TAB 1

City of Palmetto
Agenda Item

Meeting Date
8/29/11

Presenter: Jim Freeman **Department:** City Clerk

Title: Installation of PV solar panels

At the Commission meeting on August 15, 2011 we discussed the possibility of installing photovoltaic (PV) panels at 4 city locations (City Hall, PW, PD, and WWTP). Commission authorized staff to move forward with site surveys to determine the feasibility of installing the systems. DataComm Services LLC dba DCS Energy is the company that is offering to install the PV panels using a $0 cost lease. Based on the site surveys, the City has been approved to install 2 systems on the rooftops of City Hall and the Police Department. The other two locations did not qualify based on the site survey.

- By installing the PV system, the City would receive free Kilo-watt hours produced by the system.
- The lease agreement is with no money down, no monthly fees, with no maintenance costs to the City. At the end of the 5 year lease term, DCS will donate the equipment to the City for a cost of $1.00 per system or will remove the equipment at no cost.
- Each site contract will need to be executed by September 1, 2011 for submittal to the United States Treasury Department by DCS for grant approvals. DCS will retain Federal and State tax rebates and renewable energy credits for the life of the system.
- The City will incur approximately $3,000-$4,000 per system for engineering, permitting and a FPL net meter. The estimated annual savings is $2,500-$3,000 per year. The payback is a little over 1 year.
- The Contract was reviewed by the City attorney and they did recommend certain changes to the contract. However, DCS stated that this contract has already been approved by the US Treasury and could not be modified. Therefore, the City attorney does not believe the current contract provides sufficient legal protections.

Earlier this week, Manatee County approved 26 similar systems that are being offered by this same company, DCS.

Budgeted Amount:	0	**Budget Page No(s):**		**Available Amount:**	0	**Expenditure Amount:**	$8,000

Additional Budgetary Information: Staff will bring forward a budget amendment once the exact costs are known.

Funding Source(s): | **Sufficient Funds Available:** X☐ Yes ☐ No | **Budget Amendment Required:** X☐ Yes ☐ No | **Source:**

City Attorney Reviewed: X☐ Yes ☐ No ☐ N/A | **Advisory Board Recommendation:** ☐ For ☐ Against X☐ N/A | **Consistent With:** ☐ Yes ☐ No ☐ N/A

Potential Motion/ Direction Requested: Motion to approve and authorize the Mayor to execute two contracts with DataComm Services LLC for the installation of photovoltaic solar panels at City Hall and the Police Department.

Staff Contact: Jim Freeman

Attachments: 2 lease agreements, Power Point

DCS Energy
PO Box 320
South Glastonbury, CT 06073
860-657-0675
(Fax) 860-471-8415
www.DCSenergy.com

DCS Energy Solar Lease Contract- Sample

This DCS Energy Solar Lease Plan Contract is between DataComm Services LLC dba DCS Energy (provider) registered in the state of CT and as a Foreign Corp in FL and **Town or NFP ,** (lessee). DCS Energy will provide a new photovoltaic (PV) solar system for the lessee to use and benefit from the clean electricity generated from the solar PV electric panels for their electric bill. There are some conditions that the lessee must agree to and successfully complete before this DCS Energy Solar Contract will be active (see below). This is an operational lease and the DCS Energy PV solar system will be located at:

Welcome Center
4801 E. Fowler Ave
Tampa, FL 33617
Phone: 813-987-6337

PV System will be located on the ___ground _X_roof.

The estimated DC (direct current) size of the system is **18kW** with an estimated monthly average clean energy produced by the PV system as **1800 kWh**. The purchase value of this solar PV system is **$117,000.00**. Any state rebates will be paid to DCS Energy. This rebate money will be used to offset the cost of the system to the Lessee. US Federal Program and third party funding partner must approve the PV system and authorize the funds for the system. The DCS Energy PV System will include USA made solar products including:

Solyndra Panels and Rack System, Solectria Inverters

5 year parts and labor warranty on equipment

Anticipated state licensed electrician that is responsible for the installation of the PV System: David Soltez DBA Earth Friendly Technologies LIC - ER13012387 or another licensed electrician.

The down payment for this system will be $___0_____due and payable immediately. If the UST does not award the rebate money or does not give its approval, the Lessee will have the opportunity to increase their down payment to make up for the lost funds while continuing the solar project or the Lessee can cancel the project. The Lessee will have a monthly payment of $0 for 60 months. After the 60th month, the Lessee will be donated the system by DCS Energy or it will be removed at the request of the client at no cost no more than 30 days from the end of the leasing period. DCS Energy will retain rights to the renewable energy credits generated from the solar PV for the life of the system (considered as part of the payment for the system).

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South Glastonbury, CT 06073
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(Fax) 860-471-8415
www.DCSenergy.com

Lessee Responsibilities:

- Lessee Agrees to provide utility bill information (at least one month) and certificate of insurance for each building with at least $1,000,000 liability coverage and will maintain coverage for the duration of the leasing period.

- Lessee agrees to provide southern facing location as per DCS Energy recommendation for the PV array system. If this PV system location is a roof, the Lessee agrees to make the roof "in good standing and lasting integrity" for a period of at least 10 years. Any roof leaks or other roof deficiencies are the sole responsibility of the Lessee. If a leak requires the movement of the PV array, Lessee is responsible for any fees to move the array and test to make sure it is functioning properly.

- Lessee agrees to provide secure area for PV Equipment system storage before and during installation. Area should be secure from any theft or vandalism. Lessee is financially responsible for any theft or damage to the PV system while it is on their grounds for the life of the solar. This includes any damage to the PV system from fire, wind, physical damage, scratches to panels or from lightning.

- Lessee agrees to pay for any town fees (permit, zoning etc.) and any structural engineering costs for the PV System. The Lessee also agrees to pay any property tax or taxes for the solar PV system.

- If the PV system will be ground mounted the Lessee is responsible for secure fencing protection around the PV array, electrical boxes and inverter. Fencing should not provide any shading or obstruction to the PV array and the sun.

- Lessee will provide unlimited access to the grounds, electric panel area and PV installation site for the DCS Energy staff, project electricians, and town inspectors. Following the completion of the installation these parties will need access to the system and will be granted access with 24 hour notice to the Lessee. Lessee agrees to recycle all packaging materials from the solar PV System.

- Lessee will provide a LAN/internet access & electric plug for the inverter website in the location of the inverter/electric panel and will provide a Cat5 cable in the location of the system inverter. Lessee and the public will be able to see the PV electric production of the system via a web portal as well as in the LCD display of the system's inverter.

- Lessee agrees to allow the use of their name for advertising purposes or media stories with the PV project in association with DCS Energy and state energy agency.

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Provider Responsibilities:

- DCS Energy agrees to provide a working PV solar system on the Lessee's site. The system will be approximately (DC) **18kw**.
- DCS Energy will complete the PV system within six months of receiving the final signed contract, solar signing and funding approval.
- DCS Energy will use a state licensed electrician for all the installation work: David Soltez DBA Earth Friendly Technologies LIC - ER13012387 or another licensed electrician.
- DCS Energy will be responsible for the PV system and its maintenance for the five year period of this solar contract. DCS Energy is responsible for any malfunctioning repairs to the PV system (unless caused by any events mentioned before which is the Lessee responsibility for payment or an insurance covered event).
- The state licensed electrician will secure a town permit for the PV system (paid for by Lessee) DCS Energy will secure the utility interconnection approval and application. DCS Energy will obtain both of their signed approvals before the PV System will be commissioned.
- DCS Energy will receive any of the PV systems federal, state, utility and local rebates or tax credits to offset the cost of the solar PV system for the Lessee.

Termination & Late Payment

The Lease may not be terminated before the 61st month. If after the 60th month the lessee would like to have the system removed, this will be done at no cost to the lessee. After the 60th month, the PV system will be donated to the lessee. The system may not be moved during the lease period unless permission is given by DCS Energy. After the lessee owns the system it may be moved. It would be hoped that the system if moved would be in a good solar production area. The RECS and environmental assets will belong to DCS Energy for the life of the system.

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DCS Energy Solar Lease Plan Contract

Lessee:

We agree to comply and achieve the Lessee responsibilities outlined in this DCS Energy Solar Lease Plan Contract. This agreement must be signed by an official with the organization.

Signature of City/Town/not-for-profit official rep. _____

Print name/Position _____

Date_____ Down payment due and monthly payment ___$__0_____.

Note: In order to process this contract, we will need a certificate of insurance or the liability page from your insurance policy declaration report submitted with this signed contract.

DCS Energy

We hereby agree to provide a PV solar system to the Lessee and will perform our Solar Lease Contract responsibilities for the successful completion and operation of the DCS Energy Solar PV system.

DCS Energy

Craig Bradway

President of DCS Energy

Signature_____

Date_____

Allied Energy Global
of Cape Coral Inc.
Kenneth Laznovsky Owner,
National Sales 239 994 1845

DCS Energy

Free Electric Producing Solar Program
for all qualifying *Not For Profits*!!!

Allied Energy Global of Cape Coral Inc. and DCS Energy form Solar Partnership

- A E G of Cape Coral Inc. (www.alliedenergyglobal-fl.com) has partnered with DCS Energy (www.DCSenergy.com) a well known solar provider as well as Green Energy Company, to offer ***Free Electric Producing Solar*** to all qualifying 503-C and other nonprofit organizations.

Who is AEG of Cape Coral Inc.

- **Allied Energy Global of Cape Coral Inc.** is a **Green Energy Company** with sales representatives all across the state of Florida and in a several other states specializing in Green Energy saving products and energy saving retrofit programs designed to save energy, money, and add extra years of life to existing energy systems for commercial and residential. We also take advantage of all existing financial incentives and rebates to help our customers maximize their investment and ROI.

Who is DCS ENERGY ?

- DataComm Services LLC started in 2001 with technology solutions
- DCS added solar consulting in 2005
- DCS Energy created as a DBA of DataComm Services in 2006 providing energy solutions for the residential, town and business markets
- Successful Solar firm accepted by several other states (CT, MA, NY, PA, NJ, CA)
- Privately held business

Who is AEG and DCS Energy?

- **Craig Bradway – President DCS**
- **Lori Donato - Director of Sales DCS**
- **Ken Laznovsky -Allied Energy Global- Florida**
- **Your Sales Representative who invited you to hear this presentation (He will be your contact person)**
- **Panel Installer - Cesar-Total Renovation & Construction (Riteway National Roofing Contractor and GC)**
- **Dave Soltez - Allied Energy Global Electrical Installer -State Licensed Electrical Contractor (Earth friendly Technologies) who will over see all electrical connections and installers.**

Free Solar Electric on all your qualifying buildings!

DCS Solar Lease Program

- **Due to the Federal Stimulus Fund (UST 1603) for Solar Incentives, nonprofit organizations, such as your town, are able to receive Solar Electric (PV) Systems supplied and installed at no cost. (Technically, it will be a leased system *that will be donated* after 60 months, or it will be removed if requested.)**

Qualifications:

- **Any building that has a composition/asphalt roof**
- **(Tile or Metal roofs do not qualify)**
- **Roof should be in newer condition**
- **Southerly exposure to the sun**
- **Non shaded roof area (no obstructions)**
- **Electric meter in the building**
- **Ground mount Systems are also available**

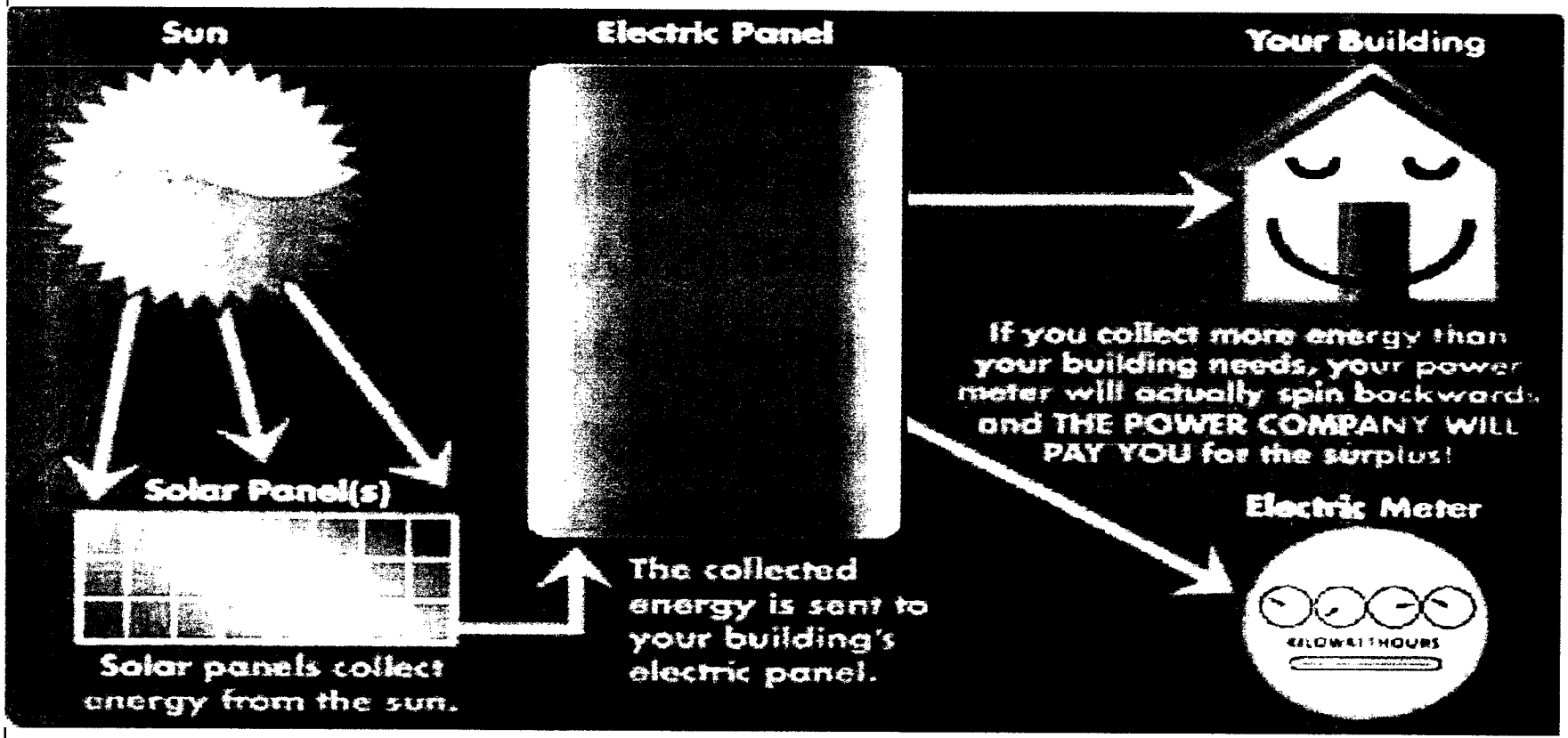
Free Solar Electric on all your qualifying buildings!

- **DCS Energy can install a 4-18 kW Solar (PV) Electric System at no charge.**

Benefits include:

- **Solar Electric (PV) Systems 4kW-18kW will produce clean electricity**
- **Annual savings are estimated at $1,200-$4,000 off your electricity costs**
- **The town will be participating in the "Going Green" program with no investment necessary**

What is Solar Electric?



PV Solar Electric Systems

- **PV = Photovoltaic which converts sunlight to DC electricity**
- **Silicon gets excited in Solar panels upon being hit by sunlight causing electrons to move**
- **The electron movement creates DC current and moves from the circuits to cables**
- **Panels are strung together (strings)**

PV Solar Electric Systems

- **DC current goes to the Solectria Inverter (MA)**
- **Inverter converts DC electricity to AC (household or building use)**
- **Solar PV system ties into circuit breaker**
- **If solar PV production exceeds building use, the PV electricity feeds the meter & turns it backwards**

Solar Panels and Invertors are all MADE IN USA

- We will be using Solyndra Panels (made in CA) for all our

flat roof installations

- The panels and racking are certified up to 130 mph
- **200 Series Solar Panel Mounts Require No Tools**
  Light weight and simple installation means fast projects and low cost. The 200 Series requires no tools for installation. The light weight panels install without penetrations or array grounding, making this the easiest and fastest-to-install rooftop solar system yet. Ideal for older or "value engineered" buildings, the low distributed roof load is 2.8 pounds per square foot. Snap together mounts dramatically lower labor costs and shorten project times for large rooftop solar installations. This minimizes business disruption and makes moving the system for future roofing, retrofit or ownership changes a simple process.

- **Higher Power**
  Improved light collection makes the 200 Series our most powerful panel yet, especially when combined with a white, "cool roof". Individual panels are rated as high as 220Wp.

Solyndra 200 Series Data

- **Lower LCOE and Increased ROI**
  The ease of installation, low balance of system costs and power of the 200 Series provides significantly lower levelized cost of electricity and contributes to high returns on investment for the customer.
- **Cell Type Cylindrical CIGS**
- Maximum System Voltage: Universal design 1,000V (IEC) & 600V (UL) systems
- Dimensions Panel: 2.28 m x 1.09 m x 0.06 m
- Height: 0.36 m to top of panel on mounts
- Mounts: Non-penetrating, steel-reinforced, high performance engineered plastic
- Connectors: 4 Tyco Solarlok; 0.20 m cable
- Series Fuse Rating: 24.4 Amps
- Roof Load: 13.9 kg/m2 (2.8 lb/ft2) panel and mounts
- Panel Weight: 31.8 kg (69 lb) without mounts
- Snow Load Maximum: 1,850 † Pa / 1,200 Pa (38.6 lb/ft2 / 25.1 lb/ft2)
- Hailstone Impact: 25 mm, 7.53 g at 23 m/s per IEC 61646
- Wind Performance: 208 km/h (130 mph) maximum self-ballasting with no attachments
- Operating and Storage Temp: -40°C to +85°C
- Normal Operating Cell Temperature: 44°C at 800 W/m2 , Temp = 20°C, Wind = 1m/s
- Certifications/Listings: UL1703, IEC 61646, IEC 61730,CE Mark, CEC listing, Protection Class II Application Class A per IEC 61730-2, Fire Class C, MCS/BRE(UK)
- Warranty: 25 year limited power warranty 5 year limited product warranty

1SolTech

For all Pitched roofs and Unlevel Ground Mounts

1SolTech Manufactured in Texas.

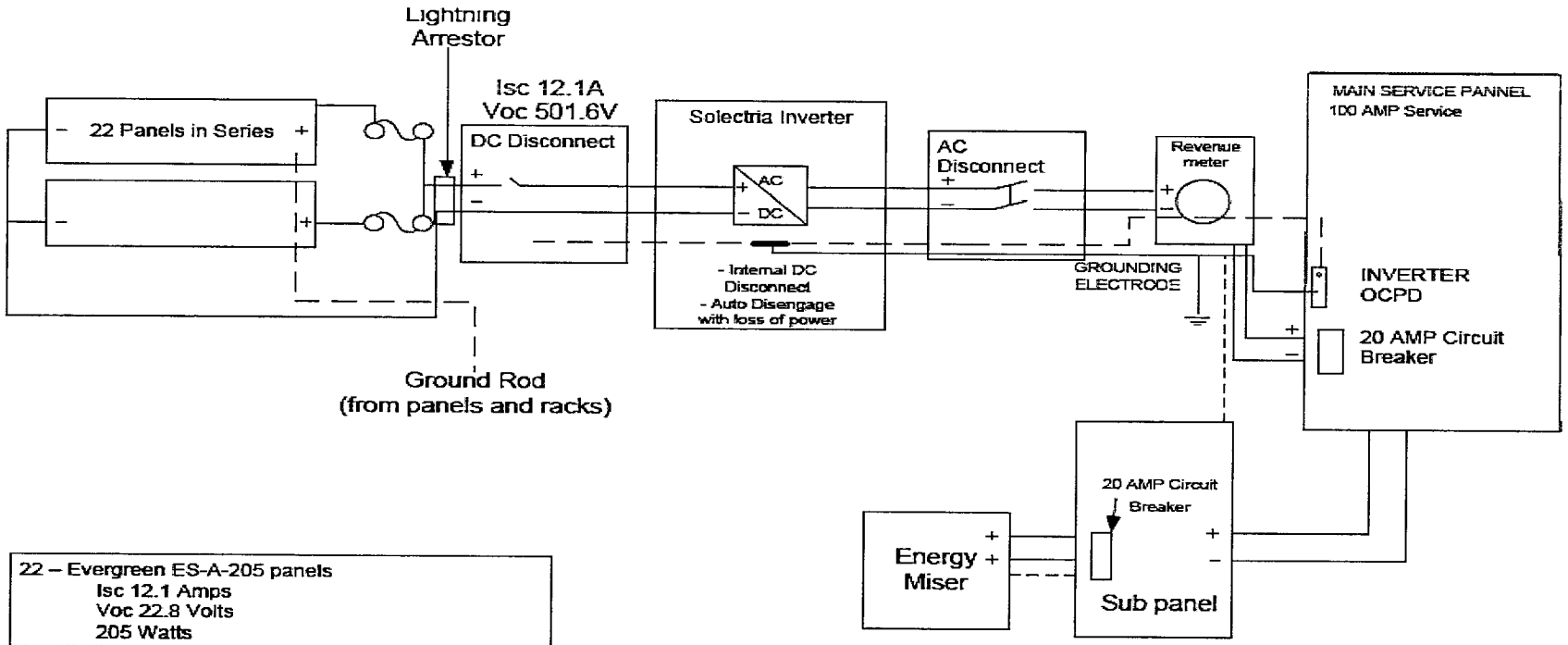
Designing, Developing and Manufacturing
1Soltech is comprised of leading engineers in this emerging technology field with decades of expertise and development experience. 1Soltech has a strong and creative scientific basis for moving forward into the 21st century.

This internal ingenuity is coupled with our **3-Busbar MonoCrystalline solar cells** currently yielding an efficiency rate of 18% makes 1Soltech an industry leader in quality, cost-effective **solar technology solutions.** For this reason every **solar panel** delivered to the marketplace comes with a confident 25-year warranty.

1SolTech focuses on high power solar modules ranging from 235 watts to 250 watts

PV Solar Electric Systems

Net metering & the utility



22 – Evergreen ES-A-205 panels
Isc 12.1 Amps
Voc 22.8 Volts
205 Watts
1 - UNIRAC Racks (grounded to ground rod)
1 - Solrenview (monitoring) with revenue grade meter
1 - Lightning Arrestor
1 - DC Disconnect (by deck)
1 - Solectria Renewables 4000 Inverter
(basement by electrical panel)
1 - AC Disconnect
(basement by electrical panel)
1 - Energy Miser (Power Factor Conditioner)
(basement by panel)

DCS Energy
P.O. Box 320
S. Glastonbury, CT
06073
860-871-6606
www.dcsenergy.com

4.5 kW Solar Energy System

Boutotte
73 Carter St
Lancaster, MA 01253

PV Solar Electric Systems

Solar production in solar hours

PVWatts

AC Energy & Cost Savings

Cautions for Interpreting the Results

FLORIDA SOLAR HOURS AND PRODUCTION

Station Identification	
City:	Tampa
State:	Florida
Latitude:	27.97° N
Longitude:	82.53° W
Elevation:	3 m
PV System Specifications	
DC Rating:	18.0 kW
DC to AC Derate Factor:	0.800
AC Rating:	14.4 kW
Array Type:	Fixed Tilt
Array Tilt:	28.0°
Array Azimuth:	180.0°
Energy Specifications	
Cost of Electricity:	9.0 ¢/kWh

Results			
Month	Solar Radiation (kWh/m²/day)	AC Energy (kWh)	Energy Value ($)
1	4.56	1922	172.98
2	5.21	1964	176.76
3	5.72	2352	211.68
4	6.52	2538	228.42
5	5.92	2358	212.22
6	5.56	2112	190.08
7	5.46	2130	191.70
8	5.70	2252	202.68
9	5.32	2035	183.15
10	5.41	2171	195.39
11	4.83	1922	172.98
12	4.24	1776	159.84
Year	5.37	25532	2297.88

Solar PV Town & NFP Lease Plan

- **4-18kW solar PV system with USA made equipment ($50-200/month average)**
- **DCS Energy retains RECs & environmental assets for life**
- ***NO$$*** **Lease deposit and NO monthly payments**
  All Payments waived = No Cost to NFP
- **After 60th month DCS donates system to Town, City or /NFP**

Solar PV Town & NFP Lease Plan - Financial

- **Town & NFP is responsible for permit fees**

  Could cost $300-$800
- **Any structural engineering requirement for the town permit (Could cost $500-$1,000 per site)**
- **Any zoning fees if applicable.**
- **Trenching & Ground Mount Fencing if ground mount system.**

Solar PV Town & NFP Lease Plan- Funding

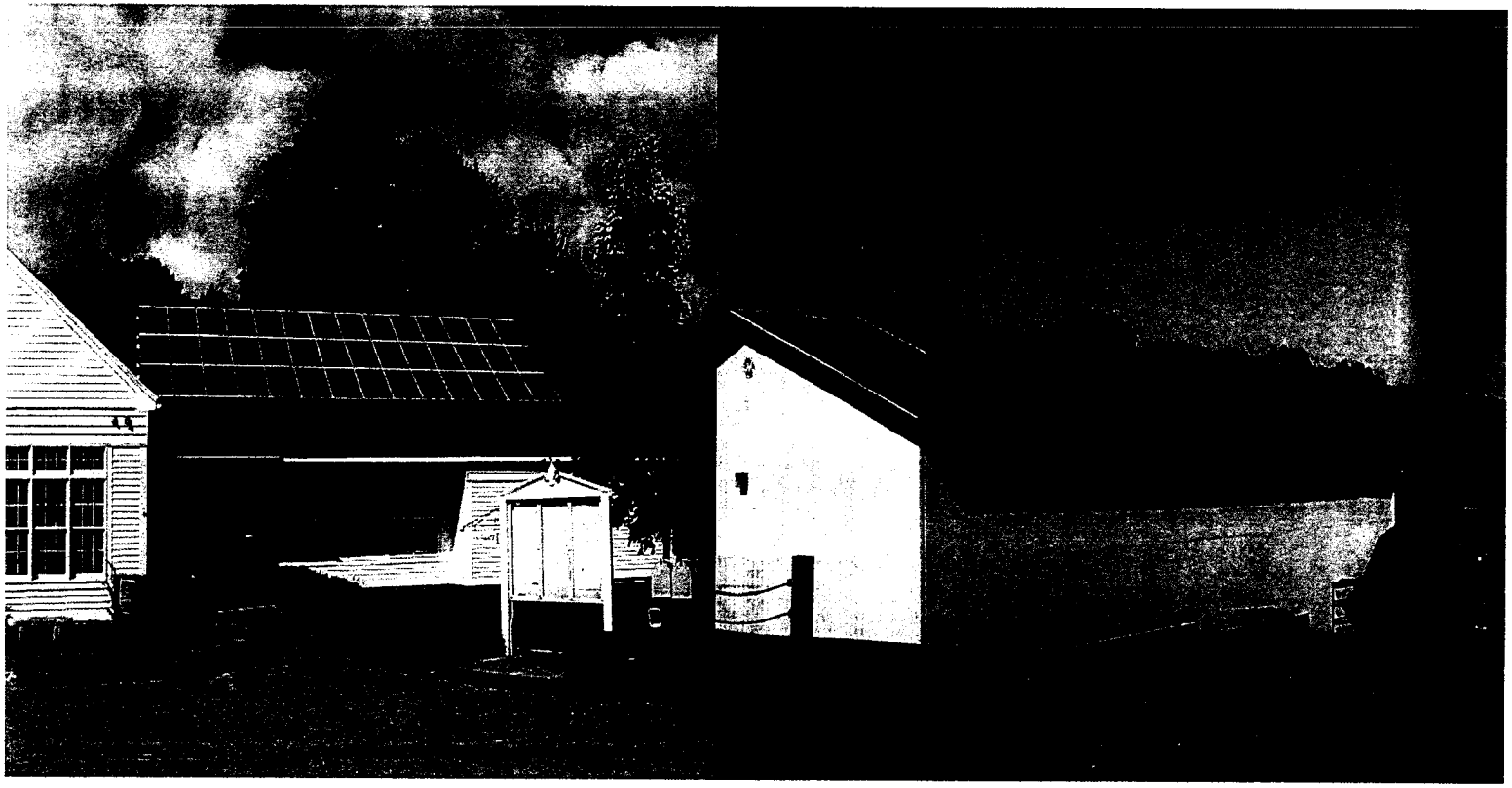
- **Program is funded by the US Federal Government - all tax grants (UST 1603) and credits go to DCS.**
- **DCS's third party partner provides funding for the RECs.**
- **If any.. State rebates/tax credits go to DCS**

Solar PV Requirements

- **Types of Roofs- sloped asphalt shingled & flat**
- **Solar site - no shade 9am-4pm & in southerly direction**
- **Building has its own electric meter**
- **Space for the inverters inside**
- **Internet cable for website**
- **No shade 9am to 4pm**
- **Safe area at least 500sq. Ft. of area (4kW) to 2000sq. ft. (18kW) for array (100 SQ FT Per KW)**

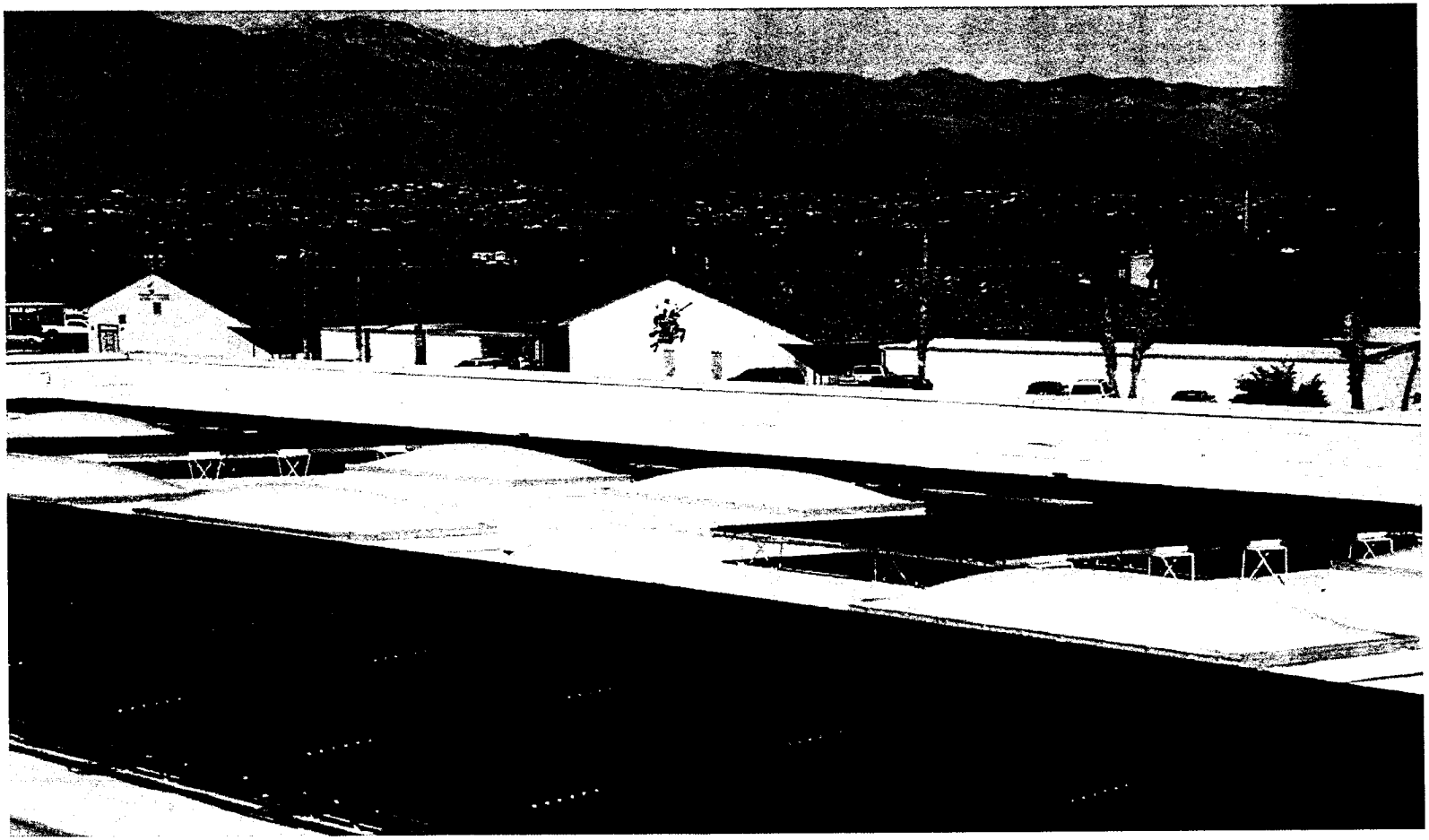
Solar PV Examples - **1SolTech**

Types of Roofs: Shingled Asphalt Roof

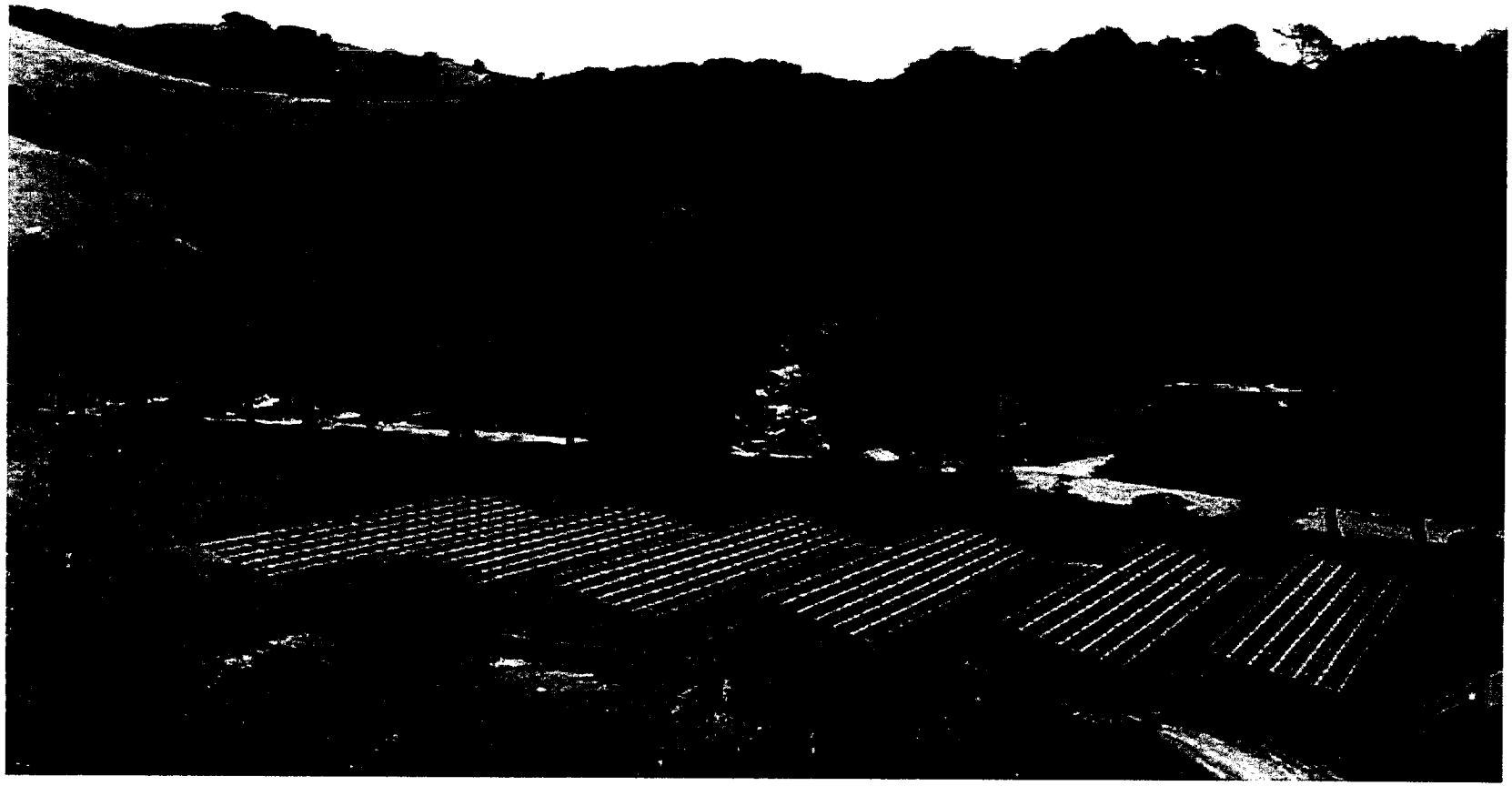


Types of Roofs- Flat - Solyndra

High School, Tucson, AZ



Ground mount is an option if no roof is available
Trenching & Fencing by town/NFP



Your Next Step

- Contact your sales rep and request the following;
- A follow up packet from this meeting by E mail.
- Next Review the information and if you decide to move forward.
- Request a Satellite Review for all your buildings you desire solar to be installed. You can E mail the fill out form to [redacted]
- Always CC your sales rep in any correspondence with me.

AEG-DCS Energy Solar Town Plan Process

- **We Will Evaluate sites provided via satellite image**
- **AEG/DCS provides list of promising sites**
- **Town/NFP receives preliminary approval for sites**

  On your end

  Get approval from town groups & building dept.
- **After we receive your confirmation form we schedule an *Onsite Review***
- **Town receives results of onsite survey**

DCS Energy Solar Town Plan Process

- **Town/NFP determines which sites to proceed with and**
- **informs AEG/DCS (Ken)**
- **AEG/DCS (Ken) provides contracts for those sites**
- **Town/NFP returns signed contracts with utility bill for each site and town insurance certificate**
- **Approximately 90 days after all documentation is received; planning for the permit, utility approval, equipment delivery and installation occurs (AEG &Total Renovation & Construction)**

AEG/DCS Energy Solar Plan Town/NFP Responsibilities

- **Town/NFP is responsible for the building permit fees and any required building engineering**
- **Town/NFP must add solar system to building insurance (nature & vandalism)**
- **Signed contract, provide utility bill, and insurance certificate**
- **Cooperate with rebate application process**
- **Agree to the use of the PV system in marketing**

DCS Energy Solar Town Plan -DCS Responsibilities

- **Interconnect agreement with utility**
- **Pull permit (fees by client)**
- **Install PV system & pass all inspections**
- **5-year full parts & labor warranty**
- **USA made equipment**
- **10 Year Inverter warrantee**
- **25 year Panel Warrantee**

AEG/ DCS Energy Solar

- *GO GREEN*
- **Contact:**
- **Ken Laznovsky Allied Energy Global-FL**
- **DCS Energy FL Sales Representative**
- **239-994-1845**
- **www.DCSenergy.com**
- **ken@alliedenergyglobal-fl.com**