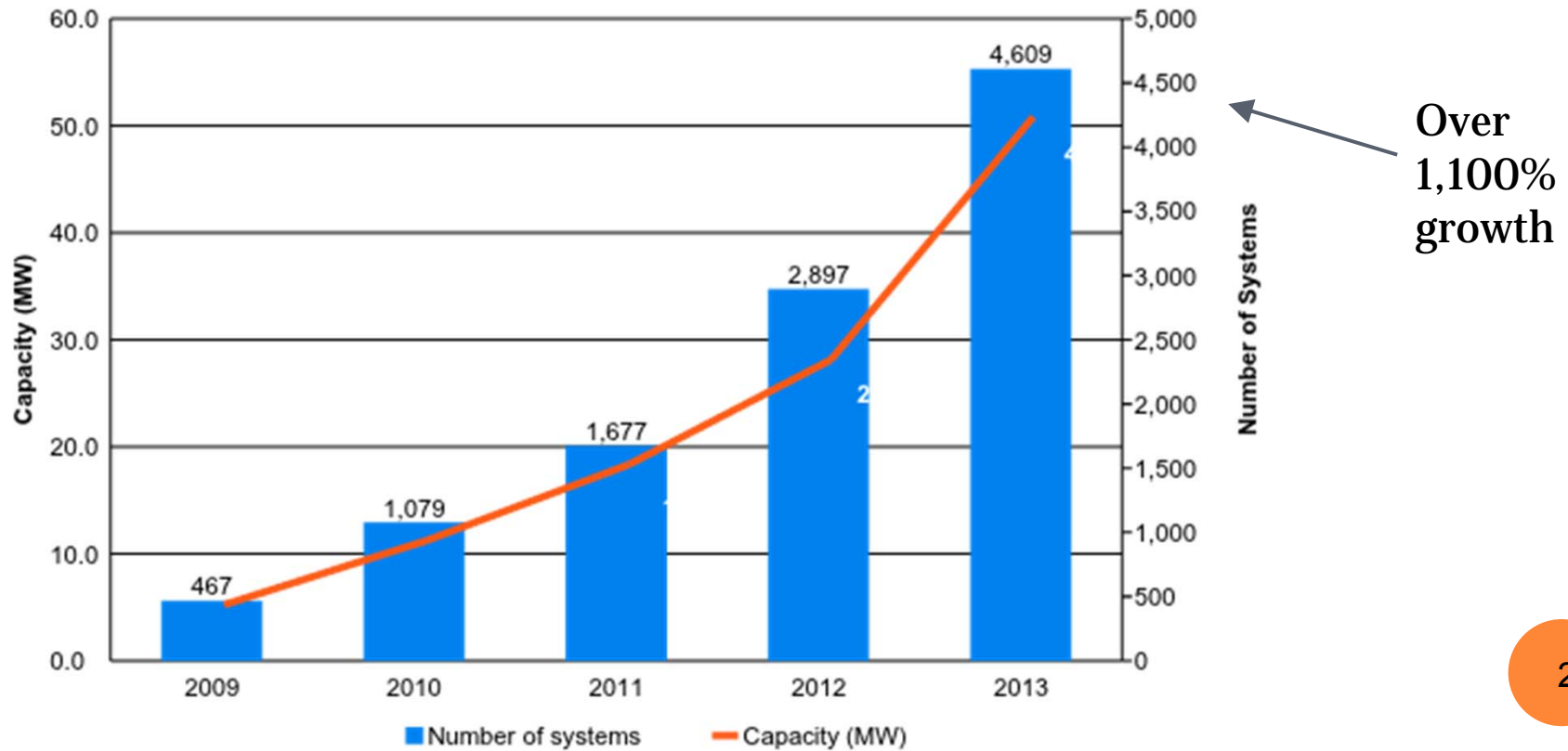# SOLAR ENERGY IN THE REGION:
REGULATORY, PROGRAM, AND MARKET STATUS

CEEPC Meeting July 23, 2014

Francis Hodsoll, Virginia Advanced Energy Industries
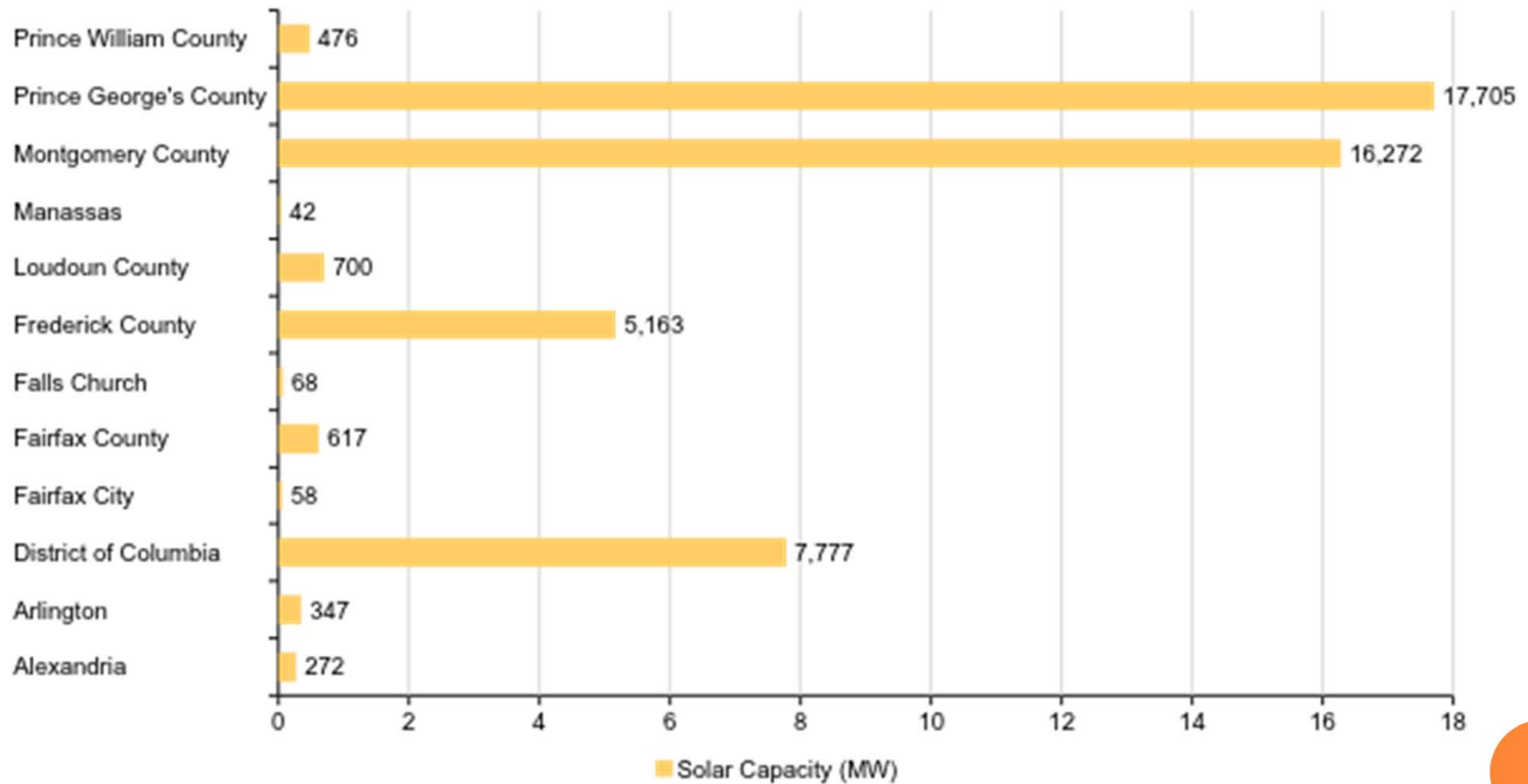
Anya Schoolman, Community Power Network

SOLAR NET-METERING GROWTH

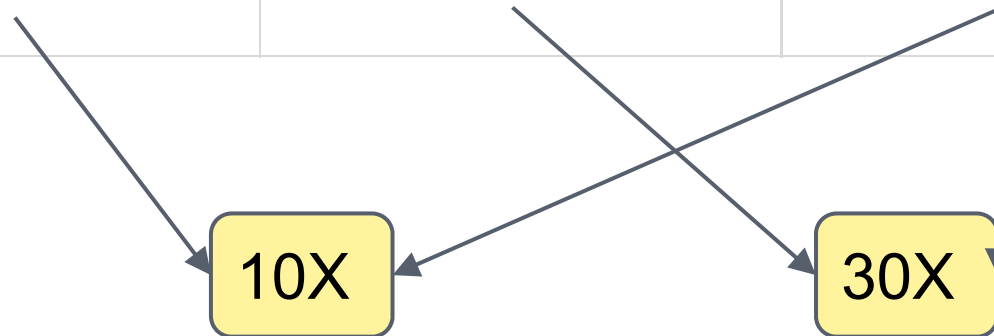As of December 31, 2013:   **4,600** net-metered systems   **49.5 MW** capacity

Over 1,100% growth

LOCAL SOLAR DEPLOYMENT

Installed Solar Net-Metering Capacity 2013

County	Solar Capacity (MW)
Prince William County	476
Prince George's County	17,705
Montgomery County	16,272
Manassas	42
Loudoun County	700
Frederick County	5,163
Falls Church	68
Fairfax County	617
Fairfax City	58
District of Columbia	7,777
Arlington	347
Alexandria	272

SOLAR PENETRATION IN DC/MD/VA

Washington DC	Maryland	Virginia
11.4 MW	186.1 MW	12 MW
0.1% annual consumption	**0.32%** annual consumption	**0.012%** annual consumption

10X

30X

POLICIES IMPACT THE SOLAR MARKET

- **Renewable Portfolio Standards**
  - Solar Carve Outs
  - REC prices

- **Net Metering**
  - System caps
  - Standby charges

- **Rebates and Tax Credits**

- **Financing Options**
  - Third Party Ownership
  - PACE Financing

HOW MUCH DOES IT COST?

Cost Comparison for 5 kW Home System			
	DC	**MD**	**VA**
Cost Before Incentives	**$22,500**	**$22,500**	**$22,500**
Bulk Purchase Discount (~ 1/3 of system cost)	$7,500	$7,500	$7,500
*Solar Renewable Energy Credit Upfront Payment	$6,000	$1,500	$0
Initial Upfront Cost	**$9,000**	**$13,500**	**$15,000**
Federal tax credit (30% of system cost before SRECs)	$4,500	$4,500	$4,500
State Grants	Expired	$1,000	$0
Estimated electricity savings in one year	$775	$775	$510
Total Cost (after one year)	**$3,725**	**$7,225**	**$9,990**
Estimated Payback *Total cost/electricity savings at current electric rates*	5.8 years	10.3 years	20.5 years
Note: Hypothetical example, not based on actual bid. Does not include local property tax or sales tax credits. *SREC payment based on Sol Systems February 2014 pricing. Credit: Anya Schoolman, Community Power Network Updated July 2014			

DRIVERS OF CHANGE IN THE SOLAR MARKET

Community Solar / Virtual Net Metering

- Allows **one** solar energy system to be shared by **multiple** meters

Bulk Purchasing

- Makes going solar easier & cheaper

New Financing Models

- PACE, Crowdfunding, Securitization

Low Income Solar

- Residential Incentives, Job training, and New Business Models and Battery Back up

COMMUNITY SOLAR/VIRTUAL NET METERING

Washington, DC:
- **Community Solar** (Community Renewable Energy Act)
- Anyone can participate

Maryland
- **Aggregate** or **Virtual Net Metering**
- Agricultural, non-profit and municipal customers only

Virginia
- **Aggregate Net Metering** or **Totalization**
- Agricultural customers, for adjoining properties only
- (May soon see municipalities?)

SOLAR BULK PURCHASING

(Also called "Aggregate" or "Cooperative" Solar Purchasing)

Benefits:

- **Save 20-30%**
- Assistance assessing installers & bids
- May include multiple financing options, or discounts on other energy improvements (roofing, efficiency)

Common Models:

- **Solarize**
- **Solar Coops** (Community Power Network)

Exciting New Developments

Municipal Bulk Purchases:

- Recent RFPs from Montgomery County & Washington DC

Water Utilities Developing Large Solar Arrays:

- WSSC and DC Water

Community-based Solar Coops

- MD: Baltimore, Hyattsville, UMD
- VA: Blacksburg, Roanoke

University Joint Purchase:

- GW University & Hospital + American University
- 52 MW solar from Duke Energy

10

What Can You Do?

Participate in the Rooftop Solar Challenge
- Reduce the cost to install (& save County staff time & money)

Support Community Solar Coops

Support New Policy Developments
- Community Solar / Virtual Net Metering

Explore Municipal Aggregation Opportunities

Help Implement New Financing Models
- Joint Investment in Large Commercial Arrays
- PACE Financing

FOR MORE INFORMATION

Regulations, Policies, Incentives:

Database of State Renewable Energy Incentives (DSIRE): www.dsireusa.org

DC SUN.org, MD SUN.org and VA SUN.org

Bulk Purchasing/Community Solar:

NREL Solarize Guidebook: www.nrel.gov/docs/fy12osti/54738.pdf

NREL Community Solar Guidebook: www.nrel.gov/docs/fy11osti/49930.pdf

Community Power Network: http://communitypowernetwork.com/putsolaronit

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