## SolUnesco



# Launched to consolidate the development of multiple projects and to advance Community Solar

- Utility-scale solar development: real estate developer for large scale solar
- > Community Energy: positioned to develop Community Solar model in VA
- > Real estate investor: land with attractive renewable energy lease

### **Management Team**

#### Four plus decades of -

- utility plant management
- energy project development
- construction experience
- corporate leadership

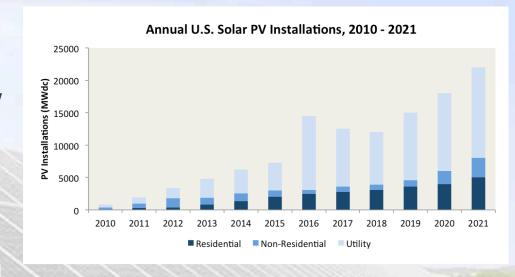
Delivered over 1GW of power generation projects and 15 MWs of solar generation

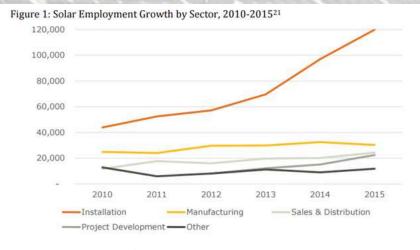
Lead solar policy and and legislative efforts in the mid-Atlantic and Virginia for the last five years

### Solar Growth



In 2016, solar energy will rank 1st among all technologies that add new capacity to the grid (SEIA/GTM Solar Market Insight Report)





The solar industry is adding workers at a rate nearly 12 times faster than the overall economy (Solar Foundation's National Solar Jobs Census 2015)

Installation jobs led the charge for solar industry growth. (The Solar Foundation)





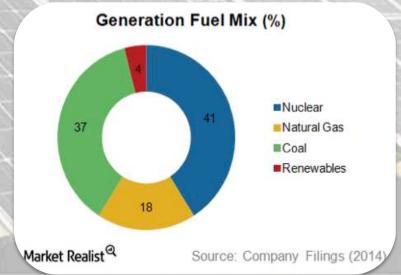
Policy	Policy Function	
Renewable Portfolio Standard	Creates a renewable supply requirement as a % of usage	Voluntary
Net Metering	Utility credits some portion of the retail value for all solar kWh's produced	Agricultural net metering
Virtual Net Metering/ Community Solar	Allows individuals to purchase solar from a community source or cooperative	
Power Purchase Agreements (PPAs)	Allow third party financing of projects	Limited
Property Assessed Clean Energy (PACE)	Financing billed through local tax authority	V
30% Federal Investment Tax Credit	Applies to residential, commercial, and utility investment in solar energy property	

# Virginia Market

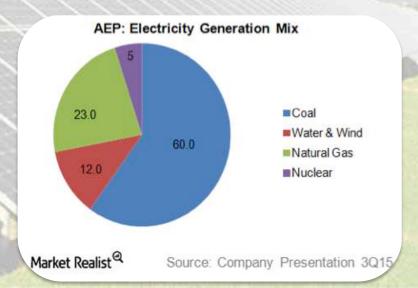


- Utility-scale Solar: 136 MW under review and gigawatt added to queue in last six months
- Through 2015 Virginia has installed less than 30 MW
- Through 2015
  - Maryland, 349 MW
  - New Jersey, 1,632 MW
  - North Carolina, 2,087 MW

#### Dominion Resources



- 2016: 136 MW under review and several GWs seeking interconnection to the electrical grid
- SCC approves Dominion ownership of 56 MWs, Dominion contracts for 47 MWs of PPAs, Amazon purchasing power from 80 MW plant, ODEC purchasing from 30 MWs = 213 +
- Utilities, Coops & industry engaged in off-session policy discussions: long-term planning horizon, economics, development process, community solar & other issues



# Solar Development Process



Site and Permitting

Site Control **DEQ Permit By Rule** 

County Conditional Use Permit

County Building Permits

Interconnect

Feasibility Study

Impact Study Facilities Study

Agreement

Commercial
Offtake/Project Sale

RFPs / Bilateral

Finance/Project Sale

Investment Fund / Balance Sheet





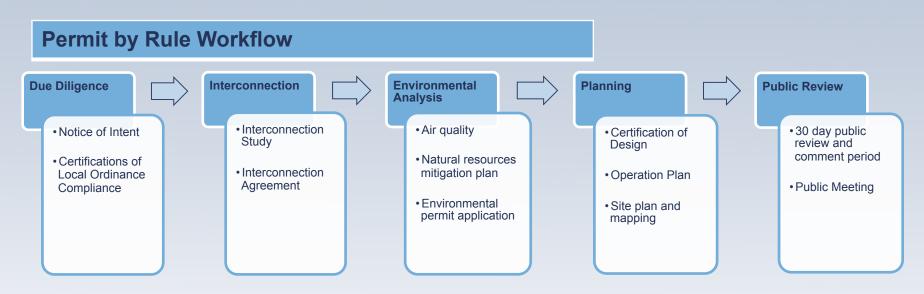
- Third Party Developer
  - Permit By Rule process with VA Department of Environmental Quality (DEQ)
    - Interconnection studies and environmental/resource impact analysis
    - Mitigation plan if impacts are likely
    - Public review and comment period
  - County Permitting Processes
- Utility Owned
  - Certificate of Public Convenience and Necessity (CPCN) process with the Virginia SCC
    - Bureaucratic process
    - Expensive and time consuming
  - County Permitting Processes





#### **Permit by Rule Process**

- Established in 2012 for renewable projects between 5 and 100MW
- Overseen by The Virginia Department of Environmental Quality (DEQ)
- Intended to establish up-front regulation, instead of case by case







- County Tax Revenue
  - Higher land use real estate taxes
  - Machine and Tool tax on solar equipment (taxed at RE rate for projects over 25 MW)
  - Increased income from landowners and workers
- Construction Jobs
  - Over 5 construction jobs created per 100 MW in VA (NREL JEDI Modeler, 2016)
- Public Relations
  - "Solar Farms Shine Across Area"
     Rocky Mount Telegram Jan. 22, 2016
  - "Voters Like Green Energy, Conservative Group Says"
     Charlotte Observer May 20, 2016
  - "Department of Energy Expands Solar Training for Veterans"
     The Hill May 17, 2016





- Hypothetical County:
  - Property value is assessed at \$1,800 per acre for AG zoning
  - Property value is assessed at \$730 per acre for AG zoning in land use
  - Real estate tax rate is \$0.67 per \$100 of assessed value

With Land Use Assessment						
AG assessment (per acre)	Tax Rate	Tax Income (per acre)	Total for 400 acres			
\$730	0.0067	\$4.89	\$1,956.00			

	Without Land Use Assessment					
100	AG assessment	Tax Rate	Tax Income	Total for		
	(per acre)		(per acre)	400 acres		
S	\$1,800	0.0067	\$12.06	\$4,824.00		

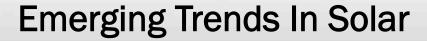
- Benefit to County:
  - \$7.17 per acre, or
  - \$2,868 for a 400 acre project



# **Machinery and Tools Tax**

Timeline	≤ 5 MW	>5 - 20 MW	>20 - 25 MW	>25 MW
Prior to 1/1/2017	100%	100%	0%	0%
First in Service after 1/1/2017	100%	100%	80%	80%*
Interconnection filed after 1/1/2018	100%	80%	80%	80%*
Construction Begins after 1/1/2024	100%	80%	0%	80%*
After 7/1/2027	Unknown (HB 1305 Expires)			

<sup>\* =</sup> Solar equipment is taxed at the county real estate tax rate, instead of the county machine and tool tax rate.





Utility-Scale Solar

1/3 Cheaper per MWh

Fits IOUS large centralized generation business model Community Solar

**Expands Market** 

Provides lower pricing for customers due to scale

Demand/Fixed Charges

Utility receives fixed charge to recover fixed infrastructure investment

Electric Edison Institute (EEI) & utilities pushing nation-wide messaging in support of D/F charges

Employment Opportunities

Solar industry allows for several programs and initiatives to provide solar training and connect employers to job seekers

## Value Of Solar



#### Energy, Capacity, and Grid Support Services

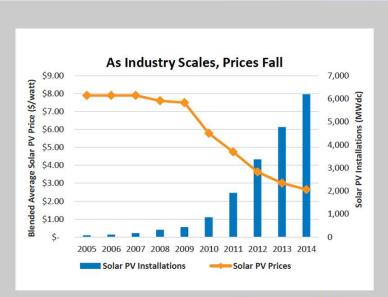
 Avoided energy, generation capacity, transmission, distribution, and grid support / ancillary services

#### Financial Risk and Reliability Risk

Fuel price volatility, market price response, and reliability risk

### Environmental and Economic Development

 Carbon emissions, other air pollutants, water, land, and economic development



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# **FAQs**



- Appearance and how best to buffer including panel height and potential for glare
- Impact on cultural and natural resources
- Impact on neighboring property values
- Impact on county taxes: near term and sustainability of the taxes
- Impact of bankruptcy and who handles O&M
- Decommissioning and land restoration
- If a lease model, what happens if landowner sells the land?
- Explain MW → acre → # of homes powered
- Potential to graze animals under or around the panels?
- Conversion of Agricultural land and consistency with Comprehensive Plan
- Impact on the agricultural supply chain: equipment, seeds, fertilizer, etc.
- Long-term impacts on the land