

PRESENTATION

Solar Opportunities in Georgia and Tennessee

November 12, 2013

BAKER DONELSON



Today's Panelists

- Anthony Coker - Senior Director, International Sales Development, Suniva, Inc.
- John Sibley - Senior Policy Fellow, Southface Energy Institute
- Gil Hough - President, Board of Directors, TenneSEIA and Manager, Renewable Energy Division, RSI - Restoration Services, Inc.
- Moderator: Michael Smith, Shareholder, Baker Donelson Tax Department

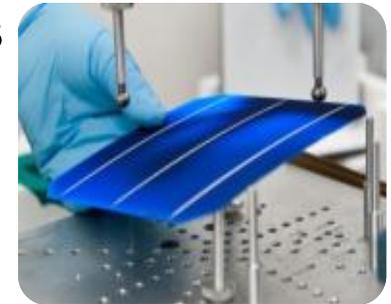
Suniva in Georgia: Over 90 Sites and 7+MW Installed



Suniva Overview

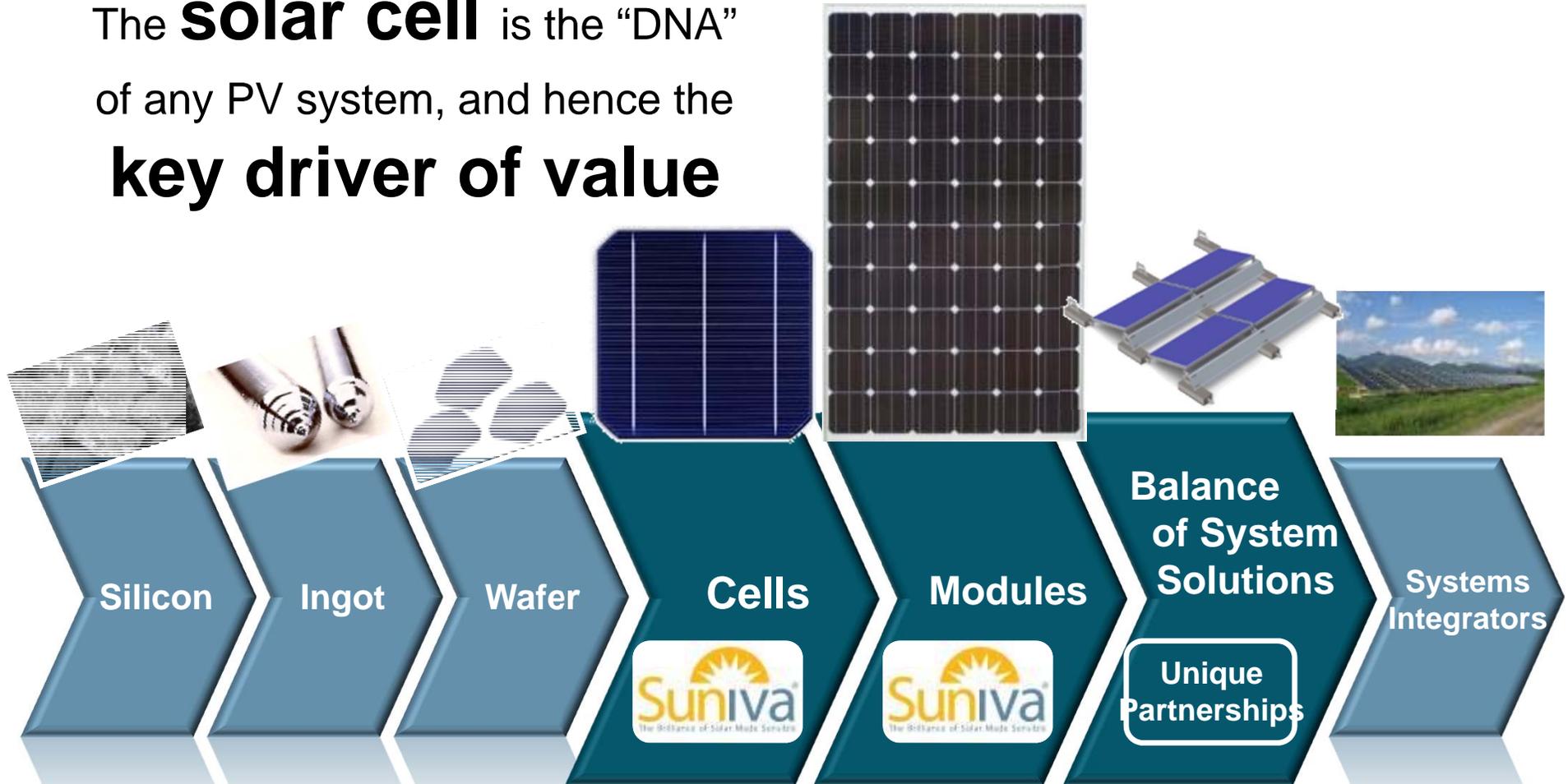
Manufacturer of high-efficiency, crystalline silicon PV cells modules

- **High-Efficiency Cells:** 19.2+% in production; over 20% in laboratory; roadmap to 22+% by 2014
- **High-Power Modules:** Up to 16+% in production; 60-cell modules up to 270W, 72-cell modules up to 320W
- **Buy American Compliant Modules**
- **Manufacturing Capacity:** 170 MW in the U.S. and expanding in 2013; CMs of 500 MW in Asia, OR & NY



Suniva Innovation in the Value Chain

The **solar cell** is the “DNA” of any PV system, and hence the **key driver of value**



Suniva and Georgia Tech Deep Roots



2007: Suniva
Founded



1992: GA
Tech

University
Center of
Excellence
(UCEP)

Established



YEAR:
Dept. of
Energy
provided
funding



1985: PV
Program
Established at
Georgia Tech

Deep Roots with Georgia Tech, Continued Collaboration

- Suniva has access to over \$50M worth of advanced research equipment at UCEP/Georgia Tech
- Suniva benefits from a budget of over \$43M of PV-related research programs funded partly by the U.S. DOE

Suniva and Georgia Tech Deep Roots



90 kW rooftop installation on Georgia Tech's Clough Center

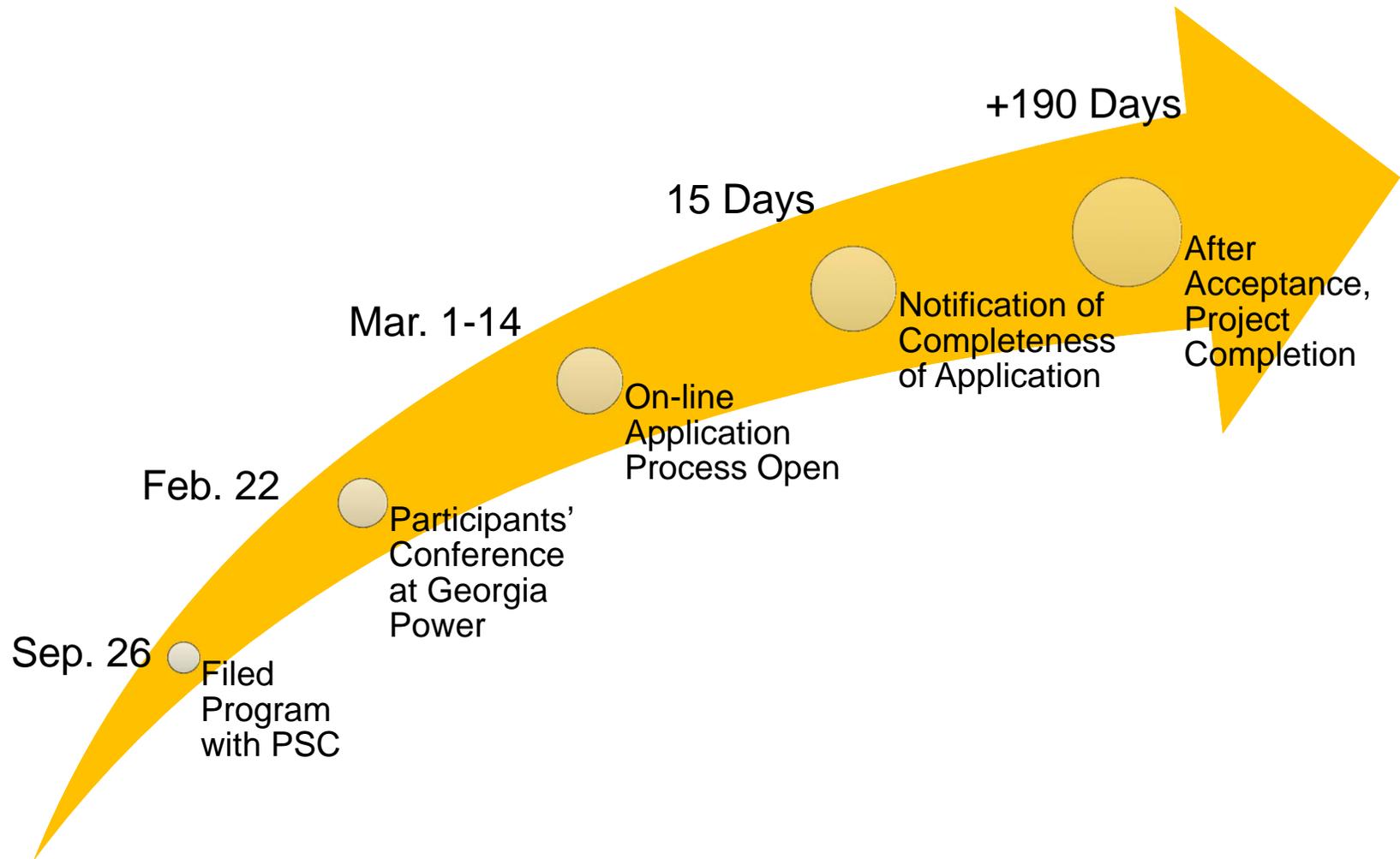
Solar Progress in Georgia!

In less than 12 months, the Georgia PSC has asked for 735MW of additional solar PV generation with Georgia Power's service area.

1. In the fall of 2012, GPC's Advanced Solar Initiative was hammered out with industry, staff and GPC for 210MW.
2. On July 11, 2013, the PSC voted to approve a new program requiring GPC to add 525MW of PV by 2016.

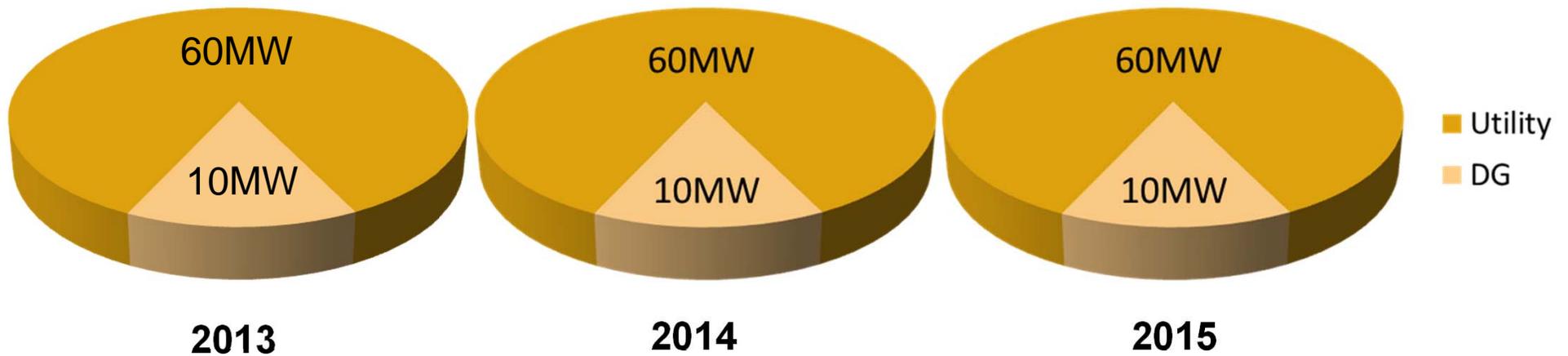


GPASI Process Timeline



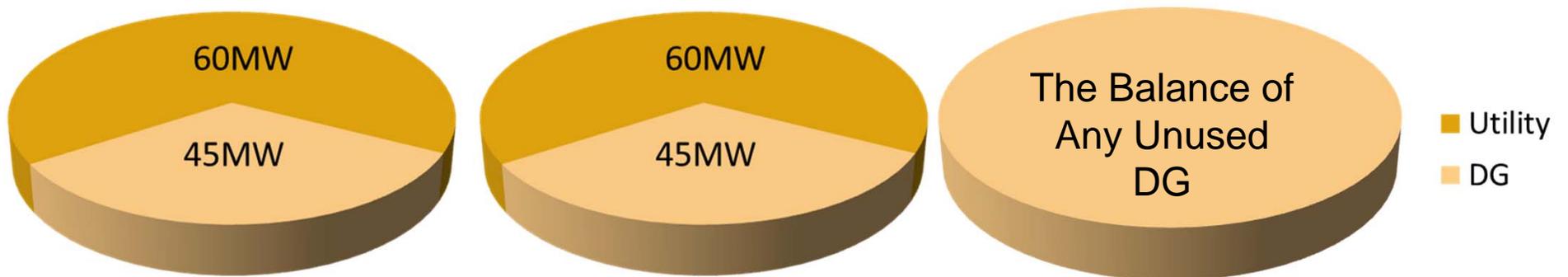
1. ASI Originally Proposed to the PSC

180 Utility + 30 Distributed = 210 MW Total



ASI: The Final Allotment

120 Utility + 90 Distributed = 210 MW Total



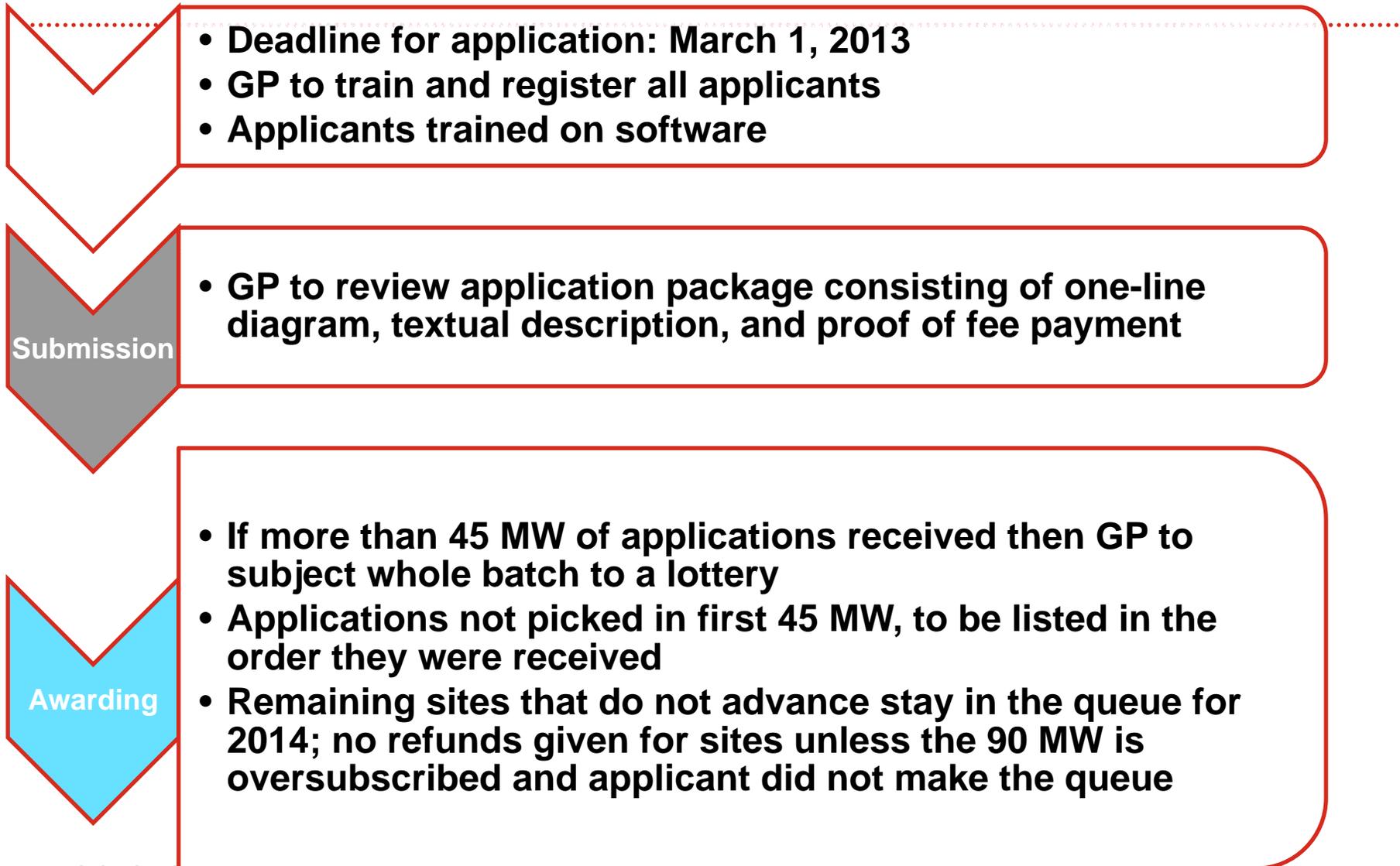
A 3x Increase for Commercial Applications

GPASI Details

The Initiative was divided into 3 categories:

- 1) Small Scale Solar (25% reserved of Distributed Generation)**
 - A. Less than or equal to 100 kW
 - B. FIT of \$0.13/kWh, 100% sold to Georgia Power for 20 years
 - C. Must be installed within 6 months of acceptance date
- 2) Medium Scale Solar (Distributed Generation)**
 - A. Greater than 100 kW and less than or equal to 1 MW
 - B. \$0.13/kWh or an escalating price schedule both over 20 years
 - C. Collateral security required plus system design/layout
- 3) Utility Scale Solar**
 - A. Competitive RFP process
 - B. Must not exceed \$0.12/kWh
 - C. No single project in excess of 20MW

The ASI application process 2013:



Distributed Solar Purchase Programs

Small Scale Purchase Program (<100kW)

- Program began March 2013
- Targeting up to 11MW annually to be allocated to projects <100kW
- Must be developed at a GPC customer site
- No single customer will exceed more than 20% of annual program capacity
- Program will initially be offered to the SP-1 (Green Energy Program) waiting list
- Simplified interconnection agreement & metering costs
- Purchase price will include solar avoided costs, capacity benefits along with T&D savings 13 cents/kwh

Distributed Solar Purchase Programs

Medium Scale Purchase (100kW-1000kW)

- Targeting up to 34MW annually to be allocated to medium sized projects
- Pricing terms similar to Small Scale Program with two exceptions
 - Fixed escalating and levelized pricing will be offered
 - Additional security may be required
- More detailed interconnection agreement & potential for additional metering costs
- No single customer can have more than 20% of annual program capacity
- Purchase price will include solar avoided costs, capacity benefits along with T&D savings 13 cents/kwh

ASI: Lessons Learned

GPC Considering Changes:

- Change the fee requirements
 - Keep all that apply
 - May increase?
- Increase the overall time past 6 months
- May consider “greenfield” sites more openly
- Make sure more applicants avail themselves of GPC’s non-binding interconnection review
- 20% may roll into 2014 that did not get completed
- Nov. 15, PSC will receive the list of winners for Utility Scale



ASI: Part Two

On July 11, 2013, the PSC voted to approve a new program requiring GPC to add 525MW of PV by 2015.

- Created during testimony and expert filings in the Georgia Power Integrated Resource Planning process.
- 425MW to be Utility scale
- 100MW from commercial and residential
- GPC asking for a “solar stand-by charge” of \$20/month



Georgia Solar Policy Update – John Sibley

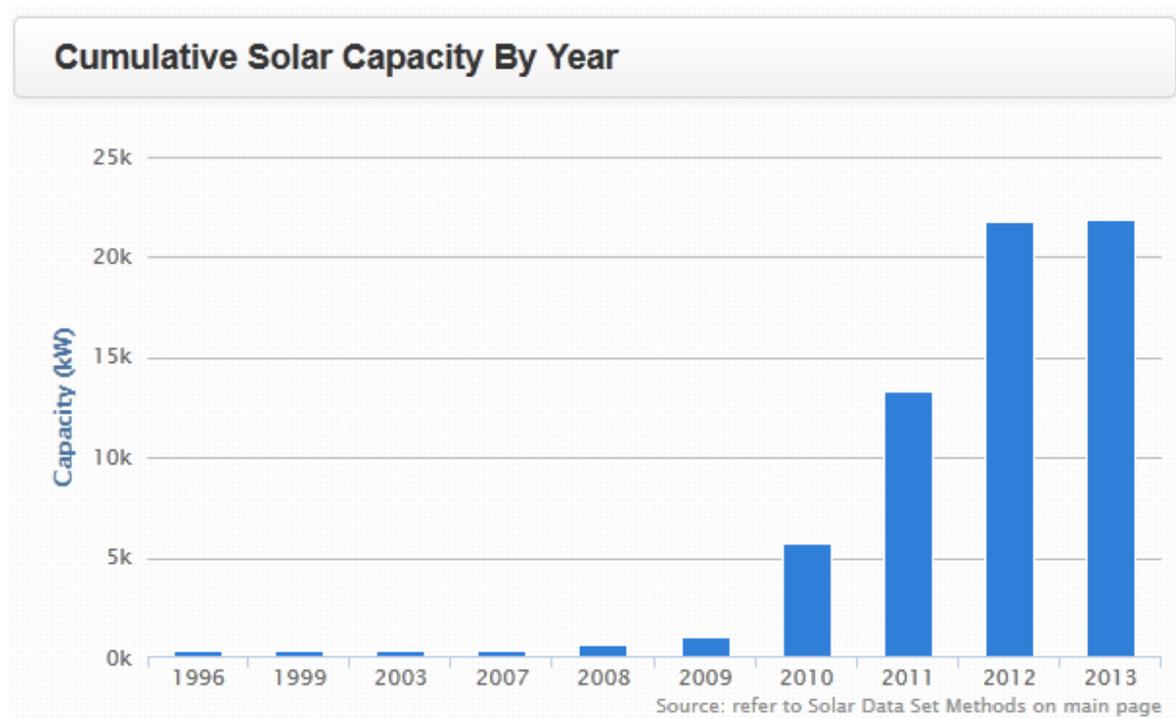
- Southface Energy Institute
 - Education
 - Research
 - Policy
 - Technical Assistance



Solar Capacity June 2013

Mainly Distributed Generation, ~55% Georgia Power

- Doubled in 2011 and added another 65% in 2012
- Georgia Power programs will add another 785+ MW by 2016



As solar matures, who is the DG market?

- Middle class America:
- In AZ, CA and NJ, at least 60% of homeowners (80% at Arizona Public Service) installing solar are in ZIP codes with median incomes \$40-90,000. The areas that had the most growth 2011-2012 had median incomes \$40-50,000 in AZ and CA and \$30-40,000 in NJ.
 - Center for American Progress (10/13)

How do utilities view this market?

- “Today, a variety of disruptive technologies are emerging that may compete with utility-provided services. Such technologies include solar photovoltaics (PV).... As the cost curve for those technologies improves, they could directly threaten the centralized utility model.”
 - *Edison Electric Institute (1/13)*

Does ASI serve this market?

- 45 MW DG available in 2013 for small (10 kW) and medium (1 MW) projects
- Nearly 1,000 applications totaling about 600 MW
- 129 applications selected by lottery
- Of 97 small projects selected, only 9 were less than 97 kW and none were less than 10

How else has Georgia Power responded to this market?

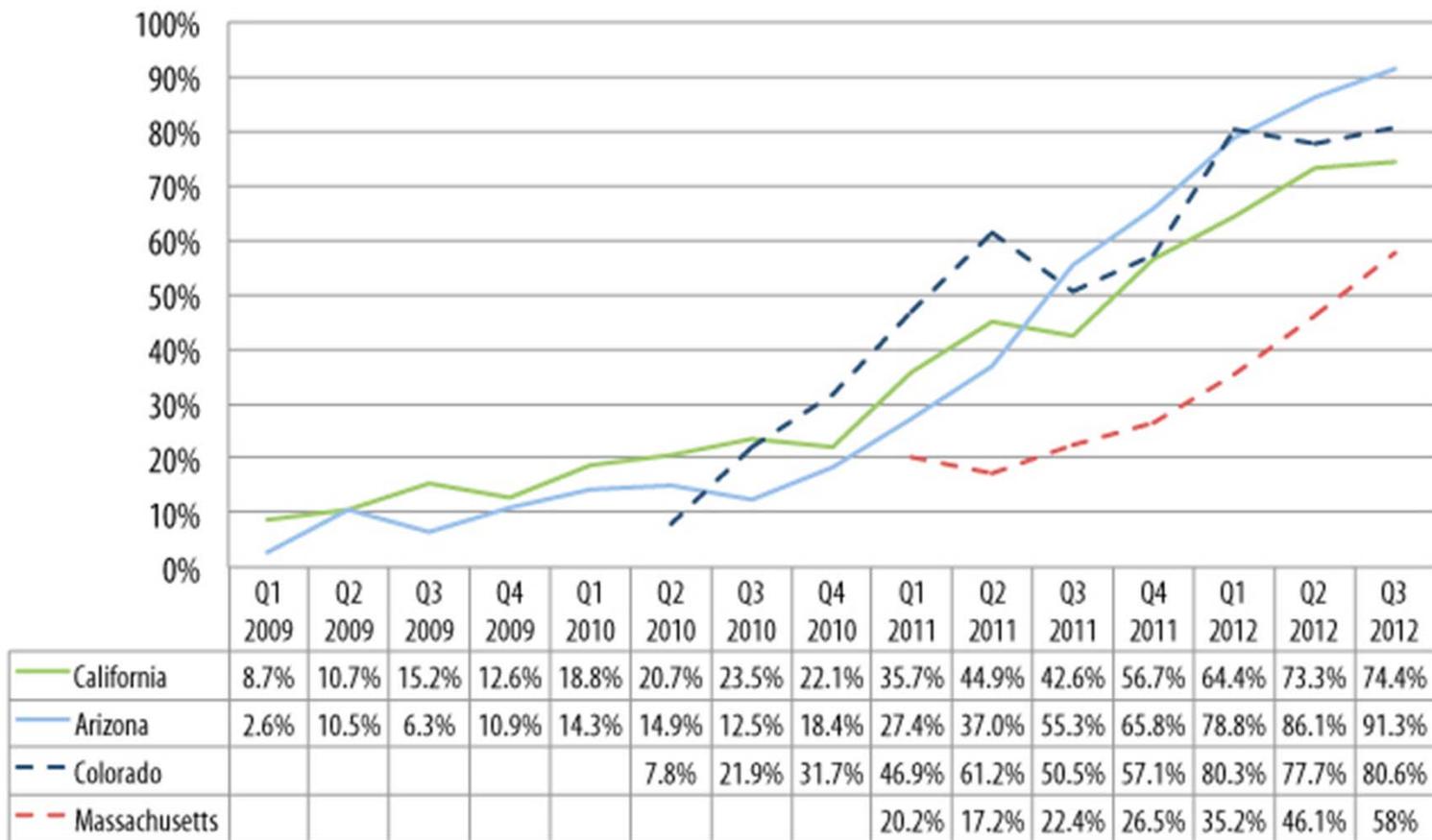
- Rate case proposals for “behind the meter” solar:
 - Eliminate favorable Time of Use rates
 - Impose demand charges on residential and small/medium commercial customers
- One charge adds \$5.56/kW to existing tariffs for residential and farm service customers
- As an example, this charge reduces the bill savings from adding solar panels by 40% or more

What policies best advance solar power for middle class customers?

- Denial of rate case proposals
- Avoided cost for excess generation based on a true “value of solar”(upcoming PSC case)
- Power Purchase Agreements (PPAs) (SB 51)
- Community Solar (HB 657?)

Market share for PPAs and leases

**3rd-Party Owned Systems
(% of New Solar Installations)**



What other policies could facilitate this market?

- Commercially reasonable interconnection standards
- Increased or eliminated maximum limits on DG programs
- Tax incentives

State of Tennessee – Incentives – Gil Hough

Certified Green Energy Production Facility:

- Certified by the Tennessee Department of Environment and Conservation (TDEC) for producing electricity from geothermal, hydrogen, solar, or wind sources

Sales Tax:

- Tennessee sales tax exemption or refund/credit with approved application

Property Tax

- Solar property assessed value may not exceed 12.5% of total installed costs

TVA Solar Programs in 2013

Green Power Providers

- System size from 500 Watts to 50 kW
- 10 MW cap in 2013
- 9 cents/kWh over retail

Renewable Standard Offer

- System size from 50 kW to 20 MW
- 40 MW total from solar
- 3.742 cents/kWh base price average

Solar Solutions Initiative

- System size from 50 kW to 1 MW
- 10 MW cap in 2013
- 8 cents/kWh bonus for 10 years on top of RSO

TenneSEIA Annual Meeting November 20



Featured Speaker

Rob Manning, Tennessee Valley Authority

Executive Vice President and Chief External Relations Officer
and Senior Vice President, Shared Services



TenneSEIA
Tennessee Solar Energy Industries Association

**Annual Meeting
and Solar Champion Award Reception**

November 20, 2013 · 2:00 - 7:00 PM Central

Baker Donelson Center
211 Commerce St., Suite 800
Nashville, Tennessee

Restoration Services Incorporated (RSI)

- RSI is a small employee-owned business made up of 260 extremely talented, motivated, and professional people that have a propensity to get the job done right
- Clients include: U.S. Department of Energy, Tennessee Valley Authority, B&W Technical Services Y-12 LLC, United States Enrichment Corporation, UT-Battelle, and URS/CH2M Oak Ridge, LLC
- RSI offers expertise in reindustrialization/reuse of federal properties to support the design and development of renewable energy initiatives



Financing Risk Assessments – Lauren Anderson

- Site and Environmental
- Construction
- Management of Operator
- Revenue Stream
- Regulatory Regime
- Legal Construct

A New Financing Vehicle

- The Prepaid Power Purchase Agreement
 - Adaptable to Lease or Licensing Model
 - Can retain option to purchase
- Utility Scale
 - Utility company prepays
 - TVA and Memphis Light, Gas & Water have done a prepaid Gas Contract
 - Consider Portfolio Financing
- Small Scale
 - Customer prepays
 - Benefits transferrable
- Tax Issues for Operator

Federal Tax Credits – Mike Smith

- Tax Credits Available through 2016 (applies to owner or lessee)
 - 30% ITC against total installation cost
 - Residential systems too
 - Accelerated depreciation: 20% per year of depreciable basis (cost, less salvage value, less ½ of ITC).
 - 50% Bonus Depreciation for installations in 2013 (total system cost, less ½ ITC). The remaining 50% is deductible over remaining 5 years under the Accelerated Depreciation method
 - Depreciation results in a benefit of 30% of total system costs

Tax Credit Limitations

- Individuals (including limited partners or members of an LLC), estates, trusts, closely held “C” corporations and PSCs can only use credits and losses against passive income
- “C” corporations (with more than 5 individuals) can apply to “net active income”
- Tax-exempt entities cannot be owners
- Can’t lease solar system to tax exempt entity
- Tax-exempt entity can lease land to investment entity
- Five-year recapture period
- PPA = okay

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Thank you!

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