

## Research Performance Progress Report Part 1 (RPPR1)

**Project Title:** Solar Market Pathways – Independent Colleges in VA  
**Project Period:** 01/01/2015 – 12/31/2017  
**Reporting Period:** 01/01/2015 – 03/31/2015  
**Submission Date:** 04/30/2015  
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**Award Number:** DE-EE0006904  
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15 Participating Virginia Private Colleges<sup>1</sup>  
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15 Participating Virginia Private Colleges  
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<sup>1</sup> Appalachian School of Law, Bridgewater College, Eastern Mennonite University, Emory & Henry College, Ferrum College, Hampton University, Hollins University, Lynchburg College, Mary Baldwin College, Marymount University, Randolph College, Roanoke College, Shenandoah University, Virginia Union University, and Washington and Lee University.

## Information from Statement of Project Objectives

### **Project Objective:**

The Solar Market Pathways independent Colleges of Virginia (SMP-ICV) program will create a statewide network of private colleges to plan deployment of solar PV on their campuses. The final goal is to create a revolving joint procurement model to be implemented over the course of 5 years. The project team will engage a broad group of stakeholders, develop and deploy institutional expertise, and work with local governments and electric utilities to lay the groundwork for deploying solar PV installations on the campuses of participating colleges.

### **Work Planned for this Quarter:**

#### Task 1

- Organize kick-off planning meetings
- Develop capacity building training workshop for faculty and facility management staff.
- Plan and schedule site visits to analyze site-specific challenges & opportunities.

#### Task 3

- Engage stakeholders at participating colleges.
- Engage government and utility stakeholders
- Develop tailored solar policy roadmaps for participating communities.

#### Task 4

- Address state, local and utility challenges

#### Task 6

- Engage in Network Communications and Knowledge Dissemination
- Participate in Shared Network Meetings and Events

### **Plans for Next Quarter:**

#### Task 1

- Conduct site visits to perform investment-grade solar feasibility assessments and analyze site-specific challenges and opportunities for solar PV deployment
- Determine technical and financial feasibility of solar projects
- Draft feasibility reports for all participating colleges

#### Task 3

- Establish core stakeholder group that will guide program implementation

#### Task 4

- Address state, local and utility challenges by continuing work to identify opportunities for utilizing existing expertise and reducing total installed price

Task 5

- Create a learning network to provide access to progress and work products

Task 6

- Participate in the Solar Market Pathways Network: Common Activities
- Travel to Salt Lake City, UT, to participate in the National Coordinator's peer-learning Leadership Academy. Project team member will co-present in the bulk procurement roundtable discussion.

**Narrative Report and Update:**

**Major Project Results This Period:**

1. Task 1: Chief points of contact (POCs) were established at all 15 participating colleges. (Milestone1)
2. Tasks 1 & 3: A capacity-building training workshop was held at a participating campus on February 13, 2015, and attended by representatives of 14 of the 15 participating colleges. (Subtask 1.2 & 3.1; Milestone 1)
3. Task 1: Drafted solar site prescreen reports in preparation for site visits and feasibility assessment reports. (Subtask 1.4; Milestone Q2.M1)
4. Task 1: Solar assessment visits were scheduled at all 15 colleges and are on track to be completed between late April and early June, well before the 6/30/15 deadline. (Subtask 1.3; Milestone 1)
5. Tasks 1 & 3: A Planning Meeting/Workshop was planned and scheduled at a participating campus for May 22, 2015. Attendees and presenters will include both internal and external stakeholders. (Subtasks 1.1, 1.2, 3.2; Milestone 3)
6. Task 3: A template solar policy roadmap was created for host communities in which the participating colleges are located. (Subtask 3.4; Milestone 2)
7. Task 4: Examined and drafted short memos on the local building-permit requirements for the majority of the 15 colleges so that contact information and filing-fee information is readily available whenever one of the colleges is ready to deploy. (Subtask 4.2)

8. Task 4: Examined and drafted short memos on the local zoning ordinances for the 15 participating colleges to ensure there were no barriers to the contemplated solar deployments. (Subtask 4.2)
9. Task 4: Researched the policies of the two investor-owned utilities and one cooperative that serve our colleges with respect to their positions on PPAs. Began making a comprehensive list of any additional incentives that may be available under state or local initiatives. (Subtask 4.2)
10. Task 6: The principal investigator enlisted a team of six stakeholders to attend the peer-learning workshop in Salt Lake City in early May. A member of the project team was invited to speak. (Subtask 6.2)

### **Discussion:**

**Task 1:** The keystone of the SMP-ICV program is to develop a multi-year 30 MW solar deployment plan for participating colleges. Task 1 provides a number of subtasks to be performed over the course of Q1, Q2, and Q4. Some are designed to build the network of internal and external stakeholders necessary to implement the solar deployment plan. Others relate to technical aspects in the development of the Solar Master Plan. The subtasks relevant to Q1 have been performed, and plans are in place to complete the Q2 subtasks on time.

Points of Contact. A chief point of contact (POC) was established at each of the 15 participating colleges. Some actually contributed to drafting the project proposal. All POCs have been actively involved since the project officially began operating in January. Some POCs are facilities managers, some are chief financial officers, and others are faculty members.

Training Workshop. On February 13, CICV hosted a capacity-building training workshop for faculty, facilities management staff, financial officers, and students. The workshop was held at Bridgewater College, which is a participating college, and was attended by representatives of 14 of the 15 participating colleges. The principal investigator and the Optony consultant provided an overview of the project and explanation of the Statement of Project Objectives. Cost share information was explained. Law professor and point of contact at Appalachian School of Law and some of his students described the clinical work and legal research they are doing in support of the project's objectives. ASL's efforts successfully involve faculty, students, and facility management staff as stakeholders in the process of learning by doing. All participants appeared to leave the workshop with a clear sense of the project and some ideas on how the project might fit into their colleges' long-term plans for energy, student involvement, curriculum enhancement, and community cooperation.

Planning Meeting & Workshop. CICV will also host a planning meeting/workshop on May 22 at Eastern Mennonite University, another one of the project's participating campuses. Again, representatives from all 15 colleges will be invited. External

stakeholders will also be invited, including representatives from utilities, state agencies, and local governments. The draft agenda includes the following:

***Eastern Mennonite University and Washington & Lee University "Success Stories":*** Presentations -- led by the college presidents -- of successful solar installations at EMU and W&L, including the financial, regulatory, and facilities issues these institutions addressed. Their case studies will help the other participating schools identify issues of interest and concern. Followed by panel discussion and Q&A.

***Description of CICV's Solar Project:*** CICV president and principal investigator, Robert Lambeth, and the project's consultant from Optony, Tyler Espinoza, will provide an overview of the project and Solar Master Plan, primarily for the benefit of external stakeholders. Followed by discussion.

***Panel Presentation by State Agencies:*** Representatives of the Office of the Attorney General, the Department of Mines, Minerals, and Energy, and other agencies will summarize Virginia's legal, policy, and regulatory frameworks in which the project's 15 colleges will be developing their solar installations. Followed by Q&A.

### ***Campus Tour of EMU's Solar Installations***

A working lunch will be provided, with opportunity for attendees to get to know stakeholders both within the college communities and from utilities, state government, and local government. Plans are being discussed to live-stream the workshop to students in EMU's international studies program and to film it for future educational uses.

Site Visits. Critical information for the Solar Master Plan will be developed during site visits at each of the 15 participating colleges. In anticipation of these visits, the project team worked with points of contact at each college to gather preliminary site information and historical energy consumption data. Site-specific prescreening analysis was initiated for each participating college in preparation for upcoming site visits that are designed to confirm challenges and opportunities.

These site visits have been scheduled at all 15 campuses. The visits are expected to occur between late April and early June. Because participating colleges are located all over Virginia, the project team plans to visit the schools in geographic clusters.

On each visit, the Optony consultant will greet college officials with the rest of the project team. He will then be accompanied by facilities staff on a tour of campus buildings and grounds (including those at remote college properties) in order to perform a technical solar feasibility assessment. Invitations are being sent to key faculty and

student groups to encourage a manageable number to shadow the consultant during his assessment on their campus. Plans are underway to film at least one of these assessments, to be used later for educational purposes.

At each school, the principal investigator and project manager expect to meet with the chief financial officer, facilities director, key faculty (sustainability, energy, environment, etc.), and student-activities supervisors, as well as the college president, where possible. They will ask these college leaders what their goals are for the solar project as it is implemented at their school -- whether to enhance the college's image or reputation, to attract new students, to involve existing students in meaningful solar-related activities, to enhance curriculum, to reduce energy costs and improve energy efficiency, to expand community outreach, or perhaps to achieve "all of the above." The project team will ask the college president (or other key leader) how relevant campus leaders might join with the chief POC in developing and implementing the Solar Master Plan at their school, in order to help achieve the school's priorities and goals. The project team hopes to lay the groundwork for assembling an effective project team on each participating campus, headed by the POC. After completing these conversations with key campus leaders, the principal investigator and project manager will join in the campus technical assessment to the extent possible.

**Task 3:** The focus of Task 3 is stakeholder engagement. Subtasks include engaging stakeholders at participating colleges, and engaging government and utility stakeholders. Task 3 Subtasks (some of which overlap with Task 1 Subtasks) have been completed as they relate to Q1. Establishment of the core stakeholder group has been begun and will be completed during Q2.

Task 3 overlaps with Task 1 with respect to engagement of college stakeholders and engaging government and utility stakeholders. This report's discussion of Task 1 details progress in engaging college presidents, chief financial officers, facility managers, students, and faculty in such fields as law, sustainability, environmental sciences, energy, and entrepreneurship. Previous discussion also describes outreach to and inclusion of local and state government officials and utility representatives, specifically in the planning meeting and workshop scheduled to occur on May 22. Workshops similar to those conducted by CICV on February 13 and May 22 will be held twice a year, as prescribed under Task 3.

Task 3 also includes establishing a core stakeholder group that will guide program implementation. Immediately after the project manager joined CICV on March 12, she began reaching out to former colleagues in local governments and local-government associations, regional commissions, both major electric utilities, leaders of non-profit organizations, solar-industry representatives and groups, representatives of Solarize groups, the Office of the Attorney General (Consumer Counsel, and Counsel to the Air Board, which hears issues related to Virginia's Clean Power Plan), the Department of

Mines, Minerals, and Energy (which is responsible for drafting the state’s Energy Plan and for administering renewable energy incentives), and the State Corporation Commission. The project team anticipates formalizing the membership of the core stakeholder group during second quarter, as working relationships mature between these external stakeholders and the SMP-ICV project.

As prescribed in Subtask 3.4, a template solar policy roadmap has been created for host communities in which the participating colleges are located. The project team will work with each locality throughout the project period to identify opportunities to support the SMP-ICV project through best practice solar policy adoption with coordinated technical assistance for implementation.

**Task 4:** The focus of Task 4 is to identify opportunities for utilizing existing expertise and reducing total installed price. Although this Task will be emphasized in Q2 and Q4, work has already begun during Q1.

A law professor at Appalachian School of Law supervised his students in numerous activities in support of SMP-ICV. This professor is the project POC for ASL and is also licensed to practice law in Virginia. His students’ work continues, but the professor highlights their accomplishments to date as follows:

The professor supervised a Solar Live Client Clinic, whereby students could either earn one hour of academic credit for performing 50 hours of legal work, or they could earn hours toward community service requirements, by committing whatever time they could to advancing the Solar Pathways project. The specific tasks that were assigned, and largely completed, are listed below. Most will require review by a licensed attorney before they are distributed.

- Examined and drafted short memos on the local zoning ordinances for the 15 participating colleges to ensure there were no barriers to the contemplated solar deployments;
- Examined and drafted short memos on the local building-permit requirements for the majority of the 15 colleges so that contact information and filing-fee information is readily available whenever one of the colleges is ready to deploy;
- Drafted a form power purchase agreement (PPA), that can be tailored if any colleges choose to use that structure;
- Drafted a form customer generation agreement (CGA), which is a transactional structure that has reportedly been used in the service territory of a utility company opposed to third-party power purchase agreements;

- Prepared some buyer-friendly terms and conditions for those who want to buy panels outright;
- Prepared a form SCC filing for what is called a ‘competitive service license’ under Virginia law (a filing that a third party would need to make if it wished to own panels and sell electricity to a host college under a PPA);
- Researched the policies of the two investor-owned utilities and one cooperative that serve our colleges with respect to their positions on PPAs;
- Prepared a checklist and some blank forms with respect to the steps that need to be taken to set up a PPA under the currently-authorized pilot program in Dominion territory
- Researched the legal validity of Appalachian Power’s opposition to PPAs in its territory;
- Held discussions with Appalachian Power officials in furtherance of identifying a deployment structure that would be acceptable to Appalachian Power but would still allow the parties to capture the 30% federal investment tax credit;
- Prepared a form declaratory judgment filing to be prepared if a third party seeks a competitive service license and the utility intervenes and objects;
- Analyzed the effect that some colleges’ existing contracts with a landfill gas supplier would have on their ability to deploy solar energy under different structures; and
- Began making a comprehensive list of any additional incentives that may be available under state or local initiatives.

**Task 6:** The focus of Task 6 is involvement by SMP-ICV in the common activities offered to Solar Market Pathways award recipients. Subtasks relevant to Q1 have been accomplished.

The project team participated in all teleconferences and webinars offered to award recipients. Team members regularly access Basecamp and utilize the resources posted there. Work products are being developed that can later be shared via these resources.

The principal investigator assembled a cross-sector team of six people to attend the peer-learning workshop in Salt Lake City in early May. The issue on which he asked the SMP-ICV delegation to focus during this workshop is campus involvement and coordination. In keeping with this focus, he invited persons with differing roles at the participating colleges to attend. The SMP-ICV delegation will consist of the principal



investigator, project manager, a college chief financial officer, a college facilities director, and a sustainability professor. Rounding out the delegation is the project's consultant from Optony who was subsequently invited to speak at the workshop.

**Patents:** None

**Training and Professional Development:** None

**Publications/Presentations/Travel:**

- Project team members and representatives from participating colleges traveled to Bridgewater College for a capacity-building training workshop on February 13, 2015.

**Other Required Reports:**

- A signed SF-425 Federal Financial Report has been submitted with this report as a PDF document.