BALANCING CONSERVATION, RENEWABLE ENERGY, AND FINANCIAL STRENGTH

Presentation to the
Gainesville City Commission
November 1, 2004

GRU
More than Energy

Executive Summary

Here's What We Hear From Our Community Outreach:

- Our Community Expects:
  - A Clean Environment
  - Reliable Electric Supplies
  - Affordable Electric Rates
  - A Financially Strong Utility

- Our Community Wants To Use Energy Conservation* And Renewable Energy Resources To Help Meet These Expectations.

* Short-hand for Demand Side Management (DSM)

Why Is The Financial Strength Of The Utility Important To Gainesville Residents?

- Gainesville Is Not A Wealthy Community, And Needs Us To Provide Energy At Affordable Costs.
- Competitive And Affordable Electrical Rates Factor Heavily In Bond Ratings
- Good Bond Ratings Reduce Interest Rates For:
  - Utility Debt
  - General Government Debt
- Interest Costs Are A Significant Portion Of Electric Costs

Finding The Balance

The Fundamental Questions For Tonight:

1. Are we using all possible DSM opportunities available to avoid the need for the addition of electric generation capacity in the 2011 time frame?

2. Are we using all possible Renewable Energy Sources available to maximize the displacement of additional fossil fuel fired electric generating capacity in 2011 time frame?

Here's What We Did To Answer The Questions:

- Benchmarked
  - Conservation and Renewable Energy Leaders
  - Financially Strong "AA" Rated
  - Other Florida Utilities
- Compared The Results Of Implementing Very Aggressive Conservation Goals* To The Staff Proposed Plan

*Similar to Austin Energy's

We Selected Exceptional Utilities As Benchmark Partners

- Conservation and Renewable Leaders
  - Identified as national leaders at the April 19, 2004 City Commission Workshop
- Financially Strong Utilities
  - “AA” Bond Rated Municipal Utilities
  - Only 13 out of more than 2,000 Municipal Utilities have this rating
- GRU has an “AA” bond rating

Utility Benchmarking Partners

Conservation and Renewable Energy Leaders

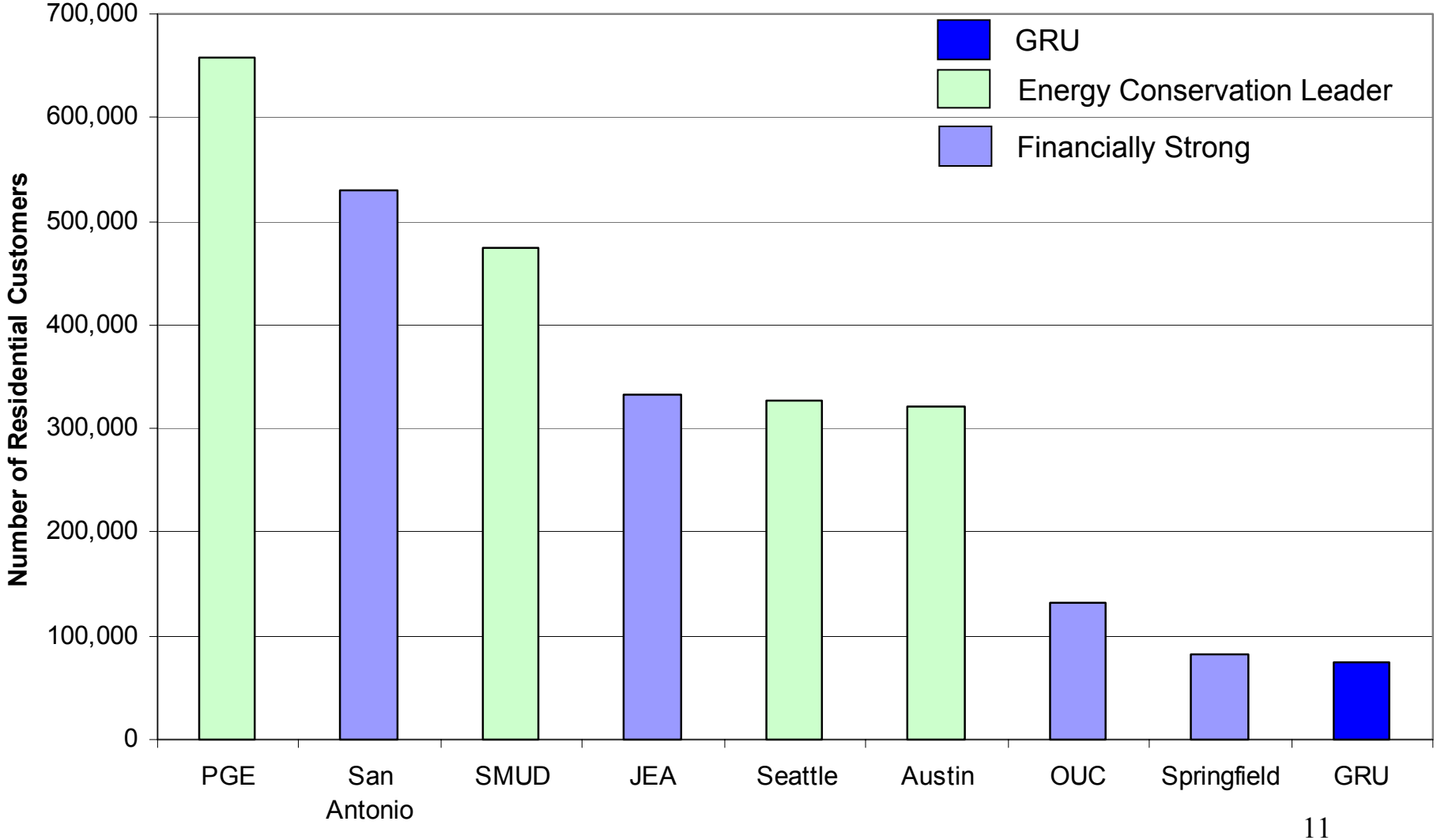
- Austin Energy
- Portland General Electric (PGE)
- Sacramento Municipal Utility District (SMUD)
- Seattle City Light

Financially Strong

- JEA (Jacksonville)
- Orlando Utilities Commission (OUC)
- San Antonio City Public Service
- City Utilities of Springfield, Missouri

Important Attributes
Of These Organizations

We Are Much Smaller Than Most Benchmarking Partners



We Are Financially Stronger Than Most

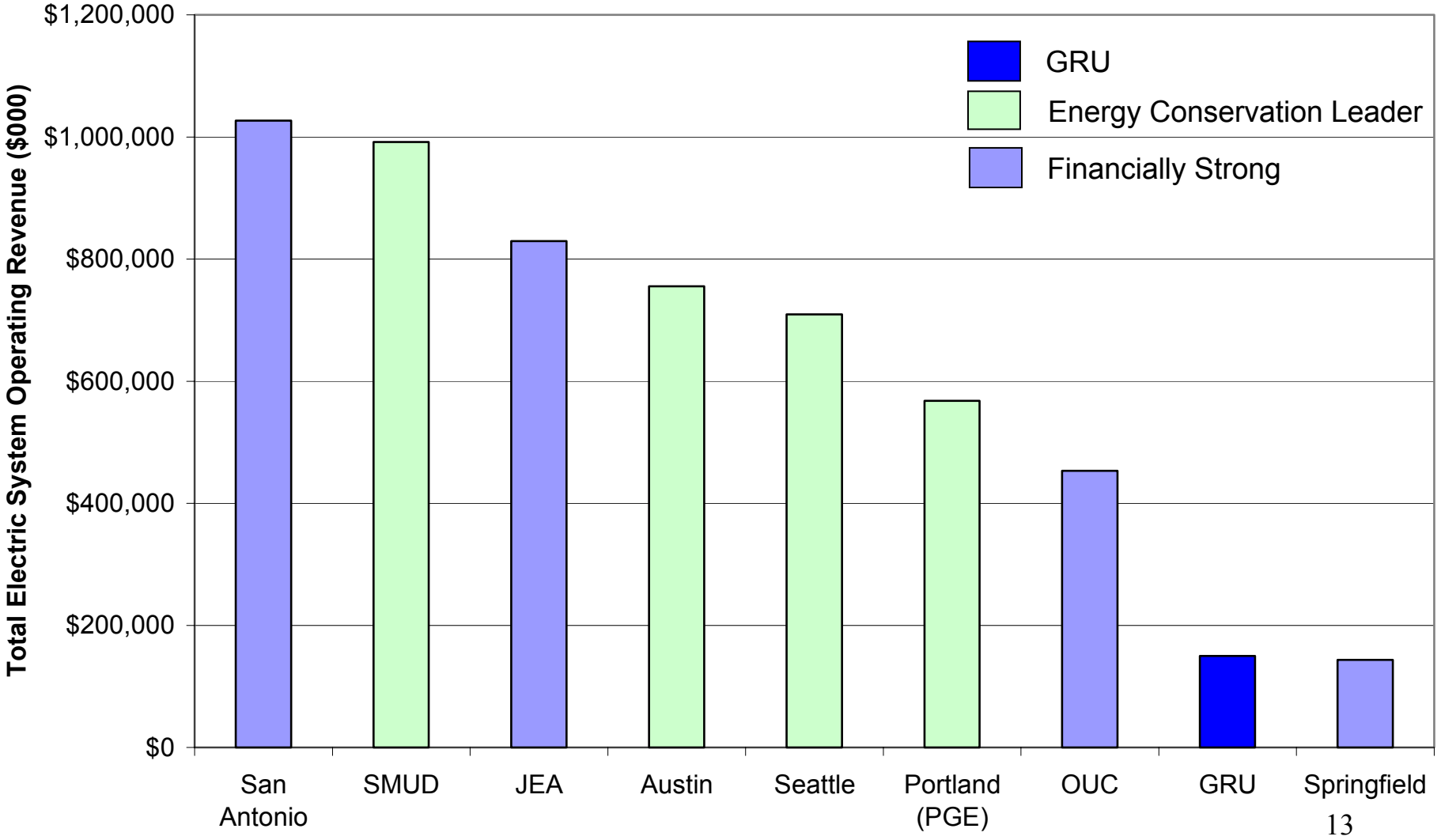
Benchmarking Partners

Financial Rankings

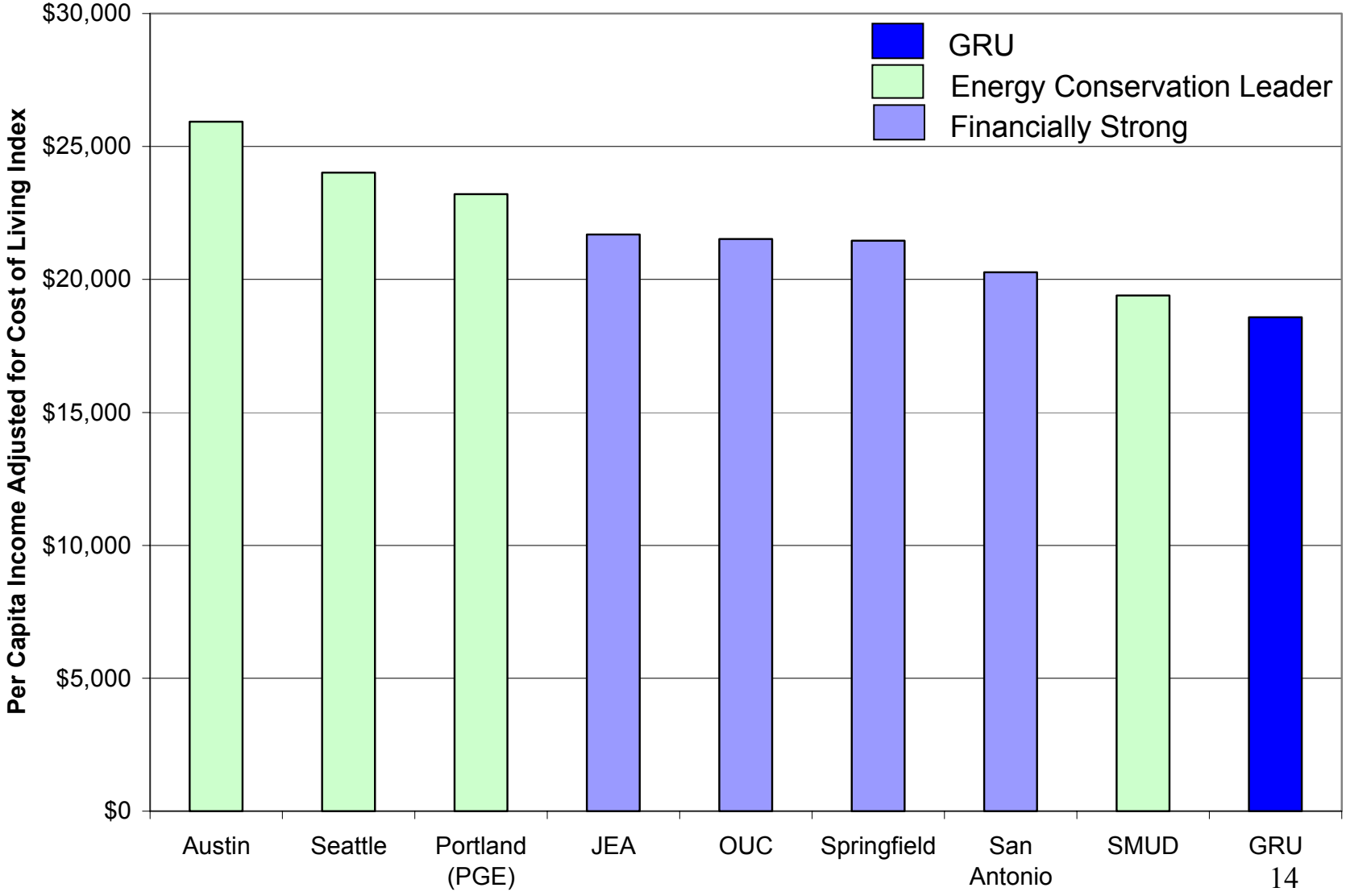
Company	Moody's	S&P	Rank
San Antonio	Aa1	AA+	1
OUC	Aa1	AA	1
GRU	Aa2	AA	1
JEA	Aa3	AA	2
Springfield	NR	AA	2
Seattle	Aa3	NR	2
SMUD	A1	A	3
Austin	A2	A	3
PGE	Baa2	BBB+	3

GRU
Energy Conservation Leader
Financially Strong

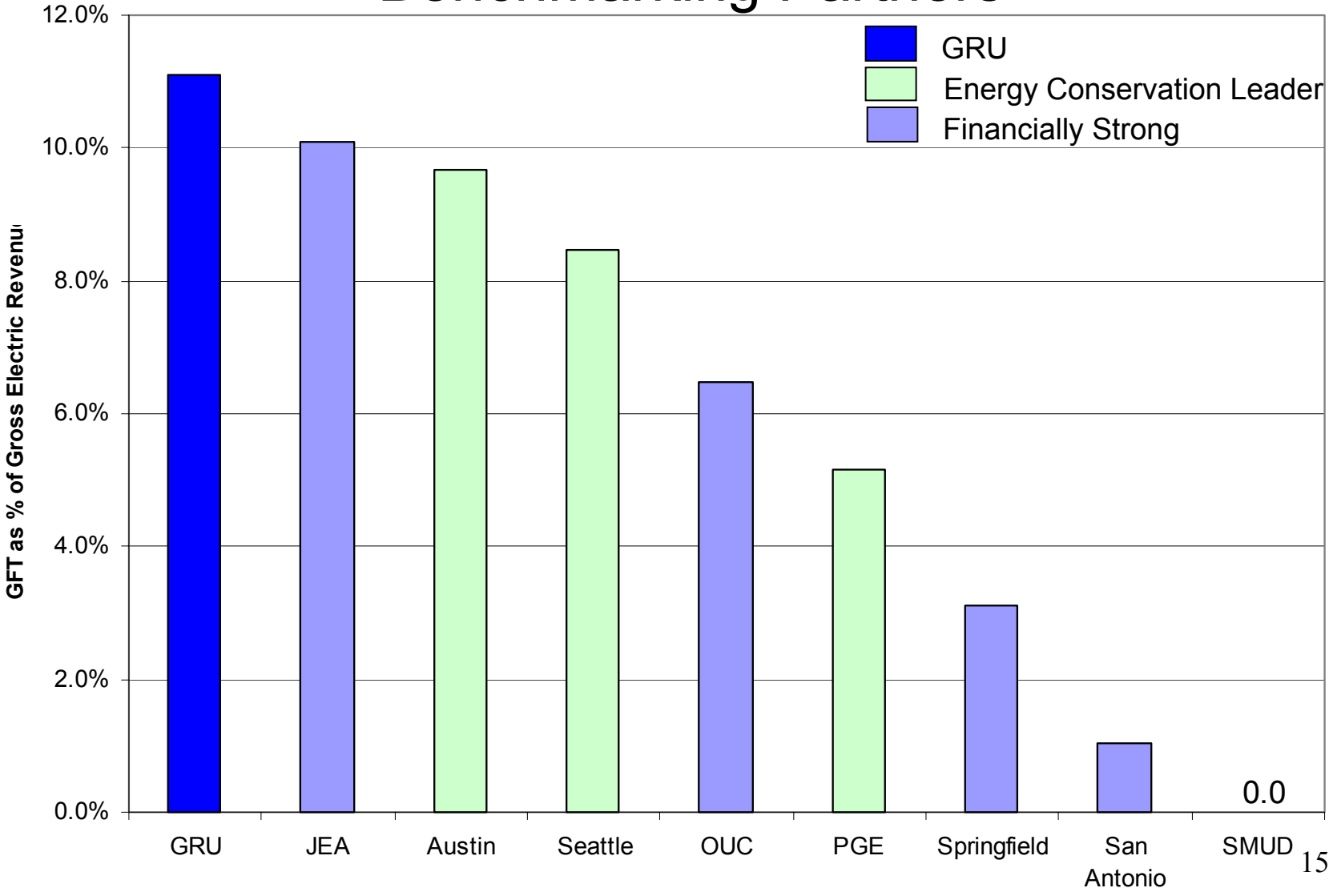
We Have "Fewer" Financial Resources Than Most Benchmarking Partners



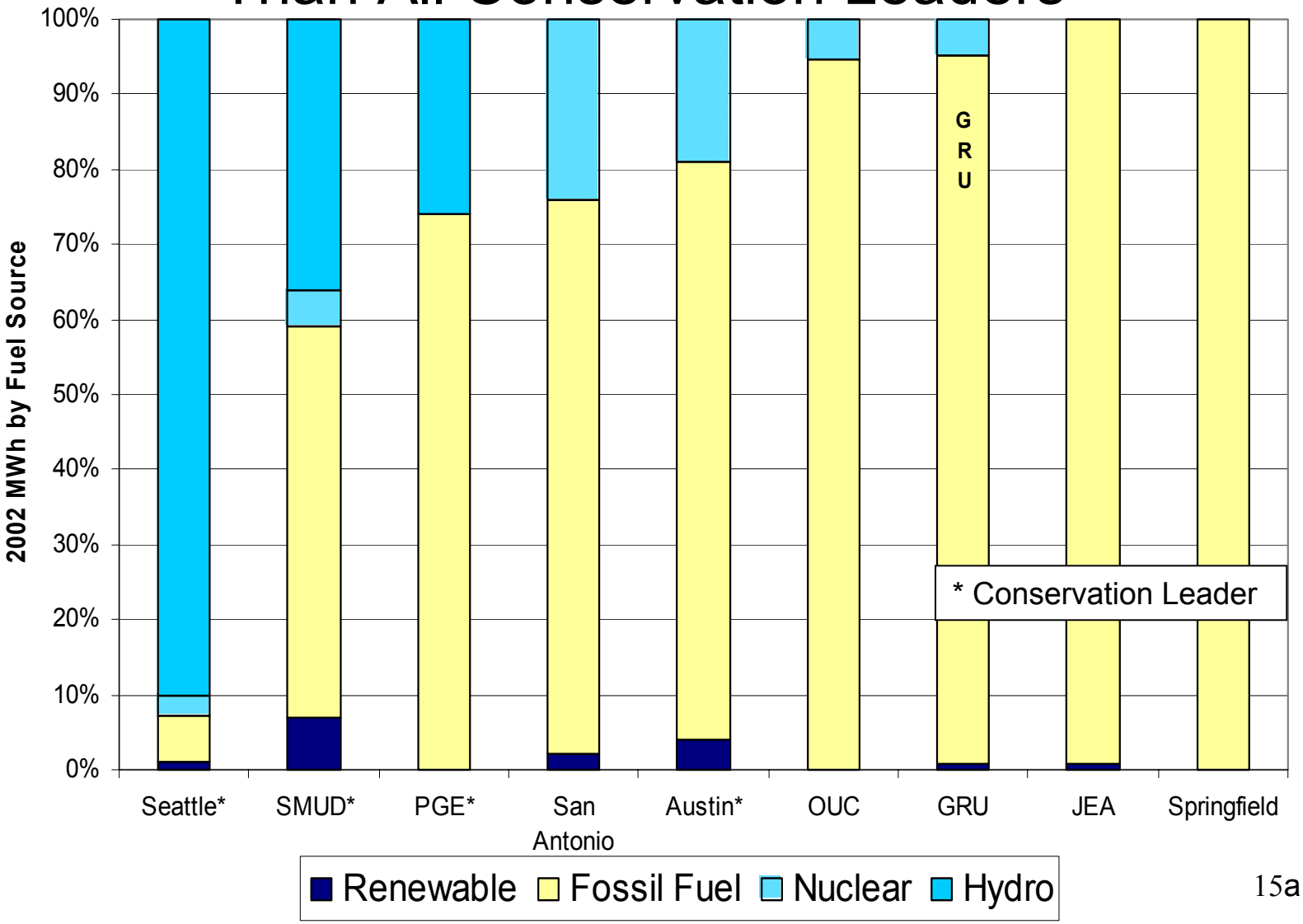
Our Customers Have Less Disposable Income To Commit To Paying Energy Costs



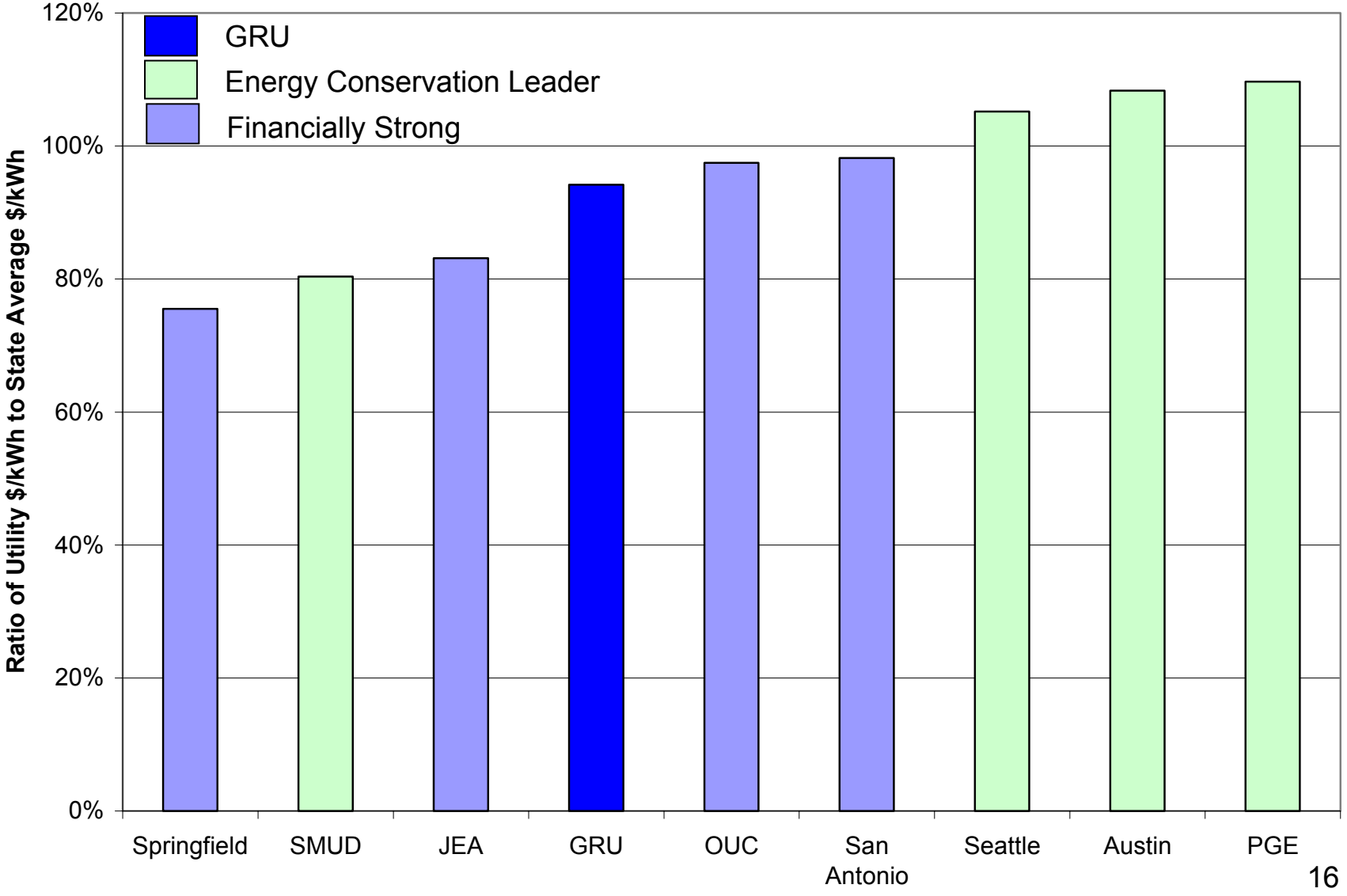
Our Community Depends More Heavily On Revenues From Our Utility Than Any Other Benchmarking Partners



Gainesville Has Much Less Access To Low Cost Energy Supply Resources Than All Conservation Leaders



We Deliver Energy To Our Customers At A Lower Relative Price Than Most Benchmarking Partners



Answers To The Two Key Questions For Tonight

Answer To Question #1:

Are We Using All The Possible Conservation To Avoid The Addition Of Generation Capacity?

a. No, we are not using all possible conservation.

b. We are proposing to use “cost effective” conservation

   - Rate Impact Measure (RIM) Test

c. The implementation of additional conservation programs, even at levels consistent with very aggressive programs observed nation-wide, will not eliminate the need for additional base load electric generating capacity in the 2011 time frame.

Answer To Question #2:

Are We Using All Possible Renewable Energy Sources To Displace Fossil Fuel Generating Capacity?

a. No, we are not proposing to use all possible renewable energy resources that may be available for this purpose.

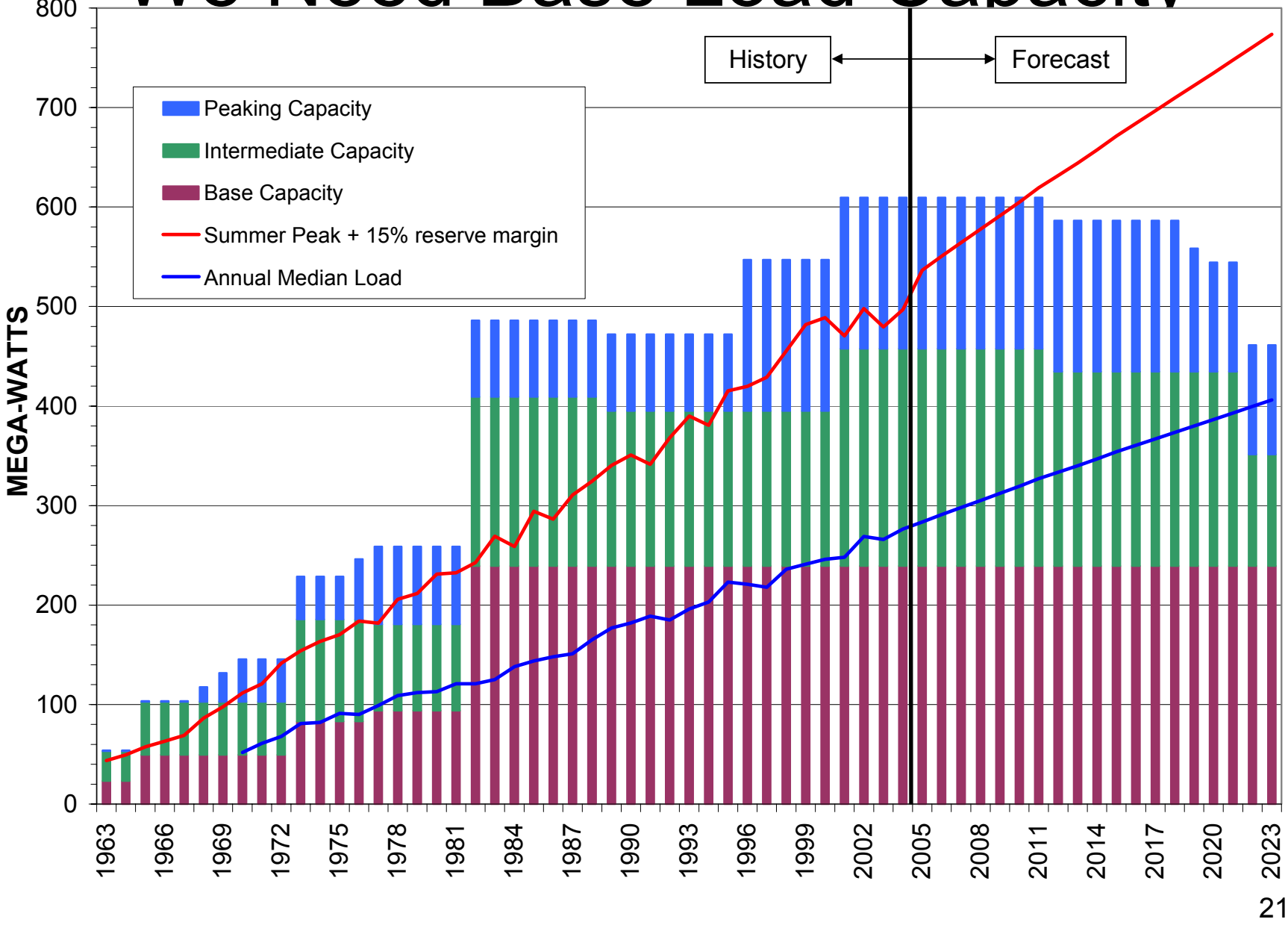
b. We are proposing the use of substantial amounts of biomass (waste wood)

c. We are proposing the use of the only regionally available renewable energy resource (waste wood) that can be implemented on a large scale in a cost effective manner.

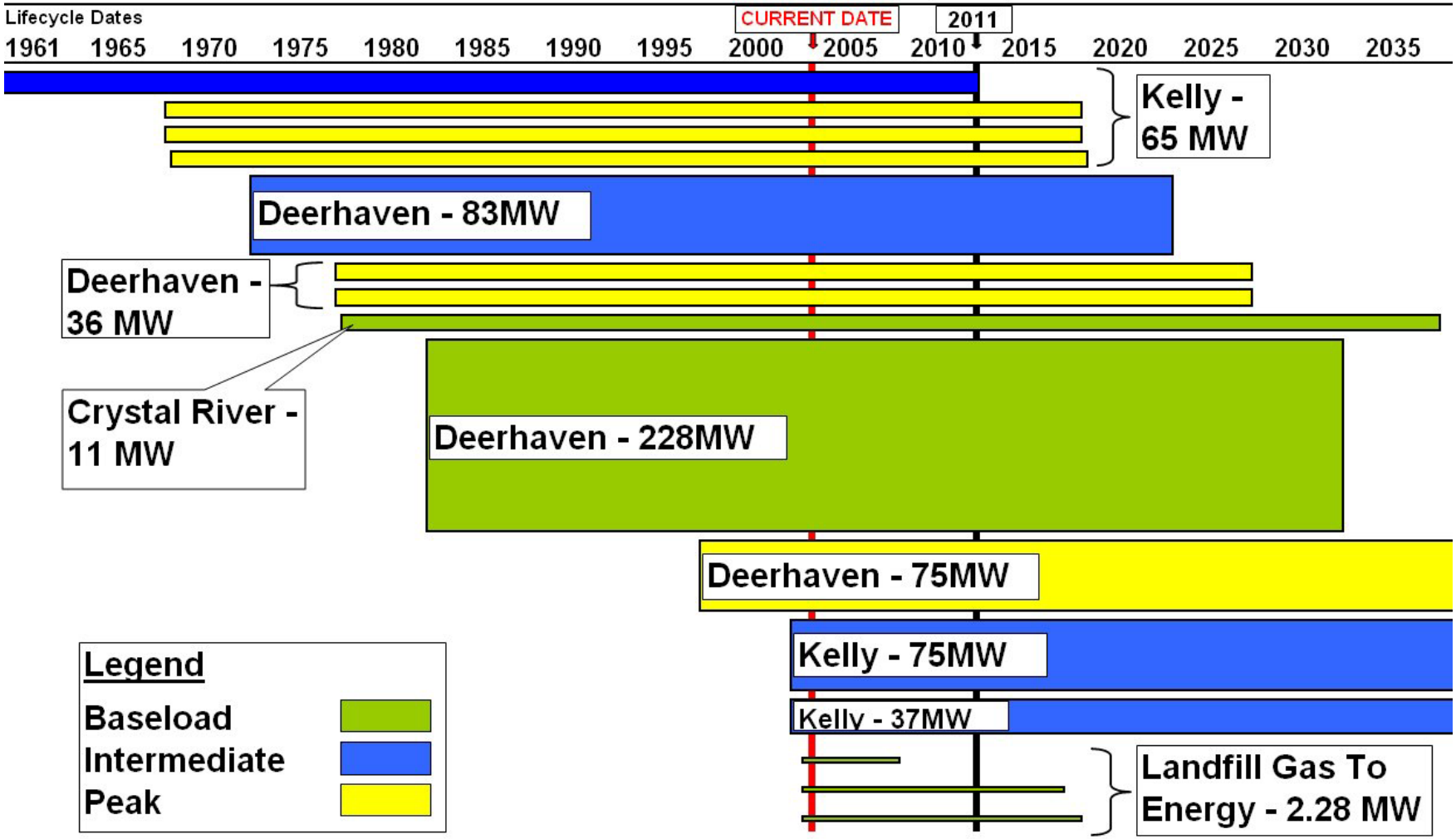
d. The use of biomass as proposed by staff will increase the “actual” use of renewable energy resources in Gainesville to a level comparable to the “goals” of the Renewable Resource Leaders nationwide.

A Brief Review

We Need Base Load Capacity



Generators Will Be Retired



Unit Retirement Schedules

Generators Will Be Retired*

Unit	Primary Fuel Type	Planned Retirement Date	Retirement Age	Cumulative Retirements MW
SW1	Landfill Gas	2009	6	1
Kelly FS07	Nat. Gas	2011	50	24
SW2	Landfill Gas	2015	12	25
Kelly GT01	Nat. Gas	2018	50	39
Kelly GT02	Nat. Gas	2018	50	53
SW3	Landfill Gas	2018	15	53
Kelly GT03	Nat. Gas	2019	50	67
Deerhaven FS01	Nat. Gas	2023	51	150

*Unit Retirements During Planning Horizon

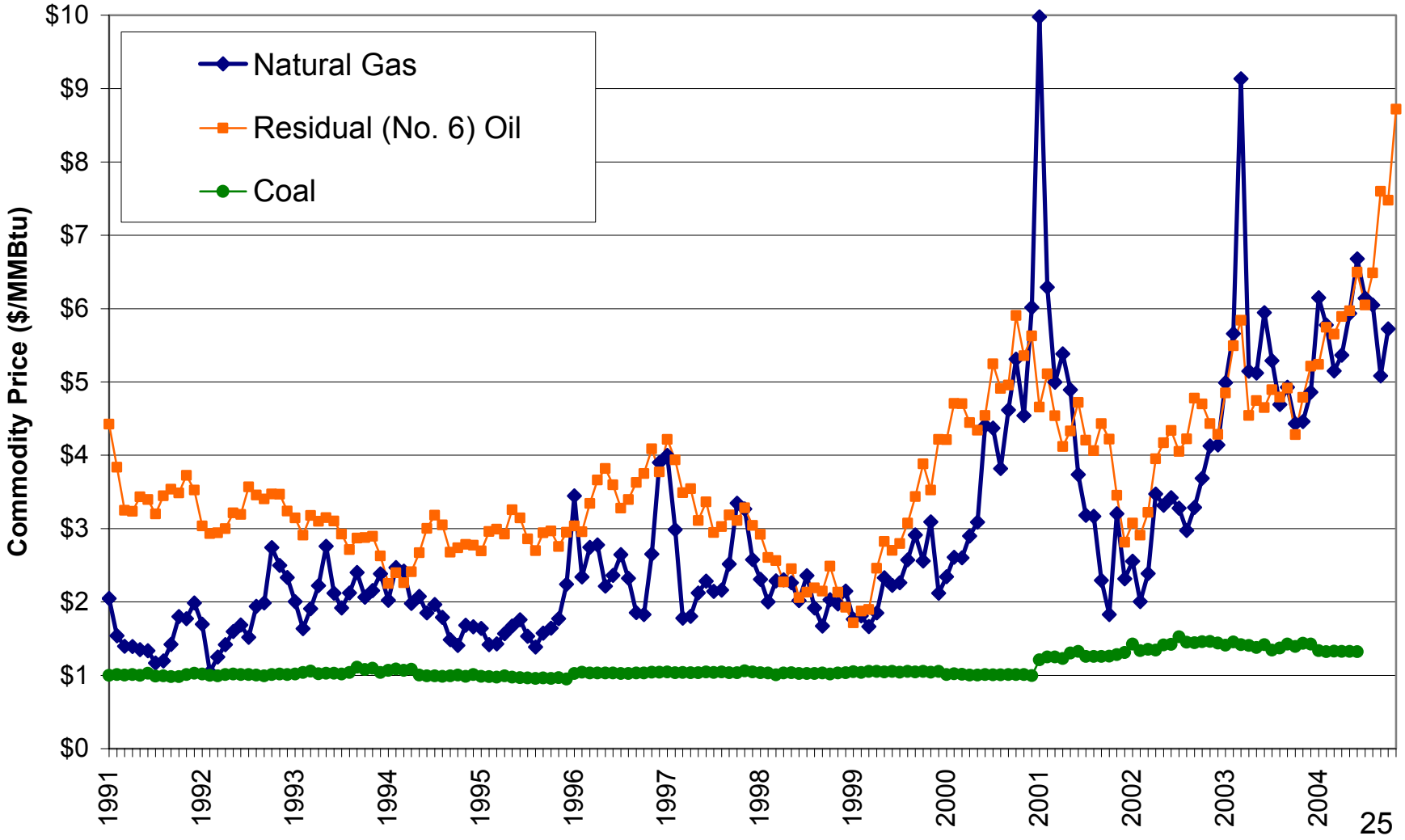
USA Oil And Gas Production Has Peaked

Fuel	Years of Reserve	% Imported
Oil	16	52%
Gas	52	18%
Coal	480	0

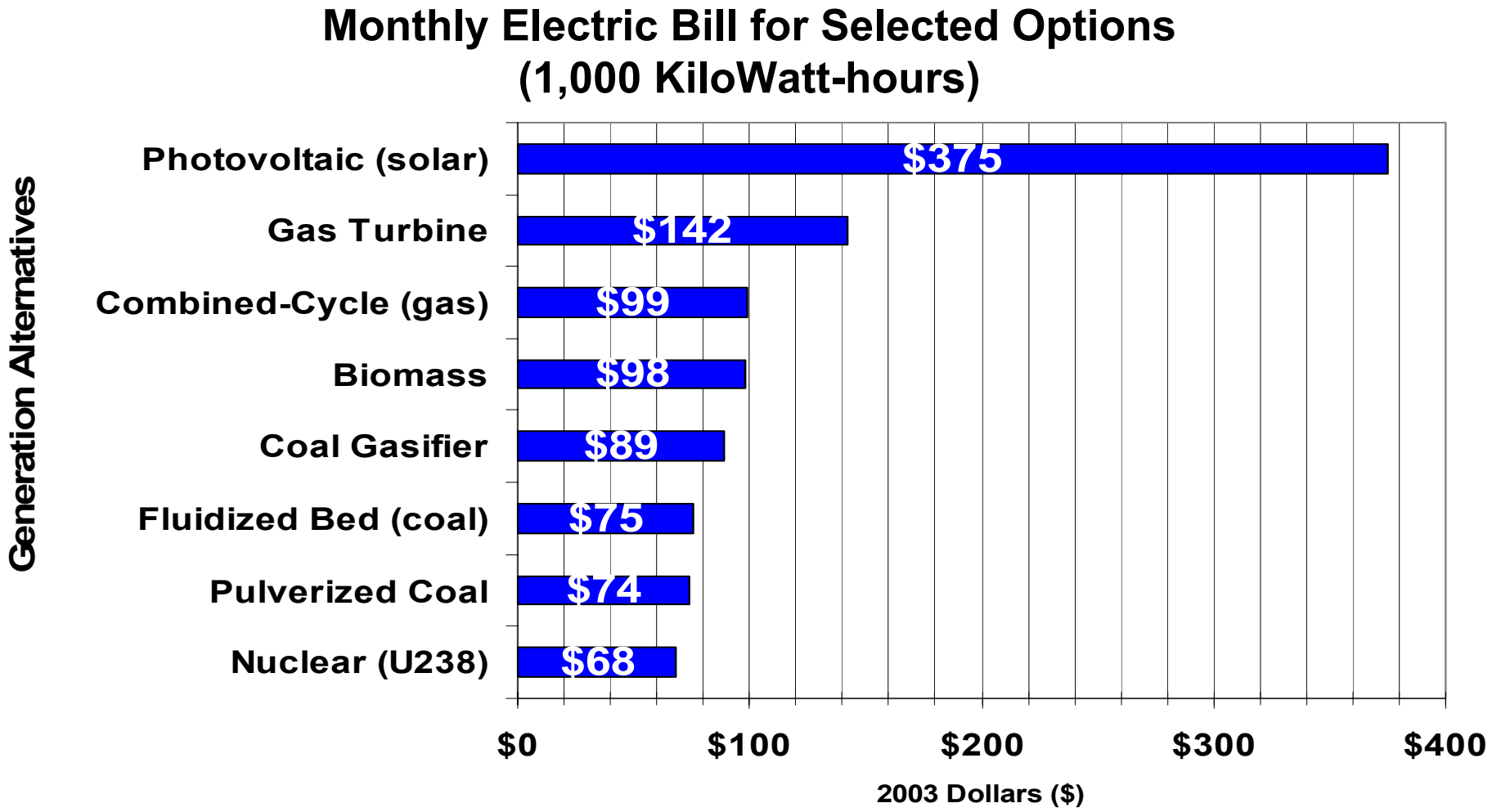
Source: U.S. DOE Energy Information Administration

We Are Concerned About The Cost Of Fuels

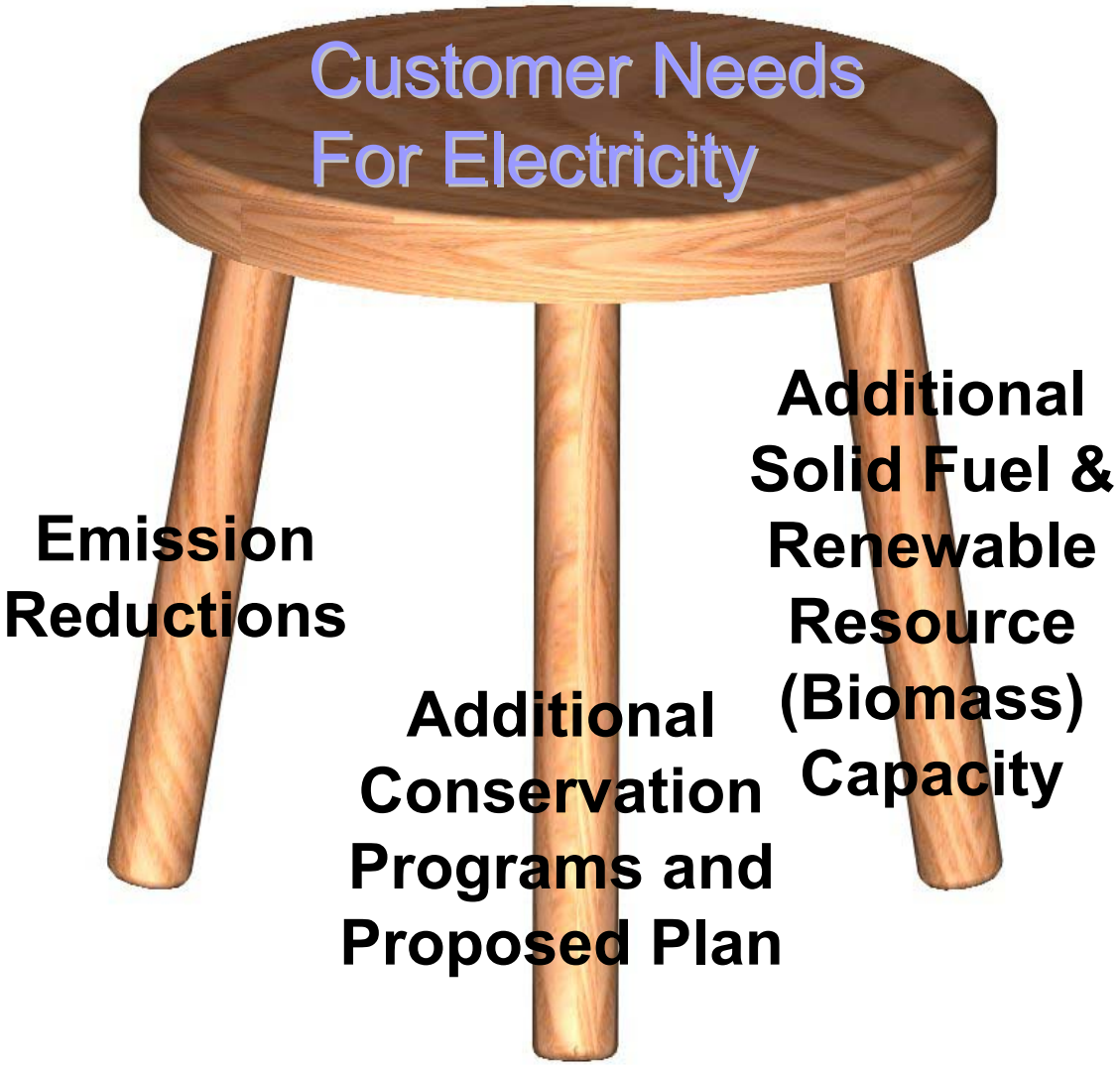
(Commodity Only)



We Evaluated Many Renewable And Fossil Based Energy Supply Alternatives



Our Proposed Plan – A Balance



Our Conservation Program And Plan

History Of Conservation Programs In Florida

1978: Public Utility Regulatory Policy Act (PURPA)

- **Mandated Residential Energy Audits**

1980: Florida Energy Efficiency And Conservation Act (FEECA)

- **Mandated Florida Public Service Commission (FPSC) set energy and demand goals**
- **RIM Test Required**

1990: FPSC 10-Year Goals submitted by GRU and approved

1992: National Energy Policy Act

- **Era of electric competition begins**

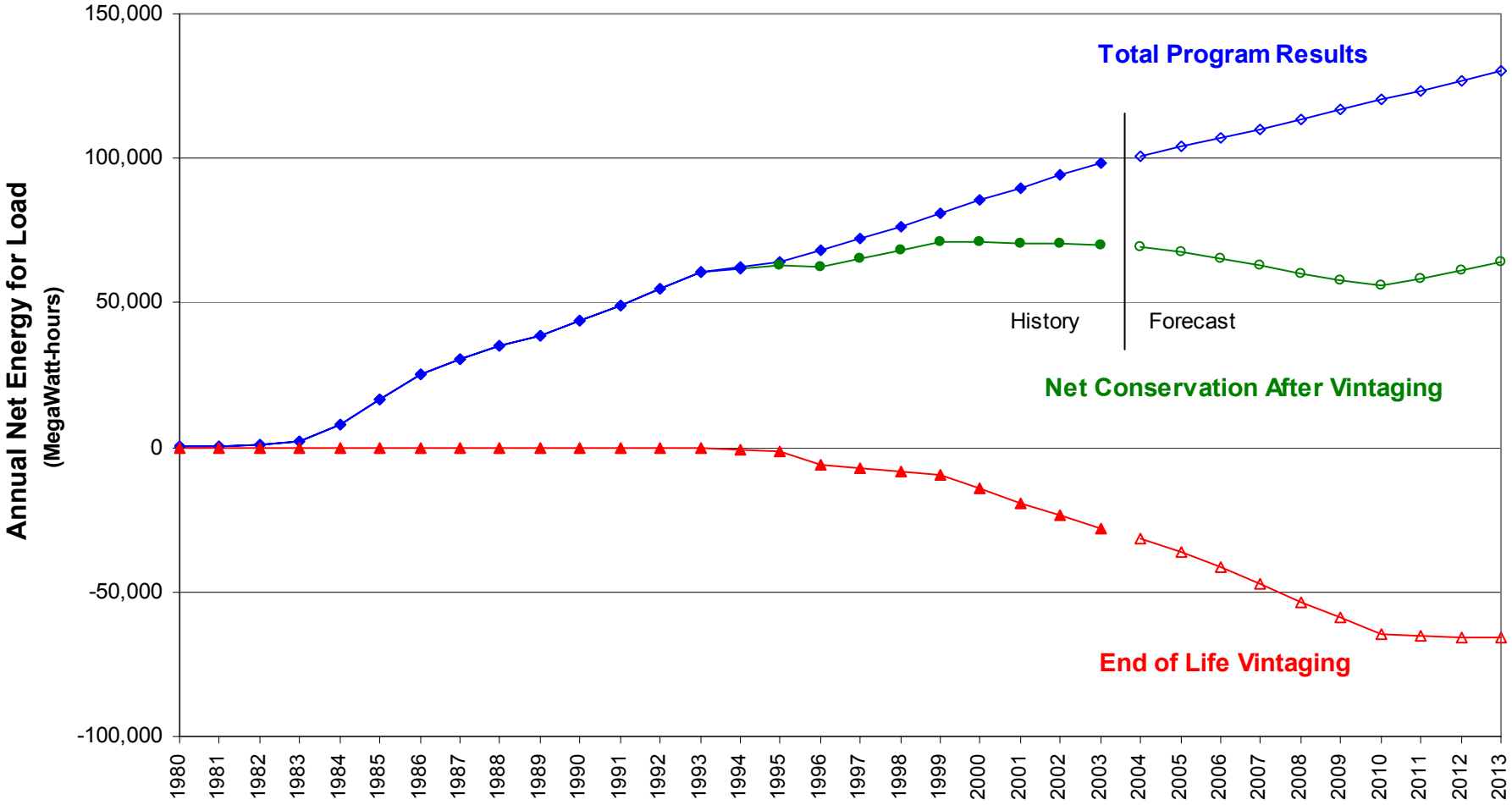
1995: GRU submitted New 10-Year Goals (to begin 1996)

1996: FEECA changed, GRU goals no longer mandated

1996-Present: Industry Role in Conservation Changing

- **Public Benefit Funds**

We Adjust For the Useful Life of Conservation Measures



Conservation Program Achievements, Plans, And Goals

Time Frame Since 1980	Conservation Program Results		
	Summer Coincident Demand Reductions (MW)	Winter Coincident Demand Reductions (MW)	Energy Reductions (MWh/Year)
Total Through 2003	21.1	45.4	98,000
Current Ten Year Plan	6.7	7.9	35,000
Total 2013 Goal	27.8	53.4	133,000

Only Our Utility Reduces Published Conservation Goals
(By Taking Vintaging Into Account)

Time Frame Since 1980	Net Effects After Vintaging*		
	Summer Coincident Demand Reductions (MW)	Winter Coincident Demand Reductions (MW)	Energy Reductions (MWh/Year)
Total Through 2003	12.4	31.0	70,000
Current Ten Year Plan	(2.4)	(14.5)	(4,000)
Total 2013 Goal	10.0	16.5	66,000

*** Energy Conservation Measures are assumed to be retired at the end of useful life to improve forecasting accuracy.**

Our Current Residential Energy Conservation Programs

- Conservation Surveys
- Self-Audit Materials
- New Construction Consultation
- Green Builder Program
- Customer Consultation
- Low-Income Weatherization
- Solar Water Heating Rebates
- Solar Electric Interconnection and Buyback
- Gas Water Heating Rebate
- Gas Heating Rebate
- Gas Range Rebate
- Gas Dryer Rebate
- Gas New Construction Rebate

- **Customer Information**

Our Current Commercial Energy Conservation Programs

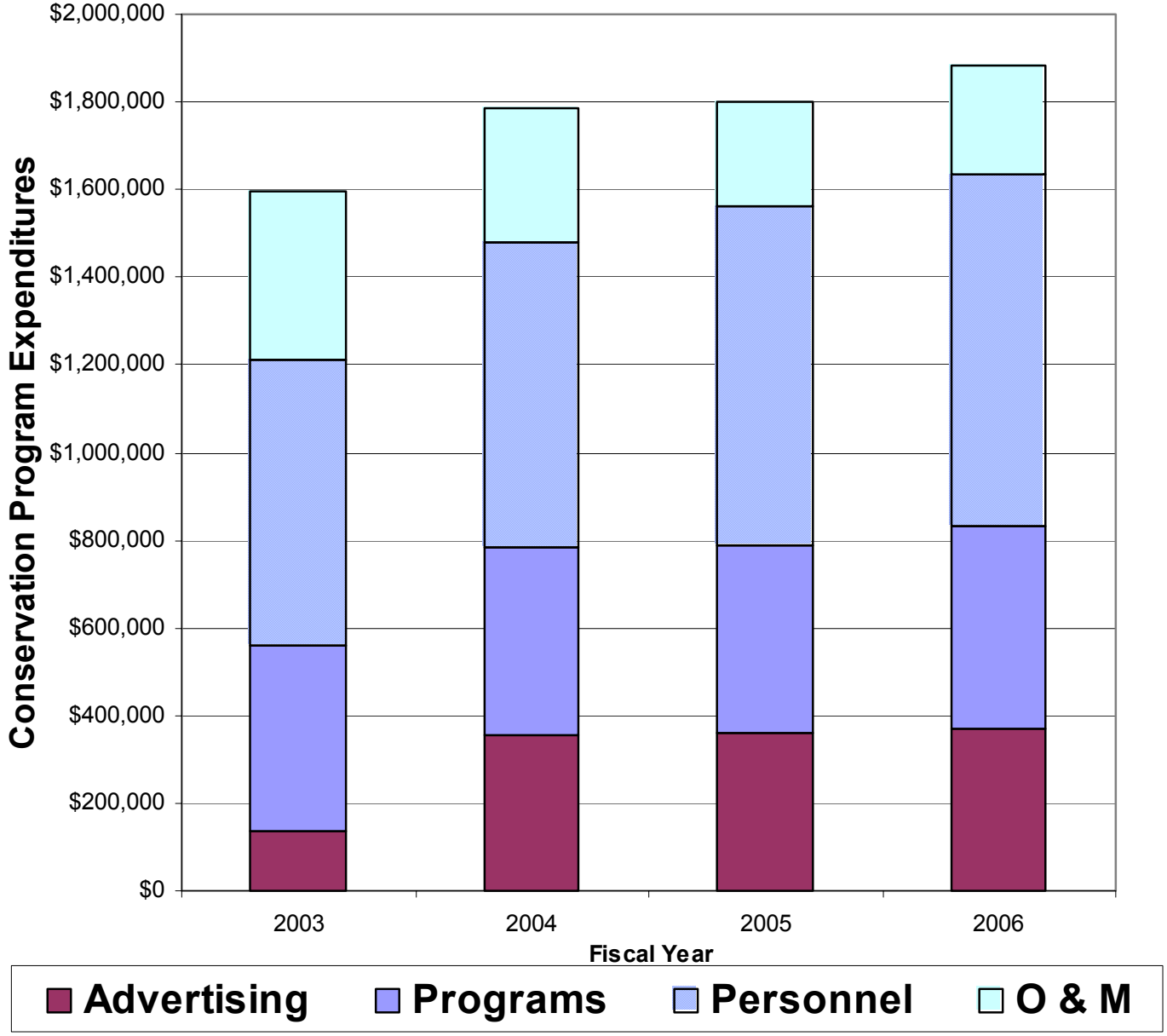
- Conservation Surveys
- Commercial Lighting Service
- Solar Water Heating Rebates
- Solar Electric Interconnection and Buyback
- Gas Air Conditioning Rebate
- Gas Dehumidification Rebate
- Gas Water Heating Rebate
- Infra-Red Scanning Service
- Business Partners Workshops
- **Customer Information**

Natural Gas is an important part of our conservation program because of its efficiency compared to electricity for heating purposes.

Conservation Programs Coming On-Line This Year

1. Higher Efficiency Central A/C Rebate
2. Higher Efficiency Room A/C Rebate
3. Central A/C Maintenance Rebate
4. Heat Recovery Unit Rebate
5. Heat Pipe Enhanced A/C Rebate
6. Reflective Roof Coating Rebate
7. Duct Leakage Repair Pilot Program

There's No Free Lunch

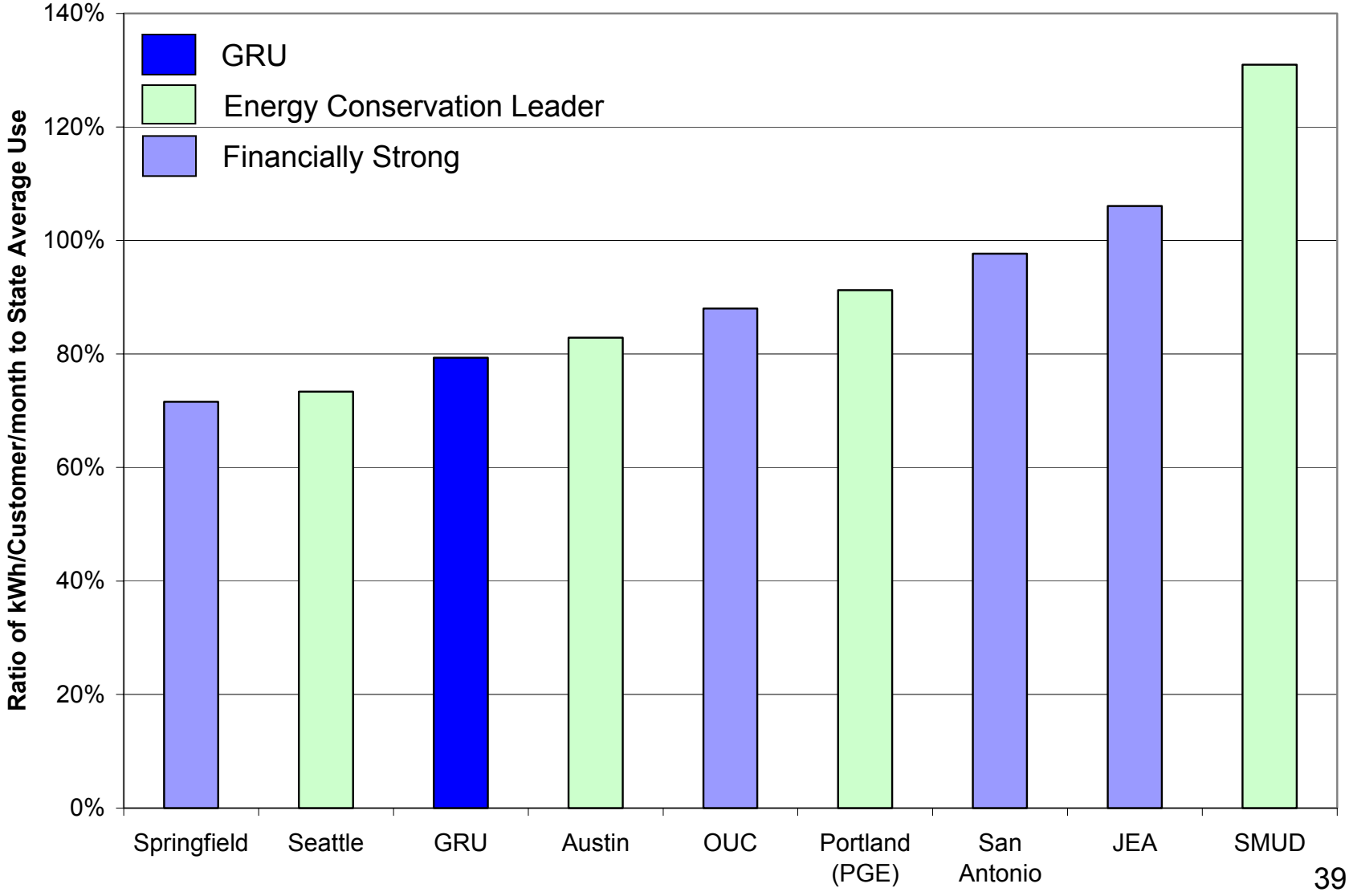


Our Supply Side Conservation Initiatives

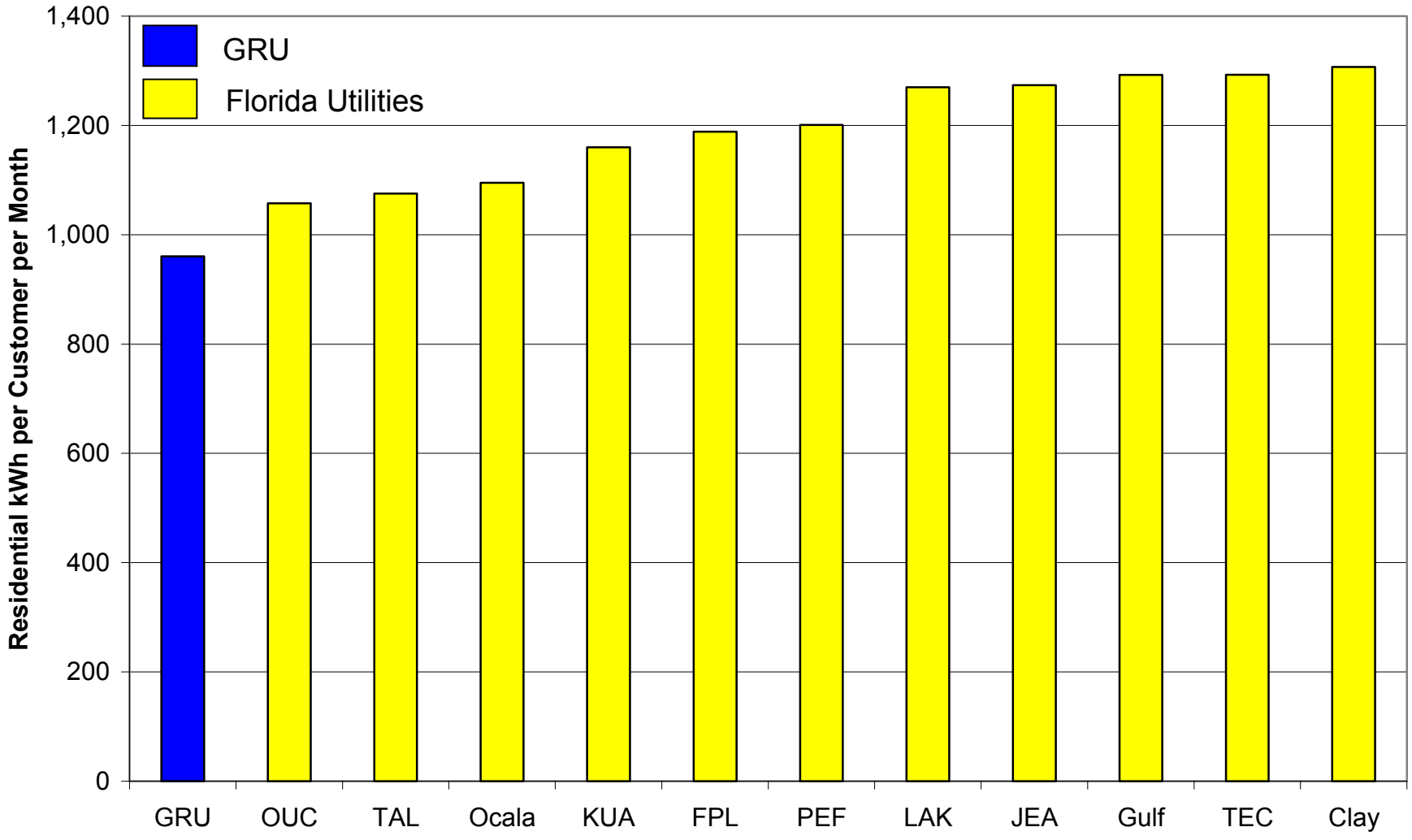
(MWh/Year)

Generation Equipment	90,730
Landfill Gas to Energy	10,775
Solar Electricty	22

Gainesville Customers Already Use Less Electricity Than Most of The Customers Of Conservation Leaders



Gainesville Customers Already Use Less Electricity Than Other Utilities In Florida



Residential Program Findings

- Low-cost ideas to improve customer access to information and to support local trades
- Our residential programs are comparable to Conservation Leaders with the exception of:
  - Amount of Low Income Weatherization
  - Direct Load Control
    - Under evaluation
- We are developing a plan for an unified program for Low Income Weatherization Assistance
  - Community Energy Cooperative (Chicago)
  - Multi-Agency Approach

Commercial Program Findings

- Our commercial programs are less complete and should be enhanced
- Developing a plan for Commercial HVAC Efficiency Improvements
  - Local Innovation - MACTEC
  - Measurement and Verification Plan
  - Program Delivery Plan

Conservation Program Planning Criteria

All The Financially Strong Utilities Use The "RIM" Test for DSM Planning

- Rate Impact Measure (RIM) Test
  - Passing the RIM test means the implemented programs will not increase electric rates for any customer.
- The Total Resource Cost (TRC) Test
  - Programs implemented using this criteria will benefit some, but not all customers.

No Energy Conservation Leaders Use The RIM Test

Company	Uses the RIM Test?
GRU	Yes
OUC	Yes
San Antonio	Yes*
JEA	Yes
Springfield	Yes
Seattle	No
SMUD	No
Austin	No
Portland (PGE)	No

* Uses the Utility Test (similar to the RIM Test)

Why Should GRU Use The RIM Test?

- It Is Consistent With The Goal To Deliver Affordable Energy Prices
  - Least Wealthy Community Of All Benchmark Partners
- Underlying Cost Factors Are More Constrained In Gainesville
  - Much Less Access To Low Cost Power Supplies Than Is Available To Conservation Leaders
  - Highest General Fund Transfer Of All Benchmarking Partners
  - No State Public Benefit Funds to Offset The Cost of Conservation Programs that do not meet the RIM Test

Some States Pay For Energy Conservation Programs – Not Florida

- Public Benefits Programs as of February 2003

  California: SMUD

  Oregon: PGE

  Texas*

* Available to municipalities that opt in to the market

Conclusion

- Staff recommends that, given the socio-economic characteristics of our community, it is prudent to continue using the Rate Impact Measure Test
- Exceptions to the RIM Test should only be considered for customer information programs or to address the basic human needs of low income customers

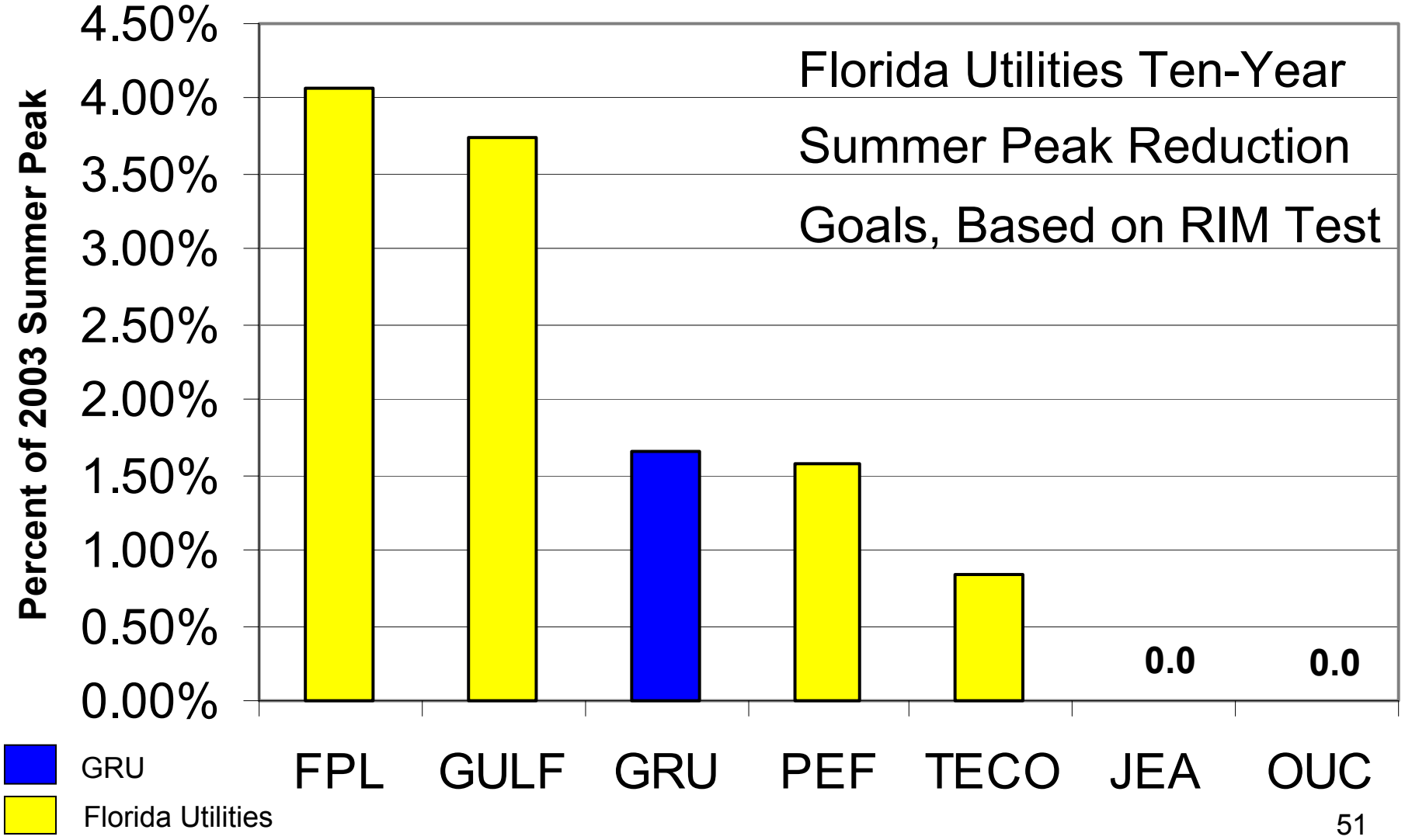
Comparison Of Conservation Goals

Here's How Our Conservation Goals Compare

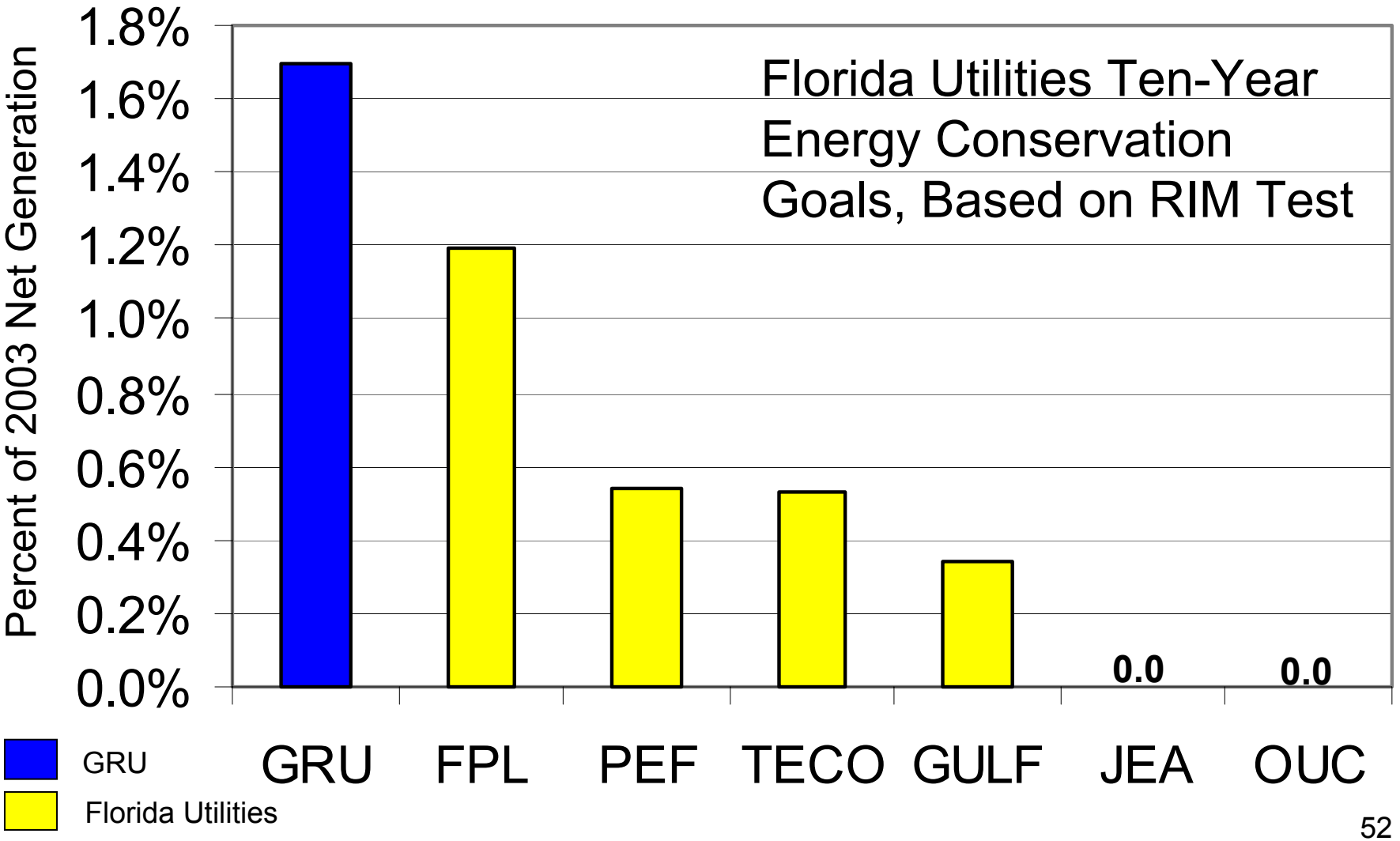
TEN-YEAR INCREMENTAL CONSERVATION GOALS AS PERCENT OF 2003 SALES			
	Summer Peak Impacts	Winter Peak Impacts	Energy Reduction Impacts
Austin[1]	< 15%	-	< 15%
Seattle	-	4.3%	9.2%
PGE[2]	-	5%	5%
SMUD	4.3%	-	4.0%
GRU	1.7%	2.2%	1.7%
JEA	0.0%	0.0%	0.0%
OUC	0.0%	0.0%	0.0%
San Antonio[3]	0.0%	0.0%	0.0%
Springfield	0.0%	0.0%	0.0%

Notes:
1 Incremental Goals Not Reported
2 PGE Goal is 20% of Load Growth converted to pct. 2003 sales
3 Goals Under Development

Only Two Florida Utilities Have Higher Demand Reduction Goals Than Gainesville



Gainesville Has The Highest Energy Conservation Goals Of All Florida Utilities



Conclusions

There may be additional cost-effective programs for summer peak demand reductions

Testing Very Aggressive Goals On Our System

Here's How Our Test Scenario Compares

TEN-YEAR INCREMENTAL CONSERVATION GOALS AS PERCENT OF 2003 SALES		
	Summer Peak Impacts	Energy Reduction Impacts
TEST SCENARIO	**12.0%**	**8.6%**
Austin[1]	< 15%	<15%
Seattle	-	9.2%
Portland[2]	5.0%	5.0%
SMUD	4.3%	4.0%
GRU	**1.7%**	**1.7%**
JEA	0.0%	0.0%
OUC	0.0%	0.0%
San Antonio[3]	0.0%	0.0%
Springfield	0.0%	0.0%

Notes:

1 Incremental Goals Not Reported

2 Goal is 20% of Growth, converted to pct. 2003 Sales

3 Goals Under Development

Goals Similar To Austin's Will Not Change Our Need For Base Load Capacity

Amount of Capacity Additions Needed

Type of Additional Capacity	Year	Current Plan (MW)	12% More Peak Reduction (MW)
Build Base Load Capacity	2011	220	220
Build Peaker	2022	76	0
Peaking Power Purchase	2022	20	40
Peaking Power Purchase	2023	20	20
Intermediate Power Purchase	2023	20	20

Conclusions

Substantially more aggressive conservation goals will not eliminate the need for additional base load generating capacity.

Comparison Of Renewable Energy Goals

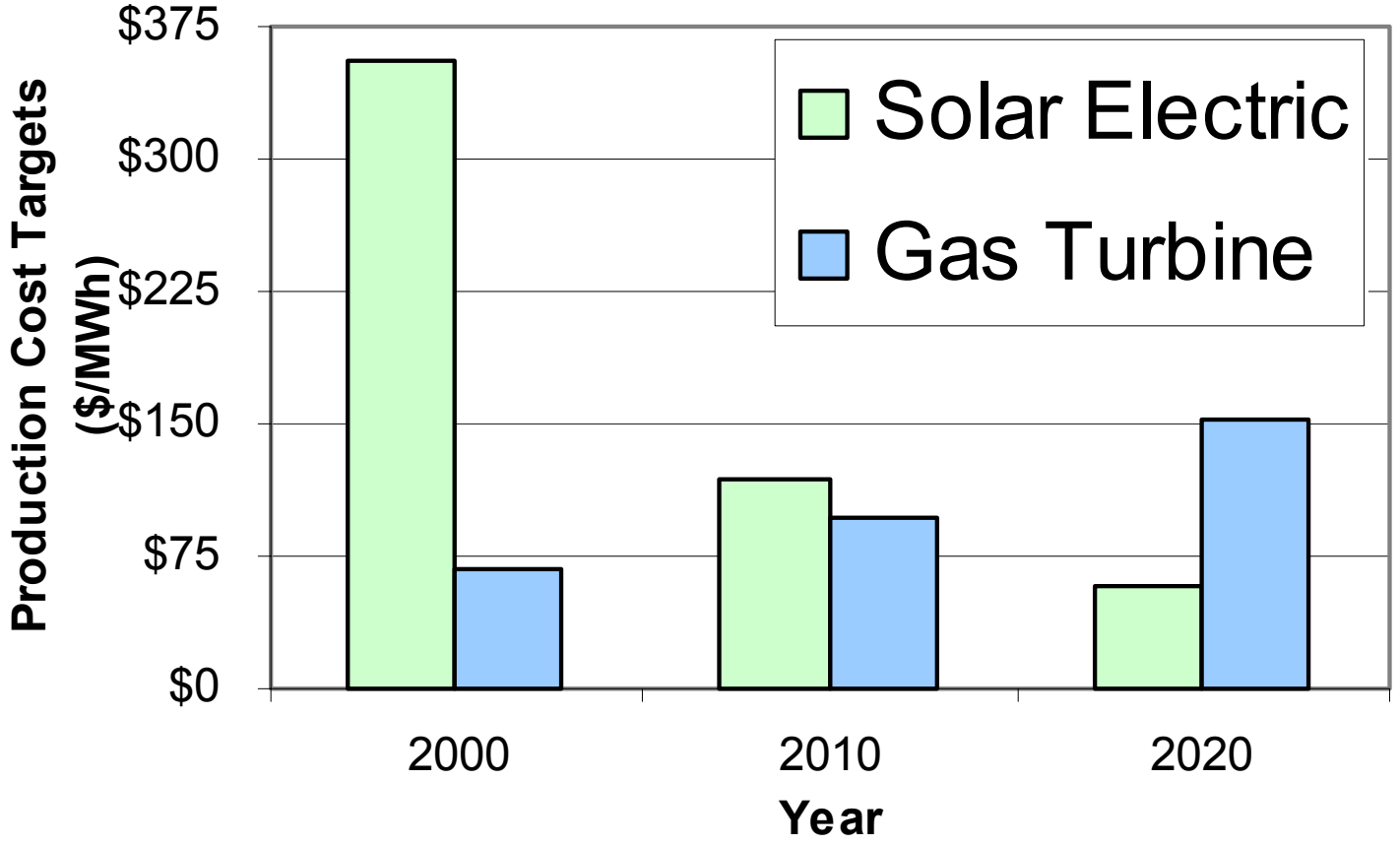
Renewable Resources In Florida Are Limited

- **Biomass**
  - Waste Wood
  - Municipal Solid Waste - Landfill Gas
- **Solar**
  - Photovoltaic
  - Thermal
  - Passive solar design

Current Renewable Supply Portfolios

	Biomass	Wind	Geothermal	Solar Electric	Total
SMUD	3.8%	0.98%	2%	0.18%	7.0%
Austin	0.4%	3.52%	0%	0.04%	4.0%
San Antonio	0.0%	2.20%	0%	<0.01%	2.2%
Seattle	0.0%	1.10%	0%	<0.01%	1.1%
GRU	0.3%	0.02%	0%	<0.01%	0.3%
JEA	0.2%	0.00%	0%	<0.01%	0.2%
OUC	0.0%	0.00%	0%	<0.01%	0.0%
Springfield	0.0%	0.00%	0%	0.00%	0.0%
PGE	0.0%	0.00%	0%	<0.01%	0.0%

Photovoltaic Electricity May Some Day Become A Viable Summer Peaking Option



Source for Solar Data: "REDUCING THE COSTS OF GRID-CONNECTED PHOTOVOLTAIC SYSTEMS" ASME Solar Forum 2001

Biomass From Forestry Waste Is Relatively Abundant

- Post/Cunilio Biomass Resource Assessment
  - Logging/Trimming/Clearing (944 tons/day)
  - Pine Stumps (480 tons/day)
- Black & Veatch Evaluation
  - Energy Yield: 34% Lower Than Post/Cunilio Estimate
  - Stump Use May Not Be Practical
  - Forestry Waste will support our project

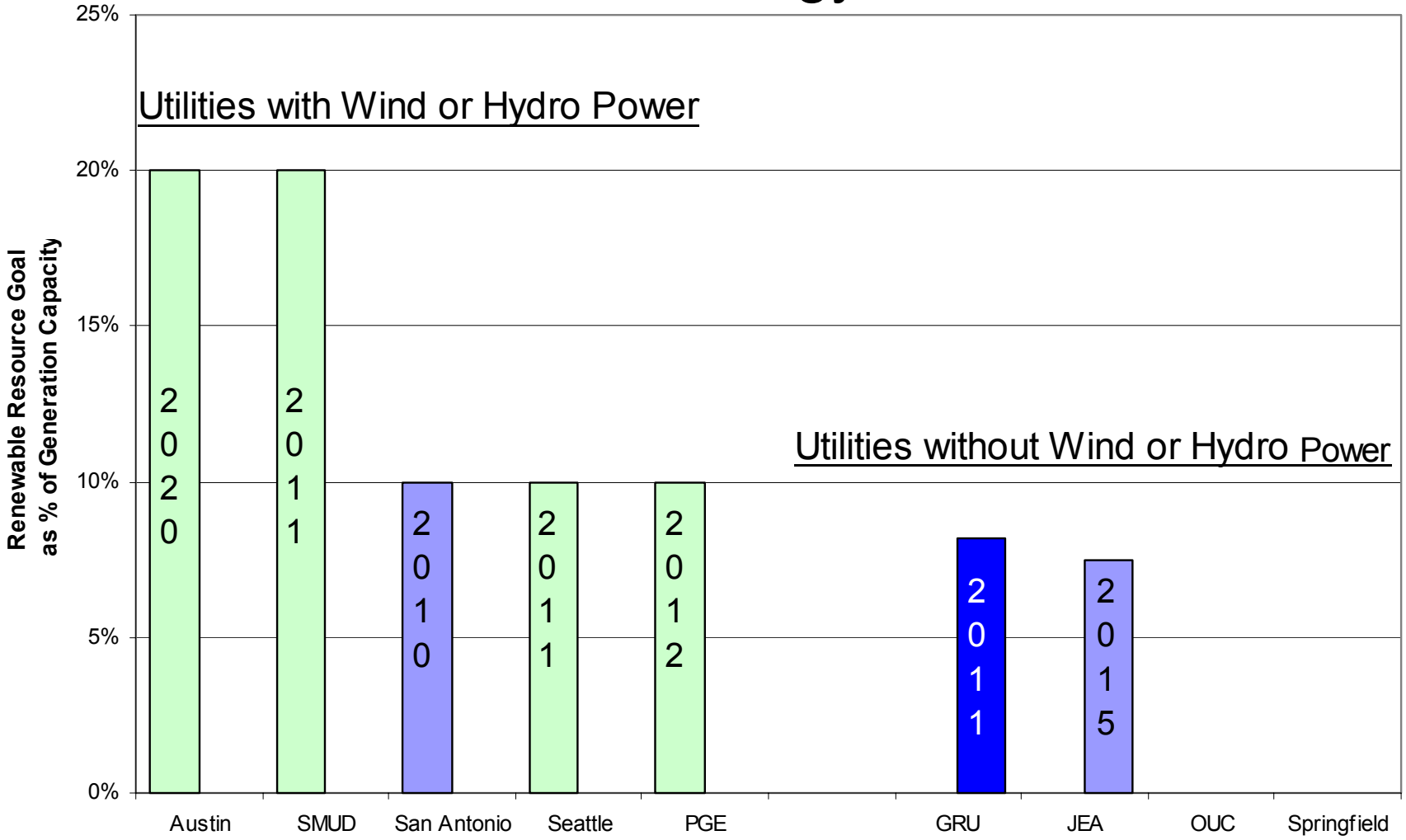
We Can Make Renewable Energy Affordable

Waste Wood Alternative	Cost ($/kW)
Stand Alone (Stoker Grate)	$2000 to $2500
Gasification (DH2)	$400 to $700
Co-firing (DH2)	$300 to $400
Co-firing (220 MW CFB)	$150 to $300

Our Proposed Plan Compared To Renewable Energy Goals

	Current Portfolio	Renewable Goals
SMUD	7.0%	20.0%
Austin	4.0%	20.0%
San Antonio	2.2%	10.0%
Seattle	1.1%	10.0%
GRU	0.3%	8.2%
JEA	0.2%	7.5%
OUC	0.0%	0.0%
Springfield	0.0%	0.0%
Portland (PGE)	0.0%	10.0%

The Proposed Project Will Bring Our Community To A level That Will Be Comparable To Many Renewable Energy Leaders



Answer To Question #1:

Are We Using All The Possible Conservation To Avoid The Addition Of Generation Capacity?

a. No, we are not using all possible conservation.

b. We are proposing to use “cost effective” conservation

   - Rate Impact Measure (RIM) Test

c. The implementation of additional conservation programs, even at levels consistent with very aggressive programs observed nation-wide, will not eliminate the need for additional base load electric generating capacity in the 2011 time frame.

Answer To Question #2:

Are We Using All Possible Renewable Energy Sources To Displace Fossil Fuel Generating Capacity?

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d. The use of biomass as proposed by staff will increase the “actual” use of renewable energy resources in Gainesville to a level comparable to the “goals” of the Renewable Resource Leaders nationwide.

Thank You