

GRU100

100 YEARS of SERVICE | 1912-2012

Renewable Energy

RUC Referrals

#110783

#120516

#120686

#120687



RUC Referrals

#110783 – Green Energy Payment Options - customers being able to purchase green energy by making a monthly contribution on their electric bill.

#120516 - Review of Solar Feed-In-Tariff - review the Solar FIT program, considering potential enhancements, rate impacts and related issues.

#120686 - Low Income Solar Feed-In-Tariff - investigate ways to make solar accessible to low income homeowners.

#120687 - Solar Feed-In-Tariff Customer Survey - develop language for a customer survey on the solar FIT and the impact on rate payers using the current cost as a benchmark as to whether they would want to add additional capacity in the future.

Agenda

- Approach
- History of policy and programs to date
- Program overview and results to date
- Programs for RUC review in comparison
- Additional considerations
- Recommendation

Approach

Commission sets policy, staff prescribes process and programs to achieve results

- Current Direction
 - Carbon reduction
 - Energy efficiency
 - Renewable energy

History

- 1997
- 2003-2004
- 2006-2007
- 2008-2009

1997 – First Solar Program

- Solar Water Heater Rebates
- Green Pricing
 - Voluntary Customer Contribution Fund
 - Collected from customers for several years
 - Constructed 10 kW system on the roof of GRU's Electric Systems Control Facility (NW 53rd)
 - Constructed 1.68 kW system at Kanapaha Middle School
 - Constructed 1.68 MW system at Westwood Middle School
 - Funded by Customers, Florida Solar Energy Center (FSEC) and GRU

2003/2004 - Green Pricing 2.0

(#110783)

- Net metering offered at avoided cost for excess generation
- GRUGreen Energy
 - Consisted of GRU Purchased Wind Tags (RECs) and Landfill Gas from the Alachua County Southwest Landfill
 - Customers asked to support through monthly contributions
 - Less than 1 percent or about 600 customers (residential and commercial)
 - Required marketing effort and expense to get contributions

City Commission Directives

- 2006
 - City Commission directs GRU to increase energy conservation programs, begin using the TRC test, and include renewable energy in generation portfolio
- 2007
 - Staff expands Conservation programs and begins including Renewable Energy with other generation resources
 - Eliminates GRUGreen Energy and Solar Fund

2007/2008 – Solar Expansion

- Rebates offered for Solar PV and Net Metering at the Retail Rate available to Residential and Commercial customers
- FL PSC Mandates IOUs to provide net metering
- State also providing rebates
- GRU and State quickly expend available funds

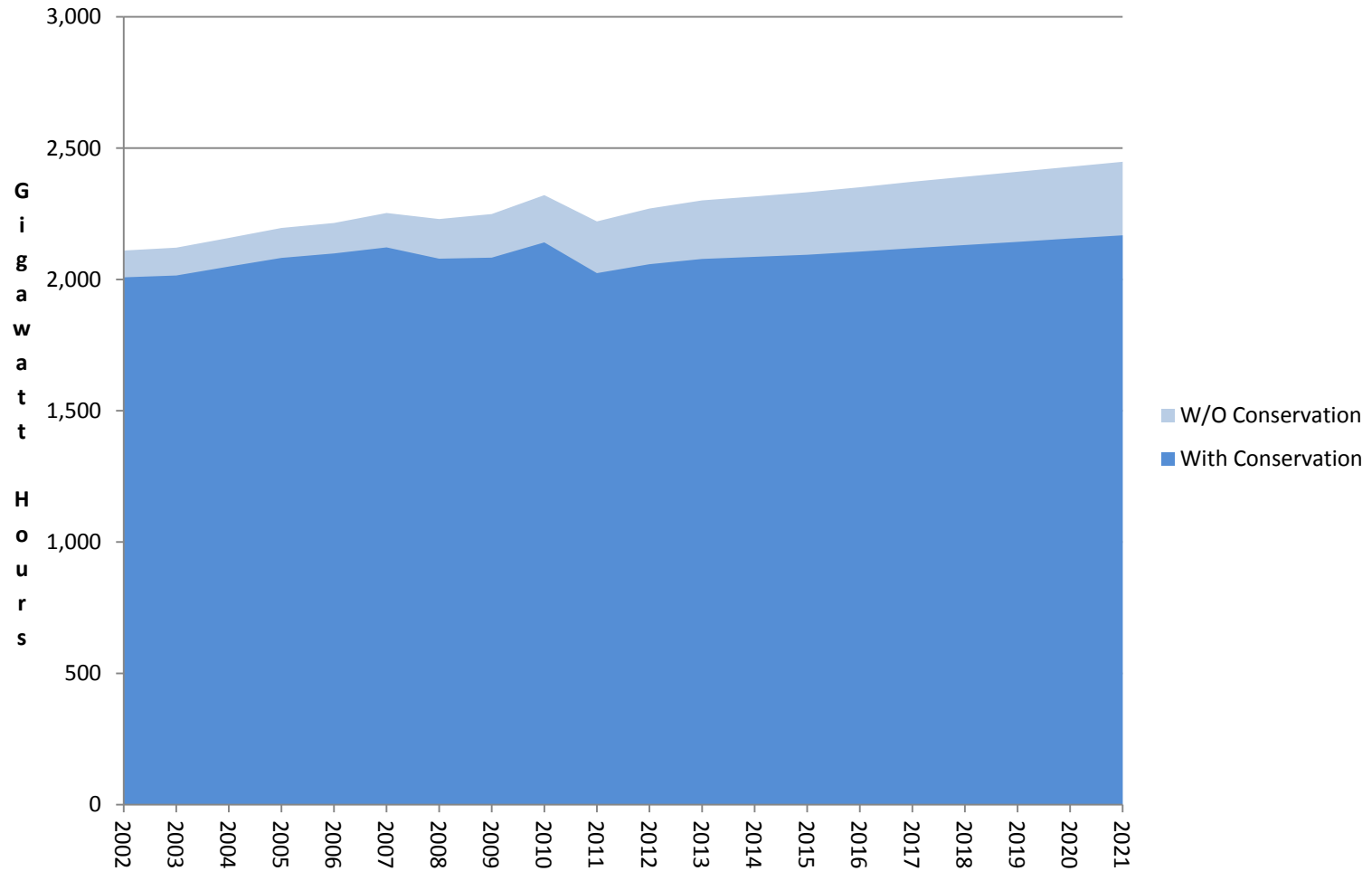
2008/2009 - Renewable Energy

- GRU eliminates commercial rebates but maintains net metering
- GRU purchases energy produced from landfill gas from G2 energy
- City Commission approves contract with American Renewables to purchase 100 MW of biomass energy produced from waste wood
- City Commission approves Solar FIT with a cap 4 MW of solar per year through 2016.

Program Overview and Results

- GRU staff has implemented aggressive conservation measures and renewable energy programs

Conservation Measures



Solar Programs

- Solar PV
 - Rebate (fund limits based on approved budget) *
 - Available to all qualifying electric customers
 - \$1 per watt for a solar window of 80 percent or greater (up to \$5,000)
 - Net Metering – excess paid at retail rate
- Solar Water Heating
 - Rebate
 - Available to all qualifying electric customers
 - \$500 for active or passive system

* Residential Only

Net Metering

- Helps reduce the amount of energy customers purchase from GRU (sales, tax, surcharge avoided)
- Customers who maximize the energy efficiency of their home or business can benefit from the use of solar



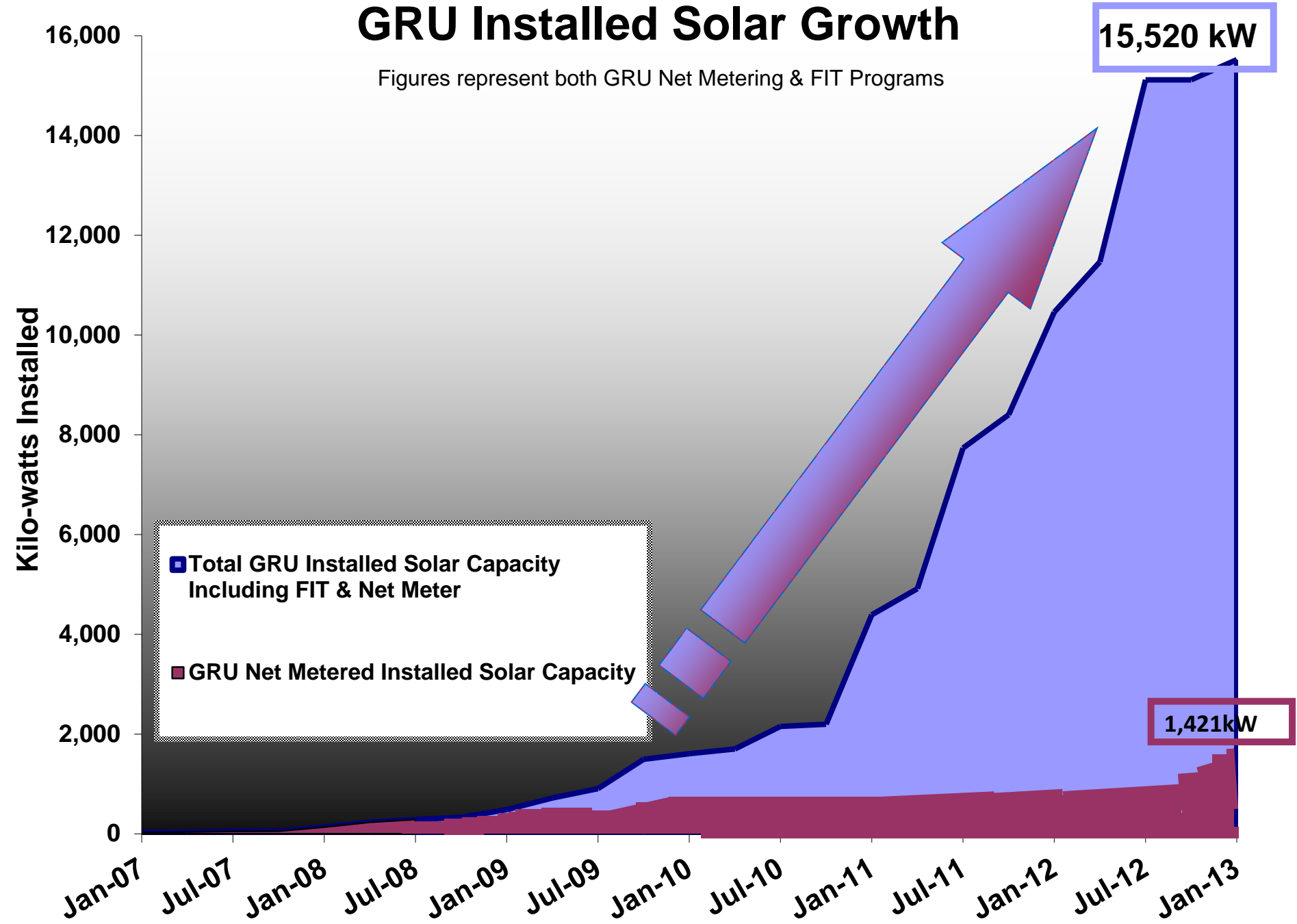
Solar FIT (#120516)

- GRU buys all the power generated by the PV owner and distributes it to all customers
- Fixed 20 year contract based on the ordained rate
- Solar FIT is an investment with a fixed rate of return, much like a CD (Certificate of Deposit).

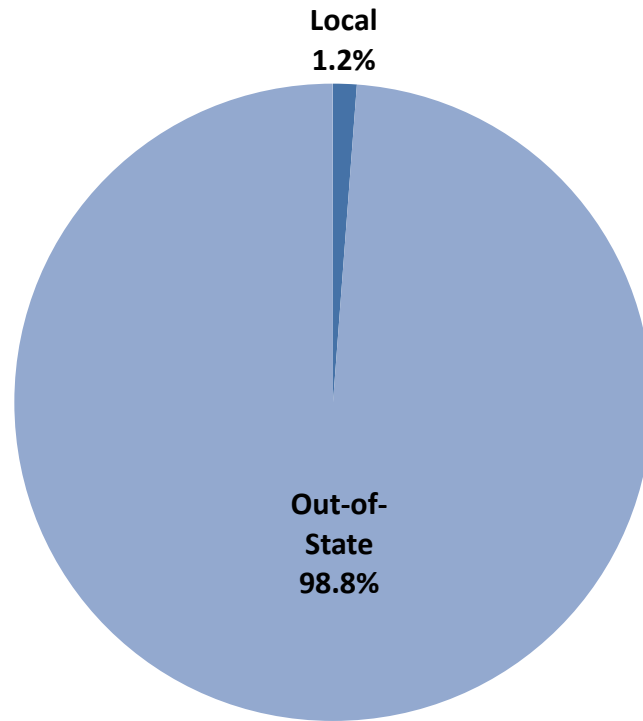


GRU Installed Solar Growth

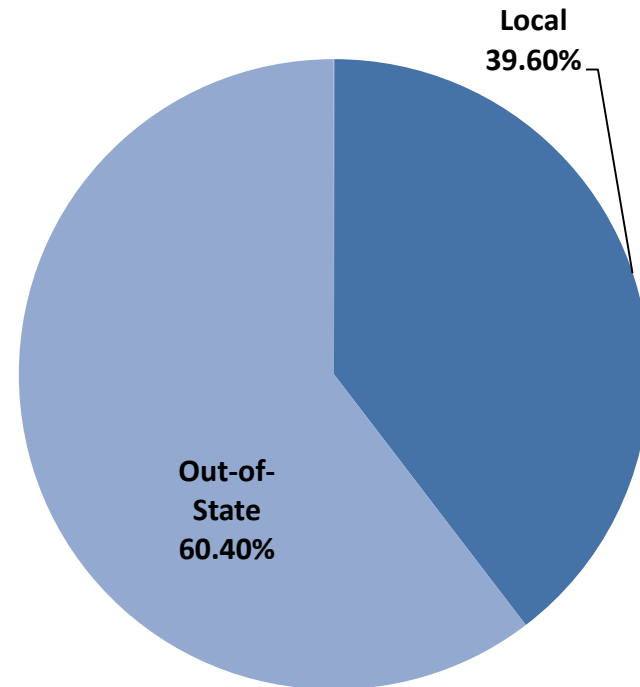
Figures represent both GRU Net Metering & FIT Programs



Efforts Change the Amount of Energy Produced From Local Fuel Sources



2010



2015

*Based on Forecasted Energy Generation Mix

Who Can Participate? (#120686)

	Residential Customers	Business Customers	Other
Solar Water Heating Rebate	X	X	
Solar FIT	X	X	X
Solar PV Rebate	X		
Solar Net Metering	X	X	

Who Participates?

- Those with the capital to purchase and install – either cash or financing (cost ranges from @ \$12,000 to millions of dollars)
- Those with a roof or land appropriate for solar
- Solar Contractors or developers who can bring these two elements together

How Could Other Customers

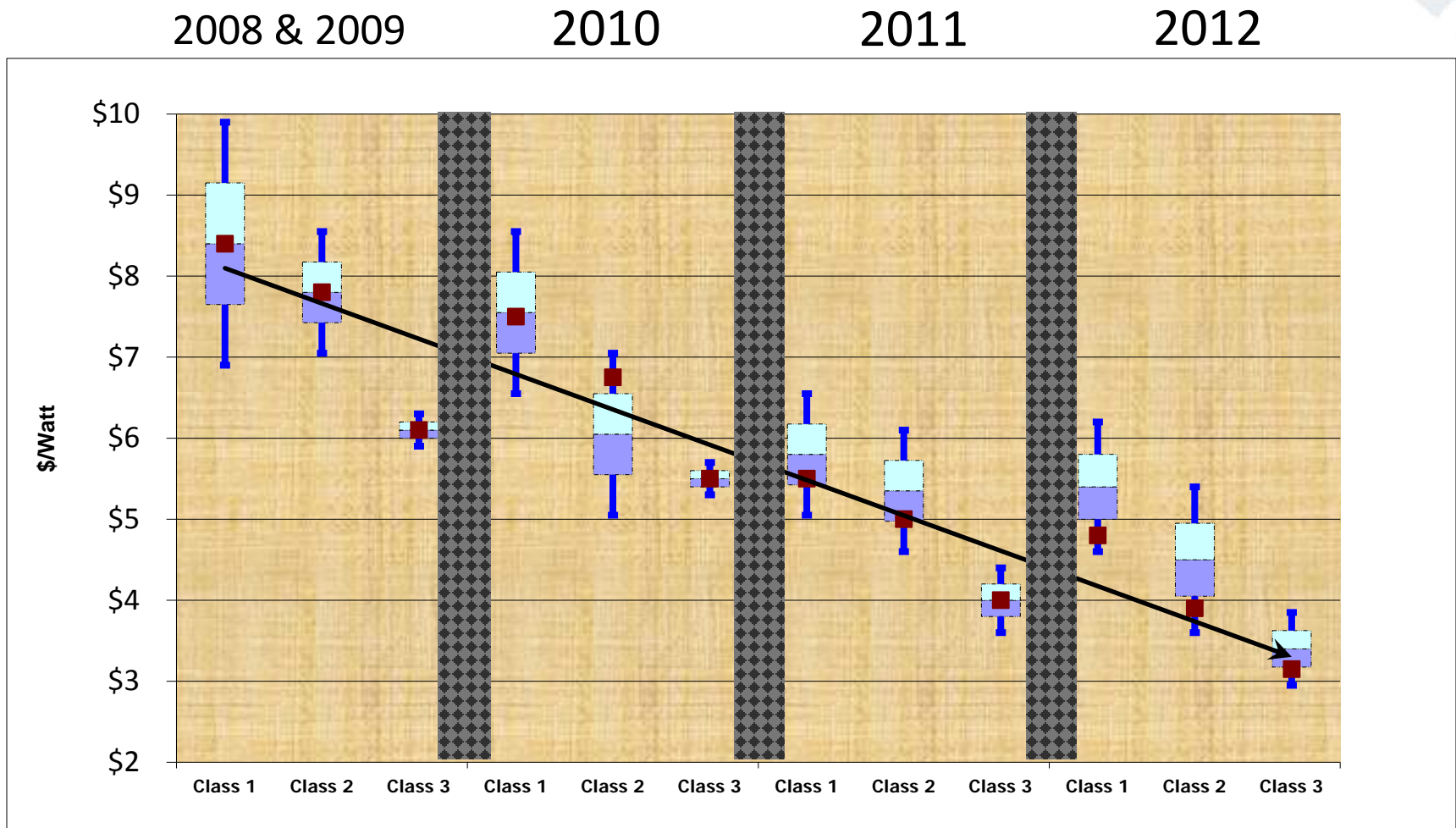
Participate? – assuming all efficiency measures are in place... Best Investment

- PACE program – Alachua County evaluating
- Maintain a list of customers interested in a partnerships with Solar FIT developers (leased roof space) and make it available on website
- Look for grant funding through City's lobbyists "Front Porch Florida"
- Pool financial resources – establish partnerships

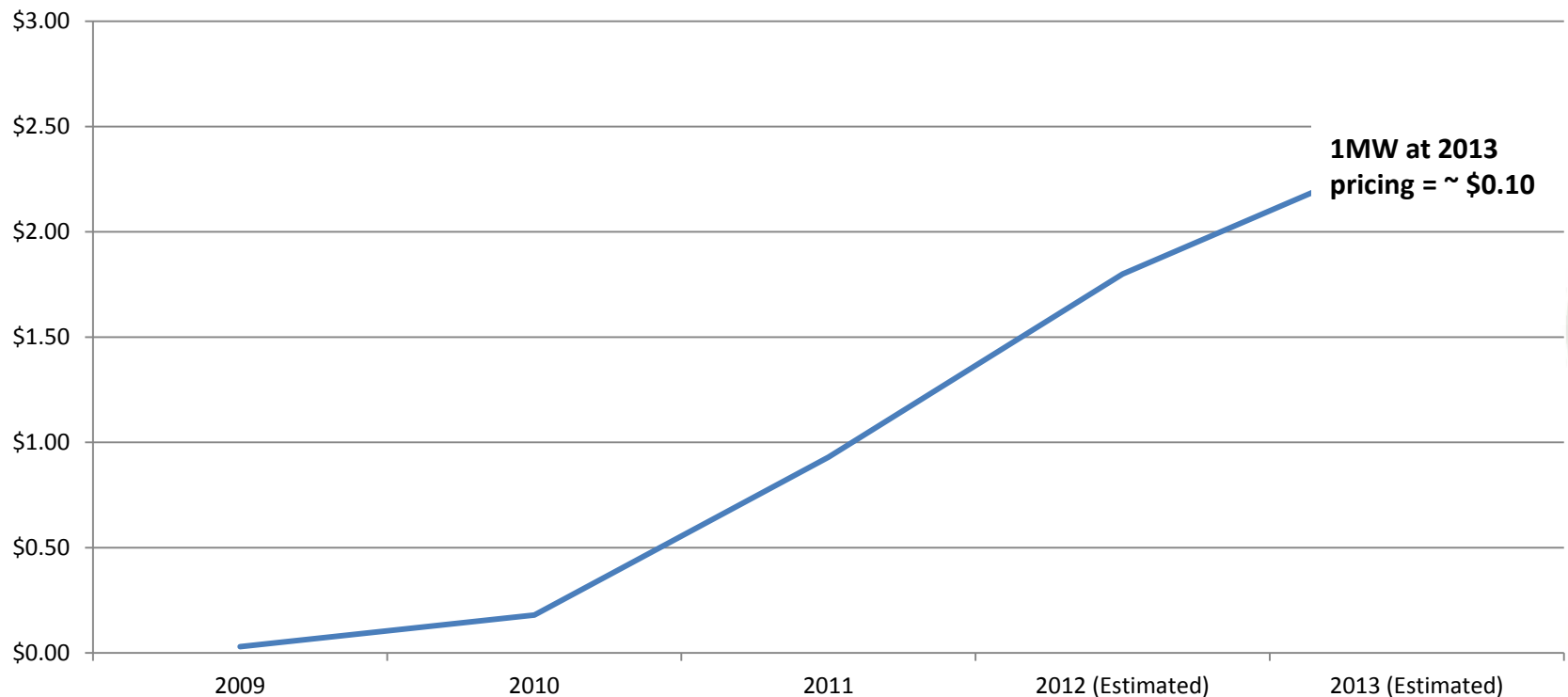
Additional Considerations

- Rate pressures
- Solar costs have been coming down
- Some customers oversizing net metered systems, putting more costs/rate pressure on other customers
- As retail rates increase, net metering costs increase putting more pressure on rates
- Solar FIT cumulative rate pressure, although at declining cost to the utility

Cost of Solar Coming Down



Solar FIT Cost Impact per 1,000 kWh Bill



Retail Versus Avoided Cost

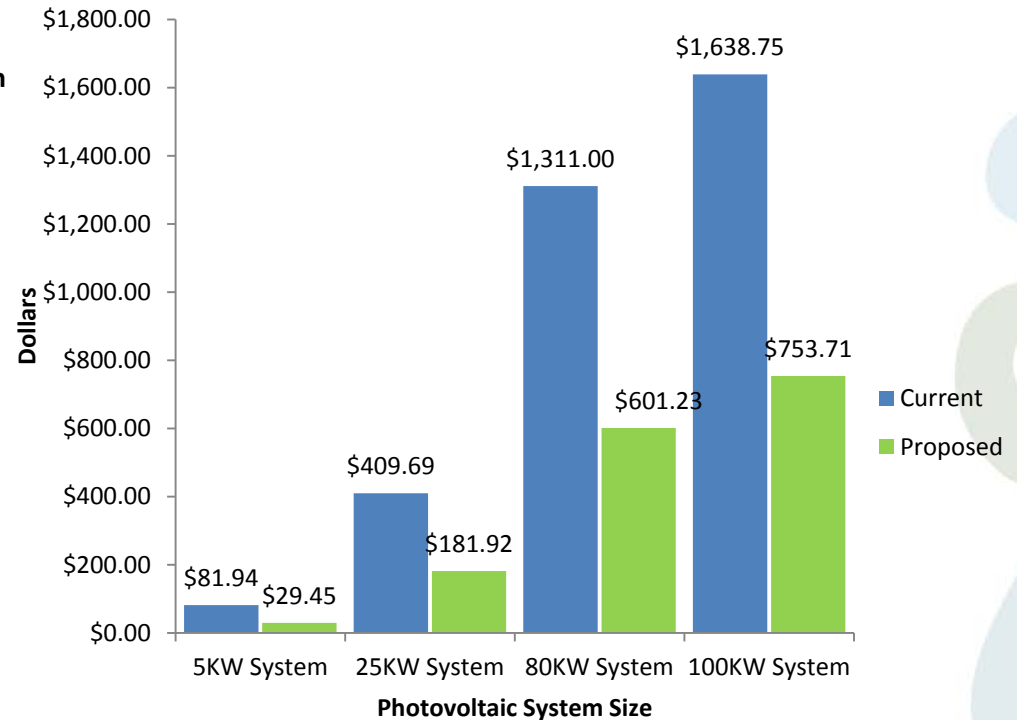
Net Metering Excess Generation / Revenue Loss Comparison Analysis of PV systems with Excess Generation

Customer Charge:	\$8.67
Current rate:	0.064
FA:	0.051
Total:	0.115
Avoided Cost Rate:	0.0535

PV System Sizes 25,80, 100KW

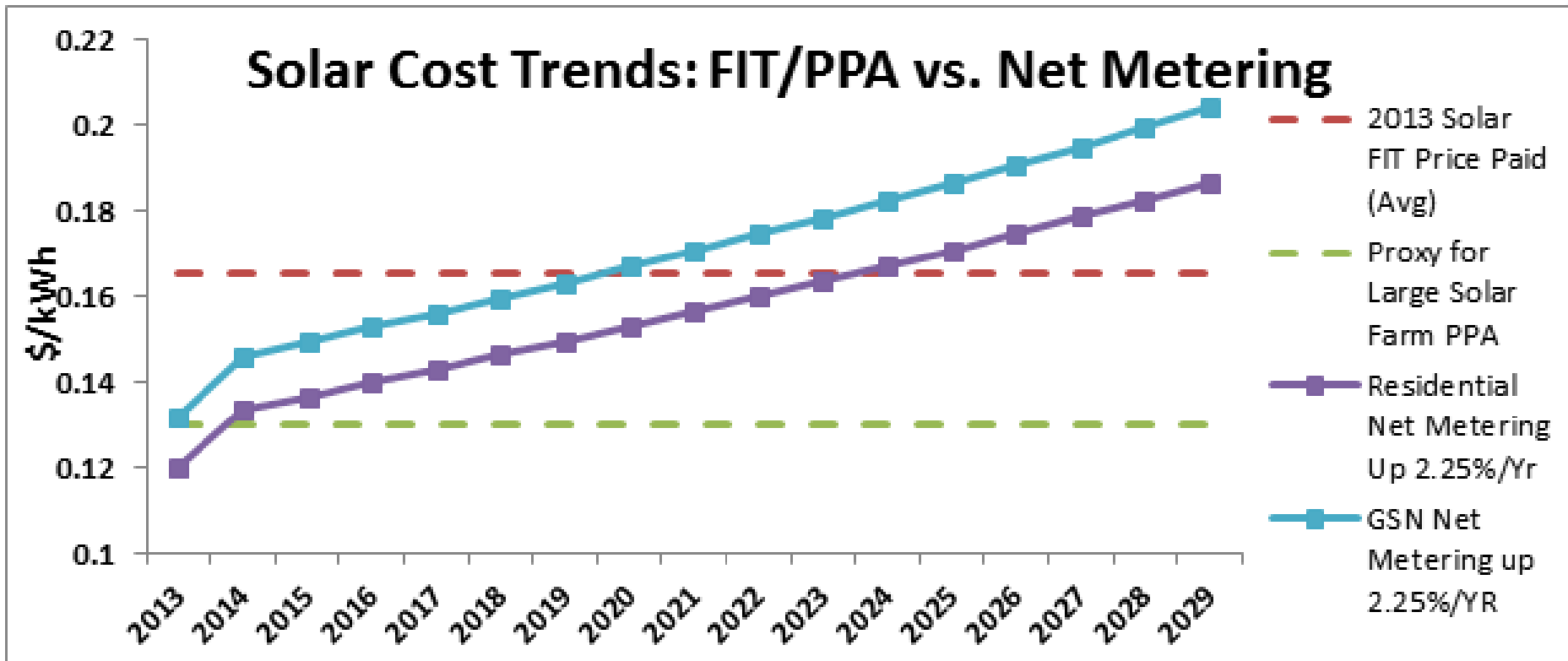
Consumption at what percent of production?	5%	KWH Production
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Monthly Excess PV Credit per Customer



Note: Under proposed method, Customer would pay the customer charge monthly and excess KWH credits will be transferred to the next month. Dollar values shown here are "trued up" at the end of the fiscal year.

Long-Term Impact of Solar Programs



In Review...

- Policies developed to lead the market
- Programs implemented successfully
- As expected, markets are changing
- Need to adjust programs to meet the market

Recommendations

Due to upward rate pressure; the decrease in the cost of solar, and the success of solar in the community:

- Staff to immediately implement parameters that limit output for net metered systems
- City Commission to consider
 - Net metering at avoided cost rather than retail rate
 - Net metering customers keep their Renewable Energy Credits (RECs)

Other Items for Discussion

Due to upward rate pressure; the decrease in the cost of solar, and the success of solar in the community:

- Eliminate the residential solar PV rebate
- Consider adjustments to the Solar FIT for example, lower the yearly cap of 4 MW (#120516)