



**Energy Block
Grants Work!**
CAMPAIGN TO SAVE EECBG



SUSTAINABLE CITY
NETWORK
www.iCityNetwork.com



TODAY'S CALL TOPIC

Promoting Renewables with a Feed-in Tariff Program

Speakers:



Pegeen Hanrahan, P.E.

Former *Mayor*, City of Gainesville, FL
Principal, Community and Conservation
Solutions, LLC



Rachel Meek

Business Efficiency Program Coordinator
Gainesville Regional Utilities



Upcoming Events

JUNE 15-17, 2011

**Local Clean Energy
Leadership Summit**
Washington, DC

Early bird deadline extended:
Friday, April 29th

www.localenergysummit.org

April 28, 2011

For more information: www.climatecommunities.us



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Upcoming Calls (Thurs. @ 2 pm Eastern)

May 5: DOE Clean Cities Funding for Plug-in Electric Vehicle and
Charging Infrastructure Planning and Community Readiness

May 12: Strategies for Reducing Vehicle-Miles Traveled by Promoting
Walkability, Cycling and Access to Transit



Federal Policy Agenda

FY 2012 Appropriations

- EECBG, Sustainable Communities, Climate Showcase Communities, TIGER, energy efficiency & renewable energy grants, electric vehicles

Clean Energy Legislation

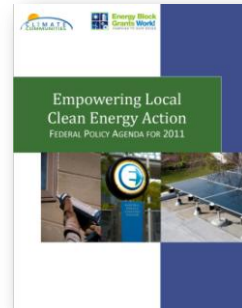
- Clean energy standard, financing tools, clean vehicles

Transportation Reauthorization

- Transit, clean vehicles, VMT reduction strategies

Adaptation

- Pre-disaster mitigation, planning resources



<http://www.climatecommunities.us/endorse.html>



Upcoming Events

Local Government Clean Energy Leadership Summit

Washington, DC

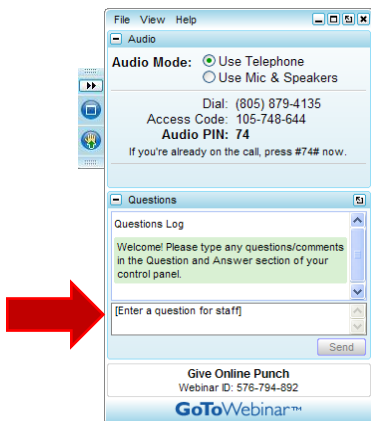
June 15-17, 2011

- Major energy efficiency and renewable energy conference for local government sector.
- Demonstrate success of EECBG and other federal investments in local clean energy projects
- Share best practices.
- Urge Congress and the Obama Administration to make further clean energy investments in local governments.
- For more information, visit www.localenergysummit.org.

NEW EARLY BIRD DEADLINE: FRIDAY, APRIL 29



Asking questions



At any point during the presentation, you can type your question into the question text box and click send. All questions will be read aloud and answered at the end of the presentations, as long as time permits.



Feed-in Tariff Lessons Learned from Gainesville, Florida



Rachel Meek
Business Efficiency Program
Coordinator and
Pegeen Hanrahan, P.E.
Former Mayor of Gainesville
Gainesville Regional Utilities
April 28, 2011



Presentation Outline

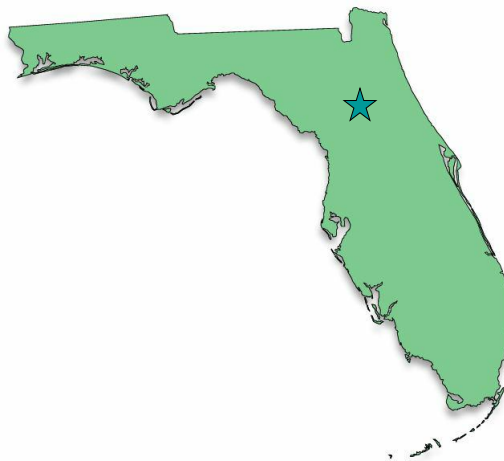
- Introduction and overview
- Challenges of rebate-based model
- GRU's FIT
- Setting the price
- Lessons learned
- Summary



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Introduction to Gainesville

Located
Southeast of
Jacksonville and
Northwest of
Orlando, near the
geographic center
of the state



The Gainesville Community

- City population of 130,000
- More than 60 square miles
- 14th largest in Florida
- County population of 243,000
- 930 square miles
- Home to the University of Florida (Gators)
- Low tax base - rely heavily on municipal utility (GRU)



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Gainesville Regional Utilities

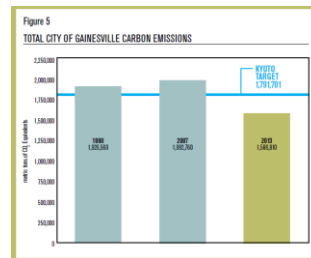
- Municipally-owned utility
(electric, gas, water/wastewater, telecom)
- 90,000 customers
- 481 MW peak
- 611 MW capacity



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Carbon Reduction Efforts

- Committed to U.S. Mayors Climate Protection Agreement
 - Must achieve 7% of 1990 CO₂ levels by 2012 (Kyoto Protocol)
 - Applies to City operations (including electric generation)
 - Gainesville will meet in 2013
 - Documented in City Plan
- Utility Plays a Key Role



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Our Focus on Reducing Carbon

- Requires ambitious action, particularly given our population growth since 1990.
- Four key strategies:
 - Energy conservation
 - Energy supply
 - Transportation
 - Land use planning



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GRU's Strategies and Options

- Energy Efficiency
 - Lowest kilowatt-hour usage per residential customer in Florida*
 - Customer incentives/education
 - Rebates for efficient gas and electric appliances
 - Information
 - Rate designs
- Renewable energy based on resource availability
 - Biomass and solar
 - Wind, hydro, geothermal, tidal not available



**Among Florida generating utilities*

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Energy Conservation and Efficiency Incentives

Cumulative results for FY 07 to Date

- 75,737 megawatt hours of electricity saved
 - Enough to power over 7600 homes for one year
- Over 20,000 or 22% of all customers have participated



GRU's Biomass Commitments



- 3 MW Landfill Gas (Methane)
- 100 MW Biomass Waste Wood
 - Online in late 2013
 - Third party ownership and operation to benefit from 30% Federal Tax Credit



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GRU's Solar Commitments

- Solar water heater rebate
- Residential solar photovoltaic rebates
- Net metering
- Feed-in Tariff (FIT)
 - Planned for 32 MW by 2016



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Why Solar?

- Customer survey of 400 residential customers
 - *Would you support or oppose GRU's efforts to encourage solar energy investments in your community if it would add one dollar or less per month to all customers' utility bills?*

Support: 75 percent



- Strong community environmental ethic
- Continuous advances in cost-effectiveness
- Largest single source of energy on planet



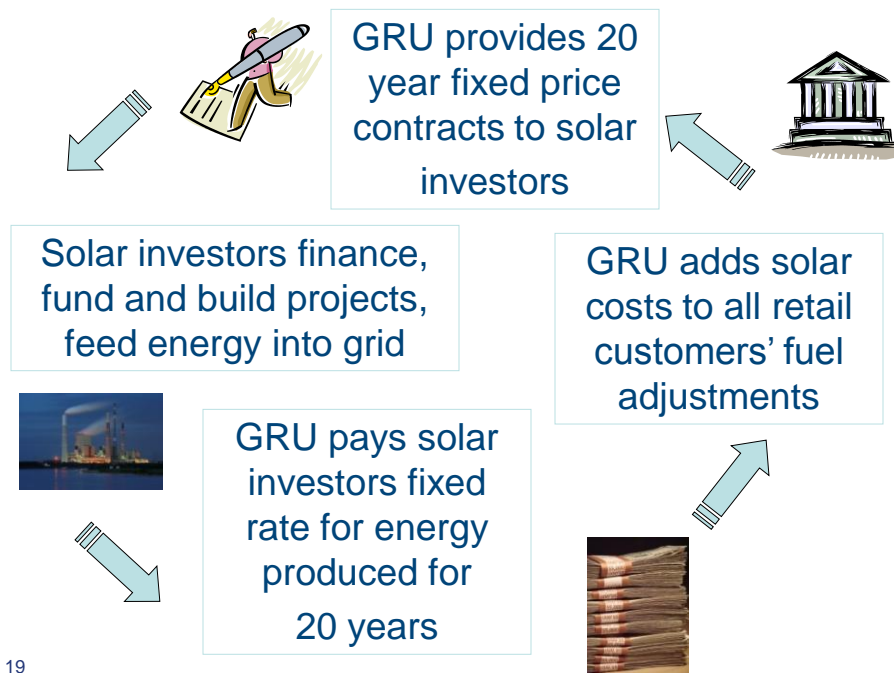
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Solar Incentive Programs

- Traditional Rebates – Usually receive a refund on a per watt basis, or as a percentage of overall cost (30% federal tax credit)
- Net metering – System delivers electricity on the customer's side of the meter, serving their own needs first. Excess energy goes to the grid, and the meter runs backwards. If the customer produces more than they use, then the utility pays the customer a "net metering rate," which is often at the avoided cost of building new generation. GRU pays net metering customers the retail rate (we pay you what you pay us).
- Feed-in tariff – The electricity generated "feeds in" to the grid, and the generator is paid a set, agreed-upon rate for a fixed time frame (see next slide).



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Feed-in Tariffs Deliver Results



- Over 50% of wind worldwide
- Over 75% of solar PV worldwide
- Over 90% of farm biogas worldwide

From Paul Gipe,
Windworks.org

Challenges Rebate Model



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GRU's PV Rebate Incentive Program Before FIT

- Upfront rebate payment
 - \$1.50 per Watt
 - Business and residential customers
 - Limited to 5kW (Residential) and 25kW (Business) installations
- +
- Net metering at retail rate
 - 9.4 to 14.0 cents per kWh, based on rate category and subject to change with fuel adjustment
 - Limited to excess energy generated



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Rebate Program Challenges: Customer's Perspective

- Net metering benefits limited to whomever has the utility account (not necessarily the property owner)
- Does not create cash flow for financing
- System size limited to circuit rating of building
- Payments not equal among customer classes
 - Customers with the greatest square-footage potential for PV have the least incentive



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Net Metering Value Varies Among Rate Classes

Parameter	\$/kWh			
	Res	GSN	GSD	LP
Net Metering Tariff For Excess PV Production	.125	.140	.095	.094
Taxes Avoided – Inside City				
City Utility Tax	.0062	.0077	.0032	.0031
Other Non-Local	.0031	.0134	.0093	.0092
Taxes Avoided – Outside City				
City Electric Surcharge	.0062	.0077	.0032	.0031
County Utility	.0068	.0085	.0035	.0038
Other Non-Local	.0035	.0137	.0094	.0093

Largest Roofs
Least Incentive



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Rebate Program Challenges: GRU/Gainesville Perspective

- Incentives pay for capacity with little guarantee of future performance
- Risk to GRU of system performance
- GRU responsible for policing system design to ensure adherence to standards
- Reduces local tax revenues



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Feed-in Tariff Addresses All of These Issues

- Predictable, performance-based financial arrangements
- Creates opportunity for creative business models that can capture tax benefits for customers
- Improves financial feasibility of solar PV for all customer classes
- No impact to local utility tax revenues



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GRU's FIT



Implemented First “European Style” Solar Feed-in Tariff

- Provides grid interconnection and “must take” provision
- Involves a separate supply-oriented meter
 - It's not net metering
- Designed to ensure profitability to owner for investment
- Different prices offered based on roof mount versus “Greenfield”



Advantages of the FIT for GRU

- Reduces Risk to GRU
 - Rebates “front load” payment and do not assure continued performance
 - PV system could be moved (or blown) off roof and never function again
 - Maintaining system responsibility of owner
- Minimizes “solar police” function
- Hedge against future regulation – state or federal RPS/ carbon tax



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Advantages of the FIT for Gainesville

- Helps achieve Climate Protection goals
- Quicker penetration of solar
- Provides jobs and economic growth
 - Local solar contractors have increased from one in 2006 to six currently
 - Attracting solar developers from other states
 - Hope to attract manufacturing



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How does GRU's FIT Work?

- 20 year fixed price by contract
- Degression schedule to match future cost
- GRU pays producers \$.32 per kWh for building or pavement mounted systems
- \$.26 per kWh for green field systems
- Price set to assure profitability for investor
- Backed by excellent counter-party - GRU credit "AA" rated (Moody's/ Standard & Poor's)



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Big Roll Out

- Cap of 4 MW a year to manage rate impact
 - Hit capacity limit two days prior to implementation date of March 1
 - Limit 1 MW Ground
 - Received 32 MW
- Capacity queue filled through 2016



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Setting The Price



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Setting the Price

- Pricing developed using
 - Tax credits and deductions
 - Documented cost figures
 - Estimated O&M expenses
 - 20 year rate of return
- Cost neutral compared with our rebate and net metering program
- Modeled total cost to customers



Photo Credit: Kelly LaDuke for The New York Times

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Setting the Price

- Extensive public discussion
- After Tax Internal Rate of Return (IRR)
 - 5.0% after taxes set as target profit level
 - IRR greater if reference price beat
 - With state rebates and lower PV costs, profit levels should be higher



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Lessons Learned



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Learned on the Fly

- Queue management
 - Had to ensure submittals were “real”
 - Required a non-binding agreement for systems installed on leased property
- 8 years of applications received in 4 months
 - 1-2 developers had most of the queue accounted for
- Developers spent a lot of time “fishing” for the best price
 - Had to require milestones for project
 - 60 days to contact Engineering
 - 60 days to complete Engineering
 - Equipment purchase 60 after SEPA signed
 - Construction complete 120 days after SEPA signed



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Learned on the Fly

- Selling of capacity queue not allowed
 - No change of size, location, or owner
- Ground mount projects needed extra time to allow for permitting
- Financing became difficult for large projects
- Systems <100 kW moved through process much quicker
- Energy Delivery group concerned with impact of large systems
 - especially with small or constrained circuits



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Solar Feed-in Tariff Schedule Effective October 1, 2010

Contract Entered into Under This Policy During Calendar Year	Fixed Rate per kWh Applied Uniformly From the Date of Installation Through December 31,	Fixed Rate \$/kWh Over Life of Contract		
		Residential or Small Commercial 10kW or Less	Building or Pavement Mounted >10 kW to 300 kW or Ground Mounted < 25 kW	Free Standing (Non-Building or Non-Pavement Mounted)
2009	2030	\$0.32	\$0.32	\$0.26
2010	2031	\$0.32	\$0.32	\$0.26
2011	2032	\$0.32	\$0.29	\$0.24
2012	2033	TBD	TBD	TBD
2013	2034	TBD	TBD	TBD
2014	2035	TBD	TBD	TBD
2015	2036	TBD	TBD	TBD
2016	2037	TBD	TBD	TBD



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Summary



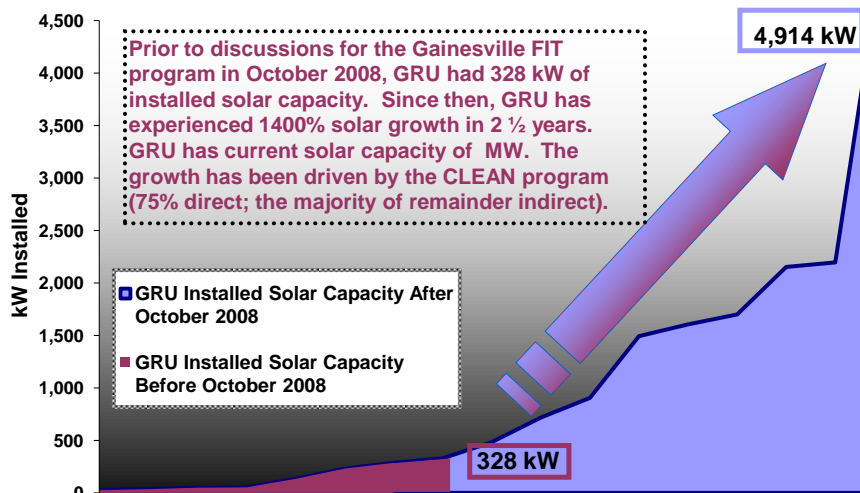
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Program Stats

- 4,914 kW installed
 - 3,796 kW FIT
 - 1,118 kW Net Metered
- 226 Systems installed
- 1.6 MW largest single rooftop system
- 2 MW ground mount will be online soon
- Current monthly production 297,706 kWh



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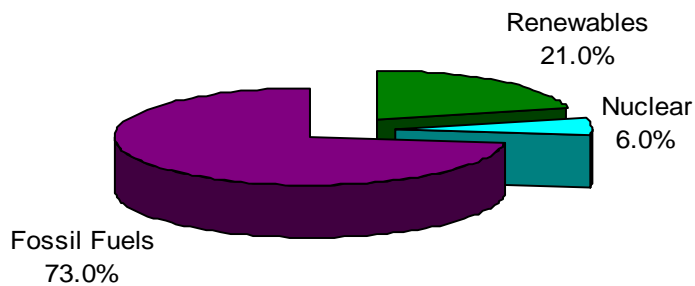
GRU's Objectives

- Encourage early private investment and innovation in photovoltaic installations
- Assure good performance from installed PV systems
- Make solar PV a good investment for both GRU and our customers
- Adds diversity to our fuel mix



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Projected Generation Mix Late 2013



Great Side Benefits

- Media attention
- Chamber of Commerce embrace of environmental technologies as part of “Innovation Gainesville”
- Recognition as #1 Florida Utility for energy efficiency by Money Magazine, #7 Greenest City in US by “Daily Beast”



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The End

Thank You For Your Time!

Any Questions?

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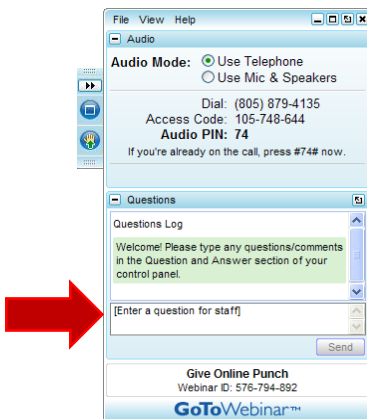
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Supporters:

