



Assessing the Benefits of Distributed Solar in Virginia

Presentation to Solar 20/20 conference
American Solar Energy Society
June 24, 2020

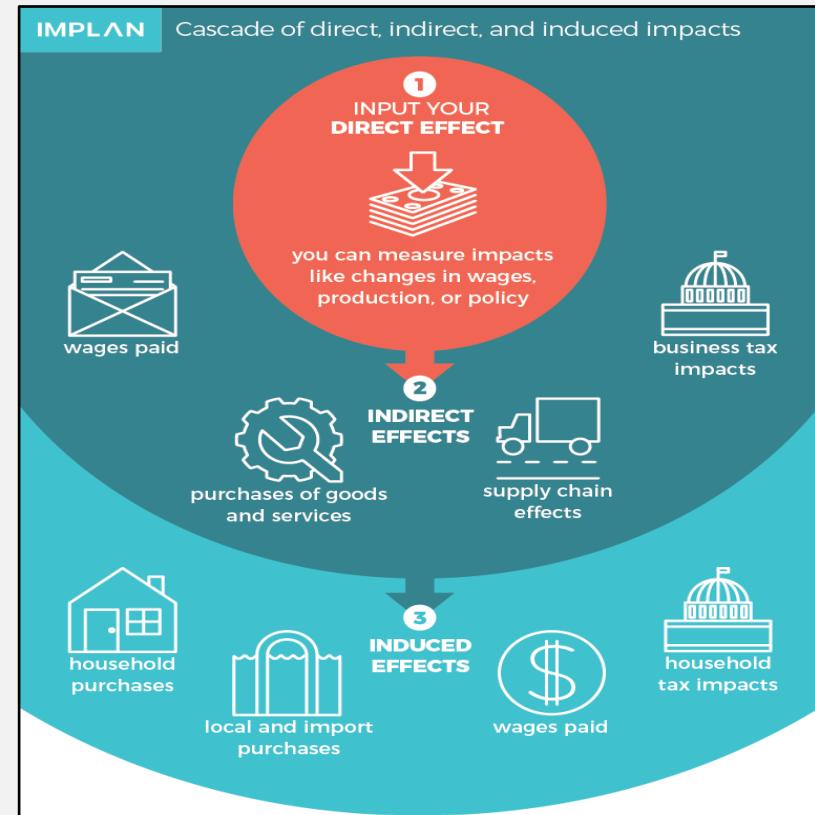


VCU

Center for Urban and
Regional Analysis
L. Douglas Wilder School of
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Project Overview

- Economic impact analysis for distributed (DG) solar industry in Virginia
 - Current industry levels (95 MW and est. 3,200 jobs)
 - Future potential (2500 MW)
- Used IMPLAN software to estimate direct, indirect, and induced impacts



Economic Impacts of DG Solar Industry

- Used *Solar Jobs Census 2019* to estimate DG solar jobs
 - Total of 4,489 solar jobs in VA, incl. 3,498 in installation
 - Multiplied by 80.6% (DG share of solar jobs in US)
 - Adjusted other job sectors assuming no manufacturing and limited Trade / Distribution and Administrative jobs

Type of Solar Job	Estimated Jobs in Virginia
Installation	2,819
Manufacturing	0
Wholesale Trade & Distribution	112
Operations & Maintenance	204
Administrative / Other	71
Total	3,207

Economic Impacts of DG Solar Industry

- Entered job totals per category to IMPLAN to calculate
 - Labor income and direct \$\$ impact of existing DG solar jobs
 - Indirect* jobs, labor income, and total economic impact
 - Induced* jobs, labor income, and total economic impact

Type of Impact	Jobs	Labor Income	Total Impact
Direct	3,207	\$203,397,250	\$491,982,662
Indirect	771	\$48,359,350	\$135,288,392
Induced	1,190	\$56,290,000	\$176,000,678
Total	5,168	\$308,046,600	\$803,271,733

Potential Economic Impacts of DG Solar

- Modeled economic impacts of adding 2500 MW of new DG solar capacity in Virginia (avg. \$2.415 / watt)
- Used total financial investment in new DG to estimate direct jobs, labor income, indirect / induced effects

Type of Impact	Jobs	Labor Income	Total Impact
Direct	29,462	\$1,921,187,837	\$4,341,346,441
Indirect	6,575	\$411,230,740	\$1,153,798,663
Induced	11,031	\$521,660,748	\$1,631,050,170
Total	47,068	\$2,854,079,325	\$7,126,195,274

Primary Economic Sectors

Economic Sectors with Most Directly Supported Jobs	Employment
Construction of other new nonresidential structures	24,442
Office administrative services	2,954
Maintenance and repair of nonresidential structures	1,819
Economic Sectors with Most Indirectly Supported Jobs	Employment
Wholesale Trade	740
Architectural, engineering, and related services	478
Real Estate	328
Truck Transportation	258
Economic Sectors with Most Induced Jobs	Employment
Limited-service restaurants	612
Full-service restaurants	599
Real Estate	576
Hospitals	445

Legislative & Advocacy Tool



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Media



TOP SOLAR CONTRACTORS SOLAR+STORAGE ARTICLES PRODUCTS LEADERSHIP SUBSCRIBE RESOURCES

Study shows Virginia Clean Economy Act could create 29,500 local solar jobs

By Kelsey Misbrener | January 28, 2020



Solar growth from the Virginia Clean Economy Act could create 29,500 direct solar jobs in thousands of indirect jobs, according to a new study released today by a coalition of rooftop solar companies and advocates. The study also estimates that the bill would generate over \$4.3 billion in economic investment over the next decade.



HOME VIRGINIA NATIONAL ISSUE AREAS 2020 ELECTIONS FEATURED

Home > Climate Change > New Study: Expanding Virginia's Distributed Solar Capacity to 2,500 MW Would Lead...

CLIMATE CHANGE ENERGY AND ENVIRONMENT

New Study: Expanding Virginia's Distributed Solar Capacity to 2,500 MW Would Lead to ~29,500 Direct Jobs and >\$7 billion in Total Economic Impact

By lowkell - January 27, 2020 0

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See below for a press release from [Virginia Solar for All](#), a coalition of solar power companies. Also note, from the study, that "Research by the National Renewable Energy Laboratory estimated that Virginia could support 19 GW of distributed solar, producing 22 million MWh of electricity, which equals 19% of state electricity demand." Add in utility...

New Study Shows Virginia Clean Economy Act Could Create 29,500 Local Solar Jobs

Monday, Jan 27 2020

Press Release

WASHINGTON, D.C. and RICHMOND, VA – Solar growth from the Virginia Clean Economy Act could create 29,500 direct solar jobs in Virginia, and tens of thousands of indirect jobs, according to a new study released today by a coalition of rooftop and shared solar companies and advocates. The study also estimates that the bill would generate over \$4.3 billion in economic investment over the next decade.

By Blue Virginia 49m

Open Letter from Sen. Mark Warner: "Black Americans have been denied justice in our country for far too long...This is a moment to act."
<https://bluevirginia.us/2020/06/open-letter-from-sen-mark-war... via @bluevirginia>

By Blue Virginia 3h

@VAYD statement on murder of George Floyd: "Virginia Young Democrats plan to increase outreach to Black communities"
<https://bluevirginia.us/2020/06/tuesday/>



For Immediate Release
January 21, 2020

Contact: Matt Moran
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New study shows Virginia Clean Economy Act could create 29,500 solar jobs

RICHMOND, VA – Solar growth from the Virginia Clean Economy Act could create 29,500 direct solar jobs in Virginia, and tens of thousands of indirect jobs, a new study released today by a coalition of rooftop and shared solar companies and advocates shows. The study also estimates that the bill would generate over \$4.3 billion in economic investment over the next decade.

The study, completed by the Virginia Commonwealth University Center for Urban and Regional Analysis, estimates the economic impact of the Virginia Clean Economy Act, which would expand distributed solar capacity to 2,500 megawatts from the 92 megawatts installed today. The Virginia Clean Economy Act would create a minimum of 2,000 megawatts of distributed solar by 2030.

One-Pagers & Talking Points

DISTRIBUTED SOLAR ECONOMIC BENEFIT ANALYSIS



DISTRIBUTED SOLAR MEANS JOB CREATION

WHAT ARE THE POTENTIAL ECONOMIC IMPACTS OF DISTRIBUTED SOLAR ENERGY IN VIRGINIA?

- Expanding our distributed solar capacity to 2,500 MW would lead to an estimated 29,500 direct jobs, plus 17,000 more indirect and induced jobs, resulting in over \$7 billion in total economic impact.
- This new economic activity would generate over \$860 million in federal, state, and local tax revenues.¹

CURRENT (<100MW)		POTENTIAL (2,500 MW)		
Type of Impact	Employment	Total Economic Impact	Employment	Total Economic Impact
Direct	2,900	\$445,000,000	29,500	\$4,341,000,000
Indirect	700	\$122,000,000	6,600	\$1,154,000,000
Induced	1,100	\$160,000,000	11,000	\$1,631,000,000
TOTAL	4,700	\$720,000,000	47,100	\$7,126,000,000

HOW MUCH DISTRIBUTED SOLAR CAN VIRGINIA SUPPORT?

Research by the National Renewable Energy Laboratory estimated that Virginia could support 19 GW of distributed solar, producing 22 million MWh of electricity, which equals 19% of state electricity demand.

DOES DISTRIBUTED SOLAR CREATE COSTS FOR UTILITIES OR THEIR CUSTOMERS?

There is no evidence that this increased distributed solar energy use will shift costs from solar customers to non-solar customers.

This “cross-subsidization” can only occur if a utility gets State Corporation Commission approval to raise customer rates, after a full base rate case review, based on evidence that distributed solar is worth less to the utility than the existing electricity rate per kilowatt-hour.

1 This fact sheet summarizes the results of a 2020 study by the VCU Center for Urban and Regional Analysis (CURA) on the economic and environmental impacts of distributed solar energy in Virginia. The full report and citations are available at cura.vcu.edu. This research was made possible due to the sponsorship of MDV-SEIA. The findings and conclusions are those of the authors.

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Assessing the Benefits of Distributed Solar Energy in Virginia

What is distributed solar energy?

- “Distributed solar” refers to solar PV energy systems that are connected to the distribution grid, providing electrical power to homes, businesses and municipal facilities. Distributed solar energy provides local benefits to the grid, ratepayers and the economy.¹
- Distributed solar can be customer-owned, third-party owned, or community-owned “shared” solar, which expands access to solar energy by subscribing multiple customers into a single system.
- Virginia currently has less than 100 megawatts (MW) of distributed solar, far below neighboring states. Installing 2,500 MW of distributed solar in Virginia would produce 3.75 million megawatt-hours (MWh) of electricity a year, equal to 3% of statewide electricity use and enough to power 125,000 homes.

What are the existing economic impacts of distributed solar energy in Virginia?

- Currently the distributed solar industry supports nearly 2,900 direct jobs in Virginia, plus an estimated 1,800 more jobs via indirect and induced impacts,² for a total of 4,700 jobs supported.
- For every \$1 invested in distributed solar, an additional \$0.60 is added to the state economy. This brings the total economic impact of distributed solar in Virginia to an estimated \$727 million.

What are the potential economic impacts of distributed solar energy in Virginia?

- Expanding our distributed solar capacity to 2,500 MW³ would lead to an estimated 29,500 direct jobs, plus 17,000 more indirect and induced jobs, resulting in over \$7 billion in total economic impact.
- This new economic activity would generate over \$860 million in federal, state, and local tax revenues.

Total Estimated Current and Potential Economic Impacts of the Distributed Solar Industry in Virginia

Type of Impact	Current Distributed Solar Industry (<100 MW)	Potential Distributed Solar Industry (2,500 MW)
	Employment	Total Economic Impact
Direct	2,900	\$445,000,000
Indirect	700	\$122,000,000
Induced	1,100	\$160,000,000
Total	4,700	\$727,000,000

¹ This fact sheet summarizes the results of a 2020 study by the VCU Center for Urban and Regional Analysis (CURA) on the economic and environmental impacts of distributed solar energy in Virginia. The full report and citations are available at cura.vcu.edu. This research was made possible due to the sponsorship of MDV-SEIA. The findings and conclusions are those of the authors.

² Direct impact refers to the initial expenditures of the immediate investment, including labor income and the purchase of materials and services. This initial spending creates “multiplier effects” as the dollars move through the economy. Indirect impact refers to “supplier” effects, or inter-industry spending through the supply chain. Induced impact looks outside the supply chain at changes in household spending, i.e., the effects of employees spending their wages on goods and services in the area.

³ Modeling assumes a mix of residential (500 MW), small commercial (750 MW), large commercial (750 MW) and community solar (500 MW) systems, with a weighted average installation price of \$2.415 / watt.



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Final Reflections



For questions or more info:



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