



## Solar Workgroup meeting for Solar Development in Southwest Virginia

**February 21, 2017 – Solar Workgroup Meeting Summary**

### **Meeting Overview**

The third in a series of meetings of the Solar Workgroup for Solar Development in Southwest Virginia was held on February 21, 2017 at Ridgeview High School in Clintwood, Virginia. Two previous in-person meetings of the Workgroup were held in the fall of 2017, and two conference calls of the Workgroup were held in the winter of 2016-2017 around identifying and prioritizing sites for solar development in SWVA. Meeting summaries may be found on the website [www.swvasolar.org](http://www.swvasolar.org).

After the Solar Workgroup meeting was held, a community meeting was held at Ridgeview High School with a Solar 101 presentation and a panel around solar workforce development and education opportunities, followed by a discussion with meeting participants. Christine Gyovai of Dialogue + Design Associates facilitated the Solar Workgroup meeting, which was co-convened by Appalachian Voices, People Inc. and UVa-Wise. Meeting participants, listed at the end of the summary, heard updates about the upcoming May 9, 2017 Solar Fair to be held at UVa-Wise, as well as a recently developed application to a Dept. of Energy Sunshot prize. Afterward, a panel discussion took place about solar opportunities in Southwest Virginia, followed by a discussion about next steps for the Workgroup and a revision to the draft Roadmap for solar development in SWVA (which may be found in the Appendix). A summary of the meeting is below, with **action items and next steps** outlined on pages 7-8 of the summary.

### **Introductions and Ideas**

At the beginning of the meeting, Dickenson County Superintendent of Schools, Mrs. Haydee Robinson, and Adam Wells of Appalachian Voices, welcomed participants to the meeting. Christine then reviewed the agenda and meeting guidelines, which included: cell phones on silent; acronym alert (spell out acronyms the first time they are used); all ideas are welcome; please be a poet not a novelist (be mindful to not take too long when speaking) and use “ditto” to share that you appreciated / agree with what another person has noted. Meeting participants then shared their names, affiliations, and wackiest ideas for economic development in SWVA, which included:

- Opening a fish hatchery
- Developing tourism around regional assets
- Opening a coffee shop in St. Paul
- Legalizing gambling in SWVA
- Increasing usage of the railroad in SWVA for both moving goods (both in and out of the region) and to increase the ability of transportation, logistics and infrastructure options for new potential businesses
- Developing ATV and 4-wheeler opportunities in Appalachia

- Connecting rail opportunities to localities and developing Rails-to-Trails opportunities
- Develop a zipline at Devil's Bathtub
- Do multi-use planning – develop Appalachian Hollers - hubs around hollers
- Develop a Haunted mine trail
- Make SWVA the new Dollywood
- Foster opportunities for a large sportsplex for a major league team to have a training facility (such as for spring training) in SWVA as well as opportunities for large manufacturing
- Creating a line of clothing for Barbie's and other dolls made out of reused/ scrap pieces of fabric
- Upgrade and refurbish old homes and make them turn key ready for purchase, at affordable prices with amenities (such as high speed internet) to attract new residents (such as IT coders).
- Develop a sportsman center including a shooting range, fly fishing facility and other outdoor enthusiasts opportunities and connect with large outdoor retailers such as Orvis, Bass Pro shops and others.

Adam Wells then gave an update on the upcoming **May 9<sup>th</sup> Solar Fair at UVa-Wise** – which will be held before the May 10 Economic Forum at UVa-Wise -- and a new regional Solarize program in SWVA. Appalachian Voices and Southwest Virginia Technology Council are moving forward with this residential solarization program that will initially be focused in Wise County. Adam noted that residential solarization programs often make it cheaper and easier for homeowners to install solar through bulk purchasing and installation discounts, and help participants with additional savings through tax credits and creative financing options. Wise County Cooperative Extension, Wise/Norton Chamber of Commerce, People Inc., and Mountain Empire Community College have also joined as a project partner, and participation from other Solar Workgroup members is encouraged. The program will begin in mid-spring and run through the fall of 2017.

In addition, Matt Wasson provided an update on the Dept. of Energy **Sunshot Solar Workgroup application** for solar development, which included projects at Norton Green (80kW) and Ridgeview High School (370kW), as well as a “learn and earn” workforce development model developed in partnership with Mountain Empire Community College. The overall Sunshot deadline is March 17, and the group hopes to learn more about next steps at that time.

### **Panel on Opportunities for Solar in Southwest Virginia**

After participant introductions and updates, Haydee Robinson introduced panel members for a panel on opportunities for solar in Southwest Virginia with the following panelists:

- Rick Chaffin, American Electric Power and Russell Co. Chamber of Commerce
- David Huff, Old Dominion Power
- Becki Joyce, UVa-Wise and Russell County IDA
- Nick Polier, Department of Mines, Minerals and Energy

Mrs. Robinson asked questions of each of the panelists, which are included below, as well as highlights from each panelist's remarks.

- *Each of the companies/entities you represent has a different role in developing energy projects. Does your company have any current solar projects in its plans; and what plans for solar are in the works for the coming years?*

- **Nick:** DMME is in the process of trying to install solar at the Big Stone Gap office and is working on a program for specific state agencies that are suitable for photovoltaic opportunities to develop them. They are looking at 3 sites currently, and are not quite yet ready to release a RFP (Request for Proposals) for developers to bid on the systems yet.
- **Becki:** The Russell County IDA (Industrial Development Authority) will continue to explore what the county can support in the solar industry including potential properties or opportunities for solar panel manufacturer -- they are in a research mode.
- **Rick:** AEP (American Electric Power) is working on an integrated resource plan for the state for solar. AEP serves half a million homes in VA and WV. They developed a 21 mW in 2016 in Indiana which is 40 acres. AEP currently has a RFP open for developing 300 mW of solar development.
  - One challenge Rick noted of developing solar in SWVA is there is a lower efficiency of solar in mountainous regions frequently.
- **David:** Old Dominion (ODP) currently has 10 mW of solar at the DW Brown facility in Kentucky, which also has a 1 mW battery storage system. However, ODP is not seeing a need for additional generation in the future currently – there is not a need to supply customers with additional electricity currently. There could be greater opportunities in the future for a business solar program with possibilities to align economic development with business needs around green energy and renewable options. ODP also has a least cost mandate, which can be difficult to justify payments and revenue sources with solar (with the least cost mandate). Finally, ODP has 250 net metering customers in Kentucky.
- **Rick:** AEP also has a low cost mandate where they need to justify the cost of a system. For example, the commission in Indiana was able meet the low cost mandate, which was part of the justification to develop solar there. Rick has had an idea to develop prototype solar systems that can be built on skids and quickly built and placed together in a short period of time that are constructed next to a distribution center.
- **Questions for AEP and ODP:**
  1. *What role does the utility see for expanding customer access to solar, in particular distributed generation at residential and commercial scales?*
  2. *Members of the Solar Workgroup will be working to help develop solar projects at multiple scales across Southwest Virginia — residential, community, and commercial — and are gathering information about how specific projects might take shape. What process and fees should a customer expect (points of contact, gaining approval, upfront and monthly fees, etc.) when working to install solar at each of these scales at different sites?*
    - **Rick:** The greatest opportunity is at the commercial scale from a cost perspective; it is about half of what residential scale costs are. We need to develop larger scale projects to gain cost effectiveness.
    - **David:** ODP is in the process of developing a subscription-based community scale effort in Kentucky. The cost will be \$6.29 per month with a one-year term for residential; they are developing a business solar offering as well that would have a 25 year term. From a commercial standpoint, their first point would be to go to the State Corporation Commission to obtain a Certificate of Public Convenience and Necessity (CPCN) to foster the development of commercial scale solar. ODP is not currently investing in residential solar, but they do have a solar installer they work with in Lexington, Kentucky, and there are other installers doing the

installation work (that they don't want to compete with). The Rocky Mountain Institute recently published a report discussing developing community solar which warrants further investigation.

- **Rick:** AEP is not currently exploring community solar options, as that is not their niche for larger customers. However, AEP does work with several customers that have their own solar panels that are doing net metering. There are some concerns with net metering in some states around who pays for the wire service and the price that utilities spend to purchase the solar back from residential customers, which could potentially be an increased burden to AEP if they are not able to purchase the electricity from residential solar at the same price they do from wholesale generation sources. However, for AEP's customers, Rick noted that they are working on a compromise that can work for everyone (considering net metering).
  - At the same time, AEP is investing heavily in renewables with 6500 MW of solar and wind coming on line in the future to help address their base load needed.
- **David:** ODP works with renewable and solar energy societies, and they are working to have access to high quality information about solar to fully understand the current and future costs of solar.
- **Question for Becki-** *The IDA has access to several different incentives and financing programs for attracting new business to the county; which of these might be appropriate to develop solar to attract new business interest or for community-scale solar?*
  - **Becki:** There are some state level tools that might be available such as the USDA Renewable Energy Assistance Program (REAP) grant and loan program, and other tax incentives at the state level such as the Virginia property tax exemption, which is described in detail in the Appendix, along with additional incentives (Wise County is the only SWVA county with solar incentives). It would be helpful to develop a suggestion for localities in Southwest Virginia to consider for what could be proposed at the Board of Supervisor level to potentially adopt locally.
    - In addition, there are machine and tool tax incentives that localities could adopt. It would be helpful to develop regional incentives for solar.
- **Question for Nick:** *The governor attempted to direct state funds to solar last general assembly session. Does the Governor have any ongoing efforts to further incentivize solar through state funding or incentive programs? Or are there other programs or incentives you are aware of?*
  - **Nick:** There was additional funding for solar in the Governor's FY18 budget, but the House removed it in the General Assembly. Other incentives and programs include (many of these are described in more detail in the Appendix):
    - The Clean Energy Equipment program.
    - The VirginiaSAVES Green Community Program which is a unique public/private partnership sponsored by the DMME to provide subsidized financing for energy efficiency, renewable energy, and alternative fuel loans for both private and local government properties and entities within the Commonwealth of Virginia. DMME has initially capitalized the Program with \$20 million of Qualified Energy Conservation Bonds (VA QECBs).

- There are currently three projects under consideration, including one in Russell County has a project around energy efficiency upgrades.
  - Solar continues to be a priority for DMME – six new positions have approved and some of those are focused in SWVA.
  - Additional incentives and programs are described in the Appendix below.

Following the panelists' remarks, Solar Workgroup members had several **questions and comments**, which included:

- We are missing an opportunity around focusing on efficiency, particularly around increasing insulation and greater use of newer more efficient appliances. We need to focus on energy savings, energy audits and retrofits as well as new solar possibilities (supported by a few Workgroup members).
- Many companies have requirements around renewable energy requirements and other green incentives. We need to develop solar opportunities to be able to attract companies and thus JOBS by developing solar projects in SWVA.
- Efficiency needs to be first. We need to focus on reducing consumption as a priority in lighting, heating and addressing space envelope issues in buildings.
- The **How\$martKY** is a project of the Mountain Association for Community Economic Development (MACED, based in eastern Kentucky), which provides on-bill financing for energy efficiency retrofits to rural homes at no cost to homeowners. FEMP will be hosting a webinar series soon for utilities about this concept.
  - According to an ARC report<sup>1</sup>, “The How\$martKY project offers substantial energy savings for community members, increases home values, and helps utility co-ops lower costs for consumers... Kentuckians use 24 percent more electricity at home than the national average, which disproportionately burdens lower-income households. ... When a co-op like Grayson Rural Electric gets a complaint from a member about their high power bill, they are able to offer How\$mart as a solution. An energy advisor from the co-op will visit the home and offer to set up an energy audit through How\$mart. If there are efficiency improvements to be made, How\$mart will then hire a trained contractor to make the retrofits at no upfront cost to the home owner. The improvements are paid off over time with the savings that appear on the power bill. ...For MACED to be able to finance a home’s retrofits on its energy bill, the Kentucky Public Service Commission needed to approve a tariff — an additional charge line on the bill. What began as a pilot tariff was made permanent following the demonstrated effectiveness of this approach, meaning that any Kentucky utility can now provide onbill financing for energy-efficiency retrofits through the How\$martKY™ program.”
- An able workforce is needed for manufacturing in Southwest Virginia including for handling logistics and moving raw products in and out.
- We need to consider who pays for solar – it needs to be competitive.
  - At the AEP solar plant in Indiana, there are no regular employees for the plant – workers only address problems as needed at the plant.
- There is a need to develop additional opportunities for manufacturing solar panels in SWVA.
  - There is a need to identify the obstacles to panel manufacturing.

---

<sup>1</sup> *Entrepreneurial Appalachia: Case Studies In Evolving Economic Sectors*, November 2013

- A partnership needs to be developed between private enterprises and academic institutions to identify resources and inputs for manufacturing opportunities.
- Infrastructure for solar development is needed as well, and should be developed in conjunction with manufacturing opportunities.
- Demographics are driving the conversation about renewables in many places – they expect and demand green options.
- Workforce development needs to be looked at more closely in SWVA:
  - The capacity needs to be examined around large-scale manufacturing.
  - Retraining opportunities should be developed.
  - Coal miners have job skills that transfer very well to solar.
- Small-scale solar manufacturers should be recruited to SWVA. To do this we need to:
  - Develop incubators for entrepreneurs.
  - Develop partnerships with programs such as MECC's (and SWCC former solar program which didn't have enough demand to keep it ongoing).
- Create an "Appalachian School of Sustainable Energy and Economies" at UVa-Wise. Focus on workforce development, market readiness, and trades-related work opportunities to create the market.
- One concern is that AEP only hires union employees but they can't always find enough union employees.
- If Solar Workgroup members are interested in exploring possibilities for solar at the Bush Building in St. Paul, they can reach out to Stewart Spradlin to discuss possibilities.

## **Roadmap for Solar Development in Southwest Virginia**

After the panel concluded, Workgroup members reviewed the draft Roadmap for Solar Development in Southwest Virginia document (included in the Appendix below), as well as the previously identified draft goals of the Solar Workgroup (which may be found in the Appendix). The Roadmap is a document about how to develop a renewable energy industry cluster in Southwest Virginia and has been developed from the ideas from the Solar Workgroup thusfar. Solar Workgroup members discussed several components of the Roadmap including what might be missing as well as next steps for the Solar Workgroup, which included:

- The Roadmap should draw a greater connection with economic development opportunities, particularly with jobs, businesses, and growth opportunities.
  - A case study should be developed to promote economic development opportunities around solar, and bridge to the natural connections with solar and other renewables.
- Develop a greater understanding of the workforce development opportunities and needs in solar (and other renewables and in energy efficiency) in Southwest Virginia, and be honest and transparent about it.
  - Look at existing capabilities
  - Current jobs
  - The need and potential for additional future jobs
- Develop on-the-ground installation opportunities for students studying solar in SWVA such as MECC (Mountain Empire Community College) students.
- Focus on the JPA = JOBS PER ACRE for solar. Use this as a bridge and as a clear focus for the Roadmap.

- For example, if a 100-acre solar array were development, how many people would be employed short-term, and how many long-term?
- Note that there will be a short-term employment boost from solar with construction and site development. This should be considered as well, and for the possibilities for large utility-scale solar development.
- Possible avenues to explore for economic analysis work include:
  - Jack Morgan (who used to be with Friends of Southwest Virginia and is now with the National Association of Counties)
  - Chmura Economics and Analytics
  - Wise County IDA
  - VEDP – Joe Gillespie is the SWVA representative
  - VA Tech Workforce study
- Continue to build bridges and relationships with utility providers including PVEC (Powell Valley Electricity Coop), ODP and AEP.
  - They need to continue to be at the table.
  - The case needs to be built for how utilities can justify the capital investment in solar.
    - What is the hook for solar for utilities?
- Look at bottom-line costs
  - What is the existing cost vs. what solar development may cost?
- Build a greater connection with utilities around economic development opportunities, particularly with jobs, businesses, and growth opportunities.
  - Build solar awareness and opportunities.
- Solar Workgroup members suggested holding a tour of residential solar sites to develop a broader community awareness of solar opportunities in the region.

**PRIORITY NEXT STEPS FOR THE SOLAR WORKGROUP** included:

- The following Solar Workgroup members offered to help review the next iteration of the Roadmap: Jimmy Adkins, Mary Tragiani, and Nick Polier.
- Develop a timeline for project development and a compilation of needs for specific solar sites.
  - In the Roadmap, develop a graph that highlights what needs to happen when, with specific next steps outlined for specific sites as well as potential policy changes suggested as well.
  - Solar Workgroup members noted that the appropriate context and scale needs for each of the sites should be identified.
- Include additional potential solar sites to explore opportunities in Scott County include around the Duffield Regional Technology Park and the Foot Mineral mine, which includes 15 acres in front of the mine that could be compatible with solar development.
- Develop a timeline for priority sites and to develop and implement high-profile solar projects that are quick, visible, and accessible.
  - Next steps for solar installation should include the identification of potential solar sites, design of the sites, identification of funding, gaining needed approvals for solar installation, and construction and completion of the sites as soon as possible.
    - This should be connected to educational possibilities at the sites.
  - Identify next steps for the solar residential program and any associated obstacles.
  - Identify potential K-12 solar education opportunities.
- The next Solar Workgroup conference call will be in March.

At the closing of the meeting, Christine asked Workgroup members to reflect on positive elements of the Workgroup meeting, and elements that could change. The Workgroup noted the following positive elements of the meeting: having the utilities present on the panel of the meeting, the focus on energy efficiency and insulation, finding out more about solar certification processes, met at a potential solar site (Ridgeview), lots of energy and enthusiasm during the meeting, the opportunity to discuss possibilities around manufacturing and economic development and connections for solar. Opportunities for change at the meeting including having an earlier-working coffee maker, more comfortable seats, and having wi-fi that is available.

## **Community Meeting**

After the Solar Workgroup meeting, a community meeting was held at Ridgeview High School with a Solar 101 presentation and a panel around workforce development and education opportunities with solar, followed by a discussion with meeting participants. General highlights from the community meeting included:

- Train students to be thinkers and creators for the next generation of jobs.
  - Ensure that kids are ready to do something.
  - Develop opportunities for jobs for graduates in the region.
- Take advantage of the advances in technology – use 3-D printers, solar panel parts and develop opportunities for students to make solar panels (such as is happening in teacher Chris Owens’ class at Ridgeview High School).
- Foster the pride that community members feel in being from SWVA.
- Ensure that the progress that happens is of benefit for everyone – for the future of all youth.

**Questions from the community meeting** after the panel on workforce development and education opportunities included:

- What is the demand for solar panels?
  - What are the long-term manufacturing prospects of solar panels, as well as the demand?
- Consider outsourcing vs. insourcing – create as many jobs as possible around solar opportunities in SWVA.
- Develop regional expertise in solar panel manufacturing, market demands, and workforce needs.
  - The capacity exists currently within the region to market panels regionally.
- Other questions included:
  - What is the cost and durability of panels?
  - How much do solar manufacturers and installers make (in earnings) currently?
  - How are panels recycled currently?
  - What job opportunities are present in renewable energy around manufacturing components currently?

## **Next steps and upcoming meetings**

At the end of both the Solar Workgroup and the community solar meeting, Christine reviewed the upcoming Solar Workgroup meetings, which include:



- **Tuesday, April 11 from 1-4 pm** in Duffield at the LENOWISCO PDC office
  - Jail tour at 11 am + SPARC-E
- **Tuesday, May 9 from 1 – 4 pm** – Solar Workgroup meeting at the David Prior Convocation Center at UVa-Wise
- **Solar Fair!** To be held after the Solar Workgroup meeting from 5 – 7 pm at the David Prior Convocation Center at UVa-Wise
- **Wednesday May 10, 2017** – SWVA [Economic Forum](#) at UVA-Wise

**Meeting participants included:**

- Jimmy Adkins
- Stan Botts
- Matt Wasson
- Becki Leigh
- Stewart Spradlin
- Lydia Graves
- Brad Snowden
- Adam Wells
- John Kilgore
- Mary Tragiani
- Nick Polier
- Denechia Edwards
- Ricky Chafin
- David Huff
- Haydee Robinson
- Christine Gyovai

## **APPENDIX A: VIRGINIA SOLAR FINANCIAL PROGRAMS AND INCENTIVES**

- With thanks to Nick Polier of DMME for developing this list

### **VirginiaSAVES Green Community Program**

#### **SUMMARY:**

The Virginia Department of Mines, Minerals and Energy (DMME) has created the VirginiaSAVES Green Community Program (the “Program”) to provide subsidized financing to private commercial and industrial, non-profit institutional and local government borrowers for energy efficiency, renewable energy, alternative fueling, and other qualified conservation purposes across the Commonwealth. Using the Commonwealth’s allocations of Qualified Energy Conservation Bonds (“QECBs”) issued on a conduit basis by the Virginia Small Business Finance Authority for private borrowers and the Virginia Resource Authority for public borrowers, the Program works with third-party funding sources to provide financing for the Projects. The Program is administered by CleanSource Capital, LLC.

#### **GENERAL**

The Division of Energy within Virginia’s Department of Mines, Minerals, and Energy (the “DMME” or the “Sponsor”), based on authority granted under Governor of Virginia’s Executive Order 36 (the “Executive Order”), has established the VirginiaSAVES Green Community Program (“VirginiaSAVES” or the “Program”). VirginiaSAVES (which stands for *Sustainable, Verifiable Energy Savings*) is a unique public/private partnership sponsored by the DMME to provide subsidized financing for energy efficiency, renewable energy, and alternative fuel loans for both private and local government properties and entities within the Commonwealth of Virginia. DMME has initially capitalized the Program with \$20 million of Qualified Energy Conservation Bonds (“QECBs”) allocated to the Program under the Executive Order (the “Initial Allocation”), with the ability to provide more QECB allocations as needed from additional QECBs available within the Commonwealth (the “Additional Allocations”)(the Initial Allocation and the Additional Allocations being the “QECB Allocations”). The benefit of using the QECBs to fund the Program is that they offer a direct pay credit subsidy (the “Credit Payment”) from the U.S. Treasury to offset the interest rate on the financing, with this Credit Payment historically being between 2-3% and fixed over the life of the financing of up to 20 years or longer.

#### **ELIGIBLE BORROWERS**

Eligible Borrowers under the Program will include local governmental, non-profit institutional and commercial and industrial businesses with sufficient credit to support financing through the Program.

#### **ELIGIBLE PROJECTS + MEASURES**

Financing through VirginiaSAVES is available for projects and associated energy and qualified conservation related measures (the “Projects”) with as broad a scope as feasible given the definition of “Qualified Conservation Purposes” under the QECB Regulations. Funding from the Program is both for new construction as well as retrofits of existing properties and projects, but is not to be used for refinancing existing debt unless it is the take out of construction financing.

More info: <http://www.vasavesgcp.com/program-overview/>

## **PROPERTY ASSESSED CLEAN ENERGY (PACE)**

### **What is PACE?**

Property Assessed Clean Energy (PACE) programs represents a mechanism for financing energy efficiency and renewable energy improvement projects. They allow qualifying energy improvements to be financed through assessments on a property owner's real estate tax bill. The special assessments are used to secure local government bonds issued to fund the improvements without requiring the borrower or the sponsoring local government to pledge its credit. By allowing participating property owners to pay for energy improvements to their properties via a bond issue tied to a special assessment on their property tax bill, PACE financing enables property owners to reduce energy costs with no upfront investment.

### **PACE Program Benefits**

- 100% Financing requires no upfront cash investment
- Long-term financing with low interest rate and up to 20 years results in immediate positive cash flow
- Repayment through a tax assessment that transfers with the property title and is not tied to the borrower
- Assessment costs and savings can be shared with tenants
- Treated as off balance sheet financing
- PACE creates jobs, promotes economic development, and protects the environment

### **VIRGINIA PACE**

PACE is an innovative way to finance clean energy projects on both residential and commercial buildings. PACE loans are designed to be long term loans (up to 20 years) secured by a lien that has a priority status equal to a tax assessment, thus senior to a mortgage lien. By setting up a PACE program, a locality can enable private sector loans for 100% of total project costs by placing a special assessment lien on the property that the owner repays over time as part of his/her tax bill. Legislation passed in the 2015 Virginia General Assembly, and signed by Governor McAuliffe, enables commercial PACE loans in Virginia.

Over the course of the last year the VAEEC has been intimately involved in stakeholder meetings to develop the guidelines and programs to implement PACE in the Commonwealth. Virginia joined more than 30 states and the District of Columbia in adopting PACE legislation.

In April 2016 Virginia Community Capital released a PACE Feasibility Study, the result of a grant from the Oak Hill Fund to explore implementation of PACE financing in Virginia that included several stakeholder meetings.

There are several localities across the Commonwealth interested in developing PACE programs. Currently, [Arlington County](#) is the only one developing a program. They announced the recipient of their program administrator in January 2017 and plan to pass the County Ordinance this spring. Arlington's program is expected to be up and running by summer/fall 2017.

**MORE INFO:**

<http://vaeec.org/pace/>

**VIRGINIA PROPERTY TAX EXEMPTION FOR SOLAR EQUIPMENT**

Virginia allows any county, city or town to exempt or partially exempt solar energy equipment or recycling equipment from local property taxes. Residential, commercial or industrial property is eligible. The statute broadly defines solar energy equipment as any that is "designed and used primarily for the purpose of providing for the collection and use of incident solar energy for water heating, space heating or cooling or other application which would otherwise require a conventional source of energy." Cities and counties currently offering a solar energy equipment and facilities exemption include: Albemarle, Alexandria, Charlottesville, Chesterfield, Hampton, Hanover, Harrisonburg, Henrico, Isle of Wight, King and Queen, Lexington, Loudoun, Lynchburg, Prince William, Pulaski, Roanoke, Spotsylvania, Warren, Winchester and Wise.

Please contact your local building inspection officials for information on how this credit, if offered, is applied in your locality.

**MORE INFORMATION:**

[https://www.dmme.virginia.gov/de/Energy\\_Incentives.shtml](https://www.dmme.virginia.gov/de/Energy_Incentives.shtml)

**MACHINE AND TOOL TAX CREDIT**

HB 1297 enacted in March 2015 provides option for local governing body of any county, city, or town to impose a different property tax on renewable energy generating machinery and tools than other normal use machinery. The rate of property tax imposed must not exceed that is applicable to the general class of machinery and tools.

Renewable energy means energy derived from sunlight, wind, falling water, biomass, sustainable or otherwise (definitions liberally constructed), energy from waste, landfill gas, municipal solid waste, wave motion, tides, or geothermal power and does not include energy derived from coal, oil, natural gas, or nuclear power.

This rate of tax does not apply to machinery and tools used in generating renewable energy by qualifying co-generator or qualifying small power producer under Public Utility Regulatory Policies Act (PURPA), unless the rate of tax under this section would result in a lower property tax on such machinery and tools.

## **APPENDIX B:**



# **Draft Outline of the Roadmap for Solar Development in Southwest Virginia February 15, 2017**

## **Intro**

- Key findings of the Solar Workgroup (SWOT analysis)
- Scale of opportunity (what it could mean for the region)
- Clearly define solar and solar value chain

## **2-Year Plan to kickstart local solar industry**

- General strategy to get costs low enough to develop and finance solar without need for improved net-metering or reasonable PPAs (Power Purchasing Agreements)
- Specific opportunities for solar under current policy structure (specific plans to develop and finance approximately 20 sites)

## **Growing an industry cluster**

- Solar workforce development such as "Learn and earn" program through MECC and other schools and colleges
- Encouraging entrepreneurship
- Strategies to promote "local first" in solar project development

## **Building acceptance of solar in a region that has a strong coal heritage**

- Direct outreach
- Ambassador projects
- Residential Solarize projects
- Others?

## **Policy challenges and opportunities**

- Current utility policies (ODP, AEP, PVEC)
- State solar policy (review of State Corporation Commission rulings and General Assembly bills that have passed or been considered)
- State policies, incentives and opportunities (Tobacco funds, VCEDA, etc.) related to developing renewable energy value chain and industry cluster; regional examples to consider
- Federal solar policy (Investment Tax Credit and other solar incentives)
- Federal policy related to industrial development in coalfields, such as POWER, POWER+, RECLAIM, Brownfields, etc.

## **Putting it all together**

- Local economic impact of developing the 2-year plan (analysis)
- Comparing impacts of project development with and without local value chain
- Policy recommendations

## **APPENDIX C:**

### **Solar Workgroup around Solar Development in Southwest Virginia** **Draft Goals and Action Ideas** **December 12, 2016**

**Potential Best Practices for Solar Development in Southwest Virginia** (building on ideas from Oct. 4 scoping meeting):

- Power generated in the region should benefit the region
- Develop job opportunities and training programs that will be of long-term benefit to communities and individuals throughout SWVA
- Other ideas?

The draft goals and action ideas for the Solar Workgroup around Solar Development in Southwest Virginia, shared below, were developed from feedback from the first two Solar Workgroup meetings held on October 4 and November 15, 2016 (a copy of the October 4 scoping meeting summary is available at this [link](#)<sup>2</sup>, and a copy of the November 15 meeting summary is available at this [link](#)<sup>3</sup>).

**The DRAFT Solar Workgroup goals include:**

1. Improve solar policies and legislation in Virginia
2. Advance solar workforce training and entrepreneurship opportunities
  - a. Partner with community colleges and academic institutions
  - b. Develop strategies to maximize local benefits
3. Develop solar site and identify ambassador projects for solar in SWVA
4. Expand and facilitate community education and outreach around solar

**Draft Action Ideas developed from the November 15<sup>th</sup> Solar Workgroup meeting.**

After the small group breakout discussions during the November 15<sup>th</sup> Solar Workgroup meeting, the group shared their top ideas and suggestions for next steps across the four focus areas above. These ideas included:

#### **A. Solar Policies and Legislation**

1. Move forward by developing solar projects that are allowable under existing law (low hanging fruit). In particular, explore projects that would benefit from the exemptions given to IDA's.
  - a. Example: Data Center projects
    - Model that can be replicated
    - Interest in multiple counties: Wise, Duffield

---

<sup>2</sup> [https://www.dropbox.com/s/myja1ktp0kb1bfa/SWVA\\_Oct4\\_Solar\\_meeting\\_summary.pdf?dl=0](https://www.dropbox.com/s/myja1ktp0kb1bfa/SWVA_Oct4_Solar_meeting_summary.pdf?dl=0)

<sup>3</sup> [https://www.dropbox.com/s/9qka7y1igj9rm7n/SWVA\\_Nov.15\\_Solar\\_meeting\\_summary\\_final.pdf?dl=0](https://www.dropbox.com/s/9qka7y1igj9rm7n/SWVA_Nov.15_Solar_meeting_summary_final.pdf?dl=0)

- Build on existing momentum in VA for attracting stronger data center industry
- 2. Engage elected officials to improve laws for solar
  - a. There are strong partnership possibilities to consider with Delegate Kilgore who chairs the House Commerce and Labor committee, which oversees energy laws.
  - b. The Solar Workgroup should be prepared to organize and push back if there are attempts to rollback provisions in the law that benefit solar development or new laws that weaken solar development.
  - c. Shepherd future momentum in Richmond around solar policies and legislation.
    - Continued engagement in policy dialogues by work group.
    - Engage with other existing tables where statewide solar policy discussions are happening.
    - Ensure SW Virginia has a voice in policy decisions in Richmond.

## **B. Solar Workforce Training**

1. Acknowledge that workforce training must address an actual demand for jobs. Training programs for jobs that don't exist will not be attractive or valuable.
2. Identify all the job needs and skills that are associated with all aspects of solar development.
  - a. Build these skills and opportunities for solar workforce training in a systematic way.
3. Identify entrepreneurship possibilities around solar development.
4. Identify how other energy clusters or sectors have evolved around workforce training across the state (such as around auto, breweries, etc.).
5. Identify internship opportunities around different solar and renewable energy technologies and specializations.
  - a. Develop a roster of certified solar installers in the region (particularly with the NABCEP certification. See this link for more information: <http://www.nabcep.org/certification/pv-installer-certification>).
6. Identify opportunities for partnership with Mountain Empire Community College's solar training program and other academic institutions, community organizations and businesses.
7. Look at the solar industry structure for additional workforce training possibilities (i.e. supply chain, value chain functions and enterprises).

## **C. Potential solar site and project identification**

1. In Phase II, look at larger industrial solar projects in the longer-term.
2. In Phase I, develop residential, commercial and community scale solar projects (this should be the current focus of the Solar Workgroup).
  - a. Develop Ambassador projects that have strong marketing and public relations components (and that can assist with community outreach and education).
3. Identify financing options for solar project development.
  - a. Identify clear mechanisms to access capital and project financing.
4. Develop solar gardens – community solar projects that are of public benefit.

- a. Consider economies of scale.
  - b. Look at AML sites and possible funding opportunities.
5. Create an inventory of possible sites for solar development in the seven coalfield counties of SWVA.
  - a. Use GIS to develop this inventory.
  - b. Consider schools, hospitals, and AML sites.

**D. Community education and outreach**

1. Identify community needs and outreach possibilities.
2. Establish a committee for identifying community outreach and education activities and projects.
3. Collaborate with colleges.
  - a. Look at hands-on activities for community outreach.
  - b. Look for opportunities with SPARC-E (at MECC).
4. Develop a Roadmap.
  - a. Engage in a region-wide Solarize project.
  - b. Identify projects.
  - c. Identify partners and next steps.

**E. Additional Ideas for Action**

1. Develop an inventory of the solar capacity of rooftops in the seven coalfield counties of SWVA.
  - a. Look at the Arlington, Virginia example (which has completed this).
  - b. Use GIS and LIDAR.
  - c. This should be done within 60-90 days.
  - d. Next steps should involve reaching out to the GIS directors of each county about this possibility.
2. Identify the number of counties with a tax exemption for solar (where the property assessment will not increase due to solar installation).
  - a. Wise County has this exemption.
  - b. Next steps = develop a map of the Appalachian region.
  - c. Share this information.

After the four breakout groups shared their top ideas for action during the Nov. 15 meeting, the Solar Workgroup discussed overall considerations for the Workgroup for moving forward and next steps, which included the ideas below.

**Overall Workgroup considerations**

- Site selection is important to the community perception of solar. Sites should be able to have a community education and outreach component wherever possible.
- Engage utility companies in the effort.
- Examine and understand the regulations around solar systems.
  - DEQ regulates solar systems that are under 20 megawatts (mW).
  - SCC regulates solar systems that are over 20 mW.
- Cost is a barrier to solar development – we need to identify ways to bring the cost down including:
  - Project/installation costs (fair and transparent).
  - Up-front cost (how to pay for a 30-year investment).



- It is important to note that installers just need to be a master electrician – they don't have to be certified to be a solar installer.

### **Next steps for the Solar Workgroup**

- Coordinate community education and outreach around solar, and other potential next steps of the Solar Workgroup, with the upcoming May 10<sup>th</sup>, 2017 Economic Forum at UVA-Wise (the third in a series of Economic Forums at UVA-Wise).
- Identifying projects is an important immediate next step for the Solar Workgroup.
- Focus on making the Solar Workgroup and community outreach as much of a regional effort as possible.
  - Consider holding meetings and events in different locations across the entire seven coalfield county region.
- There is a sense of urgency for action, particularly around project identify and development.
- Examine what could enable or restrict progress of the Solar Workgroup both in legislation and outreach.
  - An outreach team is needed.
- Populate the solar website with existing background information and next steps.