Council of Independent Colleges in Virginia Solar Group Purchasing: Results and Lessons Learned

Douglas Gagne

6/11/2018
Outline

- Introduction to Group Purchasing
- CICV Results
- Tracking Group Purchasing Efforts
- Other College Procurements
- Key Takeaways
What is Group Purchasing?

Group solar purchasing is any approach that leverages the collective purchasing power of multiple businesses, municipal governments, or universities.

Examples:
Solarize NY Group Buy Incentives - NYSERDA provides up to $250,000 in grant funding to support clean energy for municipal governments designated as Clean Energy Communities.
  – Municipalities have up to 50 hours of technical assistance.
  – Installers are designated upfront, and provide predetermined group purchasing discounts.
  – Huntington Solarize campaign resulted in ~$1/W system price savings compared to the county average
Silicon Valley Collaborative Renewable Energy Procurement (SVREP)—9 municipal governments collaborated, identifying 70 systems that totaled 14.4MW.
  – Municipal facilities were bundled into large, medium, small-combined, and small rooftop bundles.
  – Site aggregation reduced installation costs by 12%
  – Participants saved 75-90% in administrative costs and time.
Group purchasing most commonly provides the following benefits:

- Lower system pricing
- Favorable contract terms
- Reduced transaction costs
- Project-enabling scale for challenging markets

Source: World Resources Institute and Optonix based on 2010 data in Northern California

The Council of Independent Colleges in Virginia (CICV) partnered with 15 colleges in Virginia for group purchasing of solar systems, in order to reduce procurement soft costs and increase group buying power.

CICV’s Group Purchasing Approach

- With CICV acting as the lead coordinating agency, and Optony acting as a technical consultant, the 15 colleges conducted site evaluations and screenings identifying 37+ MW of potential solar sites.
- A single RFP was issued for all of the colleges, and grouped the 15 colleges into bundles based on their geographic proximity.
- Once bids were received, then individual colleges determined whether or not to pursue projects. Three colleges executed PPA contracts in the first RFP round.
# CICV 1st Request for Proposals

## Table 1: Overview of Bundles

<table>
<thead>
<tr>
<th>College Name</th>
<th># of Meters</th>
<th>Recommended PV Capacity (KW DC)</th>
<th>Installation Type</th>
<th>Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUNDLE 1 – GREATER ROANOKE/LYNCHBURG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrum College</td>
<td>1</td>
<td>1,622</td>
<td>Carport</td>
<td>Appalachian Power Co.</td>
</tr>
<tr>
<td>Hollins University</td>
<td>1</td>
<td>1,156</td>
<td>Rooftop, Carport</td>
<td>Appalachian Power Co. + Collegiate Clean Energy</td>
</tr>
<tr>
<td>Lynchburg College</td>
<td>2</td>
<td>1,401</td>
<td>Rooftop, Carport</td>
<td>Appalachian Power Co. + Collegiate Clean Energy</td>
</tr>
<tr>
<td>Randolph College</td>
<td>1</td>
<td>59</td>
<td>Ground-Mount</td>
<td>Appalachian Power Co.</td>
</tr>
<tr>
<td>Roanoke College</td>
<td>1</td>
<td>331</td>
<td>Carport, Ground-Mount</td>
<td>City of Salem</td>
</tr>
<tr>
<td><strong>Bundle 1 Total</strong></td>
<td>6</td>
<td>4,558</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BUNDLE 2 – SHENANDOAH VALLEY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridgewater College</td>
<td>6</td>
<td>865</td>
<td>Carport, Ground-Mount</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td>Eastern Mennonite University</td>
<td>1</td>
<td>347</td>
<td>Rooftop, Carport, Ground-Mount</td>
<td>Harrisonburg Electric Commission</td>
</tr>
<tr>
<td>Mary Baldwin College</td>
<td>3</td>
<td>1,258</td>
<td>Rooftop, Carport, Ground-Mount</td>
<td>Dominion Virginia Power + Shenandoah Valley Electric Coop.</td>
</tr>
<tr>
<td>Washington &amp; Lee University</td>
<td>1</td>
<td>80</td>
<td>Rooftop</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td><strong>Bundle 2 Total</strong></td>
<td>12</td>
<td>2,484</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BUNDLE 3 – NORTHERN AND EASTERN VIRGINIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampton University</td>
<td>2</td>
<td>643</td>
<td>Rooftop</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td>Marymount University</td>
<td>1</td>
<td>169</td>
<td>Parking Garage</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td>Randolph-Macon College</td>
<td>1</td>
<td>74</td>
<td>Rooftop, Carport</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td>Shenandoah University</td>
<td>5</td>
<td>1,450</td>
<td>Rooftop, Carport, Ground-Mount</td>
<td>Shenandoah Valley Electric Coop. + Rappahannock Electric Coop.</td>
</tr>
<tr>
<td>Virginia Union University</td>
<td>2</td>
<td>597</td>
<td>Rooftop, Carport</td>
<td>Dominion Virginia Power</td>
</tr>
<tr>
<td><strong>Bundle 3 Total</strong></td>
<td>11</td>
<td>2,933</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BID ALTERNATES – UTILITY-SCALE SOLAR PV PROJECTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emory &amp; Henry College</td>
<td>-</td>
<td>12,401</td>
<td>Ground-Mount</td>
<td>Appalachian Power Co.</td>
</tr>
<tr>
<td>Ferrum College</td>
<td>-</td>
<td>5,597</td>
<td>Ground-Mount</td>
<td>Appalachian Power Co.</td>
</tr>
<tr>
<td>Lynchburg College</td>
<td>-</td>
<td>9,884</td>
<td>Ground-Mount</td>
<td>Appalachian Power Co. + City of Bedford</td>
</tr>
<tr>
<td><strong>Bid Alternate Total</strong></td>
<td>-</td>
<td>27,882</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td>29</td>
<td>87,867</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• 1,900 kW of contracted solar projects across three colleges.
• Six competitive proposals from vendors. Group procurement may have enticed more responses and resulted in better pricing.
• Vendors offered a 0-4% group buy discount.
Tracking Group
Purchasing Efforts

1. Strategy and Participant Recruitment
   - Identifying and recruiting participants
   - Defining procurement goals

2. Site Assessment
   - Screening for potential solar sites
   - Assessing sites and developing a final list of locations for RFP

3. RFP Issuance
   - Develop Request for Proposal (RFP) with input from participants

4. RFP Evaluation
   - Evaluate proposals
   - Conduct site visit for vendors
   - Conduct interviews with top vendors

5. Contract Negotiation and Award
   - Select winning proposal
   - Negotiate contract terms and conditions
• The group procurement involved many colleges that did not ultimately pursue projects in the first RFP, which increased strategy and assessment costs for the portfolio.

• Education and Promotion (right), such as developing curricula, were unique costs for the Solar Market Pathways initiative, and were tracked separately.

### CICV Group Purchasing Administrative Cost

<table>
<thead>
<tr>
<th></th>
<th>Strategy</th>
<th>Assessment</th>
<th>RFP Issuance</th>
<th>RFP Eval.</th>
<th>Contracting</th>
<th>Education/ Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$20,000</td>
<td>$120,000</td>
<td>$60,000</td>
<td>$80,000</td>
<td>$60,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>CICV</td>
<td>$20,000</td>
<td>$40,000</td>
<td>$20,000</td>
<td>$40,000</td>
<td>$40,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>Optony</td>
<td>$0</td>
<td>$80,000</td>
<td>$40,000</td>
<td>$40,000</td>
<td>$20,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>College Members</td>
<td>$0</td>
<td>$40,000</td>
<td>$20,000</td>
<td>$40,000</td>
<td>$20,000</td>
<td>$40,000</td>
</tr>
</tbody>
</table>
Did Group Procurement Save Money?

- Procurement soft costs were lower than average for the other colleges interviewed. However, there is a dearth of literature concerning buyers’ procurement costs nationally.
- Vendors offered a 0-4% group buy discount, but the competitiveness of the colleges’ PPA rates regionally is difficult to quantify, due to the limited PPA transactions in the state.

- For the colleges that pursued projects, their individual soft costs were likely lower than if they had pursued procurement individually. However, this is due to the support they received from Optony and CICV with the first three steps of the procurement process (strategy, site screening, RFP development).
  - Washington and Lee – 30 hours/$3,233
  - Lynchburg – 59 hours / $6,344
  - Virginia Union – no data

- To quantify their PPA cost savings in the future, colleges pursuing a group procurement approach should request that RFP bidders include pricing both for individual projects at a college, as well as the bundled group purchase, to ascertain these savings.
Other College Procurements

Loyola University Chicago
- Issued an RFI and RFP. Got 4 RFP respondents, but financing fell through. Debating whether to go back out to RFP.
- 700 kW, Flat 25 year PPA, $0.07/kWh
- Minimal procurement cost, relied on bidders for site assessment

Parkland College:
- Was involved in a consortium of community colleges in their first solar procurement. Went out on RFP for PPAs (got 11 proposals).
- 2 MW, 25 year PPA, $0.03-$0.04/kWh
- 50 hours of procurement effort

University of Colorado at Colorado Springs
- System purchase RFP, got 4 bids
- 150 kW, $2.95/W
- 45 hours of procurement effort

Western University of St. Louis
- In RFP process, got 9-10 responses.
- 1.5-2MW, rooftop
- 150 hours of procurement effort

University of Minnesota Duluth
- Issued campus-wide RFP
- 190 kW, $2.20-$3.50/W
- 324 student hours

University of Central Florida
- Issued RFQ and RFP. Stalled for two years on board approval.
- 14 MW, $1.10/W
- 250 hours of procurement effort, $35,000 in technical consultant work
Location matters: Group solar procurement in Virginia, where there is a relatively nascent solar industry, is much more challenging than in more solar-friendly states.

Confirm commitment: Site assessment is a major procurement cost, ensure that participants are committed prior to the RFP.

Recruit Students: Student involvement can provide a significant benefit by stretching project dollars and serving as project champions.

Scale is Key: Achieving large project scale is critical to realizing significant group purchasing savings.
Recommendations for Evaluating Future Collaborative Procurements

• Track hours spent on solar procurement, and categorize the effort based on the five categories.
  – Track the effort from all team members:
    • Lead coordinating agency
    • Technical consultant (if applicable)
    • Procuring Colleges

• Request that RFP bidders include pricing both for individual projects, as well as the bundled projects.
  – This will help to quantify the bulk procurement savings and allow for a direct comparison between individual vs. group procurement.
This work was authored by Alliance for Sustainable Energy, LLC, the Manager and Operator of the National Renewable Energy Laboratory for the U.S. Department of Energy (DOE) under Contract No. DE-AC36-08GO28308. Funding provided by U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Solar Energy Technologies Office. The views expressed in the presentation do not necessarily represent the views of the DOE or the U.S. Government. The U.S. Government retains and the publisher, by accepting the article for publication, acknowledges that the U.S. Government retains a nonexclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this work, or allow others to do so, for U.S. Government purposes.

This presentation was developed to meet an immediate need and was based on the best information the analysts had available within timing constraints. This analysis is a starting point for additional research and consideration of investment or policy options. Other factors that can inform decision-making are not considered here.

The analysis was prepared with information available at the time the analysis was conducted. The analysis does not constitute a comprehensive treatment of the issues discussed or a specific advisory recommendation to the jurisdiction(s) considered. The data, results, conclusions, and interpretations presented in this document have not been reviewed by technical experts outside NREL.
The Solar Technical Assistance Team (STAT) Network is a project of the United States Department of Energy (DOE) and is implemented by the National Renewable Energy Laboratory (NREL). NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC. The purpose of the STAT Network is to provide credible and timely information to policymakers and regulators for the purpose of solar technology- and policy-related decision support. This presentation is intended to be a starting point for additional research and consideration into the topics covered and does not constitute a comprehensive roadmap for solar deployment or specific advisory recommendations to the jurisdiction.

This analysis was conducted for internal use by the Council of Independent Colleges in Virginia and is not intended for public use. The data, results, conclusions and interpretations presented in this document should not be disseminated, quoted, or cited except within the Council of Independent Colleges In Virginia group.
This document was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or any agency thereof.