

**Solar PV for
Metro DC:
Saving Money,
Clearing the Air,
Creating Jobs, and
Reducing Our Carbon Footprint**



Jim Pierobon



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MWCOG Energy Advisory Committee Meeting

About Standard Solar

- Mid-Atlantic's leading developer & installer of solar photovoltaic (PV) systems
- 8 employees in 2007; 80+ employees today
- Completed 6 MWs to date, on track for additional 4 MWs by year-end 2010
- Employees' career total: 40 MWs

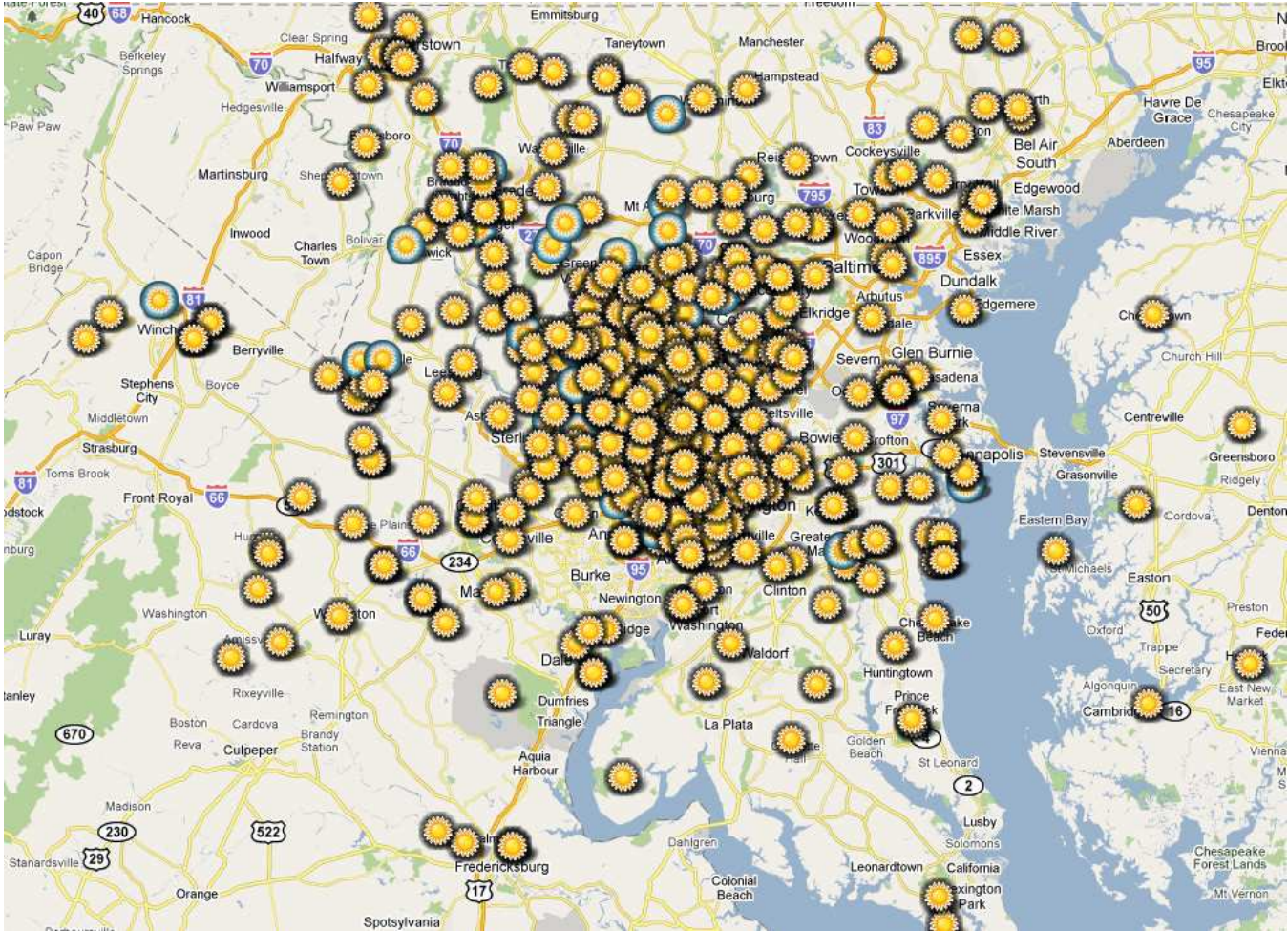


About Standard Solar (cont'd)

- On track to boost install total to about 10 MW by year-end 2010
- Capital available for PPAs from nation's #4 PPA capital provider, *Perpetual Energy Systems*
- Current 'commercial/govt' projects range from 150 kW to 1+ MW
- GSA-listed



Standard Solar Installations in MWCOG Region



Residential and Small Commercial Installations By Jurisdiction – June 2010

- Montgomery County: 207
- District of Columbia: 74
- Prince George's County: 35
- Fairfax County: 28
- Frederick County: 26
- Loudoun County: 25
- Arlington County: 18
- Prince William County: 12



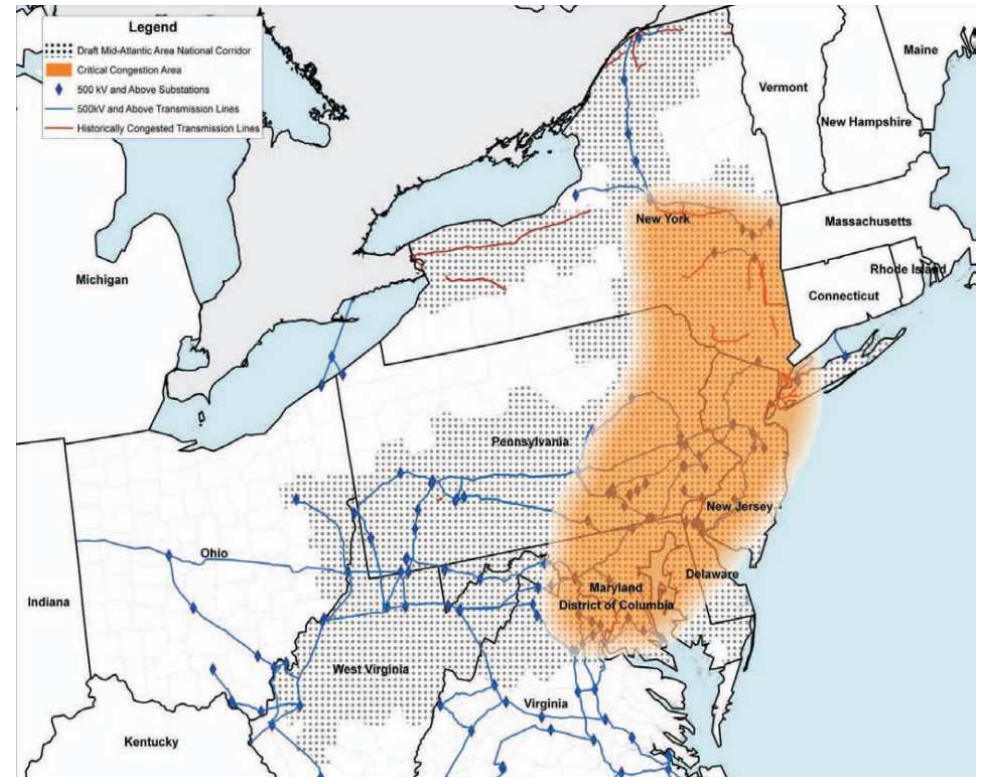
Federal 'Green' Mandates Creating Regional 'Headwind' for Real Sustainability

- Energy Policy Act of 2005
- Executive Order 13423, signed by President Bush in 2007
- Energy Independence and Security Act of 2007
- President Obama's goal - Federal government's electricity from renewable sources:
 - = 12% by 2012
 - = 25% by 2025
- Federal 'Stimulus' projects have deadlines looming in 2011



Risks to Our Energy Security - Regionally

- DC Region is part of the most stressed power grid in country
- Solar PV helps relieve this stress on hot summer weekdays
- Last Tues and Wed, DC region was *very* close to voltage reductions, possible brownouts or blackouts



Maryland and DC Moved Quickly on Solar Grants, Virginia Poised to Catch Up

- New 'energy' leadership under Gov. McDonnell embarking on cleaner energy / jobs push matching NoVA's appetite for renewables

- ✓ *voluntary RPS only*

- 'Sunburst' projects in Maryland shovel ready

- ✓ *2% of electricity from solar by 2022*

- DC has new Director of DDoE

- ✓ *.4% of electricity by 2020*



Compelling Role for Power Purchase Agreements (PPAs)

- No up-front capital needed
- Stabilizes price of electricity for 20+ years
- Developer provides O&M
- Minimal risk to host facility
- Growing experience with PPAs among businesses, governments, non-profits

PPA Primer / Update available from Standard Solar



Key PPA Elements

- **Electricity price: evaluate carefully**
 - Might be fixed or tied to local utility rate
 - Escalation factor possible: 1-3% annually
- **Renewable Energy Certificates (RECs) – ownership must be clear**
 - 1 REC = 1 megawatt hour of electricity
 - RECs are valuable to electricity suppliers meeting renewable electricity requirements (in MD & DC; not VA)
 - Values vary widely; Maryland's RECs currently worth about \$350
 - Brokering RECs is becoming its own industry



PPA Checklist:

1. ID the facility to 'host' the solar PV system

- a) *Enough 'clear' space on roof or adjacent ground?*
- b) *Is host 'creditworthy'?*
- c) *Roof mounts generally sized @ 200 kW to 800 kW*
 - i. *Can roof support the PV system size?*
- d) *Ground mounts 1 MW and up*

2. Standard Solar conducts site assessments

3. Standard Solar matches prospective systems with our capital partner – Perpetual Energy Systems



PPA Checklist (cont'd) :

- 4. Perpetual Energy Systems performs its due diligence**
- 5. Letter of intent**
- 6. Contact signed**
- 7. Design and engineering specs drawn up**
- 8. Utility notified for interconnection to grid**
- 9. Installation commences**
- 10. Standard Solar provides monitoring system, O&M**



Potential for 'Community' PPAs

University Park Community Solar LLC

- 35 neighbors / investors
- Raised \$130,000
- 22 kW system on Church of the Brethren in University Park, MD
- 'model' can be replicated in MD & DC
- More info available at:

<http://universityparksolar.com/>



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Want to know more?



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