

# Sustainable Utility Presentation

## Customer side – Solar Electric



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# Summary

- List of companies with working solar power plants
- Applicable facilities
- Examples of Customer sites
  - Owner occupied
  - Public Facilities
  - Other Potentials
  - Retail
  - Landlord/Business
  - Brownfields
  - Office
- Potential market size
- Delaware Solar Program modifications



# Companies with Solar Installations

- Siemens Medical – 1 yr
- Intervet
- Johnson & Johnson – 3 yrs
- GE
- Tiffany – 1 yr
- Janssen – 3 yrs
- SAAB – 1 yr
- Habitat for Humanity-4 yrs
- AstraZeneca – 4 yrs
- DuPont – 1 yr
- Rowan University – 1yr
- National park Service – 3yrs

# Applicable facilities - Commercial

- Flat or minimally pitched roofs
- Institutional grade building structures
- Delmarva meter to maximize rebate
  - Municipal market not applicable
- Ability to locate system with southern exposure



# Example of Customer Sites

- **Owner Occupied Large Customers**

- Allens Poultry
- Townsends Chicken
- AstraZeneca
- DuPont
- GM
- JP Morgan Chase
- Wal-Mart Distribution Center



## **Challenges:**

- Size/lack of rebate
- Payback periods
- Energy rates
- Corporate departments facilities/finance

# Example of Customer Sites

- **Landlord/Business owned**

- McConnell Development
- Mattei Development
- REEF
- Hy-Point
- Harvey Development
- Emory Hill
- Sara Lee
- Chrysler

## Challenges:

- Size/lack of rebate/time to be engaged
- Warehouses electric pass-through to Tenant, Tenant leases not long enough for Tenant to invest
- No concrete benefit
  - Financial, Approvals, Floor Area Ratio bonuses
- Unknown outcome

# Example of Customer Sites

- **Public Facilities**

- State owned government facilities
- Schools
- Universities



**Challenges:**

- Size/lack of rebate
- Public can't use tax benefits, Federal tax credit
- Signing long-term purchase power agreements
- Need REC program to get private investment to keep pricing for kWh competitive

# Example of Customer Sites

- **Brownfields**

- Certified Brownfield sites in Delaware, 01/11/07

**Challenges:**

- Unknown process



- **Other Potentials**

- Car dealers, Stand-alone buildings, Hospitals, Federal facilities, Non-profits

**Challenges:**

- Car dealers/stand-alone: Size/lack of rebate to build system large enough to alleviate demand charge
- Demand charge – mid-commercial customer



# Example of Customer Sites

- **Office**

- McConnell Development
- Pettinaro
- EDIS
- Capano
- MBNA (Christina)
- Brandywine Realty Trust (REIT)
- Buccini/Pollin
- REEF
- Commonwealth
- HRPT (REIT)

**Challenges:**

- Size/lack of rebate
- Roof size
- Power generated vs. Power consumed
- Unknown outcome

# Example of Customer Sites

- **Retail**

- General growth properties (Christiana Mall)
- Acierno Entities (Concord Mall)
- Fusco
- Delle Donne
- Local owners
- Washington REIT
- Pettinaro
- Drug stores

## **Challenges:**

- Size/lack of rebate
- Tenant electric direct pass-through
- No concrete benefit
  - Financial, Approvals, Floor Area Ratio bonuses
- Unknown outcome

# Potential Customer Side

Building type	Est. Total SF (millions)	Discount	Est. Useable SF (millions)	Est Megawatts
Owner/Corporate	20	60%	8.0	40.0
Landlord/Business <sup>A,B</sup>	28.8	40%	17.3	86.0
Public Facilities	8.0	60%	3.2	16.0
Office <sup>A</sup>	23	60%	9.2	46.0
Retail <sup>A</sup>	25	50%	12.5	62.5
<b>SubTotal:</b>	<b>104.0</b>		<b>50.2</b>	<b>250.50<sup>C</sup></b>
<b>Certified Brownfields</b>	<b>668 acres</b>	<b>80%</b>	<b>5.8</b>	<b>29</b>
<b>Total:</b>				<b>279.50 DC</b> est. 228 million AC kWh per year

<sup>A</sup> Information provided by Co-Star Real Estate Data Services

<sup>B</sup> Sussex County                      1.6 m  
 Kent County                            2.2 m  
 New Castle County                    25.0 m

<sup>C</sup> 5.0 megawatts per 1.0 million sf

# Delaware Solar Program Modifications

<u>Current</u>	<u>Modification</u>	<u>Benefit</u>
Focus on small applications	Reconfigure program to allow large scale projects	↑ ramp up of PV installs
Net metering – 25 kW	Increase to 2 megawatts, similar to NJ	↑ increase size of PV installs
No REC program	Provide REC program similar to NJ	Provides economic value for private investment, and utility incentive to get involved in renewables
No Solar set-aside	Provide solar set-aside	Defines amount of PV needed by suppliers, provides incentive for supplier to get involved
50% rebate program	Increase bill tax, Delmarva customer	Increase size of available funds for rebates
\$250,000 rebate on \$500,000 (82 kW)	Increase rebate to get larger projects	↑ Increase scale of projects

# Delaware Solar Program Modifications

<u>Current</u>	<u>Modification</u>	<u>Benefit</u>
No manufacturer incentive	Provide \$0.25/watt additional rebate for product made in Delaware and installed in Delaware	Manufacturer incentive to base production in Delaware
No Net energy carry forward	Carried forward net energy on annual basis	Does not lose smaller customer status
Municipals not engaged	Have municipals participate in Delmarva program	Includes large projects that are not in Delmarva grid
State cannot sign long term Purchase Power Agreement (PPA)	20 year Purchase Power Agreements (PPA)	Allows private investors to own systems - no capital outlay from state, schools
No demand charge management	Provide rebates on batteries for demand side management	Allows for savings on demand side of bill
Consolidation of meters	Allow owners of systems to consolidate Delmarva meters	Increase scale of projects

# Delaware Solar Program Modifications

**Program needs  
to be kept simple.**

**Solar is hard enough  
for clients to want to  
take the time to understand.**