Secure Futures, LLC

2016 Development Report

Embodying 'Sol Invictus' – The Unconquered Sun – to Grow Virginia's Distributed Solar Market

January 2017

Figure 1: Secure Futures 258 kW ground mounted solar array at the Insurance Institute for Highway Safety p.c. Richard McElroy

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SECURE FUTURES
Resilient Solar Solutions®

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2016 solar development highlights from Secure Futures, LLC

The year 2016 saw sustained growth for Secure Futures LLC, as the company continued to build on its record as Virginia's leading commercial solar developer, institutional sustainability manager, policy leader, and commercial solar business model innovator. In 2016 SolarWorld Americas recognized Secure Futures as the 2016 *Solar Champion* for expanding the Virginia commercial solar market and for its innovative Solar Self Generation Agreement (SGA®). We remain humbled and deeply honored as local, state and national organizations and customers seek to partner with Secure Futures to pursue mutual goals.

Secure Futures continues to provide significant economic value for commercial and institutional customers seeking to achieve not only energy usage savings but also peak power demand reductions through behind-the-meter distributed solar solutions using top quality U.S. made solar equipment.

Secure Futures expanded its base of installed capacity through the development of new projects while providing resilient solar solutions to its customers. Embodying the spirit of the Roman Sun God *Sol Invictus* or 'the unconquered sun', in 2016 Secure Futures tripled its lifetime installed solar capacity from 600 kW in 2015 to more than 2300 kW, and doubled its staff, creating four new full time renewable energy jobs in Virginia. Secure Futures also continued to solidify its leadership in Virginia's commercial solar energy market, opening a Northern Virginia office, and forging new partnerships with prominent American financial firms, solar installation companies and manufacturers.

Our staffing more than doubled in 2016 as we promoted four college interns into full-time permanent positions, including Amory Fischer, Jesse Reist, Sam Stoner, and Andrew Yoder. The company's Officers include Hugh Stoll (Chief Technology Officer), Maggie Davison (Administrative Officer), and Tony Smith (Chief Executive Officer). In 2016 Cal Redekop joined as a voting member, together with our other Partners — including Matt Ferguson, Eric Hurlocker, Tony Smith, and Hugh Stoll.

Cheers,

Anthony E. Smith, PhD
President and CEO
Secure Futures, LLC

Thumbnailed below find highlights of Secure Futures' 2016 achievements.

Scaling Up Commercial Solar Development

Summary

The year 2016 represented a banner year for new partnerships with national and regional solar companies and financing institutions that led to our success in developing over 1.7 MW of solar projects, and serving as the first and only solar developer to execute and build solar Power Purchase Agreements (PPAs) in Virginia under the new Pilot PPA program. The PPA Pilot Program reflected was enacted into law on July 1, 2013 following Secure Futures' leadership in co-developing that program with Dominion Virginia Power and other stakeholders.

University of Richmond

In May, 2016 Secure Futures LLC completed a solar power generation system on the campus of the University of Richmond (UR) in Richmond, Virginia, totaling 205 kW DC. The array was installed on the roof of the Weinstein Recreation and Wellness Center. The UR project is home to the first commercial application of SolarWorld USA Bisun solar panels, increasing efficiency by taking advantage of solar radiation from both direct sunlight on the front and ambient light from the back. Employing various roof and solar panel types, the array serves as a research and development tool for both UR students and faculty and SolarWorld Americas. The project represents the first commercial-scale power purchase agreement (PPA) in the Commonwealth of Virginia since a pilot program in Dominion Virginia Power's territory began in 2013. SolarWorld Americas provided the Engineering and Procurement services, and Shockoe Solar served as the solar installer.

Figure 2: Arial view of the 205 kW solar array at UR

Virginia Community Capital provided bridge financing, and M&T provided permanent financing for the project. SolarWorld Americas and a Virginia resident are equity partners in the project.

Albemarle County Public Schools

Albemarle County Public Schools (ACPS) was the first public school district in Virginia to use solar energy under a Power Purchase Agreement (PPA) at six of the district's schools, totaling 1100 kW DC. With zero capital investment or maintenance cost, ACPS expects to meet 22% of the electricity needs for those schools, saving over $80,000 during the twenty-year PPA and reducing their carbon footprint by over 2,109,000 pounds CO_2 per year.

SolarWorld Americas provided the Engineering and Procurement services, and Aurora Energy, Got Electric, and Mountain View Solar served as the solar installers for the six school projects.

In addition to the solar electricity, Secure Futures will provide a set of curriculum-enhancement tools and teacher training in partnership with the National Energy and Education Development (NEED) Project, at no cost to ACPS to bring the solar technology from the rooftop into the class- room.

Virginia Community Capital provided bridge financing, and M&T provided permanent financing for the project. The U.S. Department of Agriculture REAP program provided a $500,000 grant in support of the project.

Figure 3: Arial view of the 224 kW array on Baker-Butler Elementary School. p.c. Grant Gotlinger

Lexington City Schools

In September 2016, Secure Futures completed a 100 kW DC solar array at Lylburn Downing Middle School, of Lexington City Schools. The public-school district is the first in the Shenandoah Valley and the second in Virginia to install solar through a Power Purchase Agreement with Secure Futures LLC, allowing the school district to obtain renewable solar energy at no capital cost.

Figure 4: 100 kW array on Lylburn Downing Middle School

The project will generate 25% of the annual electricity requirements for the middle school, or roughly enough electricity to power 10 average Virginia homes annually. Using high quality monocrystalline solar panels from SolarWorld USA, the array has an expected lifetime of 35-40 years, and will save the school district $3,800 annually in reduced electricity expenses.

SolarWorld Americas provided the Engineering and Procurement services, and Aurora Energy and Got Electric served as the solar installers for the project.

In addition to the solar electricity, Secure Futures will provide a set of curriculum-enhancement tools and teacher training in partnership with the National Energy and Education Development (NEED) Project, at no cost to ACPS to bring the solar technology from the rooftop into the class-room.

Virginia Community Capital provided bridge financing, and M&T provided permanent financing for the project. The U.S. Department of Agriculture REAP program provided a $66,000 grant in support of the project.

Harrisonburg Gift and Thrift

Through innovative installation and financing models, Harrisonburg Gift & Thrift, Inc. (HGTI), a nonprofit in Harrisonburg, VA, is home to the largest solar array installed by volunteers in Virginia. Dubbed a 'solar barn raising', the 62 kW DC array was installed by community members. The current installation is the first phase of what will be a 107 kW DC system, generating power for the nonprofit under a Solar Self-Generation Agreement (SGA®).

Figure 5: Volunteers installing the 62kW array on Harrisonburg Gift & Thrift, Inc.

The Solar SGA® between Secure Futures and HGTI represents a milestone in Virginia, as a unique model of community engagement and funding, as well as the first solar installation on a Mennonite Church USA affiliated thrift store.

SolarWorld Americas provided the Engineering and Procurement services. Secure Futures provided the construction management of volunteers and master electrician services in partnership with Glen Stolzfus of Building Energy Solutions, LLC.

The project was financed through a pre-payment of services by HGTI as well as equity investments by Secure Futures and a Virginia resident.

Insurance Institute for Highway Safety

In January 2017, the Insurance Institute for Highway Safety (IIHS) began to receive electricity from a 258 kW DC ground mounted solar array at its Vehicle Research Center in Ruckersville, VA. As Secure Futures' first ground mounted solar project, the south facing array at IIHS allows the national nonprofit to optimize the solar radiation received by the facility providing 34% of its electricity needs, reducing its carbon footprint by over 556,000 pounds CO_2 per year. The array provides power to the facility which conducts crash tests and other evaluations that encourage auto manufactures to make safer vehicles.

Figure 6: View of the 258 kW ground mounted array at the Insurance Institute for Highway Safety p.c. Richard McElroy

SolarWorld Americas provided the Engineering and Procurement services, and Aurora Energy and Got Electric served as the solar installers for the project.

The project was financed with a permanent loan from Virginia Community Capital and an equity investment by Secure Futures. The U.S. Department of Agriculture REAP program has made a grant commitment for $148,000 in support of the project.

Institutional Sustainability Management

In 2016 Secure Futures continued to support sustainability initiatives and non-profit organizations at the local and state level, including:

Mary Baldwin University (MBU) Sustainability Services

In June 2016, MBU began its management services contract with Secure Futures, to staff MBU's Office of Sustainability (OS), and to coordinate its activities, including community engagement and a variety of campus sustainability initiatives. With support from Secure Futures, MBU launched its sustainability website, reinstated the Campus Green Team, and started a campus wide energy monitoring project, to be completed in May 2017. Membership of the Green Team grew to 12 student leaders and the OS social media presence grew with the addition of Facebook, Twitter and Instagram accounts. Secure Futures' employee Sam Stoner, serves as MBU's Sustainability Coordinator**.**

Virginia Renewable Energy Alliance (VA-REA)

In 2016 VA-REA renewed its management services contract with Secure Futures, to staff the organization and to coordinate its activities, including recruiting of members, fundraising, events coordination, and marketing. In 2016 VA-REA's membership grew by more than 300% to 28 members, and its social media presence grew by 240%, while its operating budget grew by 100%. Jesse Reist, Secure Futures' communications and policy coordinator, serves as VA-REA's Executive Director.

Figure 7: 2016 VA-REA Leadership in Energy Advancement and Development (LEAD) Panel Discussion

Policy Leadership

In 2016 Secure Futures continued to build on its policy leadership with solar and environmental stakeholders, policy-makers, and legislators to peel back barriers to solar. Specific accomplishments include the following:

House Bill 1305 *Sales and use tax exemption and real and personal property tax exemption (M&T taxes); solar and wind energy.*

As originally drafted by the utility companies and large solar developers represented by the Maryland, DC and Virginia Solar Energy Industry Association (MDV-SEIA) in 2016, this bill would have created significant opposition by Virginia Municipal League (VML) and the Virginia Association of County Organizations (VACO) to progress on the previous M&T tax legislation for solar equipment that Secure Futures led in partnership with Senator Hanger (SB 418) and Delegate Hugo (HB 1239), that became law effective July 1, 2014. Secure Futures worked with the utilities and the large solar developers to ratchet down their reach, so as to avoid potential permanent trust relationships with VML and VACO. The amended HB 1305 became law effective July 1, 2016.

Senate Bill 743 *Making the Virginia Department of Mines, Minerals and Energy (DMME) the certifying authority for solar.*

The bill enables solar projects to qualify for state sales tax exemption as pollution prevention equipment, as certified by DMME. Secure Futures initiated this legislation in partnership with Senator Wagner. The Bill achieved unanimous support in the Senate and the House, was supported by the Governor, and became law effective July 1, 2016.

Virginia Distributed Solar Collaborative (VA-DSC)

In 2016, Secure Futures helped lead the re-launching of the VA-DSC as a statewide network of solar companies, environmental organizations, and policy leaders to discuss current trends in Virginia's distributed solar market, and generate policy proposals to reduce barriers to solar development in the Commonwealth. Convening more than 30 distributed solar stakeholders, the VA-DSC provided input to the Request for Information (RFI) relating to Community Solar legislation proposed by the 2016 Solar Stakeholder Group moderated by Mark Rubin.

Commercial Solar Business Model Innovation

As described above, Harrisonburg Gift & Thrift, Inc. (HGTI), a nonprofit in Harrisonburg, VA, and Secure Futures developed a new and unique commercial solar business model that incorporates the following innovative features:

- Solar barn-raising with 35 community volunteers who installed 180 solar panels in less than 3 hours;
- Third party ownership and development under Secure Futures' proprietary Solar Self-Generation Agreement (SGA®) that allows for third party ownership in utility areas where solar Power Purchase Agreements (PPAs) are prohibited;
- As owner of the project, Secure Futures offset much of the project costs with the Investment Tax Credit and bonus depreciation;
- Prepaid services by HGTI to avoid the costs of debt financing; and
- The above measures achieved significant savings passed back to HGTI as the Host Customer for the solar array, providing over 47% of the electricity requirements and net savings over $14,000 per year.

Figure 8: Volunteers at the solar barn raising at Harrisonburg Gift & Thrift, November 5th 2016

Looking Ahead to 2017

Secure Futures LLC anticipates a robust year in 2017, building on its strategic partnerships, innovative capacity and leadership roles to provide resilient solar solutions for customers, policy leaders, and institutions, all while creating and retaining American jobs and investment in Virginia. 2017 will represent another year for *Sol Invictus* to shine brightly in Virginia.

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