Campus-Wide Solar Power Generation Workgroup

University of California, Davis
Project No. TBD

Meeting Notes
Thursday, May 28, 2009
2:00 pm - 3:00 pm
A&E Plans Room

Distribution	Name	Organization & Role		
	Michael Sheehan	Student Housing, Associate Director		
	Jeff Lefkoff	Resource Management & Planning, Associate Director		
	Sid England	Resource Management & Planning, Assistant VC		
	Roger Boulton	Viticulture & Enology, Professor		
	David Phillips	Facilities Management, Director		
	Ardie Dehghani	Architects & Engineers, Campus Engineer		
	Julianne Nola	Architects & Engineers, Sr. Project Manager		

Item No.	Issue	Discussion/Decision/Action	Action by	Due
1	Goals & Objectives for Workgroup	Goal for workgroup is to provide a means for delivery of solar power to University projects. The group will prepare a Request for Proposals (RFP) for bidders.		
2	Delivery Method	Workgroup reviewed options for delivering solar power – University purchased vs. power purchase agreement. Due to incentives not being available to the University and initial capital investments, it is unlikely for UC to pursue University purchased power. Workgroup to show analysis of pros and cons.	Ardie to provide draft of pros/cons for University purchased vs. PPA (see attached)	
3	Solar Power Incentives	UC Davis as a non-profit cannot depreciate assets. Also, not eligible for many solar incentives. 1 – stimulus funding 2 – fed tax credit (6 year limit) 3 – CA solar incentive 4 – PUC incentives on solar items such as batteries 5 – CSI tax incentive on financing 6 – tax exempt leasing		

Item No.	Issue	Discussion / Decision / Action	Action by	Due
4	Technology Assessment	Some research is needed to determine if RFP should include information on solar requirements, such as minimum efficiencies for panel output or shading needs. Sid noted Ron Drum, SunDrum Solar design as a technology that may be explored. Uses waste heat from solar to heat water for building hot water systems. Sid mentioned impact of RECs, Renewable Energy Certificates. Who holds the certificate? Can University accumulate credits now and apply them later?		
5	Targeted Locations	John Meyer's charge letter identified 4 projects to consider – Winery/Brewery, Primate Center shade structure, Student Housing, and West Village. Due to funding and the type of projects, looking at targeted locations for this first phase of delivery. Future phases should consider the benefits/disadvantages to a "solar farm" vs. individual projects. Winery/Brewery project is starting construction in July and needs solar (approx. 100 kWh) in place by completion at end of 2010. Student Affairs is looking at several "first phase" projects – Segundo High Rises (4 buildings), Segundo Services Center, Segundo Dining Commons and Tercero II. West Village phase I to include 5.25 MWh of solar. Planned for completion in next 8 years. Solar to be provided by Chevron Energy Solutions in partnership with developer.	Mike to discuss with Student Housing and provide list of housing projects to target.	

Item No.	Issue	Discussion / Decision / Action	Action by	Due
6	Maximum Size of Generation	The targeted phase I projects will likely result in no more than 1 MWH of electricity. West Village is planning on 3 MWh for first phase and 2.25 for second phase of construction. Currently, incentives are available for first megawatt only and PG&E limits installation to 5 megawatts per master meter.		
7	Lessons Learned – UC Irvine	UC Irvine recently sent out an RFP for solar power. Ardie has a copy of the document and distributed several of the proposal exhibits to the group. UCI divided proposal as follows: 1 – Existing buildings. Provided drawings to determine cost of installation. 2 – Projects in construction. Provided drawings. 3 – Projects in design. Had proposer provide options for integrated into design. Workgroup to use UCI RFP as basis for creating UC Davis RFP. Ardie stated group may want to look into a one day visit to UCI to gather more information on their RFP process and lessons learned.		
8	Schedule	Workgroup to meet every 2 weeks for next several meetings to get project underway. An RFP to be completed in next 2 months. Ardie and David to present Owner vs PPA information to John Meyer for direction to move forward.	Ardie to schedule meetings	

.

Photovoltaic Power Comparison Table

Description	University Owns & Operates	Third Party Power Purchase Agreement
Area / Land	+8w/Ft^2 of roof (assume 80% of roof used)	8w/Ft^2 of roof
Generation Hours per Year	+/-1250	+1250
Power Degradation per Year	+/-1%	+/-1%
Construction Cost	$9-$11 per watt	Included in rate
Maintenance Cost	$0.025/KWh	Included in rate
Lease Terms	Not applicable	10-20 yrs, (pending contract type)
Change in Land Use	Anytime	No option during amortization period
Incentives • Stimulus Funding	Pending availability	Pending availability
• Federal Tax Credit	Not applicable	± 30%
• CSI	$1.10 per watt up to 1 MW (for retail customers)	$1.10 per watt up to 1 MW (for retail customers)
• PUC	Pending availability, (project by project basis)	Pending availability, (project by project basis)
• CEC	Pending availability, (project by project basis)	Pending availability, (project by project basis)
• Tax Exempt Lease Interest Rate	Not applicable	60% tax deduction 1st year, 8% tax deduction per year for 5-yrs
Interconnection Requirements • 30KW-1MW • 1MW-5MW • Over 5MW	IOU Rule 21	IOU Rule 21