Avoiding the Energy Overload: Determining the Best Clean Energy Training Program(s) for Your Community College

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Helen R. McClure has spent the majority of her career in a variety of fields in higher education, and thus considers herself a generalist. Prince George’s Community College (PGCC) hired her in spring 2010 to develop “green” workforce development programs. Utilizing over a decade of research experience, she became the college’s “green” expert. She has developed urban agriculture, green business, and landscaping programs, and is in the process of developing a solar program. She holds a B.A. from Barnard College, an M.A. from American University, and plans to complete her Ph.D. at American University in 2011.
Abstract

Prince George’s Community College (PGCC) is a large community college in suburban Washington, DC, that serves over 40,000 students annually. It has a dynamic Workforce Development and Continuing Education (WDCE) division that meets the needs of Prince George’s County, Maryland, residents and employers by providing career education and training opportunities specifically tailored to local workforce demands. This presentation is based on the experiences of PGCC-WDCE in determining what the demand was for clean energy programs, and which such programs to develop.

Like many institutions, PGCC has been striving to increase its “green” training. Some course offerings were relatively simple and straightforward to develop, but clean energy programs need more than a blackboard, some desks, and an expert. The college was bombarded by proposals to assist with curriculum development for clean energy programs; however, the logistics of cost and space limited the college’s options—PGCC could only afford to start one clean energy program. After careful research and consultation, the college decided to develop a solar-photovoltaic installer training program which will launch in fall 2011. This presentation goes through the process and the lessons learned, along with pitfalls to avoid and advice for other colleges looking to start a non-credit/workforce development/career training program in renewable energy.
Prince George’s Community College

- Large, suburban community college serving over 40,000 students per year, about 20,000 of whom are in non-credit
- Second-largest non-credit program in the state of Maryland
- Even though PGCC is in the suburbs, we have a very urban population coming out of substandard public schools
- Attract quite a few students from Washington, DC, who are coming out of even worse public schools
Background on Green at PGCC

- I was hired in May 2010 to develop green programs of all sorts, and given relatively free reign.
- I soon learned that clean energy seemed to be where people thought the future jobs would be.
- Along with growing other aspects of the green program, I began to investigate clean energy options.
- A niche training program the college already had included a SMART meter segment.
Clean Energy Training Program Options

- Solar
  - Photovoltaic
  - Thermal
- Wind
  - Small-scale
  - Large-scale
- Biomass
Things to Consider

- Cost
- Space
- Other logistics
- Subject matter expertise
- Community interest
- Community need
- Skill-level of potential students
- Employability of graduates
- Existing programs in the area (competition)
## Pros and Cons of Wind (Small and Large)

**Pros**
- Maryland governor is very pro-wind
- Popular choice
- Demand from students

**Cons**
- County doesn’t have enough wind to support viable wind farms
- Not much demand for small wind installation/maintenance jobs/training
Pros and Cons of Solar Photovoltaic

**Pros**
- Popular choice
- Sufficient sun in the county for people to get value from photovoltaic cells
- Federal and state incentives for installing PV
- County is trying to “green” county buildings, so potential demand

**Cons**
- Not many obvious job opportunities
- Not a lot of consumer demand
Pros and Cons of Solar Thermal

Pros

- Sufficient sun in the county for people to get value from solar thermal cells
- Federal and state incentives for installing solar thermal
- County is trying to “green” county buildings, so potential demand

Cons

- Not many obvious job opportunities
- Not a lot of consumer demand (not as popular as PV)
- Very technical training
- Very delicate equipment
Pros and Cons of Biomass

Pros
- Potentially great green pathway

Cons
- Not well known
- Expensive equipment
- No biomass processing companies in the county
Reality Check: Unexpected Things Can Slow You Down

- I wrote the abstract in September, certain that all the details would be figured out by the time of this conference
- Lesson learned: things aren’t always as simple as you may think
- Unexpected speed bumps:
  - Understanding the certification process
  - Finding a good partner
  - Seeing a neighbor’s struggles
  - $$$$
Understanding the Certification Process

- NABCEP
  - North American Board of Certified Energy Practitioners
  - [www.nabcep.org](http://www.nabcep.org)
  - Two exams:
    - PV Entry Level Exam
    - PV Installer Exam
  - Must understand difference and know which exam you’re preparing students for
- No official curriculum, but “Learning Objectives”
Finding a Good Partner

- Has been the biggest “speed bump”
- One company said all the right things, had a slick presentation, offered us a soup-to-nuts operation that included solar panel manufacturing, cost a lot
- A union turned us down, because they didn’t believe it could be done well enough in a short time-frame that graduates could pass the Entry-Level exam
- One company had a very basic presentation, but offered on-the-job training and possible jobs, no cost to us
Seeing a Neighbor’s Struggles

- A college not far away started a PV program in the fall
- They said it only took a couple of months to put together
- Mainly online class with a small hands-on component
- Results: abysmal pass rate on the NABCEP Entry-Level exam
• Still trying to figure out how much it really costs, both start-up and actual instruction
• Willing to pay more to avoid the problems our neighbor had
• Don’t want to overcommit resources if the demand for the course and the demand for our graduates isn’t there
Where PGCC Is Now

- Trying to make the right decision!
- Lesson: take your time and do it right the first time when it’s something this big. It’s hard to tweak later on.