0	0	0	0	0								
			0	0	0	0	0	0	0	0	0	0							
				0	0	0	0	0	0	0	0	0	0						
					0	0	0	0	0	0	0	0	0	0					
						0	0	0	0	0	0	0	0	0	0				
							0	0	0	0	0	0	0	0	0	0			
								0	0	0	0	0	0	0	0	0	0		
									0	0	0	0	0	0	0	0	0	0	
										0	0	0	0	0	0	0	0	0	0
											0	0	0	0	0	0	0	0	0
												0	0	0	0	0	0	0	0
													0	0	0	0	0	0	0
														0	0	0	0	0	0
															0	0	0	0	0
																0	0	0	0
																	0	0	0
																		0	0
																			0

New Eligible MWhs for PBI

	2007	2008
2007	14,479	0
2008	62,180	0
2009	60,069	0
2010	70,616	0
2011	73,339	0
2012	99,800	0
2013	113,896	0
2014	334,482	0
2015	456,987	0
2016	417,514	0
2017	-14,479	0
2018	-62,180	0
2019	-60,069	0
2020	-70,616	0
2021	-73,339	0
2022	-99,800	0
2023	-113,896	0
2024	-334,482	0
2025	-456,987	0
2026	-417,514	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0
2035	0	0
2036	0	0

Calculate Total Cost of PBI ($/Year)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	
0																				$ -	2007
0																				$ -	2008
0	0																			$ -	2009
0	0	0																		$ -	2010
0	0	0	0																	$ -	2011
0	0	0	0	0																$ -	2012
0	0	0	0	0	0															$ -	2013
0	0	0	0	0	0	0														$ -	2014
0	0	0	0	0	0	0	0													$ -	2015
0	0	0	0	0	0	0	0	0												$ -	2016
0	0	0	0	0	0	0	0	0	0											$ -	2017
0	0	0	0	0	0	0	0	0	0	0										$ -	2018
0	0	0	0	0	0	0	0	0	0	0	0									$ -	2019
0	0	0	0	0	0	0	0	0	0	0	0	0								$ -	2020
0	0	0	0	0	0	0	0	0	0	0	0	0	0							$ -	2021
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						$ -	2022
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					$ -	2023
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				$ -	2024
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			$ -	2025
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		$ -	2026
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2027
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2028
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2029
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2030
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2031
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2032
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2033
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2034
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2035
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -	2036
																	Total for Program			$ -	

ASSUMPTIONS

Year 1 Installation Cost ($/Wac-cec)	$7.65
Avg. Production per kWac-real	1,840
Performance Degradation	0.60%
AC-cec rating to AC-real rating factor	90%
Blended Avg. IOU Elec. Rate	0.130
Annual Avg. Rate Increase	3.0%

Initial Year of Operation*	Annual Encumberance from PBI Program	Solar MWhs annually eligible for PBI Program	ANNUAL SOLAR MWac-cec Installed
2007	$26,930,659	4,826	10.0
2008	$24,458,563	25,553	11.0
2009	$21,306,294	41,778	12.1
2010	$40,123,451	60,821	14.5
2011	$45,187,505	92,440	20.3
2012	$49,129,808	134,252	28.5
2013	$51,645,255	199,535	41.6
2014	$50,956,651	288,038	61.5
2015	$44,587,070	459,988	107.6
2016	$29,407,190	853,842	212.9
2017	$0	849,016	
2018	$0	828,289	
2019	$0	812,064	
2020	$0	793,021	
2021	$0	761,402	
2022	$0	719,590	
2023	$0	654,307	
2024	$0	565,804	
2025	$0	393,854	
2026	$0	0	
2027	$0		
2028	$0		
2029	$0		
2030	$0		
2031	$0		
2032	$0		
2033	$0		
2034	$0		
2035	$0		
2036	$0		
Totals for Program	**$383,732,446**	**8,538,419**	**520**

*** Reflects actual payment schedule; incentives and rebates will be reserve**

	5%		
NPV	$64,083,305,116.35	#REF!	#REF!

Year	Multi Year Allocation		
	CBI	PBI	Total
2007	$12,997,457,466	#REF!	#REF!
2008	$56,817,411,389	#REF!	#REF!
2009	$19,369,359	#REF!	#REF!
2010	$33,436,210	#REF!	#REF!
2011	$32,276,789	#REF!	#REF!
2012	$35,092,720	#REF!	#REF!
2013	$35,373,462	#REF!	#REF!
2014	$34,430,170	#REF!	#REF!
2015	$25,478,326	#REF!	#REF!
2016	$14,862,357	#REF!	#REF!
2017	$0	#REF!	#REF!
2018	$0	#REF!	#REF!
2019	$0	#REF!	#REF!
2020	$0	#REF!	#REF!
2021	$0	#REF!	#REF!
2022	$0	#REF!	#REF!
2023	$0	#REF!	#REF!
2024	$0	#REF!	#REF!
2025	$0	#REF!	#REF!
2026	$0	#REF!	#REF!
2027			
2028			
2029			
2030			
2031			

2032 2033 2034 2035 2036			
Totals through 2036	**$70,045,188,247**	**#REF!**	**#REF!**

PBI Annual Decline	0%
ay-out Term (years)	5
In-State Bonus	0%
ution Energy Bonus	0%

Federal Tax Rate	35.0%
State Tax Rate	7.8%
Blended Federal & State	40.1%
Discount Rate	10.0%

California Solar Initiative Program

PBI payment per MWh	Customer Bill Savings per kWh	CBI Equivalent using discount rate	*Fed ITC*	*CA ITC*
e Data Table on the Right				
	0.130	$2.69	**30%**	0%
	0.134	$2.22	**30%**	0%
	0.138	$1.76	**30%**	0%
	0.142	$2.76	10%	0%
	0.146	$2.22	10%	0%
	0.151	$1.73	10%	0%
	0.155	$1.24	10%	0%
	0.160	$0.83	10%	0%
	0.165	$0.41	10%	0%
	0.170	$0.14	10%	0%
	0.175	$0.00		
	0.180	$0.00		
	0.185	$0.00		
	0.191	$0.00		
	0.197	$0.00		
	0.203	$0.00		
	0.209	$0.00		
	0.215	$0.00		
	0.221	$0.00		
	0.228	$0.00		
	0.235	$0.00		
	0.242	$0.00		
	0.249	$0.00		
	0.257	$0.00		
	0.264	$0.00		
	0.272			
	0.280			
	0.289			
	0.297			
	0.306			

Average $/Wac-cec = $0.74

ed 6 months to 1 year prior to being paid.

################	#REF!	#REF!

Yearly Allocation		
CBI	PBI	Total
$12,997,457,466	#REF!	#REF!
$56,817,411,389	#REF!	#REF!
$19,369,359	#REF!	#REF!
$33,436,210	#REF!	#REF!
$32,276,789	#REF!	#REF!
$35,092,720	#REF!	#REF!
$35,373,462	#REF!	#REF!
$34,430,170	#REF!	#REF!
$25,478,326	#REF!	#REF!
$14,862,357	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!
$0	#REF!	#REF!

############	#REF!	#REF!

Assumptions
From Other Chart

System Cost Decline
7%
7%
7%
7%
7%
7%
7%
7%
7%
1%
1%
1%
1%
1%
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1%

ASSUMPTIONS

Year 1 Installation Cost ($/Wac-cec)	$7.65	PBI Annual Decline	0%	Federal Tax Rate	35.0%	Assumptions	
Avg. Production per kWac-real	1,840	PBI Pay-out Term (years)	5	State Tax Rate	7.8%	From Other Chart	
Performance Degradation	0.60%	In-State Bonus	0%	Blended Federal & State	40.1%	**Recalculate**	
AC-cec rating to AC-real rating factor	90%	Distribution Energy Bonus	0%	Discount Rate	10.0%		
Blended Avg. IOU Elec. Rate	0.130						
Annual Avg. Rate Increase	3.0%						

California Solar Initiative Program

Target IRR: **8.0%**

Initial Year of Operation*	Annual Encumberance from PBI Program	New Solar MWhs annually eligible for PBI Program	ANNUAL SOLAR MWac-cec Installed	PBI payment per MWh	Customer Bill Savings per kWh	CBI Equivalent using discount rate	*Fed ITC*	*CA ITC*	Value of Tax Benefits (% of Net Cost)	*Avg Install Price ($/Wac-cec)*	System Cost Decline	Com IRR	Gov IRR
				See Data Table on the Right									
2007	$48,438,000	24,840	15.0	**390**	0.130	$2.69	**30%**	0%	54.4%	*$7.65*		9.0%	2.6%
2008	$43,991,640	27,324	16.5	322	0.134	$2.22	**30%**	0%	54.4%	*$7.11*	7%	9.0%	2.9%
2009	$38,321,910	30,056	18.2	255	0.138	$1.76	**30%**	0%	54.4%	*$6.62*	7%	9.0%	3.2%
2010	$72,166,810	36,068	21.8	400	0.142	$2.76	10%	0%	38.9%	*$6.15*	7%	8.1%	7.2%
2011	$81,275,114	50,495	30.5	322	0.146	$2.22	10%	0%	38.9%	*$5.72*	7%	8.0%	7.1%
2012	$88,365,816	70,693	42.7	250	0.151	$1.73	10%	0%	38.9%	*$5.32*	7%	8.0%	7.2%
2013	$92,890,146	103,211	62.3	180	0.155	$1.24	10%	0%	38.9%	*$4.95*	7%	8.0%	7.2%
2014	$91,651,611	152,753	92.2	120	0.160	$0.83	10%	0%	38.9%	*$4.60*	7%	8.1%	7.3%
2015	$80,195,159	267,317	161.4	60	0.165	$0.41	10%	0%	38.9%	*$4.28*	7%	8.1%	7.3%
2016	$52,892,336	528,923	319.4	20	0.170	$0.14	10%	0%	38.9%	*$3.98*	7%	8.4%	7.8%
2017	$0				0.175	$0.00			31.2%	*$3.94*	1%		
2018	$0				0.180	$0.00			31.2%	*$3.90*	1%		
2019	$0				0.185	$0.00			31.2%	*$3.86*	1%		
2020	$0				0.191	$0.00				*$3.82*	1%		
2021	$0				0.197	$0.00				*$3.79*	1%		
2022	$0				0.203	$0.00				*$3.75*	1%		
2023	$0				0.209	$0.00				*$3.71*	1%		
2024	$0				0.215	$0.00				*$3.67*	1%		
2025	$0				0.221	$0.00				*$3.64*	1%		
2026	$0				0.228	$0.00				*$3.60*	1%		
2027	$0				0.235	$0.00				*$3.56*	1%		
2028	$0				0.242	$0.00				*$3.53*	1%		
2029	$0				0.249	$0.00				*$3.49*	1%		
2030	$0				0.257	$0.00				*$3.46*	1%		
2031	$0				0.264	$0.00				*$3.42*	1%		
2032	$0				0.272					*$3.39*	1%		
2033	$0				0.280					*$3.36*	1%		
2034	$0				0.289					*$3.32*	1%		
2035	$0				0.297					*$3.29*	1%		
2036	$0				0.306					*$3.26*	1%		
Totals for Program	**$690,188,541**	**1,291,680**	**780**			**Average $/Wac-cec =**	$0.88						

*** Reflects actual payment schedule; incentives and rebates will be reserved 6 months to 1 year prior to being paid.**

	5%					
NPV	$119,071,444,501.76	$473,092,072.05	$119,544,536,573.81	###############	$520,344,503.99	$119,591,789,005.75

	Multi Year Allocation			Yearly Allocation		
Year	CBI	PBI	Total	CBI	PBI	Total
2007	$66,895,756,953	$9,687,600	$66,905,444,553	$66,895,756,953	$48,438,000	$66,944,194,953
2008	$60,755,069,520	$18,485,928	$60,773,555,448	$60,755,069,520	$43,991,640	$60,799,061,160
2009	$29,054,038	$26,150,310	$55,204,348	$29,054,038	$38,321,910	$67,375,948
2010	$50,154,314	$40,583,672	$90,737,986	$50,154,314	$72,166,810	$122,321,124
2011	$48,415,184	$56,838,695	$105,253,879	$48,415,184	$81,275,114	$129,690,298
2012	$52,639,080	$64,824,258	$117,463,338	$52,639,080	$88,365,816	$141,004,896
2013	$53,060,193	$74,603,959	$127,664,152	$53,060,193	$92,890,146	$145,950,339
2014	$51,645,255	$85,269,899	$136,915,154	$51,645,255	$91,651,611	$143,296,865
2015	$38,217,488	$86,875,569	$125,093,057	$38,217,488	$80,195,159	$118,412,648
2016	$22,293,535	$81,199,014	$103,492,548	$22,293,535	$52,892,336	$75,185,871
2017	$0	$63,525,850	$63,525,850	$0	$0	$0
2018	$0	$44,947,821	$44,947,821	$0	$0	$0
2019	$0	$26,617,499	$26,617,499	$0	$0	$0
2020	$0	$10,578,467	$10,578,467	$0	$0	$0
2021	$0	$0	$0	$0	$0	$0
2022	$0	$0	$0	$0	$0	$0
2023	$0	$0	$0	$0	$0	$0
2024	$0	$0	$0	$0	$0	$0
2025	$0	$0	$0	$0	$0	$0
2026	$0	$0	$0	$0	$0	$0
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						
2036						
Totals through 2036	**$127,996,305,560**	**$690,188,541**	**$128,686,494,101**	############	**$690,188,541**	**$128,686,494,101**

PBI per MWH

Calendar Year	Project Year																				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2007	390																					
2008	390	322																				
2009	390	322	255																			
2010	390	322	255	400																		
2011	390	322	255	400	322																	
2012	0	322	255	400	322	250																
2013	0	0	255	400	322	250	180															
2014	0	0	0	400	322	250	180	120														
2015	0	0	0	0	322	250	180	120	60													
2016	0	0	0	0	0	250	180	120	60	20												
2017	0	0	0	0	0	0	180	120	60	20	0											
2018	0	0	0	0	0	0	0	120	60	20	0	0										
2019	0	0	0	0	0	0	0	0	60	20	0	0	0									
2020	0	0	0	0	0	0	0	0	0	20	0	0	0	0								
2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
2022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2026	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2028	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10-Year PBI Program: 10-Year Declining PBI Pay-out Schedule ($/kWh)

	Initial Year of Operation*									
Pay-out Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
1	0.390	0.322	0.255	0.400	0.322	0.250	0.180	0.120	0.060	0.020
2	0.390	0.322	0.255	0.400	0.322	0.250	0.180	0.120	0.060	0.020
3	0.390	0.322	0.255	0.400	0.322	0.250	0.180	0.120	0.060	0.020
4	0.390	0.322	0.255	0.400	0.322	0.250	0.180	0.120	0.060	0.020
5	0.390	0.322	0.255	0.400	0.322	0.250	0.180	0.120	0.060	0.020
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

CALCULATIONS

	Avg Annual G	Inflation
10-year	1,791	
20-year	1,739	134%
25-year	1,714	146%

year	kWh/kWac	inflation	Fed Depr	State Depr
1	1,840	100%	20.0%	4.2%
2	1,829	103%	32.0%	8.3%
3	1,818	106%	19.2%	8.3%
4	1,807	109%	11.5%	8.3%
5	1,796	113%	11.5%	8.3%
6	1,786	116%	5.8%	8.3%
7	1,775	119%		8.3%
8	1,764	123%		8.3%
9	1,754	127%		8.3%
10	1,743	130%		8.3%
11	1,733	134%		8.3%
12	1,722	138%		8.3%
13	1,712	143%		
14	1,702	147%		
15	1,692	151%		
16	1,682	156%		
17	1,672	160%		
18	1,662	165%		
19	1,652	170%		
20	1,642	175%		
21	1,632	181%		
22	1,622	186%		
23	1,612	192%		
24	1,603	197%		
25	1,593	203%		
			100%	96%

Calculate Total Cost of PBI ($/Year)

	New Eligible MWh for PBI	PBI $ 2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total	
2007	24,840	9,687,600	-																				$ 9,687,600	2007
2008	27,324	9,687,600	8,798,328																				$ 18,485,928	2008
2009	30,056	9,687,600	8,798,328	7,664,382																			$ 26,150,310	2009
2010	36,068	9,687,600	8,798,328	7,664,382	14,433,362																		$ 40,583,672	2010
2011	50,495	9,687,600	8,798,328	7,664,382	14,433,362	16,255,023																	$ 56,838,695	2011
2012	70,693	-	8,798,328	7,664,382	14,433,362	16,255,023	17,673,163																$ 64,824,258	2012
2013	103,211	-	-	7,664,382	14,433,362	16,255,023	17,673,163	18,578,029															$ 74,603,959	2013
2014	152,753	-	-	-	14,433,362	16,255,023	17,673,163	18,578,029	18,330,322														$ 85,269,899	2014
2015	267,317	-	-	-	-	16,255,023	17,673,163	18,578,029	18,330,322	16,039,032													$ 86,875,569	2015
2016	528,923	-	-	-	-	-	17,673,163	18,578,029	18,330,322	16,039,032	10,578,467												$ 81,199,014	2016
2017	0	-	-	-	-	-	-	18,578,029	18,330,322	16,039,032	10,578,467	-											$ 63,525,850	2017
2018	0	-	-	-	-	-	-	-	18,330,322	16,039,032	10,578,467	-	-										$ 44,947,821	2018
2019	0	-	-	-	-	-	-	-	-	16,039,032	10,578,467	-	-	-									$ 26,617,499	2019
2020	0	-	-	-	-	-	-	-	-	-	10,578,467	-	-	-	-								$ 10,578,467	2020
2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							$ -	2021
2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						$ -	2022
2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					$ -	2023
2024	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				$ -	2024
2025	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			$ -	2025
2026	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		$ -	2026
2027	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2027
2028	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2028
2029	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2029
2030	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2030
2031	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2031
2032	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2032
2033	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2033
2034	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2034
2035	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2035
2036	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -	2036
		$48,438,000	$ 43,991,640	$ 38,321,910	$ 72,166,810	$ 81,275,114	$ 88,365,816	$ 92,890,146	$ 91,651,611	$ 80,195,159	$ 52,892,336	$-	$-	$-	$ -	$-	$ -	$ -	$ -	Totals for Program			$ 690,188,541	

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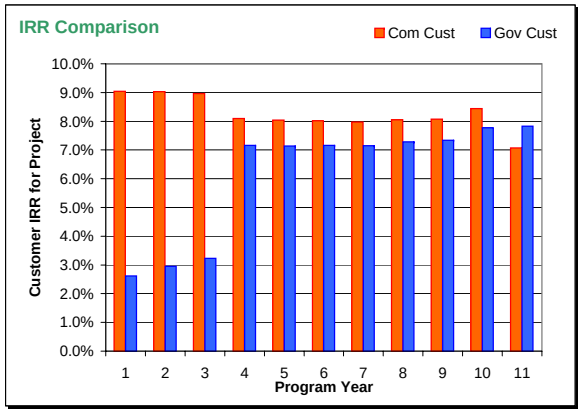

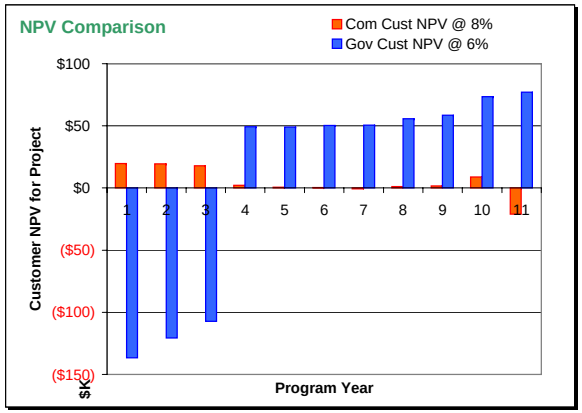

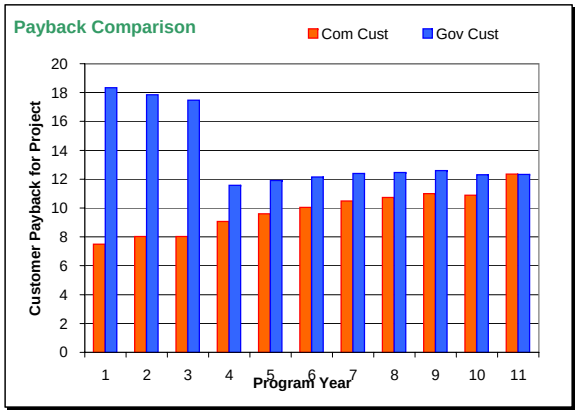

Commercial Customers			
Year	IRR	NPV (8%)	Payback
1	9.0%	$19,694	7.5
2	9.0%	$19,293	8.0
3	9.0%	$17,953	8.0
4	8.1%	$2,066	9.1
5	8.0%	$726	9.6
6	8.0%	$375	10.0
7	8.0%	($603)	10.5
8	8.1%	$1,075	10.7
9	8.1%	$1,596	11.0
10	8.4%	$8,898	10.9
11	7.1%	($21,015)	12.3

		2007			2008			2009			2010			2011			2012		
		Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New
CBI ($/W)			$2.80	$2.80		$2.45	$2.45		$2.10	$2.10		$1.80	$1.80		$1.50	$1.50		$1.20	$1.20
PBI ($/kWh)	Y1	$0.39			$0.32			$0.26			$0.40			$0.32			$0.25		
	Y2	$0.39			$0.32			$0.26			$0.40			$0.32			$0.25		
	Y3	$0.39			$0.32			$0.26			$0.40			$0.32			$0.25		
	Y4	$0.39			$0.32			$0.26			$0.40			$0.32			$0.25		
	Y5	$0.39			$0.32			$0.26			$0.40			$0.32			$0.25		
	Y6	$0.00			$0.00			$0.00			$0.00			$0.00			$0.00		
	Y7	$0.00			$0.00			$0.00			$0.00			$0.00			$0.00		
	Y8	$0.00			$0.00			$0.00			$0.00			$0.00			$0.00		
	Y9	$0.00			$0.00			$0.00			$0.00			$0.00			$0.00		
	Y10	$0.00			$0.00			$0.00			$0.00			$0.00			$0.00		
CBI Equivalent		$ 2.69			$ 2.22			$ 1.76			$ 2.76			$ 2.22			$ 1.73		

Government Customers			
Year	IRR	NPV (6%)	Payback
1	2.6%	($136,684)	18.3
2	2.9%	($120,654)	17.8
3	3.2%	($107,304)	17.5
4	7.2%	$49,292	11.6
5	7.1%	$48,920	11.9
6	7.2%	$50,305	12.2
7	7.2%	$50,607	12.4
8	7.3%	$55,607	12.5
9	7.3%	$58,596	12.6
10	7.8%	$73,549	12.3
11	7.8%	$77,181	12.3

		2013			2014			2015			2016			2017		
		Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New	Com	Res Retro	Res New
CBI ($/W)			$0.90	$0.90		$0.60	$0.60		$0.40	$0.40		$0.20	$0.20		$0.00	$0.00
PBI ($/kWh)	Y1	$0.18			$0.12			$0.06			$0.02			$0.00		
	Y2	$0.18			$0.12			$0.06			$0.02			$0.00		
	Y3	$0.18			$0.12			$0.06			$0.02			$0.00		
	Y4	$0.18			$0.12			$0.06			$0.02			$0.00		
	Y5	$0.18			$0.12			$0.06			$0.02			$0.00		
	Y6	$0.00			$0.00			$0.00			$0.00			$0.00		
	Y7	$0.00			$0.00			$0.00			$0.00			$0.00		
	Y8	$0.00			$0.00			$0.00			$0.00			$0.00		
	Y9	$0.00			$0.00			$0.00			$0.00			$0.00		
	Y10	$0.00			$0.00			$0.00			$0.00			$0.00		

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.39
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.130

Declining PBI	
Year	PBI Schedule
1	0.390
2	0.390
3	0.390
4	0.390
5	0.390
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000
18	0.000
19	0.000
20	0.000
21	0.000
22	0.000
23	0.000
24	0.000
25	0.000

System Costs		
Gross Price ($/W):	$7.65	
Total Gross Price:	$ 765,000	100%
CBI Incentives:	$ -	0%
Net Price	$ 765,000	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	30.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual Inflation:	0.0%
Elect. Inflation:	3.0%

OutPut	
Total Rebate $	$ 319
Total Rebate $	$ 1.28
IRR - Private S	9.0%
Payback Com	7.48
IRR - Public Se	2.6%
Payback Gov	18.34

PBI equ value	
payout	$3.19
NPV (5%)	$2.76
npv(10%)	$2.42

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	319,079	64,584	64,198	63,813	63,432	63,052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	319,079	64,584	64,198	63,813	63,432	63,052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	724,372	21,528	22,041	22,567	23,104	23,655	24,219	24,796	25,387	25,993	26,612	27,247	27,896	28,561	29,242	29,939	30,652	31,383	32,131	32,897	33,681	34,484	35,306	36,148	37,009	37,892
Total Cost Savings:	1,043,451	86,112	86,239	86,380	86,536	86,707	24,219	24,796	25,387	25,993	26,612	27,247	27,896	28,561	29,242	29,939	30,652	31,383	32,131	32,897	33,681	34,484	35,306	36,148	37,009	37,892
Expenses:																										
Maintenance	(57,375)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)
Total Expenses:		(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)
Financing:		$																								
% Downpayment:	100%	765,000																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(765,000)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(765,000)	(765,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	221,076	(681,183)	83,944	84,085	84,241	84,412	21,924	22,501	23,092	23,698	24,317	24,952	25,601	26,266	26,947	27,644	28,357	29,088	29,836	30,602	31,386	32,189	33,011	33,853	34,714	35,597
PRE-TAX CASH FLOW, CUMULATIVE:		(681,183)	(597,239)	(513,154)	(428,913)	(344,501)	(322,577)	(300,075)	(276,983)	(253,285)	(228,968)	(204,017)	(178,416)	(152,150)	(125,203)	(97,559)	(69,201)	(40,113)	(10,277)	20,325	51,711	83,901	116,912	150,765	185,479	221,076
Federal tax calculation (+ = refund)																										
Savings as a result of project	(986,076)	(83,817)	(83,944)	(84,085)	(84,241)	(84,412)	(21,924)	(22,501)	(23,092)	(23,698)	(24,317)	(24,952)	(25,601)	(26,266)	(26,947)	(27,644)	(28,357)	(29,088)	(29,836)	(30,602)	(31,386)	(32,189)	(33,011)	(33,853)	(34,714)	(35,597)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	650,250	130,050	208,080	124,848	74,779	74,779	37,715	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	17,244	4,051	1,575	1,586	1,598	1,612	(3,262)	(3,217)	(3,171)	(3,124)	(3,076)	(3,026)	(2,976)	(438)	2,102	2,156	2,212	2,269	2,327	2,387	2,448	2,511	2,575	2,641	2,708	2,777
Annual taxable income	(318,581)	50,285	125,712	42,349	(7,864)	(8,022)	12,528	(25,719)	(26,264)	(26,822)	(27,393)	(27,978)	(28,577)	(26,703)	(24,845)	(25,488)	(26,146)	(26,819)	(27,509)	(28,215)	(28,938)	(29,678)	(30,436)	(31,212)	(32,007)	(32,820)
Taxes due before ITC (+ = refund)	(111,503)	17,600	43,999	14,822	(2,752)	(2,808)	4,385	(9,002)	(9,192)	(9,388)	(9,588)	(9,792)	(10,002)	(9,346)	(8,696)	(8,921)	(9,151)	(9,387)	(9,628)	(9,875)	(10,128)	(10,387)	(10,653)	(10,924)	(11,202)	(11,487)
Federal tax credit (ITC)	229,500	229,500																								
Taxes due after ITC	117,997	247,100	43,999	14,822	(2,752)	(2,808)	4,385	(9,002)	(9,192)	(9,388)	(9,588)	(9,792)	(10,002)	(9,346)	(8,696)	(8,921)	(9,151)	(9,387)	(9,628)	(9,875)	(10,128)	(10,387)	(10,653)	(10,924)	(11,202)	(11,487)
State tax calculation (+ = refund)																										
Savings as a result of project	(986,076)	(83,817)	(83,944)	(84,085)	(84,241)	(84,412)	(21,924)	(22,501)	(23,092)	(23,698)	(24,317)	(24,952)	(25,601)	(26,266)	(26,947)	(27,644)	(28,357)	(29,088)	(29,836)	(30,602)	(31,386)	(32,189)	(33,011)	(33,853)	(34,714)	(35,597)
State Depreciation	765,000	31,875	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	31,875	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(221,076)	(51,942)	(20,194)	(20,335)	(20,491)	(20,662)	41,826	41,249	40,658	40,052	39,433	38,798	38,149	5,609	(26,947)	(27,644)	(28,357)	(29,088)	(29,836)	(30,602)	(31,386)	(32,189)	(33,011)	(33,853)	(34,714)	(35,597)
Taxes due before ITC (+ = refund)	(17,244)	(4,051)	(1,575)	(1,586)	(1,598)	(1,612)	3,262	3,217	3,171	3,124	3,076	3,026	2,976	438	(2,102)	(2,156)	(2,212)	(2,269)	(2,327)	(2,387)	(2,448)	(2,511)	(2,575)	(2,641)	(2,708)	(2,777)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(17,244)	(4,051)	(1,575)	(1,586)	(1,598)	(1,612)	3,262	3,217	3,171	3,124	3,076	3,026	2,976	438	(2,102)	(2,156)	(2,212)	(2,269)	(2,327)	(2,387)	(2,448)	(2,511)	(2,575)	(2,641)	(2,708)	(2,777)
AFTER-TAX CASH FLOW, NET*:	321,828	(438,135)	126,368	97,321	79,890	79,993	29,571	16,717	17,071	17,434	17,805	18,186	18,575	17,357	16,149	16,567	16,995	17,433	17,881	18,340	18,810	19,291	19,784	20,288	20,804	21,333
AFTER-TAX CASH FLOW, CUMULATIVE:		(438,135)	(311,767)	(214,446)	(134,556)	(54,563)	(24,991)	(8,274)	8,797	26,231	44,037	62,223	80,797	98,155	114,304	130,871	147,865	165,298	183,179	201,519	220,329	239,619	259,403	279,691	300,495	321,828
		(398,337)	117,072	88,904	75,881	65,533	49,075	39,564	36,960	34,675	32,676	13,038	13,420	13,809	14,207	14,613	15,163	15,543	15,978	16,422	16,876	17,339	17,812	18,294	18,787	19,290

9.0%	Internal Rate of Return
7.48	Payback Term
19,694	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	319,079	64,584	64,198	63,813	63,432	63,052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	724,372	21,528	22,041	22,567	23,104	23,655	24,219	24,796	25,387	25,993	26,612	27,247	27,896	28,561	29,242	29,939	30,652	31,383	32,131	32,897	33,681	34,484	35,306	36,148	37,009	37,892
Total Cost Savings:	1,043,451	86,112	86,239	86,380	86,536	86,707	24,219	24,796	25,387	25,993	26,612	27,247	27,896	28,561	29,242	29,939	30,652	31,383	32,131	32,897	33,681	34,484	35,306	36,148	37,009	37,892
Expenses:																										
Maintenance	(57,375)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)
Total Expenses:		(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)	(2,295)
Financing:		$																								
% Downpayment:	100%	765,000																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(765,000)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(765,000)	(765,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	221,076	(681,183)	83,944	84,085	84,241	84,412	21,924	22,501	23,092	23,698	24,317	24,952	25,601	26,266	26,947	27,644	28,357	29,088	29,836	30,602	31,386	32,189	33,011	33,853	34,714	35,597
CASH FLOW, CUMULATIVE:		(681,183)	(597,239)	(513,154)	(428,913)	(344,501)	(322,577)	(300,075)	(276,983)	(253,285)	(228,968)	(204,017)	(178,416)	(152,150)	(125,203)	(97,559)	(69,201)	(40,113)	(10,277)	20,325	51,711	83,901	116,912	150,765	185,479	221,076

2.6%	Internal Rate of Return
18.34	Payback Term
($136,684)	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.32
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.134

Declining PBI	
Year	PBI Schedule
1	0.322
2	0.322
3	0.322
4	0.322
5	0.322
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$7.11	
Total Gross Price:	$ 711,450	100%
CBI Incentives:	$ -	0%
Net Price	$ 711,450	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	30.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 263
Total Rebate $	$ 1.05
IRR - Private S	9.0%
Payback Com	8.03
IRR - Public Se	2.9%
Payback Gov	17.84

PBI equiv. value	
payout	$2.63
NPV (5%)	$2.28
npv(10%)	$2.00

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	263,444	53,323	53,004	52,687	52,372	52,058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	263,444	53,323	53,004	52,687	52,372	52,058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	746,103	22,174	22,702	23,244	23,798	24,365	24,946	25,540	26,149	26,772	27,411	28,064	28,733	29,418	30,119	30,837	31,572	32,325	33,095	33,884	34,692	35,519	36,365	37,232	38,120	39,028
Total Cost Savings:	1,009,547	75,497	75,707	75,931	76,169	76,423	24,946	25,540	26,149	26,772	27,411	28,064	28,733	29,418	30,119	30,837	31,572	32,325	33,095	33,884	34,692	35,519	36,365	37,232	38,120	39,028
Expenses:																										
Maintenance	(53,359)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)
Total Expenses:		(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)
Financing:		$																								
% Downpayment:	100%	711,450																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(711,450)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(711,450)	(711,450)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	244,739	(638,087)	73,572	73,796	74,035	74,289	22,811	23,406	24,015	24,638	25,276	25,930	26,599	27,283	27,985	28,703	29,438	30,190	30,961	31,750	32,557	33,384	34,231	35,098	35,985	36,894
PRE-TAX CASH FLOW, CUMULATIVE:		(638,087)	(564,515)	(490,719)	(416,684)	(342,395)	(319,584)	(296,178)	(272,163)	(247,525)	(222,249)	(196,319)	(169,721)	(142,437)	(114,452)	(85,750)	(56,312)	(26,122)	4,839	36,589	69,146	102,531	136,762	171,859	207,845	244,739
Federal tax calculation (+ = refund)																										
Savings as a result of project	(956,189)	(73,363)	(73,572)	(73,796)	(74,035)	(74,289)	(22,811)	(23,406)	(24,015)	(24,638)	(25,276)	(25,930)	(26,599)	(27,283)	(27,985)	(28,703)	(29,438)	(30,190)	(30,961)	(31,750)	(32,557)	(33,384)	(34,231)	(35,098)	(35,985)	(36,894)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	604,733	120,947	193,514	116,109	69,544	69,544	35,074	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	19,090	3,410	1,114	1,132	1,150	1,170	(2,845)	(2,799)	(2,751)	(2,703)	(2,653)	(2,602)	(2,550)	(184)	2,183	2,239	2,296	2,355	2,415	2,476	2,539	2,604	2,670	2,738	2,807	2,878
Annual taxable income	(332,366)	50,994	121,057	43,444	(3,340)	(3,574)	9,418	(26,205)	(26,766)	(27,341)	(27,929)	(28,532)	(29,148)	(27,468)	(25,802)	(26,464)	(27,142)	(27,835)	(28,546)	(29,273)	(30,018)	(30,780)	(31,561)	(32,360)	(33,178)	(34,016)
Taxes due before ITC (+ = refund)	(116,328)	17,848	42,370	15,206	(1,169)	(1,251)	3,296	(9,172)	(9,368)	(9,569)	(9,775)	(9,986)	(10,202)	(9,614)	(9,031)	(9,262)	(9,500)	(9,742)	(9,991)	(10,246)	(10,506)	(10,773)	(11,046)	(11,326)	(11,612)	(11,906)
Federal tax credit (ITC)	213,435	213,435																								
Taxes due after ITC	97,107	231,283	42,370	15,206	(1,169)	(1,251)	3,296	(9,172)	(9,368)	(9,569)	(9,775)	(9,986)	(10,202)	(9,614)	(9,031)	(9,262)	(9,500)	(9,742)	(9,991)	(10,246)	(10,506)	(10,773)	(11,046)	(11,326)	(11,612)	(11,906)
State tax calculation (+ = refund)																										
Savings as a result of project	(956,189)	(73,363)	(73,572)	(73,796)	(74,035)	(74,289)	(22,811)	(23,406)	(24,015)	(24,638)	(25,276)	(25,930)	(26,599)	(27,283)	(27,985)	(28,703)	(29,438)	(30,190)	(30,961)	(31,750)	(32,557)	(33,384)	(34,231)	(35,098)	(35,985)	(36,894)
State Depreciation	711,450	29,644	59,288	59,288	59,288	59,288	59,288	59,288	59,288	59,288	59,288	59,288	59,288	29,644	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(244,739)	(43,719)	(14,285)	(14,509)	(14,747)	(15,001)	36,476	35,882	35,273	34,649	34,011	33,358	32,689	2,360	(27,985)	(28,703)	(29,438)	(30,190)	(30,961)	(31,750)	(32,557)	(33,384)	(34,231)	(35,098)	(35,985)	(36,894)
Taxes due before ITC (+ = refund)	(19,090)	(3,410)	(1,114)	(1,132)	(1,150)	(1,170)	2,845	2,799	2,751	2,703	2,653	2,602	2,550	184	(2,183)	(2,239)	(2,296)	(2,355)	(2,415)	(2,476)	(2,539)	(2,604)	(2,670)	(2,738)	(2,807)	(2,878)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(19,090)	(3,410)	(1,114)	(1,132)	(1,150)	(1,170)	2,845	2,799	2,751	2,703	2,653	2,602	2,550	184	(2,183)	(2,239)	(2,296)	(2,355)	(2,415)	(2,476)	(2,539)	(2,604)	(2,670)	(2,738)	(2,807)	(2,878)
AFTER-TAX CASH FLOW, NET*:	322,756	(410,214)	114,828	87,870	71,716	71,868	28,953	17,033	17,398	17,771	18,154	18,545	18,946	17,854	16,771	17,202	17,642	18,093	18,555	19,028	19,512	20,007	20,515	21,034	21,566	22,111
AFTER-TAX CASH FLOW, CUMULATIVE:		(410,214)	(295,387)	(207,517)	(135,801)	(63,933)	(34,981)	(17,947)	(550)	17,222	35,376	53,921	72,868	90,722	107,493	124,694	142,336	160,429	178,984	198,012	217,524	237,531	258,045	279,080	300,646	322,756

9.0%	Internal Rate of Return
8.03	Payback Term
19,293	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	263,444	53,323	53,004	52,687	52,372	52,058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	746,103	22,174	22,702	23,244	23,798	24,365	24,946	25,540	26,149	26,772	27,411	28,064	28,733	29,418	30,119	30,837	31,572	32,325	33,095	33,884	34,692	35,519	36,365	37,232	38,120	39,028
Total Cost Savings:	1,009,547	75,497	75,707	75,931	76,169	76,423	24,946	25,540	26,149	26,772	27,411	28,064	28,733	29,418	30,119	30,837	31,572	32,325	33,095	33,884	34,692	35,519	36,365	37,232	38,120	39,028
Expenses:																										
Maintenance	(53,359)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)
Total Expenses:		(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)	(2,134)
Financing:		$																								
% Downpayment:	100%	711,450																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(711,450)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(711,450)	(711,450)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	244,739	(638,087)	73,572	73,796	74,035	74,289	22,811	23,406	24,015	24,638	25,276	25,930	26,599	27,283	27,985	28,703	29,438	30,190	30,961	31,750	32,557	33,384	34,231	35,098	35,985	36,894
CASH FLOW, CUMULATIVE:		(638,087)	(564,515)	(490,719)	(416,684)	(342,395)	(319,584)	(296,178)	(272,163)	(247,525)	(222,249)	(196,319)	(169,721)	(142,437)	(114,452)	(85,750)	(56,312)	(26,122)	4,839	36,589	69,146	102,531	136,762	171,859	207,845	244,739

2.9%	Internal Rate of Return
17.84	Payback Term
($120,654)	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.26
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.138

Declining PBI	
Year	PBI Schedule
1	0.255
2	0.255
3	0.255
4	0.255
5	0.255
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$6.62	
Total Gross Price:	$ 661,649	100%
CBI Incentives:	$ -	0%
Net Price	$ 661,649	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	30.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 209
Total Rebate $	$ 0.83
IRR - Private S	9.0%
Payback Com	8.59
IRR - Public Se	3.2%
Payback Gov	17.46

PBI equiv. value	
payout	$2.09
NPV (5%)	$1.81
npv(10%)	$1.58

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	208,628	42,228	41,975	41,724	41,475	41,226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	208,628	42,228	41,975	41,724	41,475	41,226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	768,486	22,839	23,383	23,941	24,512	25,096	25,694	26,306	26,934	27,576	28,233	28,906	29,595	30,300	31,023	31,762	32,519	33,294	34,088	34,901	35,733	36,584	37,456	38,349	39,263	40,199
Total Cost Savings:	977,114	65,067	65,359	65,665	65,986	66,322	25,694	26,306	26,934	27,576	28,233	28,906	29,595	30,300	31,023	31,762	32,519	33,294	34,088	34,901	35,733	36,584	37,456	38,349	39,263	40,199
Expenses:																										
Maintenance	(49,624)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)
Total Expenses:		(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)
Financing:		$																								
% Downpayment:	100%	661,649																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(661,649)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(661,649)	(661,649)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	265,842	(598,566)	63,374	63,680	64,001	64,337	23,709	24,322	24,949	25,591	26,248	26,921	27,610	28,315	29,038	29,777	30,534	31,309	32,103	32,916	33,748	34,599	35,471	36,364	37,278	38,214
PRE-TAX CASH FLOW, CUMULATIVE:		(598,566)	(535,193)	(471,512)	(407,511)	(343,174)	(319,465)	(295,144)	(270,195)	(244,604)	(218,356)	(191,435)	(163,825)	(135,510)	(106,472)	(76,695)	(46,161)	(14,851)	17,252	50,167	83,915	118,514	153,986	190,350	227,628	265,842
Federal tax calculation (+ = refund)																										
Savings as a result of project	(927,491)	(63,082)	(63,374)	(63,680)	(64,001)	(64,337)	(23,709)	(24,322)	(24,949)	(25,591)	(26,248)	(26,921)	(27,610)	(28,315)	(29,038)	(29,777)	(30,534)	(31,309)	(32,103)	(32,916)	(33,748)	(34,599)	(35,471)	(36,364)	(37,278)	(38,214)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	562,401	112,480	179,968	107,981	64,676	64,676	32,619	0	0	0	0	0	0	0												
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	20,736	2,770	642	666	691	718	(2,451)	(2,404)	(2,355)	(2,305)	(2,253)	(2,201)	(2,147)	58	2,265	2,323	2,382	2,442	2,504	2,567	2,632	2,699	2,767	2,836	2,908	2,981
Annual taxable income	(344,353)	52,168	117,237	44,967	1,367	1,057	6,459	(26,725)	(27,303)	(27,895)	(28,501)	(29,122)	(29,757)	(28,257)	(26,773)	(27,455)	(28,153)	(28,867)	(29,599)	(30,348)	(31,115)	(31,901)	(32,705)	(33,528)	(34,371)	(35,234)
Taxes due before ITC (+ = refund)	(120,524)	18,259	41,033	15,739	478	370	2,261	(9,354)	(9,556)	(9,763)	(9,975)	(10,193)	(10,415)	(9,890)	(9,370)	(9,609)	(9,853)	(10,104)	(10,360)	(10,622)	(10,890)	(11,165)	(11,447)	(11,735)	(12,030)	(12,332)
Federal tax credit (ITC)	198,495	198,495																								
Taxes due after ITC	77,971	216,753	41,033	15,739	478	370	2,261	(9,354)	(9,556)	(9,763)	(9,975)	(10,193)	(10,415)	(9,890)	(9,370)	(9,609)	(9,853)	(10,104)	(10,360)	(10,622)	(10,890)	(11,165)	(11,447)	(11,735)	(12,030)	(12,332)
State tax calculation (+ = refund)																										
Savings as a result of project	(927,491)	(63,082)	(63,374)	(63,680)	(64,001)	(64,337)	(23,709)	(24,322)	(24,949)	(25,591)	(26,248)	(26,921)	(27,610)	(28,315)	(29,038)	(29,777)	(30,534)	(31,309)	(32,103)	(32,916)	(33,748)	(34,599)	(35,471)	(36,364)	(37,278)	(38,214)
State Depreciation	661,649	27,569	55,137	55,137	55,137	55,137	55,137	55,137	55,137	55,137	55,137	55,137	55,137	27,569	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(265,842)	(35,513)	(8,236)	(8,543)	(8,864)	(9,200)	31,428	30,816	30,189	29,547	28,889	28,216	27,527	(747)	(29,038)	(29,777)	(30,534)	(31,309)	(32,103)	(32,916)	(33,748)	(34,599)	(35,471)	(36,364)	(37,278)	(38,214)
Taxes due before ITC (+ = refund)	(20,736)	(2,770)	(642)	(666)	(691)	(718)	2,451	2,404	2,355	2,305	2,253	2,201	2,147	(58)	(2,265)	(2,323)	(2,382)	(2,442)	(2,504)	(2,567)	(2,632)	(2,699)	(2,767)	(2,836)	(2,908)	(2,981)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(20,736)	(2,770)	(642)	(666)	(691)	(718)	2,451	2,404	2,355	2,305	2,253	2,201	2,147	(58)	(2,265)	(2,323)	(2,382)	(2,442)	(2,504)	(2,567)	(2,632)	(2,699)	(2,767)	(2,836)	(2,908)	(2,981)
AFTER-TAX CASH FLOW, NET*:	323,078	(384,583)	103,764	78,752	63,788	63,989	28,421	17,371	17,747	18,132	18,526	18,929	19,342	18,367	17,402	17,845	18,299	18,764	19,239	19,726	20,225	20,735	21,258	21,793	22,341	22,902
AFTER-TAX CASH FLOW, CUMULATIVE:		(384,583)	(280,818)	(202,066)	(138,278)	(74,289)	(45,868)	(28,496)	(10,749)	7,383	25,909	44,838	64,180	82,547	99,949	117,795	136,094	154,858	174,097	193,824	214,049	234,784	256,042	277,835	300,176	323,078

9.0%	Internal Rate of Return
8.59	Payback Term
17,953	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	208,628	42,228	41,975	41,724	41,475	41,226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	768,486	22,839	23,383	23,941	24,512	25,096	25,694	26,306	26,934	27,576	28,233	28,906	29,595	30,300	31,023	31,762	32,519	33,294	34,088	34,901	35,733	36,584	37,456	38,349	39,263	40,199
Total Cost Savings:	977,114	65,067	65,359	65,665	65,986	66,322	25,694	26,306	26,934	27,576	28,233	28,906	29,595	30,300	31,023	31,762	32,519	33,294	34,088	34,901	35,733	36,584	37,456	38,349	39,263	40,199
Expenses:																										
Maintenance	(49,624)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)
Total Expenses:		(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)	(1,985)
Financing:		$																								
% Downpayment:	100%	661,649																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(661,649)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(661,649)	(661,649)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	265,842	(598,566)	63,374	63,680	64,001	64,337	23,709	24,322	24,949	25,591	26,248	26,921	27,610	28,315	29,038	29,777	30,534	31,309	32,103	32,916	33,748	34,599	35,471	36,364	37,278	38,214
CASH FLOW, CUMULATIVE:		(598,566)	(535,193)	(471,512)	(407,511)	(343,174)	(319,465)	(295,144)	(270,195)	(244,604)	(218,356)	(191,435)	(163,825)	(135,510)	(106,472)	(76,695)	(46,161)	(14,851)	17,252	50,167	83,915	118,514	153,986	190,350	227,628	265,842

3.2%	Internal Rate of Return
17.46	Payback Term
($107,304)	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.40
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.142

Declining PBI	
Year	PBI Schedule
1	0.400
2	0.400
3	0.400
4	0.400
5	0.400
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$6.15	
Total Gross Price:	$ 615,333	100%
CBI Incentives:	$ -	0%
Net Price	$ 615,333	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 327
Total Rebate $	$ 1.31
IRR - Private S	8.1%
Payback Com	9.06
IRR - Public Se	7.2%
Payback Gov	11.57

PBI equiv. value	
payout	$3.27
NPV (5%)	$2.84
npv(10%)	$2.49

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	327,403	66,269	65,872	65,478	65,086	64,697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	327,403	66,269	65,872	65,478	65,086	64,697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	791,541	23,524	24,085	24,659	25,247	25,849	26,465	27,096	27,742	28,403	29,080	29,773	30,483	31,209	31,953	32,715	33,495	34,293	35,111	35,948	36,804	37,682	38,580	39,500	40,441	41,405
Total Cost Savings:	1,118,944	89,793	89,957	90,137	90,333	90,546	26,465	27,096	27,742	28,403	29,080	29,773	30,483	31,209	31,953	32,715	33,495	34,293	35,111	35,948	36,804	37,682	38,580	39,500	40,441	41,405
Expenses:																										
Maintenance	(46,150)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)
Total Expenses:		(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)
Financing:		$																								
% Downpayment:	100%	615,333																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(615,333)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(615,333)	(615,333)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	457,460	(527,386)	88,111	88,291	88,487	88,700	24,619	25,250	25,896	26,557	27,234	27,927	28,637	29,363	30,107	30,869	31,649	32,447	33,265	34,102	34,958	35,836	36,734	37,654	38,595	39,559
PRE-TAX CASH FLOW, CUMULATIVE:		(527,386)	(439,275)	(350,983)	(262,496)	(173,796)	(149,178)	(123,928)	(98,032)	(71,475)	(44,242)	(16,315)	12,322	41,686	71,793	102,662	134,311	166,758	200,023	234,124	269,083	304,918	341,652	379,306	417,901	457,460
Federal tax calculation (+ = refund)																										
Savings as a result of project	(1,072,794)	(87,947)	(88,111)	(88,291)	(88,487)	(88,700)	(24,619)	(25,250)	(25,896)	(26,557)	(27,234)	(27,927)	(28,637)	(29,363)	(30,107)	(30,869)	(31,649)	(32,447)	(33,265)	(34,102)	(34,958)	(35,836)	(36,734)	(37,654)	(38,595)	(39,559)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	584,566	116,913	187,061	112,237	67,225	67,225	33,905	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	35,682	4,860	2,873	2,887	2,902	2,919	(2,079)	(2,030)	(1,980)	(1,928)	(1,875)	(1,821)	(1,766)	291	2,348	2,408	2,469	2,531	2,595	2,660	2,727	2,795	2,865	2,937	3,010	3,086
Annual taxable income	(452,544)	33,826	101,823	26,833	(18,360)	(18,555)	7,207	(27,280)	(27,875)	(28,485)	(29,109)	(29,748)	(30,403)	(29,073)	(27,759)	(28,461)	(29,180)	(29,916)	(30,670)	(31,442)	(32,232)	(33,041)	(33,869)	(34,717)	(35,585)	(36,474)
Taxes due before ITC (+ = refund)	(158,390)	11,839	35,638	9,391	(6,426)	(6,494)	2,522	(9,548)	(9,756)	(9,970)	(10,188)	(10,412)	(10,641)	(10,176)	(9,716)	(9,961)	(10,213)	(10,471)	(10,735)	(11,005)	(11,281)	(11,564)	(11,854)	(12,151)	(12,455)	(12,766)
Federal tax credit (ITC)	61,533	61,533																								
Taxes due after ITC	(96,857)	73,373	35,638	9,391	(6,426)	(6,494)	2,522	(9,548)	(9,756)	(9,970)	(10,188)	(10,412)	(10,641)	(10,176)	(9,716)	(9,961)	(10,213)	(10,471)	(10,735)	(11,005)	(11,281)	(11,564)	(11,854)	(12,151)	(12,455)	(12,766)
State tax calculation (+ = refund)																										
Savings as a result of project	(1,072,794)	(87,947)	(88,111)	(88,291)	(88,487)	(88,700)	(24,619)	(25,250)	(25,896)	(26,557)	(27,234)	(27,927)	(28,637)	(29,363)	(30,107)	(30,869)	(31,649)	(32,447)	(33,265)	(34,102)	(34,958)	(35,836)	(36,734)	(37,654)	(38,595)	(39,559)
State Depreciation	615,333	25,639	51,278	51,278	51,278	51,278	51,278	51,278	51,278	51,278	51,278	51,278	51,278	25,639	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(457,460)	(62,308)	(36,834)	(37,014)	(37,210)	(37,422)	26,659	26,028	25,382	24,721	24,044	23,351	22,641	(3,724)	(30,107)	(30,869)	(31,649)	(32,447)	(33,265)	(34,102)	(34,958)	(35,836)	(36,734)	(37,654)	(38,595)	(39,559)
Taxes due before ITC (+ = refund)	(35,682)	(4,860)	(2,873)	(2,887)	(2,902)	(2,919)	2,079	2,030	1,980	1,928	1,875	1,821	1,766	(291)	(2,348)	(2,408)	(2,469)	(2,531)	(2,595)	(2,660)	(2,727)	(2,795)	(2,865)	(2,937)	(3,010)	(3,086)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(35,682)	(4,860)	(2,873)	(2,887)	(2,902)	(2,919)	2,079	2,030	1,980	1,928	1,875	1,821	1,766	(291)	(2,348)	(2,408)	(2,469)	(2,531)	(2,595)	(2,660)	(2,727)	(2,795)	(2,865)	(2,937)	(3,010)	(3,086)
AFTER-TAX CASH FLOW, NET*:	324,921	(458,873)	120,876	94,796	79,159	79,286	29,221	17,732	18,119	18,515	18,921	19,336	19,762	18,897	18,043	18,500	18,967	19,446	19,936	20,437	20,951	21,476	22,015	22,566	23,130	23,708
AFTER-TAX CASH FLOW, CUMULATIVE:		(458,873)	(337,997)	(243,201)	(164,042)	(84,756)	(55,535)	(37,803)	(19,684)	(1,169)	17,752	37,088	56,850	75,748	93,791	112,291	131,258	150,703	170,639	191,076	212,027	233,503	255,518	278,083	301,214	324,921

8.1%	Internal Rate of Return
9.06	Payback Term
2,066	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	327,403	66,269	65,872	65,478	65,086	64,697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	791,541	23,524	24,085	24,659	25,247	25,849	26,465	27,096	27,742	28,403	29,080	29,773	30,483	31,209	31,953	32,715	33,495	34,293	35,111	35,948	36,804	37,682	38,580	39,500	40,441	41,405
Total Cost Savings:	1,118,944	89,793	89,957	90,137	90,333	90,546	26,465	27,096	27,742	28,403	29,080	29,773	30,483	31,209	31,953	32,715	33,495	34,293	35,111	35,948	36,804	37,682	38,580	39,500	40,441	41,405
Expenses:																										
Maintenance	(46,150)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)
Total Expenses:		(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)	(1,846)
Financing:		$																								
% Downpayment:	100%	615,333																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(615,333)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(615,333)	(615,333)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	457,460	(527,386)	88,111	88,291	88,487	88,700	24,619	25,250	25,896	26,557	27,234	27,927	28,637	29,363	30,107	30,869	31,649	32,447	33,265	34,102	34,958	35,836	36,734	37,654	38,595	39,559
CASH FLOW, CUMULATIVE:		(527,386)	(439,275)	(350,983)	(262,496)	(173,796)	(149,178)	(123,928)	(98,032)	(71,475)	(44,242)	(16,315)	12,322	41,686	71,793	102,662	134,311	166,758	200,023	234,124	269,083	304,918	341,652	379,306	417,901	457,460

7.2%	Internal Rate of Return
11.57	Payback Term
$49,292	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.32
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.146

Declining PBI	
Year	PBI Schedule
1	0.322
2	0.322
3	0.322
4	0.322
5	0.322
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$5.72	
Total Gross Price:	$ 572,260	100%
CBI Incentives:	$ -	0%
Net Price	$ 572,260	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 263
Total Rebate $	$ 1.05
IRR - Private $	8.0%
Payback Com	9.61
IRR - Public Se	7.1%
Payback Gov	11.91

PBI equiv. value	
payout	$2.63
NPV (5%)	$2.28
npv(10%)	$2.00

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	263,375	53,309	52,990	52,673	52,358	52,045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	263,375	53,309	52,990	52,673	52,358	52,045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	815,287	24,230	24,808	25,399	26,004	26,624	27,259	27,909	28,574	29,255	29,952	30,666	31,397	32,146	32,912	33,696	34,500	35,322	36,164	37,026	37,909	38,812	39,737	40,685	41,654	42,647
Total Cost Savings:	1,078,662	77,539	77,798	78,072	78,362	78,669	27,259	27,909	28,574	29,255	29,952	30,666	31,397	32,146	32,912	33,696	34,500	35,322	36,164	37,026	37,909	38,812	39,737	40,685	41,654	42,647
Expenses:																										
Maintenance	(42,919)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)
Total Expenses:		(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)
Financing:		$																								
% Downpayment:	100%	572,260																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(572,260)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(572,260)	(572,260)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	463,483	(496,437)	76,081	76,355	76,645	76,952	25,542	26,192	26,857	27,538	28,235	28,949	29,680	30,429	31,195	31,980	32,783	33,605	34,447	35,309	36,192	37,095	38,021	38,968	39,938	40,931
PRE-TAX CASH FLOW, CUMULATIVE:		(496,437)	(420,357)	(344,001)	(267,356)	(190,404)	(164,862)	(138,670)	(111,813)	(84,275)	(56,039)	(27,090)	2,590	33,019	64,214	96,194	128,977	162,582	197,029	232,339	268,530	305,626	343,647	382,614	422,552	463,483
Federal tax calculation (+ = refund)																										
Savings as a result of project	(1,035,742)	(75,822)	(76,081)	(76,355)	(76,645)	(76,952)	(25,542)	(26,192)	(26,857)	(27,538)	(28,235)	(28,949)	(29,680)	(30,429)	(31,195)	(31,980)	(32,783)	(33,605)	(34,447)	(35,309)	(36,192)	(37,095)	(38,021)	(38,968)	(39,938)	(40,931)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	543,647	108,729	173,967	104,380	62,519	62,519	31,532	0	0	0	0	0	0	0												
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	36,152	4,054	2,215	2,236	2,259	2,283	(1,727)	(1,677)	(1,625)	(1,572)	(1,517)	(1,462)	(1,405)	514	2,433	2,494	2,557	2,621	2,687	2,754	2,823	2,893	2,966	3,039	3,115	3,193
Annual taxable income	(455,943)	36,962	100,101	30,261	(11,867)	(12,150)	4,262	(27,869)	(28,482)	(29,110)	(29,753)	(30,411)	(31,085)	(29,915)	(28,762)	(29,485)	(30,226)	(30,984)	(31,760)	(32,555)	(33,369)	(34,202)	(35,055)	(35,928)	(36,823)	(37,738)
Taxes due before ITC (+ = refund)	(159,580)	12,937	35,035	10,591	(4,154)	(4,252)	1,492	(9,754)	(9,969)	(10,188)	(10,413)	(10,644)	(10,880)	(10,470)	(10,067)	(10,320)	(10,579)	(10,844)	(11,116)	(11,394)	(11,679)	(11,971)	(12,269)	(12,575)	(12,888)	(13,208)
Federal tax credit (ITC)	57,226	57,226																								
Taxes due after ITC	(102,354)	70,163	35,035	10,591	(4,154)	(4,252)	1,492	(9,754)	(9,969)	(10,188)	(10,413)	(10,644)	(10,880)	(10,470)	(10,067)	(10,320)	(10,579)	(10,844)	(11,116)	(11,394)	(11,679)	(11,971)	(12,269)	(12,575)	(12,888)	(13,208)
State tax calculation (+ = refund)																										
Savings as a result of project	(1,035,742)	(75,822)	(76,081)	(76,355)	(76,645)	(76,952)	(25,542)	(26,192)	(26,857)	(27,538)	(28,235)	(28,949)	(29,680)	(30,429)	(31,195)	(31,980)	(32,783)	(33,605)	(34,447)	(35,309)	(36,192)	(37,095)	(38,021)	(38,968)	(39,938)	(40,931)
State Depreciation	572,260	23,844	47,688	47,688	47,688	47,688	47,688	47,688	47,688	47,688	47,688	47,688	47,688	47,688	23,844	0										
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(463,483)	(51,978)	(28,393)	(28,667)	(28,957)	(29,264)	22,146	21,497	20,831	20,150	19,453	18,739	18,008	(6,585)	(31,195)	(31,980)	(32,783)	(33,605)	(34,447)	(35,309)	(36,192)	(37,095)	(38,021)	(38,968)	(39,938)	(40,931)
Taxes due before ITC (+ = refund)	(36,152)	(4,054)	(2,215)	(2,236)	(2,259)	(2,283)	1,727	1,677	1,625	1,572	1,517	1,462	1,405	(514)	(2,433)	(2,494)	(2,557)	(2,621)	(2,687)	(2,754)	(2,823)	(2,893)	(2,966)	(3,039)	(3,115)	(3,193)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(36,152)	(4,054)	(2,215)	(2,236)	(2,259)	(2,283)	1,727	1,677	1,625	1,572	1,517	1,462	1,405	(514)	(2,433)	(2,494)	(2,557)	(2,621)	(2,687)	(2,754)	(2,823)	(2,893)	(2,966)	(3,039)	(3,115)	(3,193)
AFTER-TAX CASH FLOW, NET*:	324,977	(430,329)	108,902	84,711	70,233	70,417	28,761	18,115	18,513	18,921	19,339	19,767	20,205	19,445	18,695	19,165	19,647	20,140	20,644	21,161	21,690	22,231	22,786	23,353	23,935	24,530
AFTER-TAX CASH FLOW, CUMULATIVE:		(430,329)	(321,428)	(236,717)	(166,484)	(96,067)	(67,306)	(49,191)	(30,678)	(11,756)	7,583	27,350	47,555	67,000	85,696	104,861	124,508	144,647	165,292	186,452	208,142	230,373	253,159	276,513	300,447	324,977

8.0%	Internal Rate of Return
9.61	Payback Term
726	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	263,375	53,309	52,990	52,673	52,358	52,045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	815,287	24,230	24,808	25,399	26,004	26,624	27,259	27,909	28,574	29,255	29,952	30,666	31,397	32,146	32,912	33,696	34,500	35,322	36,164	37,026	37,909	38,812	39,737	40,685	41,654	42,647
Total Cost Savings:	1,078,662	77,539	77,798	78,072	78,362	78,669	27,259	27,909	28,574	29,255	29,952	30,666	31,397	32,146	32,912	33,696	34,500	35,322	36,164	37,026	37,909	38,812	39,737	40,685	41,654	42,647
Expenses:																										
Maintenance	(42,919)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)
Total Expenses:		(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)	(1,717)
Financing:		$																								
% Downpayment:	100%	572,260																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(572,260)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(572,260)	(572,260)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	463,483	(496,437)	76,081	76,355	76,645	76,952	25,542	26,192	26,857	27,538	28,235	28,949	29,680	30,429	31,195	31,980	32,783	33,605	34,447	35,309	36,192	37,095	38,021	38,968	39,938	40,931
CASH FLOW, CUMULATIVE:		(496,437)	(420,357)	(344,001)	(267,356)	(190,404)	(164,862)	(138,670)	(111,813)	(84,275)	(56,039)	(27,090)	2,590	33,019	64,214	96,194	128,977	162,582	197,029	232,339	268,530	305,626	343,647	382,614	422,552	463,483

7.1%	Internal Rate of Return
11.91	Payback Term
$48,920	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.25
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.151

Declining PBI	
Year	PBI Schedule
1	0.250
2	0.250
3	0.250
4	0.250
5	0.250
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$5.32	
Total Gross Price:	$ 532,202	100%
CBI Incentives:	$ -	0%
Net Price	$ 532,202	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 205
Total Rebate $	$ 0.82
IRR - Private S	8.0%
Payback Com	10.05
IRR - Public Se	7.2%
Payback Gov	12.15

PBI equiv. value	
payout	$2.05
NPV (5%)	$1.77
npv(10%)	$1.55

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	204,538	41,400	41,152	40,906	40,661	40,418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	204,538	41,400	41,152	40,906	40,661	40,418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	839,746	24,957	25,552	26,161	26,784	27,423	28,077	28,746	29,431	30,133	30,851	31,586	32,339	33,110	33,899	34,707	35,535	36,382	37,249	38,137	39,046	39,977	40,930	41,905	42,904	43,927
Total Cost Savings:	1,044,283	66,357	66,704	67,067	67,446	67,841	28,077	28,746	29,431	30,133	30,851	31,586	32,339	33,110	33,899	34,707	35,535	36,382	37,249	38,137	39,046	39,977	40,930	41,905	42,904	43,927
Expenses:																										
Maintenance	(39,915)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)
Total Expenses:		(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)
Financing:		$																								
% Downpayment:	100%	532,202																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(532,202)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(532,202)	(532,202)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	472,166	(467,441)	65,107	65,470	65,849	66,244	26,480	27,149	27,834	28,536	29,254	29,990	30,743	31,513	32,303	33,111	33,938	34,785	35,652	36,540	37,449	38,380	39,333	40,309	41,307	42,330
PRE-TAX CASH FLOW, CUMULATIVE:		(467,441)	(402,334)	(336,864)	(271,015)	(204,770)	(178,290)	(151,141)	(123,307)	(94,771)	(65,517)	(35,527)	(4,784)	26,729	59,032	92,142	126,081	160,866	196,518	233,058	270,507	308,887	348,220	388,529	429,836	472,166
Federal tax calculation (+ = refund)																										
Savings as a result of project	(1,004,368)	(64,760)	(65,107)	(65,470)	(65,849)	(66,244)	(26,480)	(27,149)	(27,834)	(28,536)	(29,254)	(29,990)	(30,743)	(31,513)	(32,303)	(33,111)	(33,938)	(34,785)	(35,652)	(36,540)	(37,449)	(38,380)	(39,333)	(40,309)	(41,307)	(42,330)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	505,592	101,118	161,789	97,074	58,143	58,143	29,324	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	36,829	3,322	1,619	1,647	1,677	1,708	(1,394)	(1,342)	(1,288)	(1,234)	(1,177)	(1,120)	(1,061)	728	2,520	2,583	2,647	2,713	2,781	2,850	2,921	2,994	3,068	3,144	3,222	3,302
Annual taxable income	(461,947)	39,680	98,301	33,251	(6,029)	(6,393)	1,451	(28,491)	(29,123)	(29,769)	(30,432)	(31,110)	(31,804)	(30,785)	(29,783)	(30,528)	(31,291)	(32,072)	(32,871)	(33,690)	(34,528)	(35,386)	(36,265)	(37,164)	(38,085)	(39,028)
Taxes due before ITC (+ = refund)	(161,681)	13,888	34,405	11,638	(2,110)	(2,238)	508	(9,972)	(10,193)	(10,419)	(10,651)	(10,888)	(11,131)	(10,775)	(10,424)	(10,685)	(10,952)	(11,225)	(11,505)	(11,792)	(12,085)	(12,385)	(12,693)	(13,008)	(13,330)	(13,660)
Federal tax credit (ITC)	53,220	53,220																								
Taxes due after ITC	(108,461)	67,108	34,405	11,638	(2,110)	(2,238)	508	(9,972)	(10,193)	(10,419)	(10,651)	(10,888)	(11,131)	(10,775)	(10,424)	(10,685)	(10,952)	(11,225)	(11,505)	(11,792)	(12,085)	(12,385)	(12,693)	(13,008)	(13,330)	(13,660)
State tax calculation (+ = refund)																										
Savings as a result of project	(1,004,368)	(64,760)	(65,107)	(65,470)	(65,849)	(66,244)	(26,480)	(27,149)	(27,834)	(28,536)	(29,254)	(29,990)	(30,743)	(31,513)	(32,303)	(33,111)	(33,938)	(34,785)	(35,652)	(36,540)	(37,449)	(38,380)	(39,333)	(40,309)	(41,307)	(42,330)
State Depreciation	532,202	22,175	44,350	44,350	44,350	44,350	44,350	44,350	44,350	44,350	44,350	44,350	44,350	22,175	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(472,166)	(42,585)	(20,757)	(21,120)	(21,499)	(21,894)	17,870	17,201	16,516	15,814	15,096	14,361	13,608	(9,338)	(32,303)	(33,111)	(33,938)	(34,785)	(35,652)	(36,540)	(37,449)	(38,380)	(39,333)	(40,309)	(41,307)	(42,330)
Taxes due before ITC (+ = refund)	(36,829)	(3,322)	(1,619)	(1,647)	(1,677)	(1,708)	1,394	1,342	1,288	1,234	1,177	1,120	1,061	(728)	(2,520)	(2,583)	(2,647)	(2,713)	(2,781)	(2,850)	(2,921)	(2,994)	(3,068)	(3,144)	(3,222)	(3,302)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(36,829)	(3,322)	(1,619)	(1,647)	(1,677)	(1,708)	1,394	1,342	1,288	1,234	1,177	1,120	1,061	(728)	(2,520)	(2,583)	(2,647)	(2,713)	(2,781)	(2,850)	(2,921)	(2,994)	(3,068)	(3,144)	(3,222)	(3,302)
AFTER-TAX CASH FLOW, NET*:	326,876	(403,655)	97,894	75,461	62,062	62,299	28,382	18,519	18,930	19,350	19,781	20,221	20,673	20,010	19,359	19,843	20,339	20,847	21,366	21,899	22,443	23,001	23,572	24,157	24,756	25,368
AFTER-TAX CASH FLOW, CUMULATIVE:		(403,655)	(305,761)	(230,300)	(168,238)	(105,940)	(77,558)	(59,039)	(40,109)	(20,759)	(978)	19,243	39,915	59,926	79,285	99,128	119,467	140,314	161,680	183,579	206,022	229,023	252,595	276,752	301,508	326,876

8.0%	Internal Rate of Return
10.05	Payback Term
375	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	204,538	41,400	41,152	40,906	40,661	40,418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	839,746	24,957	25,552	26,161	26,784	27,423	28,077	28,746	29,431	30,133	30,851	31,586	32,339	33,110	33,899	34,707	35,535	36,382	37,249	38,137	39,046	39,977	40,930	41,905	42,904	43,927
Total Cost Savings:	1,044,283	66,357	66,704	67,067	67,446	67,841	28,077	28,746	29,431	30,133	30,851	31,586	32,339	33,110	33,899	34,707	35,535	36,382	37,249	38,137	39,046	39,977	40,930	41,905	42,904	43,927
Expenses:																										
Maintenance	(39,915)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)
Total Expenses:		(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)	(1,597)
Financing:		$																								
% Downpayment:	100%	532,202																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(532,202)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(532,202)	(532,202)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	472,166	(467,441)	65,107	65,470	65,849	66,244	26,480	27,149	27,834	28,536	29,254	29,990	30,743	31,513	32,303	33,111	33,938	34,785	35,652	36,540	37,449	38,380	39,333	40,309	41,307	42,330
CASH FLOW, CUMULATIVE:		(467,441)	(402,334)	(336,864)	(271,015)	(204,770)	(178,290)	(151,141)	(123,307)	(94,771)	(65,517)	(35,527)	(4,784)	26,729	59,032	92,142	126,081	160,866	196,518	233,058	270,507	308,887	348,220	388,529	429,836	472,166

7.2%	Internal Rate of Return
12.15	Payback Term
$50,305	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.18
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.155

Declining PBI	
Year	PBI Schedule
1	0.180
2	0.180
3	0.180
4	0.180
5	0.180
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs			
Gross Price ($/W):		$4.95	
Total Gross Price:	$	494,947	100%
CBI Incentives:	$	-	0%
Net Price	$	494,947	
% Downpayment:		100%	
Loan Rate (%):		5.0%	
Loan Term (yrs):		10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $ $	147
Total Rebate $ $	0.59
IRR - Private S	8.0%
Payback Com	10.48
IRR - Public Se	7.2%
Payback Gov	12.40

PBI equiv. value	
payout	$1.47
NPV (5%)	$1.28
npv(10%)	$1.12

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	147,267	29,808	29,630	29,452	29,276	29,101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	147,267	29,808	29,630	29,452	29,276	29,101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	864,938	25,706	26,318	26,946	27,588	28,246	28,919	29,608	30,314	31,037	31,776	32,534	33,309	34,103	34,916	35,749	36,601	37,473	38,366	39,281	40,217	41,176	42,157	43,162	44,191	45,245
Total Cost Savings:	1,012,205	55,514	55,948	56,398	56,864	57,347	28,919	29,608	30,314	31,037	31,776	32,534	33,309	34,103	34,916	35,749	36,601	37,473	38,366	39,281	40,217	41,176	42,157	43,162	44,191	45,245
Expenses:																										
Maintenance	(37,121)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)
Total Expenses:		(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)
Financing:		$																								
% Downpayment:	100%	494,947																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(494,947)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(494,947)	(494,947)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	480,136	(440,919)	54,463	54,913	55,379	55,862	27,434	28,123	28,829	29,552	30,292	31,049	31,824	32,618	33,431	34,264	35,116	35,988	36,882	37,796	38,732	39,691	40,673	41,677	42,706	43,760
PRE-TAX CASH FLOW, CUMULATIVE:		(440,919)	(386,456)	(331,543)	(276,163)	(220,302)	(192,868)	(164,744)	(135,915)	(106,363)	(76,072)	(45,023)	(13,198)	19,420	52,851	87,115	122,231	158,219	195,101	232,897	271,629	311,320	351,993	393,670	436,377	480,136
Federal tax calculation (+ = refund)																										
Savings as a result of project	(975,084)	(54,029)	(54,463)	(54,913)	(55,379)	(55,862)	(27,434)	(28,123)	(28,829)	(29,552)	(30,292)	(31,049)	(31,824)	(32,618)	(33,431)	(34,264)	(35,116)	(35,988)	(36,882)	(37,796)	(38,732)	(39,691)	(40,673)	(41,677)	(42,706)	(43,760)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	470,200	94,040	150,464	90,278	54,073	54,073	27,272	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	37,451	2,606	1,031	1,066	1,102	1,140	(1,077)	(1,024)	(968)	(912)	(854)	(795)	(735)	936	2,608	2,673	2,739	2,807	2,877	2,948	3,021	3,096	3,172	3,251	3,331	3,413
Annual taxable income	(467,432)	42,617	97,032	36,432	(204)	(648)	(1,240)	(29,147)	(29,798)	(30,464)	(31,146)	(31,844)	(32,559)	(31,683)	(30,824)	(31,591)	(32,377)	(33,181)	(34,005)	(34,848)	(35,711)	(36,595)	(37,500)	(38,427)	(39,375)	(40,346)
Taxes due before ITC (+ = refund)	(163,601)	14,916	33,961	12,751	(71)	(227)	(434)	(10,201)	(10,429)	(10,662)	(10,901)	(11,146)	(11,396)	(11,089)	(10,788)	(11,057)	(11,332)	(11,613)	(11,902)	(12,197)	(12,499)	(12,808)	(13,125)	(13,449)	(13,781)	(14,121)
Federal tax credit (ITC)	49,495	49,495																								
Taxes due after ITC	(114,107)	64,411	33,961	12,751	(71)	(227)	(434)	(10,201)	(10,429)	(10,662)	(10,901)	(11,146)	(11,396)	(11,089)	(10,788)	(11,057)	(11,332)	(11,613)	(11,902)	(12,197)	(12,499)	(12,808)	(13,125)	(13,449)	(13,781)	(14,121)
State tax calculation (+ = refund)																										
Savings as a result of project	(975,084)	(54,029)	(54,463)	(54,913)	(55,379)	(55,862)	(27,434)	(28,123)	(28,829)	(29,552)	(30,292)	(31,049)	(31,824)	(32,618)	(33,431)	(34,264)	(35,116)	(35,988)	(36,882)	(37,796)	(38,732)	(39,691)	(40,673)	(41,677)	(42,706)	(43,760)
State Depreciation	494,947	20,623	41,246	41,246	41,246	41,246	41,246	41,246	41,246	41,246	41,246	41,246	41,246	20,623	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(480,136)	(33,406)	(13,217)	(13,668)	(14,134)	(14,616)	13,812	13,122	12,417	11,694	10,954	10,197	9,421	(11,996)	(33,431)	(34,264)	(35,116)	(35,988)	(36,882)	(37,796)	(38,732)	(39,691)	(40,673)	(41,677)	(42,706)	(43,760)
Taxes due before ITC (+ = refund)	(37,451)	(2,606)	(1,031)	(1,066)	(1,102)	(1,140)	1,077	1,024	968	912	854	795	735	(936)	(2,608)	(2,673)	(2,739)	(2,807)	(2,877)	(2,948)	(3,021)	(3,096)	(3,172)	(3,251)	(3,331)	(3,413)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(37,451)	(2,606)	(1,031)	(1,066)	(1,102)	(1,140)	1,077	1,024	968	912	854	795	735	(936)	(2,608)	(2,673)	(2,739)	(2,807)	(2,877)	(2,948)	(3,021)	(3,096)	(3,172)	(3,251)	(3,331)	(3,413)
AFTER-TAX CASH FLOW, NET*:	328,579	(379,114)	87,393	66,598	54,206	54,495	28,077	18,945	19,368	19,801	20,245	20,699	21,164	20,594	20,035	20,534	21,045	21,568	22,103	22,651	23,212	23,787	24,375	24,977	25,594	26,225
AFTER-TAX CASH FLOW, CUMULATIVE:		(379,114)	(291,720)	(225,122)	(170,917)	(116,422)	(88,345)	(69,399)	(50,031)	(30,229)	(9,984)	10,715	31,878	52,472	72,507	93,042	114,087	135,654	157,757	180,409	203,621	227,408	251,783	276,760	302,354	328,579

8.0%	Internal Rate of Return
10.48	Payback Term
(603)	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	147,267	29,808	29,630	29,452	29,276	29,101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	864,938	25,706	26,318	26,946	27,588	28,246	28,919	29,608	30,314	31,037	31,776	32,534	33,309	34,103	34,916	35,749	36,601	37,473	38,366	39,281	40,217	41,176	42,157	43,162	44,191	45,245
Total Cost Savings:	1,012,205	55,514	55,948	56,398	56,864	57,347	28,919	29,608	30,314	31,037	31,776	32,534	33,309	34,103	34,916	35,749	36,601	37,473	38,366	39,281	40,217	41,176	42,157	43,162	44,191	45,245
Expenses:																										
Maintenance	(37,121)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)
Total Expenses:		(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)	(1,485)
Financing:		$																								
% Downpayment:	100%	494,947																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(494,947)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(494,947)	(494,947)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	480,136	(440,919)	54,463	54,913	55,379	55,862	27,434	28,123	28,829	29,552	30,292	31,049	31,824	32,618	33,431	34,264	35,116	35,988	36,882	37,796	38,732	39,691	40,673	41,677	42,706	43,760
CASH FLOW, CUMULATIVE:		(440,919)	(386,456)	(331,543)	(276,163)	(220,302)	(192,868)	(164,744)	(135,915)	(106,363)	(76,072)	(45,023)	(13,198)	19,420	52,851	87,115	122,231	158,219	195,101	232,897	271,629	311,320	351,993	393,670	436,377	480,136

7.2%	Internal Rate of Return
12.40	Payback Term
$50,607	NPV @ 6.0% Discount Rate

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.12
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.160

Declining PBI	
Year	PBI Schedule
1	0.120
2	0.120
3	0.120
4	0.120
5	0.120
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs			
Gross Price ($/W):	$4.60		
Total Gross Price:	$ 460,301	100%	
CBI Incentives:	$ -	0%	
Net Price	$ 460,301		
% Downpayment:	100%		
Loan Rate (%):	5.0%		
Loan Term (yrs):	10		

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 98
Total Rebate $	$ 0.39
IRR - Private S	8.1%
Payback Com	10.72
IRR - Public Se	7.3%
Payback Gov	12.47

PBI equiv. value	
payout	$0.98
NPV (5%)	$0.85
npv(10%)	$0.75

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	98,178	19,872	19,753	19,635	19,517	19,401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	98,178	19,872	19,753	19,635	19,517	19,401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	890,886	26,477	27,108	27,754	28,416	29,093	29,786	30,496	31,223	31,968	32,730	33,510	34,309	35,126	35,964	36,821	37,699	38,597	39,517	40,459	41,424	42,411	43,422	44,457	45,517	46,602
Total Cost Savings:	989,064	46,349	46,861	47,389	47,933	48,494	29,786	30,496	31,223	31,968	32,730	33,510	34,309	35,126	35,964	36,821	37,699	38,597	39,517	40,459	41,424	42,411	43,422	44,457	45,517	46,602
Expenses:																										
Maintenance	(34,523)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)
Total Expenses:		(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)
Financing:		$																								
% Downpayment:	100%	460,301																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(460,301)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(460,301)	(460,301)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	494,240	(415,333)	45,480	46,008	46,552	47,113	28,406	29,116	29,842	30,587	31,349	32,129	32,928	33,746	34,583	35,440	36,318	37,216	38,136	39,078	40,043	41,030	42,041	43,076	44,136	45,221
PRE-TAX CASH FLOW, CUMULATIVE:		(415,333)	(369,853)	(323,845)	(277,293)	(230,181)	(201,775)	(172,659)	(142,817)	(112,230)	(80,881)	(48,753)	(15,825)	17,921	52,503	87,944	124,261	161,478	199,614	238,693	278,736	319,766	361,807	404,883	449,019	494,240
Federal tax calculation (+ = refund)																										
Savings as a result of project	(954,542)	(44,968)	(45,480)	(46,008)	(46,552)	(47,113)	(28,406)	(29,116)	(29,842)	(30,587)	(31,349)	(32,129)	(32,928)	(33,746)	(34,583)	(35,440)	(36,318)	(37,216)	(38,136)	(39,078)	(40,043)	(41,030)	(42,041)	(43,076)	(44,136)	(45,221)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	437,286	87,457	139,932	83,959	50,288	50,288	25,363	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	38,551	2,012	555	597	639	683	(776)	(721)	(664)	(606)	(547)	(486)	(424)	1,136	2,697	2,764	2,833	2,903	2,975	3,048	3,123	3,200	3,279	3,360	3,443	3,527
Annual taxable income	(478,704)	44,501	95,007	38,548	4,375	3,858	(3,819)	(29,836)	(30,507)	(31,193)	(31,896)	(32,615)	(33,351)	(32,609)	(31,885)	(32,676)	(33,485)	(34,314)	(35,162)	(36,030)	(36,920)	(37,830)	(38,762)	(39,716)	(40,693)	(41,694)
Taxes due before ITC (+ = refund)	(167,546)	15,575	33,253	13,492	1,531	1,350	(1,337)	(10,443)	(10,677)	(10,918)	(11,163)	(11,415)	(11,673)	(11,413)	(11,160)	(11,437)	(11,720)	(12,010)	(12,307)	(12,611)	(12,922)	(13,240)	(13,567)	(13,901)	(14,243)	(14,593)
Federal tax credit (ITC)	46,030	46,030																								
Taxes due after ITC	(121,516)	61,606	33,253	13,492	1,531	1,350	(1,337)	(10,443)	(10,677)	(10,918)	(11,163)	(11,415)	(11,673)	(11,413)	(11,160)	(11,437)	(11,720)	(12,010)	(12,307)	(12,611)	(12,922)	(13,240)	(13,567)	(13,901)	(14,243)	(14,593)
State tax calculation (+ = refund)																										
Savings as a result of project	(954,542)	(44,968)	(45,480)	(46,008)	(46,552)	(47,113)	(28,406)	(29,116)	(29,842)	(30,587)	(31,349)	(32,129)	(32,928)	(33,746)	(34,583)	(35,440)	(36,318)	(37,216)	(38,136)	(39,078)	(40,043)	(41,030)	(42,041)	(43,076)	(44,136)	(45,221)
State Depreciation	460,301	19,179	38,358	38,358	38,358	38,358	38,358	38,358	38,358	38,358	38,358	38,358	38,358	38,358	19,179	0										
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(494,240)	(25,789)	(7,122)	(7,650)	(8,194)	(8,754)	9,953	9,243	8,516	7,772	7,010	6,229	5,431	(14,566)	(34,583)	(35,440)	(36,318)	(37,216)	(38,136)	(39,078)	(40,043)	(41,030)	(42,041)	(43,076)	(44,136)	(45,221)
Taxes due before ITC (+ = refund)	(38,551)	(2,012)	(555)	(597)	(639)	(683)	776	721	664	606	547	486	424	(1,136)	(2,697)	(2,764)	(2,833)	(2,903)	(2,975)	(3,048)	(3,123)	(3,200)	(3,279)	(3,360)	(3,443)	(3,527)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(38,551)	(2,012)	(555)	(597)	(639)	(683)	776	721	664	606	547	486	424	(1,136)	(2,697)	(2,764)	(2,833)	(2,903)	(2,975)	(3,048)	(3,123)	(3,200)	(3,279)	(3,360)	(3,443)	(3,527)
AFTER-TAX CASH FLOW, NET*:	334,173	(355,739)	78,177	58,903	47,444	47,780	27,845	19,394	19,829	20,275	20,732	21,200	21,678	21,196	20,725	21,239	21,765	22,304	22,855	23,420	23,998	24,589	25,195	25,816	26,451	27,101
AFTER-TAX CASH FLOW, CUMULATIVE:		(355,739)	(277,562)	(218,659)	(171,215)	(123,435)	(95,590)	(76,196)	(56,367)	(36,091)	(15,359)	5,841	27,519	48,715	69,441	90,680	112,445	134,749	157,604	181,024	205,021	229,611	254,806	280,622	307,072	334,173

8.1%	**Internal Rate of Return**
10.72	**Payback Term**
1,075	**NPV @ 8.0% Discount Rate**

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	98,178	19,872	19,753	19,635	19,517	19,401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	890,886	26,477	27,108	27,754	28,416	29,093	29,786	30,496	31,223	31,968	32,730	33,510	34,309	35,126	35,964	36,821	37,699	38,597	39,517	40,459	41,424	42,411	43,422	44,457	45,517	46,602
Total Cost Savings:	989,064	46,349	46,861	47,389	47,933	48,494	29,786	30,496	31,223	31,968	32,730	33,510	34,309	35,126	35,964	36,821	37,699	38,597	39,517	40,459	41,424	42,411	43,422	44,457	45,517	46,602
Expenses:																										
Maintenance	(34,523)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)
Total Expenses:		(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)	(1,381)
Financing:		$																								
% Downpayment:	100%	460,301																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(460,301)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(460,301)	(460,301)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	494,240	(415,333)	45,480	46,008	46,552	47,113	28,406	29,116	29,842	30,587	31,349	32,129	32,928	33,746	34,583	35,440	36,318	37,216	38,136	39,078	40,043	41,030	42,041	43,076	44,136	45,221
CASH FLOW, CUMULATIVE:		(415,333)	(369,853)	(323,845)	(277,293)	(230,181)	(201,775)	(172,659)	(142,817)	(112,230)	(80,881)	(48,753)	(15,825)	17,921	52,503	87,944	124,261	161,478	199,614	238,693	278,736	319,766	361,807	404,883	449,019	494,240

7.3%	**Internal Rate of Return**
12.47	**Payback Term**
$55,607	**NPV @ 6.0% Discount Rate**

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.06
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.165

Declining PBI	
Year	PBI Schedule
1	0.060
2	0.060
3	0.060
4	0.060
5	0.060
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs			
Gross Price ($/W):	$4.28		
Total Gross Price:	$ 428,080	100%	
CBI Incentives:	$ -	0%	
Net Price	$ 428,080		
% Downpayment:	100%		
Loan Rate (%):	5.0%		
Loan Term (yrs):	10		

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $ $	49
Total Rebate $ $	0.20
IRR - Private S	8.1%
Payback Com	11.01
IRR - Public Se	7.3%
Payback Gov	12.59

PBI equiv. value	
payout	$0.49
NPV (5%)	$0.43
npv(10%)	$0.37

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	49,089	9,936	9,877	9,817	9,759	9,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	49,089	9,936	9,877	9,817	9,759	9,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	917,613	27,271	27,921	28,587	29,268	29,966	30,680	31,411	32,160	32,927	33,712	34,515	35,338	36,180	37,043	37,926	38,830	39,755	40,703	41,673	42,666	43,684	44,725	45,791	46,882	48,000
Total Cost Savings:	966,702	37,207	37,798	38,404	39,027	39,666	30,680	31,411	32,160	32,927	33,712	34,515	35,338	36,180	37,043	37,926	38,830	39,755	40,703	41,673	42,666	43,684	44,725	45,791	46,882	48,000
Expenses:																										
Maintenance	(32,106)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)
Total Expenses:		(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)
Financing:		$																								
% Downpayment:	100%	428,080																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(428,080)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(428,080)	(428,080)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	506,516	(392,157)	36,513	37,120	37,743	38,382	29,396	30,127	30,876	31,642	32,427	33,231	34,054	34,896	35,758	36,641	37,545	38,471	39,419	40,389	41,382	42,399	43,441	44,507	45,598	46,716
PRE-TAX CASH FLOW, CUMULATIVE:		(392,157)	(355,644)	(318,524)	(280,782)	(242,400)	(213,004)	(182,877)	(152,001)	(120,359)	(87,931)	(54,700)	(20,647)	14,249	50,008	86,649	124,194	162,665	202,084	242,473	283,855	326,254	369,695	414,202	459,800	506,516
Federal tax calculation (+ = refund)																										
Savings as a result of project	(934,596)	(35,923)	(36,513)	(37,120)	(37,743)	(38,382)	(29,396)	(30,127)	(30,876)	(31,642)	(32,427)	(33,231)	(34,054)	(34,896)	(35,758)	(36,641)	(37,545)	(38,471)	(39,419)	(40,389)	(41,382)	(42,399)	(43,441)	(44,507)	(45,598)	(46,716)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	406,676	81,335	130,136	78,082	46,768	46,768	23,587	0	0	0	0	0	0	0	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	39,508	1,411	66	113	161	211	(490)	(433)	(374)	(314)	(253)	(191)	(126)	1,331	2,789	2,858	2,929	3,001	3,075	3,150	3,228	3,307	3,388	3,472	3,557	3,644
Annual taxable income	(488,410)	46,823	93,689	41,075	9,187	8,597	(6,298)	(30,560)	(31,250)	(31,957)	(32,681)	(33,421)	(34,180)	(33,565)	(32,969)	(33,783)	(34,617)	(35,470)	(36,344)	(37,239)	(38,154)	(39,092)	(40,052)	(41,035)	(42,042)	(43,072)
Taxes due before ITC (+ = refund)	(170,944)	16,388	32,791	14,376	3,215	3,009	(2,204)	(10,696)	(10,938)	(11,185)	(11,438)	(11,697)	(11,963)	(11,748)	(11,539)	(11,824)	(12,116)	(12,415)	(12,720)	(13,033)	(13,354)	(13,682)	(14,018)	(14,362)	(14,715)	(15,075)
Federal tax credit (ITC)	42,808	42,808																								
Taxes due after ITC	(128,136)	59,196	32,791	14,376	3,215	3,009	(2,204)	(10,696)	(10,938)	(11,185)	(11,438)	(11,697)	(11,963)	(11,748)	(11,539)	(11,824)	(12,116)	(12,415)	(12,720)	(13,033)	(13,354)	(13,682)	(14,018)	(14,362)	(14,715)	(15,075)
State tax calculation (+ = refund)																										
Savings as a result of project	(934,596)	(35,923)	(36,513)	(37,120)	(37,743)	(38,382)	(29,396)	(30,127)	(30,876)	(31,642)	(32,427)	(33,231)	(34,054)	(34,896)	(35,758)	(36,641)	(37,545)	(38,471)	(39,419)	(40,389)	(41,382)	(42,399)	(43,441)	(44,507)	(45,598)	(46,716)
State Depreciation	428,080	17,837	35,673	35,673	35,673	35,673	35,673	35,673	35,673	35,673	35,673	35,673	35,673	17,837	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(506,516)	(18,086)	(840)	(1,447)	(2,069)	(2,708)	6,278	5,546	4,798	4,031	3,246	2,442	1,620	(17,059)	(35,758)	(36,641)	(37,545)	(38,471)	(39,419)	(40,389)	(41,382)	(42,399)	(43,441)	(44,507)	(45,598)	(46,716)
Taxes due before ITC (+ = refund)	(39,508)	(1,411)	(66)	(113)	(161)	(211)	490	433	374	314	253	191	126	(1,331)	(2,789)	(2,858)	(2,929)	(3,001)	(3,075)	(3,150)	(3,228)	(3,307)	(3,388)	(3,472)	(3,557)	(3,644)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(39,508)	(1,411)	(66)	(113)	(161)	(211)	490	433	374	314	253	191	126	(1,331)	(2,789)	(2,858)	(2,929)	(3,001)	(3,075)	(3,150)	(3,228)	(3,307)	(3,388)	(3,472)	(3,557)	(3,644)
AFTER-TAX CASH FLOW, NET*:	338,872	(334,372)	69,239	51,383	40,796	41,180	27,681	19,864	20,313	20,772	21,242	21,724	22,217	21,817	21,430	21,959	22,501	23,056	23,624	24,205	24,800	25,410	26,034	26,673	27,327	27,997
AFTER-TAX CASH FLOW, CUMULATIVE:		(334,372)	(265,133)	(213,750)	(172,953)	(131,774)	(104,092)	(84,229)	(63,916)	(43,144)	(21,902)	(178)	22,039	43,857	65,287	87,246	109,747	132,802	156,426	180,631	205,431	230,841	256,875	283,548	310,875	338,872

8.1%	**Internal Rate of Return**
11.01	**Payback Term**
1,596	**NPV @ 8.0% Discount Rate**

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	49,089	9,936	9,877	9,817	9,759	9,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	917,613	27,271	27,921	28,587	29,268	29,966	30,680	31,411	32,160	32,927	33,712	34,515	35,338	36,180	37,043	37,926	38,830	39,755	40,703	41,673	42,666	43,684	44,725	45,791	46,882	48,000
Total Cost Savings:	966,702	37,207	37,798	38,404	39,027	39,666	30,680	31,411	32,160	32,927	33,712	34,515	35,338	36,180	37,043	37,926	38,830	39,755	40,703	41,673	42,666	43,684	44,725	45,791	46,882	48,000
Expenses:																										
Maintenance	(32,106)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)
Total Expenses:		(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)	(1,284)
Financing:		$																								
% Downpayment:	100%	428,080																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(428,080)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(428,080)	(428,080)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	506,516	(392,157)	36,513	37,120	37,743	38,382	29,396	30,127	30,876	31,642	32,427	33,231	34,054	34,896	35,758	36,641	37,545	38,471	39,419	40,389	41,382	42,399	43,441	44,507	45,598	46,716
CASH FLOW, CUMULATIVE:		(392,157)	(355,644)	(318,524)	(280,782)	(242,400)	(213,004)	(182,877)	(152,001)	(120,359)	(87,931)	(54,700)	(20,647)	14,249	50,008	86,649	124,194	162,665	202,084	242,473	283,855	326,254	369,695	414,202	459,800	506,516

7.3%	**Internal Rate of Return**
12.59	**Payback Term**
$58,596	**NPV @ 6.0% Discount Rate**

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.02
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.170

Declining PBI	
Year	PBI Schedule
1	0.020
2	0.020
3	0.020
4	0.020
5	0.020
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$3.98	
Total Gross Price:	$ 398,114	100%
CBI Incentives:	$ -	0%
Net Price	$ 398,114	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	10.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ 16
Total Rebate $	$ 0.07
IRR - Private S	8.4%
Payback Com	10.88
IRR - Public Se	7.8%
Payback Gov	12.31

PBI equiv. value	
payout	$0.16
NPV (5%)	$0.14
npv(10%)	$0.12

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690
PBI $	16,363	3,312	3,292	3,272	3,253	3,233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Performance Based Incentive	16,363	3,312	3,292	3,272	3,253	3,233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	945,141	28,089	28,759	29,444	30,146	30,865	31,600	32,354	33,125	33,914	34,723	35,551	36,398	37,266	38,154	39,063	39,995	40,948	41,924	42,923	43,946	44,994	46,067	47,165	48,289
Total Cost Savings	961,504	31,401	32,051	32,717	33,399	34,098	31,600	32,354	33,125	33,914	34,723	35,551	36,398	37,266	38,154	39,063	39,995	40,948	41,924	42,923	43,946	44,994	46,067	47,165	48,289
Expenses:																									
Maintenance	(29,859)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)
Total Expenses		(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)
Financing:		$																							
% Downpayment	100%	398,114																							
% Loan:	0%	0																							
Estimated interest rate on loan (%	5.0%																								
Term of loan (full yrs)	10																								
Initial Capital Cost (Downpayment		(398,114)																							
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(398,114)	(398,114)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	533,531	(367,908)	30,857	31,522	32,205	32,904	30,406	31,159	31,931	32,720	33,529	34,356	35,204	36,071	36,960	37,869	38,800	39,754	40,730	41,729	42,752	43,800	44,872	45,970	47,095
PRE-TAX CASH FLOW, CUMULATIVE:		(367,908)	(337,051)	(305,529)	(273,324)	(240,420)	(210,014)	(178,855)	(146,924)	(114,204)	(80,676)	(46,319)	(11,116)	24,956	61,915	99,784	138,584	178,338	219,068	260,797	303,549	347,348	392,221	438,191	485,285
Federal tax calculation (+ = refund																									
Savings as a result of projec	(931,645)	(30,207)	(30,857)	(31,522)	(32,205)	(32,904)	(30,406)	(31,159)	(31,931)	(32,720)	(33,529)	(34,356)	(35,204)	(36,071)	(36,960)	(37,869)	(38,800)	(39,754)	(40,730)	(41,729)	(42,752)	(43,800)	(44,872)	(45,970)	(47,095)
MACRS Accelerated Depr. w/yr 1 bonus (%		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																		
Federal Depreciatior	378,209	75,642	121,027	72,616	43,494	43,494	21,936	0	0	0	0	0	0	0											
Interest deduction on loar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deductior	41,615	1,062	(181)	(129)	(76)	(21)	(216)	(157)	(97)	(36)	27	92	158	1,520	2,883	2,954	3,026	3,101	3,177	3,255	3,335	3,416	3,500	3,586	3,673
Annual taxable income	(511,820)	46,497	89,990	40,965	11,214	10,569	(8,686)	(31,317)	(32,028)	(32,756)	(33,501)	(34,264)	(35,046)	(34,552)	(34,077)	(34,915)	(35,774)	(36,653)	(37,553)	(38,474)	(39,417)	(40,383)	(41,372)	(42,385)	(43,421)
Taxes due before ITC (+ = refund	(179,137)	16,274	31,496	14,338	3,925	3,699	(3,040)	(10,961)	(11,210)	(11,464)	(11,725)	(11,992)	(12,266)	(12,093)	(11,927)	(12,220)	(12,521)	(12,828)	(13,143)	(13,466)	(13,796)	(14,134)	(14,480)	(14,835)	(15,197)
Federal tax credit (ITC	39,811	39,811																							
Taxes due after ITC	(139,326)	56,086	31,496	14,338	3,925	3,699	(3,040)	(10,961)	(11,210)	(11,464)	(11,725)	(11,992)	(12,266)	(12,093)	(11,927)	(12,220)	(12,521)	(12,828)	(13,143)	(13,466)	(13,796)	(14,134)	(14,480)	(14,835)	(15,197)
State tax calculation (+ = refund																									
Savings as a result of projec	(931,645)	(30,207)	(30,857)	(31,522)	(32,205)	(32,904)	(30,406)	(31,159)	(31,931)	(32,720)	(33,529)	(34,356)	(35,204)	(36,071)	(36,960)	(37,869)	(38,800)	(39,754)	(40,730)	(41,729)	(42,752)	(43,800)	(44,872)	(45,970)	(47,095)
State Depreciatior	398,114	16,588	33,176	33,176	33,176	33,176	33,176	33,176	33,176	33,176	33,176	33,176	33,176	16,588	0										
Interest deduction on loar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(533,531)	(13,619)	2,320	1,654	972	272	2,770	2,017	1,246	456	(352)	(1,180)	(2,027)	(19,483)	(36,960)	(37,869)	(38,800)	(39,754)	(40,730)	(41,729)	(42,752)	(43,800)	(44,872)	(45,970)	(47,095)
Taxes due before ITC (+ = refund	(41,615)	(1,062)	181	129	76	21	216	157	97	36	(27)	(92)	(158)	(1,520)	(2,883)	(2,954)	(3,026)	(3,101)	(3,177)	(3,255)	(3,335)	(3,416)	(3,500)	(3,586)	(3,673)
State tax credit (ITC to 200 kW	0	0																							
Taxes due after ITC	(41,615)	(1,062)	181	129	76	21	216	157	97	36	(27)	(92)	(158)	(1,520)	(2,883)	(2,954)	(3,026)	(3,101)	(3,177)	(3,255)	(3,335)	(3,416)	(3,500)	(3,586)	(3,673)
AFTER-TAX CASH FLOW, NET*:	352,590	(312,884)	62,534	45,989	36,205	36,624	27,582	20,356	20,818	21,291	21,776	22,272	22,780	22,459	22,150	22,695	23,253	23,824	24,409	25,008	25,621	26,249	26,892	27,550	28,224
AFTER-TAX CASH FLOW, CUMULATIVE:		(312,884)	(250,351)	(204,361)	(168,156)	(131,532)	(103,950)	(83,594)	(62,776)	(41,485)	(19,709)	2,563	25,342	47,801	69,951	92,645	115,898	139,723	164,132	189,140	214,761	241,011	267,903	295,453	323,676

8.4%	Internal Rate of Return
10.88	Payback Term
8,898	NPV @ 8.0% Discount Rate

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Performance Based Incentive	16,363	3,312	3,292	3,272	3,253	3,233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	945,141	28,089	28,759	29,444	30,146	30,865	31,600	32,354	33,125	33,914	34,723	35,551	36,398	37,266	38,154	39,063	39,995	40,948	41,924	42,923	43,946	44,994	46,067	47,165	48,289
Total Cost Savings	961,504	31,401	32,051	32,717	33,399	34,098	31,600	32,354	33,125	33,914	34,723	35,551	36,398	37,266	38,154	39,063	39,995	40,948	41,924	42,923	43,946	44,994	46,067	47,165	48,289
Expenses:																									
Maintenance	(29,859)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)
Total Expenses		(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)	(1,194)
Financing:		$																							
% Downpayment	100%	398,114																							
% Loan:	0%	0																							
Estimated interest rate on loan (%	5.0%																								
Term of loan (full yrs)	10																								
Initial Capital Cost (Downpayment		(398,114)																							
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(398,114)	(398,114)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	533,531	(367,908)	30,857	31,522	32,205	32,904	30,406	31,159	31,931	32,720	33,529	34,356	35,204	36,071	36,960	37,869	38,800	39,754	40,730	41,729	42,752	43,800	44,872	45,970	47,095
CASH FLOW, CUMULATIVE:		(367,908)	(337,051)	(305,529)	(273,324)	(240,420)	(210,014)	(178,855)	(146,924)	(114,204)	(80,676)	(46,319)	(11,116)	24,956	61,915	99,784	138,584	178,338	219,068	260,797	303,549	347,348	392,221	438,191	485,285

7.8%	Internal Rate of Return
12.31	Payback Term
$73,549	NPV @ 6.0% Discount Rate

25			
143,386			
3,855,937			
154,237			
0			
25			
0			
49,440			
49,440			
(1,194)			
(1,194)			
0			
0			
0			
48,246			
533,531			
(48,246)			
0			
3,763			
(44,482)			
(15,569)			
(15,569)			
(48,246)			
0			
(48,246)			
(3,763)			
(3,763)			
28,914			
352,590			
25			
0			
49,440			
49,440			
(1,194)			
(1,194)			
0			
0			
0			
48,246			
533,531			

Capacity Based Incentive (CBI)	
CBI Rebate Cap:	100%
CBI Rebate ($/W):	
CBI Payee (1=PL, 0=Host)	0

Performance Based Incentive (PBI)	
Y1 PBI ($/kWh)	$0.00
PBI Term (years)	5
Annual Rate of Decline	0%
PBI Payee (1=PL, 0=Host)	0

System Statistics	
System Size (kWaccec):	100
Yr 1 Annual kWh:	165,600
Yr 1 Annual kWh / kWaccec:	1,656
Performance degradation	0.6%
Maintenance Y1-Y25 (% gross cost):	0.30%
Y1 Avoided Cost ($/kWh):	$0.175

Declining PBI	
Year	PBI Schedule
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000

System Costs		
Gross Price ($/W):	$3.94	
Total Gross Price:	$ 394,133	100%
CBI Incentives:	$ -	0%
Net Price	$ 394,133	
% Downpayment:	100%	
Loan Rate (%):	5.0%	
Loan Term (yrs):	10	

Customer Assumptions	
Federal Tax Rate:	35.0%
State Tax Rate:	7.8%
Federal Tax Credit	0.0%
State Tax Credit	0.0%
Com Disc Rate	8%
Gov Disc Rate	6%
Annual inflation:	0.0%
Elect. Inflation:	3.0%

Outputs	
Total Rebate $	$ -
Total Rebate $	$ -
IRR - Private S	7.1%
Payback Com	12.34
IRR - Public Se	7.8%
Payback Gov	12.32

PBI equiv. value	
payout	$0.00
NPV (5%)	$0.00
npv(10%)	$0.00

Performance Incentive	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance (kWh/year)	3,855,937	165,600	164,609	163,624	162,645	161,672	160,705	159,743	158,787	157,837	156,893	155,954	155,021	154,093	153,171	152,255	151,344	150,438	149,538	148,643	147,754	146,870	145,991	145,117	144,249	143,386
Cumulative Performance		165,600	330,209	493,833	656,478	818,150	978,855	1,138,598	1,297,385	1,455,222	1,612,115	1,768,069	1,923,089	2,077,183	2,230,354	2,382,608	2,533,952	2,684,390	2,833,928	2,982,571	3,130,325	3,277,194	3,423,185	3,568,302	3,712,551	3,855,937
Average Performance to date		165,600	165,105	164,611	164,120	163,630	163,142	162,657	162,173	161,691	161,211	160,734	160,257	159,783	159,311	158,841	158,372	157,905	157,440	156,977	156,516	156,057	155,599	155,144	154,690	154,237
PBI $	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Commercial Customer

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	973,495	28,932	29,621	30,328	31,050	31,791	32,548	33,324	34,119	34,932	35,765	36,617	37,490	38,384	39,299	40,235	41,194	42,176	43,182	44,211	45,265	46,344	47,449	48,580	49,738	50,923
Total Cost Savings:	973,495	28,932	29,621	30,328	31,050	31,791	32,548	33,324	34,119	34,932	35,765	36,617	37,490	38,384	39,299	40,235	41,194	42,176	43,182	44,211	45,265	46,344	47,449	48,580	49,738	50,923
Expenses:																										
Maintenance	(29,560)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)
Total Expenses:		(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)
Financing:		$																								
% Downpayment:	100%	394,133																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(394,133)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(394,133)	(394,133)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRE-TAX CASH FLOW, NET*:	549,802	(366,384)	28,439	29,145	29,868	30,608	31,366	32,142	32,936	33,750	34,582	35,435	36,308	37,201	38,116	39,053	40,012	40,994	41,999	43,029	44,082	45,161	46,266	47,397	48,555	49,741
PRE-TAX CASH FLOW, CUMULATIVE:		(366,384)	(337,945)	(308,800)	(278,932)	(248,323)	(216,957)	(184,815)	(151,879)	(118,130)	(83,548)	(48,113)	(11,805)	25,396	63,512	102,565	142,577	183,571	225,570	268,599	312,681	357,843	404,109	451,506	500,061	549,802
Federal tax calculation (+ = refund)																										
Savings as a result of project	(943,935)	(27,749)	(28,439)	(29,145)	(29,868)	(30,608)	(31,366)	(32,142)	(32,936)	(33,750)	(34,582)	(35,435)	(36,308)	(37,201)	(38,116)	(39,053)	(40,012)	(40,994)	(41,999)	(43,029)	(44,082)	(45,161)	(46,266)	(47,397)	(48,555)	(49,741)
MACRS Accelerated Depr. w/yr 1 bonus (%)		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%																			
Federal Depreciation	394,133	78,827	126,123	75,674	45,325	45,325	22,860	0	0	0	0	0	0	0												
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State tax deduction	42,885	884	(344)	(289)	(232)	(174)	(115)	(55)	7	71	136	202	270	1,621	2,973	3,046	3,121	3,198	3,276	3,356	3,438	3,523	3,609	3,697	3,787	3,880
Annual taxable income	(506,916)	51,961	97,340	46,240	15,225	14,543	(8,622)	(32,197)	(32,929)	(33,679)	(34,447)	(35,233)	(36,037)	(35,580)	(35,143)	(36,007)	(36,891)	(37,796)	(38,723)	(39,672)	(40,644)	(41,639)	(42,657)	(43,700)	(44,768)	(45,861)
Taxes due before ITC (+ = refund)	(177,421)	18,186	34,069	16,184	5,329	5,090	(3,018)	(11,269)	(11,525)	(11,788)	(12,056)	(12,331)	(12,613)	(12,453)	(12,300)	(12,602)	(12,912)	(13,229)	(13,553)	(13,885)	(14,225)	(14,574)	(14,930)	(15,295)	(15,669)	(16,051)
Federal tax credit (ITC)	0	0																								
Taxes due after ITC	(177,421)	18,186	34,069	16,184	5,329	5,090	(3,018)	(11,269)	(11,525)	(11,788)	(12,056)	(12,331)	(12,613)	(12,453)	(12,300)	(12,602)	(12,912)	(13,229)	(13,553)	(13,885)	(14,225)	(14,574)	(14,930)	(15,295)	(15,669)	(16,051)
State tax calculation (+ = refund)																										
Savings as a result of project	(943,935)	(27,749)	(28,439)	(29,145)	(29,868)	(30,608)	(31,366)	(32,142)	(32,936)	(33,750)	(34,582)	(35,435)	(36,308)	(37,201)	(38,116)	(39,053)	(40,012)	(40,994)	(41,999)	(43,029)	(44,082)	(45,161)	(46,266)	(47,397)	(48,555)	(49,741)
State Depreciation	394,133	16,422	32,844	32,844	32,844	32,844	32,844	32,844	32,844	32,844	32,844	32,844	32,844	16,422	0											
Interest deduction on loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual taxable income	(549,802)	(11,327)	4,405	3,699	2,976	2,236	1,478	703	(92)	(905)	(1,738)	(2,590)	(3,463)	(20,779)	(38,116)	(39,053)	(40,012)	(40,994)	(41,999)	(43,029)	(44,082)	(45,161)	(46,266)	(47,397)	(48,555)	(49,741)
Taxes due before ITC (+ = refund)	(42,885)	(884)	344	289	232	174	115	55	(7)	(71)	(136)	(202)	(270)	(1,621)	(2,973)	(3,046)	(3,121)	(3,198)	(3,276)	(3,356)	(3,438)	(3,523)	(3,609)	(3,697)	(3,787)	(3,880)
State tax credit (ITC to 200 kW)	0	0																								
Taxes due after ITC	(42,885)	(884)	344	289	232	174	115	55	(7)	(71)	(136)	(202)	(270)	(1,621)	(2,973)	(3,046)	(3,121)	(3,198)	(3,276)	(3,356)	(3,438)	(3,523)	(3,609)	(3,697)	(3,787)	(3,880)
AFTER-TAX CASH FLOW, NET*:	329,497	(349,081)	62,852	45,618	35,429	35,873	28,464	20,928	21,404	21,891	22,390	22,901	23,424	23,127	22,843	23,404	23,979	24,568	25,170	25,787	26,419	27,065	27,727	28,405	29,099	29,810
AFTER-TAX CASH FLOW, CUMULATIVE:		(349,081)	(286,229)	(240,612)	(205,182)	(169,310)	(140,846)	(119,918)	(98,514)	(76,623)	(54,233)	(31,331)	(7,907)	15,220	38,063	61,468	85,447	110,014	135,185	160,972	187,390	214,455	242,183	270,588	299,687	329,497

7.1%	**Internal Rate of Return**
12.34	**Payback Term**
(21,015)	**NPV @ 8.0% Discount Rate**

Not For Profit / Government

Savings:	25-Yr Totals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Performance Based Incentive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Electricity Purchases	973,495	28,932	29,621	30,328	31,050	31,791	32,548	33,324	34,119	34,932	35,765	36,617	37,490	38,384	39,299	40,235	41,194	42,176	43,182	44,211	45,265	46,344	47,449	48,580	49,738	50,923
Total Cost Savings:	973,495	28,932	29,621	30,328	31,050	31,791	32,548	33,324	34,119	34,932	35,765	36,617	37,490	38,384	39,299	40,235	41,194	42,176	43,182	44,211	45,265	46,344	47,449	48,580	49,738	50,923
Expenses:																										
Maintenance	(29,560)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)
Total Expenses:		(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)	(1,182)
Financing:		$																								
% Downpayment:	100%	394,133																								
% Loan:	0%	0																								
Estimated interest rate on loan (%):	5.0%																									
Term of loan (full yrs):	10																									
Initial Capital Cost (Downpayment)		(394,133)																								
Equipment Loan Principal Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment Loan Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Financing Cost:	(394,133)	(394,133)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASH FLOW, NET*:	549,802	(366,384)	28,439	29,145	29,868	30,608	31,366	32,142	32,936	33,750	34,582	35,435	36,308	37,201	38,116	39,053	40,012	40,994	41,999	43,029	44,082	45,161	46,266	47,397	48,555	49,741
CASH FLOW, CUMULATIVE:		(366,384)	(337,945)	(308,800)	(278,932)	(248,323)	(216,957)	(184,815)	(151,879)	(118,130)	(83,548)	(48,113)	(11,805)	25,396	63,512	102,565	142,577	183,571	225,570	268,599	312,681	357,843	404,109	451,506	500,061	549,802

7.8%	**Internal Rate of Return**
12.32	**Payback Term**
$77,181	**NPV @ 6.0% Discount Rate**

A	B	C	D	E	F	G	H	I	J	K	L
year	month	Total MW solar installed by month-end	New solar MW installed each month	Monthly solar MWh eligible for PBI	Total solar MWh eligible for PBI by year-end				Year of Operation	Solar MWh Generated & Eligible for PBI	*Cumulative MW of solar electricity installations (adjusted for degradation)*
2007	6	0.001		1		Adj.(1) -->	99.95%		2007	28979	60.0
2007	7	10.0	#N/A	1381		to reflect assumed			2008	161072	128.8
2007	8	20.0	10.00	2762		monthly degradation in			2009	286944	210.9
2007	9	30.0	10.00	4141		solar output.			2010	442689	315.0
2007	10	40.0	9.99	5520					2011	647420	455.1
2007	11	50.0	9.99	6898					2012	927170	648.4
2007	12	60.0	9.98	8276	*28979*				2013	1315499	917.7
2008	1	65.7	5.75	9069					2014	1872729	1310.9
2008	2	71.5	5.75	9862					2015	2737189	1941.7
2008	3	77.2	5.74	10655					2016	4126348	2956.3
2008	4	82.9	5.74	11447							
2008	5	88.7	5.74	12238							
2008	6	94.4	5.73	13030							
2008	7	100.1	5.73	13820							
2008	8	105.9	5.73	14611							
2008	9	111.6	5.73	15401							
2008	10	117.3	5.72	16191							
2008	11	123.0	5.72	16980							
2008	12	128.8	5.72	17769	*161072*						
2009	1	135.6	6.86	18716							
2009	2	142.5	6.86	19662							
2009	3	149.3	6.85	20608							
2009	4	156.2	6.85	21553							
2009	5	163.0	6.85	22498							
2009	6	169.9	6.84	23443							
2009	7	176.7	6.84	24387							
2009	8	183.6	6.84	25330							
2009	9	190.4	6.83	26273							
2009	10	197.2	6.83	27216							
2009	11	204.0	6.83	28158							
2009	12	210.9	6.82	29100	*286944*						
2010	1	219.6	8.70	30301							
2010	2	228.3	8.70	31501							
2010	3	237.0	8.69	32700							
2010	4	245.6	8.69	33899							
2010	5	254.3	8.68	35098							
2010	6	263.0	8.68	36296							
2010	7	271.7	8.68	37493							
2010	8	280.4	8.67	38689							
2010	9	289.0	8.67	39886							
2010	10	297.7	8.66	41081							
2010	11	306.3	8.66	42276							
2010	12	315.0	8.65	43470	*442689*						
2011	1	326.7	11.71	45086							
2011	2	338.4	11.70	46700							
2011	3	350.1	11.69	48314							
2011	4	361.8	11.69	49927							
2011	5	373.5	11.68	51540							
2011	6	385.2	11.68	53151							
2011	7	396.8	11.67	54762							
2011	8	408.5	11.67	56372							
2011	9	420.1	11.66	57981							
2011	10	431.8	11.65	59589							
2011	11	443.5	11.65	61196							
2011	12	455.1	11.64	62803	*647420*						
2012	1	471.2	16.15	65032							
2012	2	487.4	16.14	67260							
2012	3	503.5	16.14	69486							
2012	4	519.7	16.13	71712							
2012	5	535.8	16.12	73936							
2012	6	551.9	16.11	76160							
2012	7	568.0	16.10	78382							
2012	8	584.1	16.09	80603							
2012	9	600.2	16.09	82823							
2012	10	616.2	16.08	85042							
2012	11	632.3	16.07	87259							
2012	12	648.4	16.06	89476	*927170*						
2013	1	670.9	22.50	92582							

2013	2	693.4	22.49	95685	
2013	3	715.9	22.48	98788	
2013	4	738.3	22.47	101889	
2013	5	760.8	22.46	104988	
2013	6	783.2	22.45	108086	
2013	7	805.7	22.44	111182	
2013	8	828.1	22.43	114277	
2013	9	850.5	22.41	117370	
2013	10	872.9	22.40	120461	
2013	11	895.3	22.39	123551	
2013	12	917.7	22.38	126640	*1315499*
2014	1	950.5	32.86	131174	
2014	2	983.4	32.84	135707	
2014	3	1,016.2	32.83	140237	
2014	4	1,049.0	32.81	144765	
2014	5	1,081.8	32.79	149290	
2014	6	1,114.6	32.78	153813	
2014	7	1,147.4	32.76	158334	
2014	8	1,180.1	32.74	162853	
2014	9	1,212.8	32.73	167370	
2014	10	1,245.5	32.71	171884	
2014	11	1,278.2	32.70	176396	
2014	12	1,310.9	32.68	180906	*1872729*
2015	1	1,363.6	52.71	188179	
2015	2	1,416.3	52.68	195450	
2015	3	1,469.0	52.66	202716	
2015	4	1,521.6	52.63	209979	
2015	5	1,574.2	52.60	217238	
2015	6	1,626.8	52.58	224494	
2015	7	1,679.3	52.55	231746	
2015	8	1,731.8	52.52	238995	
2015	9	1,784.3	52.50	246239	
2015	10	1,836.8	52.47	253481	
2015	11	1,889.3	52.45	260718	
2015	12	1,941.7	52.42	267952	*2737189*
2016	1	2,026.5	84.78	279652	
2016	2	2,111.2	84.74	291346	
2016	3	2,195.9	84.70	303034	
2016	4	2,280.6	84.65	314717	
2016	5	2,365.2	84.61	326393	
2016	6	2,449.7	84.57	338064	
2016	7	2,534.3	84.53	349729	
2016	8	2,618.8	84.49	361388	
2016	9	2,703.2	84.44	373041	
2016	10	2,787.6	84.40	384688	
2016	11	2,872.0	84.36	396330	
2016	12	2,956.3	84.32	407966	*4126348*

Reply Comments Regarding Incentives for Non-PV Solar Technologies

1. ASPv (and Other Parties) Continues to Support the Dual Program Approach for Solar Thermal Technologies

The CPUC has proposed inclusion in the CSI solar thermal hot water, heating and cooling technologies. The solar industry, and ASPv, have consistently supported the development of all solar resources and technologies for the benefit of the citizens of California. It is notable that most of the parties that addressed solar thermal technologies ("STT") in opening comments supported their inclusion in the CSI, a position the Commission has taken by specifically including solar hot water, heating, and cooling. ASPv also continues to support inclusion of all solar thermal technologies. Further, many parties, along with ASPv, support the bifurcation of the program as it is moving forward. Specifically, SDREO will develop a pilot program for residential and small commercial solar domestic hot water ("SDREO Program") and the CPUC will develop a PBI program for all solar thermal applications ("CPUC Solar Thermal Program").

ASPv has briefly reviewed the SDREO Program proposal and supports its concepts for residential and small commercial systems. It is important to note, however, that the SDREO Program limits itself to these smaller systems and the production of domestic hot water only. The CPUC Thermal Program still needs to address the larger solar domestic hot water systems along with solar process and space heating and solar process and space cooling, as proposed by Staff.

No parties appear to object to this type of division for solar thermal applications and only one party appears to question the inclusion of thermal technologies, and only solar thermal HVAC, in the CSI. San Diego Gas & Electric/Southern California Gas Company ("SDG&E") indicates that it believes that solar HVAC (cooling and heating)

technologies are premature, although the Commission has included these technologies in the CSI. As ASPv has previously indicated and the Commission believes, commercial solar HVAC systems are far more advanced than most other non-PV solar technologies and deployed more widely throughout the world. Residential HVAC systems, due to chiller sizing, are still not market-ready, but are moving in that direction and are certainly no less advanced than residential concentrating solar power ("CSP") systems. Again, the PBI incentive will ensure that only working systems receive incentives.

Solar thermal technologies are important to California for a variety of reasons: first, they include thermal storage and provide firm power; second, they displace peak electricity; third, thermal collectors are well over 50% efficient and produce a maximum amount of energy even with change in angle; fourth, they also displace natural gas, a fuel of increasing concern due to rising costs and limitations based on increased use for electric generation. California will benefit greatly by allowing solar thermal technologies to continue to develop. By allowing this technology to move forward under both the SDREO Program and the CPUC Solar Thermal Program utilizing PBI and maintaining a constant program over the first two to three years as proposed by Staff the Commission will obtain valuable data and be able to adequately modify the Program(s) as necessary in year three to maximize the benefits to California's ratepayers.

2. Specific Issues Raised by Parties

ASPv wishes to address the few specific issues raised by other parties. First, Joint Solar Parties discuss the appropriateness of the SRCC rating system within the context of the SDREO Program and suggest that this certification process be utilized for other solar thermal applications in the broader CPUC Solar Thermal Program. As discussed in our

original comments to the Staff proposal, the SRCC rating system is appropriate to smaller, flat-plate technologies but not to other types of solar thermal collectors. Although SRCC may have the ability to test certain additional types of collectors, they do not have the ability and are not set up to test all types of collectors and/or systems.

ASPv recommends that the CPUC Solar Thermal Program take an approach currently used by the CEC for adding technologies without certification mechanisms, such as CSP and solar HVAC, to the Emerging Renewables Program: "Manufacturers of solar thermal systems must provide acceptable evidence . . . of one year of reliable operation for each model of systems they wish to sell under this program . . . by a full-scale facility using this technology under field conditions." This approach, along with the PBI requirement, will provide adequate assurance that solar thermal technologies will perform as anticipated.

The Consumer Federation of California (CFC) suggests that only cost-effective solar technologies be included under pilot programs. To require cost-effectiveness seems reasonable; nonetheless, except for the pilot program for small solar domestic hot water, pilots are not necessary for the well-proven solar thermal technologies that are being incentivized under a PBI method.

Solar thermal applications are both well-proven and cost-effective technologies, as supported by other filings made and information provided. For solar cooling, the incentive requested is at or below the incentive level requested by the PV industry. This is presumably the benchmark for reasonableness. The incentive proposed for solar heating and hot water applications is much lower. When the two are combined in a solar HVAC system, the number will be lower then the maximum. In the early years of the

Program due to the higher cost of solar cooling, we expect that most systems will combine cooling with heating and/or hot water. This will reduce the average cost per kWh of systems well below the incentive for solar cooling.

3. Clarification Regarding Program Administration

ASPv recommends that the Commission hold an additional workshop on the non-PV solar technologies to insure that all issues are clear for the Handbook development stage of this process.

4. Solar Space Cooling

Both SDG&E and Solargenix have addressed technical questions related to solar space cooling. There is a possibility that the proposed definition of solar space cooling is unclear. ASPv proposes the following as a definition for solar thermal space cooling technologies that qualify under this program: "Solar Space Cooling is a technology that uses solar thermal energy absent the generation of electricity to drive a mechanical refrigeration machine that provides space cooling in a building, displacing electricity." This definition encompasses the types of systems that are commercially available and well-proven. These systems can be easily measured and stated in kWh equivalent.

SDG&E also raises a question related to how solar cooling systems are measured due to the differing chiller efficiencies and has proposed a formula for incorporating chiller efficiency. ASPv agrees with SDG&E that chiller efficiency should be considered in solar cooling incentives and that this issue and any other remaining technical issues be handled during an additional workshop or Handbook development.