

**Florida Public Service Commission
2013 Ten-Year Site Plan Workshop
FRCC Presentation**

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President and CEO**

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Agenda

Executive Summary

FRCC Load & Resource Plan

- Load Forecast, Generation Additions, Reserve Margins, Fuel Mix
- Renewable Resources and Demand Side Management (DSM)

FRCC Fuel Reliability

- Natural Gas Energy Production in Florida
- Natural Gas Infrastructure in Florida

FRCC Transmission Planning

- FRCC Regional Transmission Planning Process
- Crystal River Unit Retirements
- Status of FERC Order 1000

Florida Reliability Coordinating Council

The purpose of the
Florida Reliability Coordinating Council is to
promote and enhance
the reliability and adequacy
of the bulk electricity supply in Florida,
now and into the future.

Executive Summary

- Planned Reserve Margins $> 20\%$ (although resource mix is changing towards greater dependency upon Demand Side Management resources)
- Demand Response^{1/} reduces load (MW) at peak by 7% throughout the 10-year horizon
- Utility-sponsored Energy Efficiency/Energy Conservation programs reduce load (MW) at peak by 2.8% by 2022
- Additional Energy Efficiency delivered through mandated codes and standards accounted for in load forecast reduces load (MW) at peak by at least 3.7% by 2022
- Renewables are 3,150 GWh (1.2%) of energy served by 2022

^{1/}Demand Response = Load Control + Interruptible programs; i.e. dispatchable DSM

Executive Summary

(Continued)

- Energy production from natural gas expected to increase 13.2% by 2022
- 96% of the gas pipeline capacity into Florida is subscribed
- Impact of EPA regulations:
 - RICE^{1/} rule projected to negatively impact Commercial/Industrial Demand Response projections
 - Prospective 2015 retirements at Crystal River due to MATS^{2/} would have transmission impacts
 - Mitigation plans are being developed

^{1/}RICE: Reciprocating Internal Combustion Engine

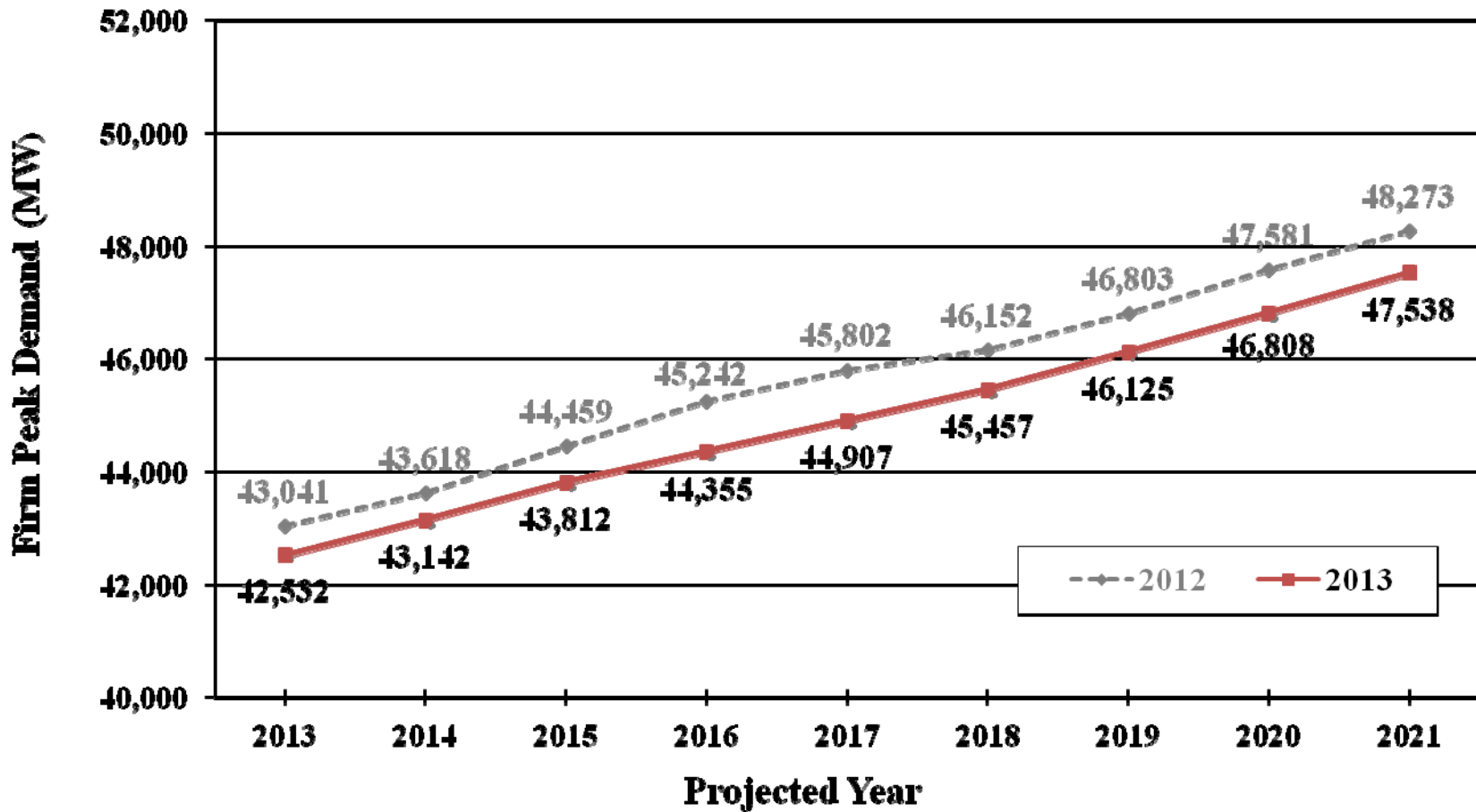
^{2/}MATS: Mercury and Air Toxics Standard

FRCC Load & Resource Plan

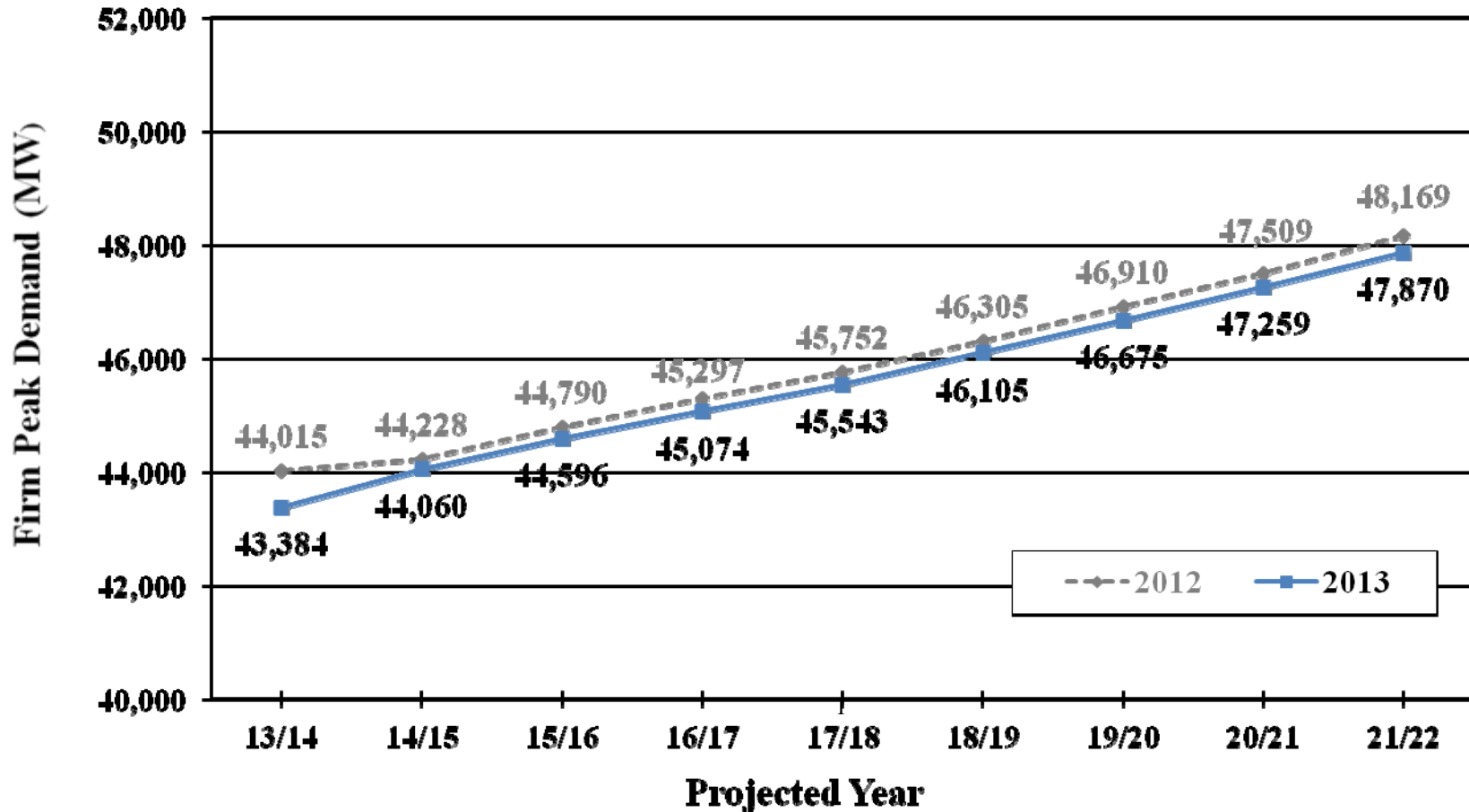
Load Forecast Factors

- Florida unemployment (actual) continues to decrease
- Population continues to pick up momentum
- Florida's Gross State Product (GSP) levels lower than expected in 2011-12; new projections show slightly slower recovery
- Forecasted energy sales and peak demands are lower in 2013 TYSP compared to 2012 TYSP

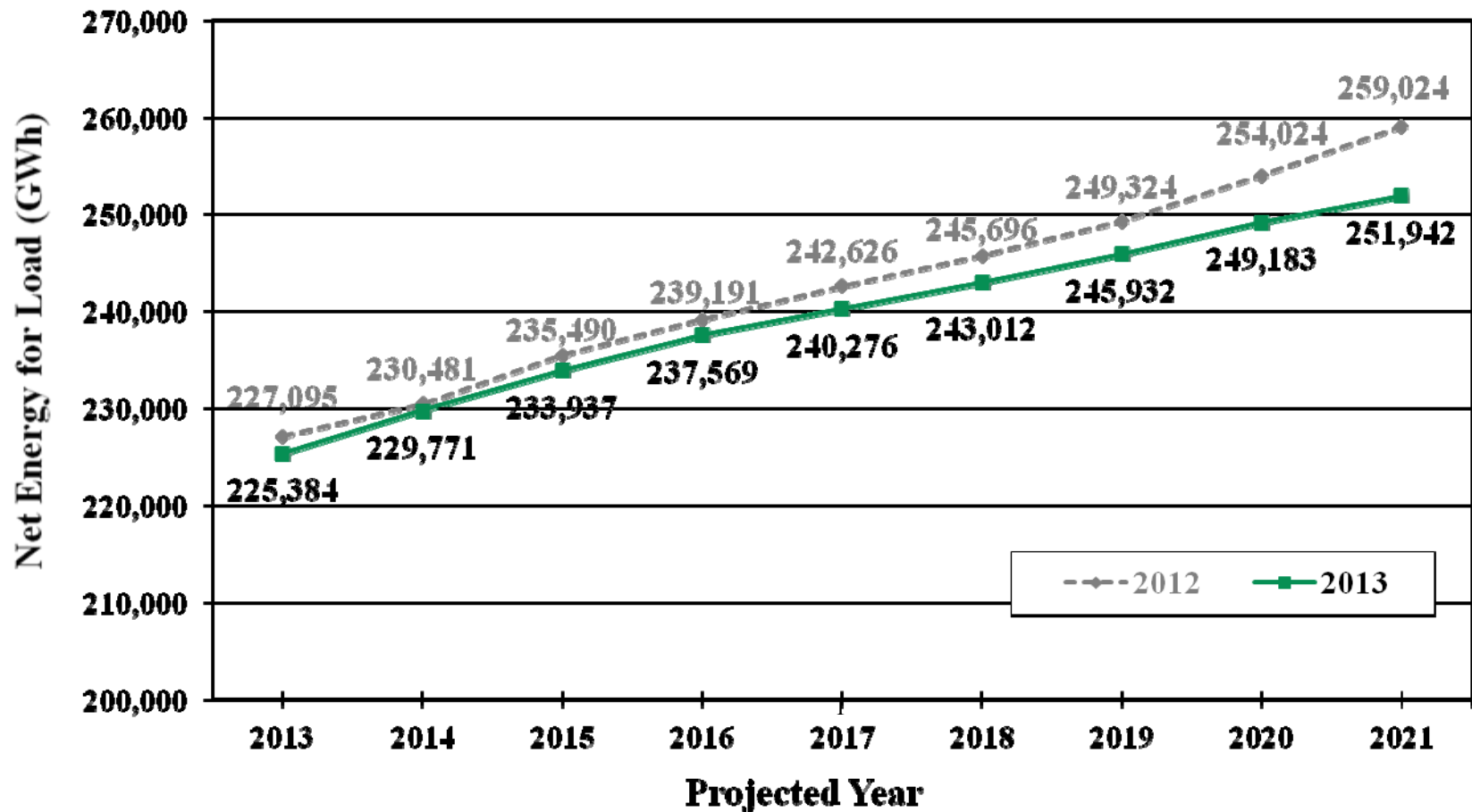
Comparison of 2012 vs. 2013 FRCC Firm Peak Demand Forecast (Summer)



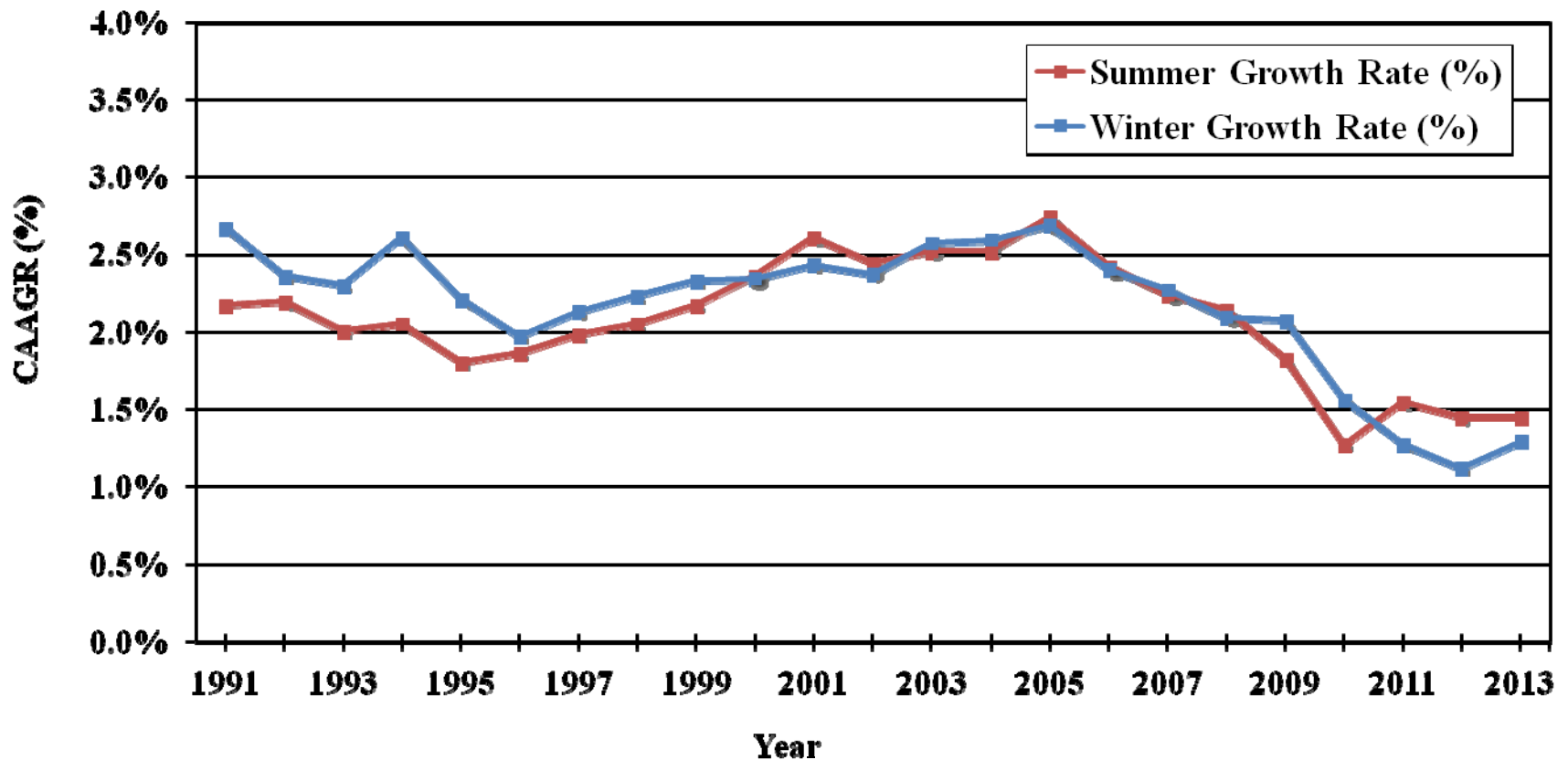
Comparison of 2012 vs. 2013 FRCC Firm Peak Demand Forecast (Winter)



Comparison of 2012 vs. 2013 FRCC Net Energy for Load Forecast

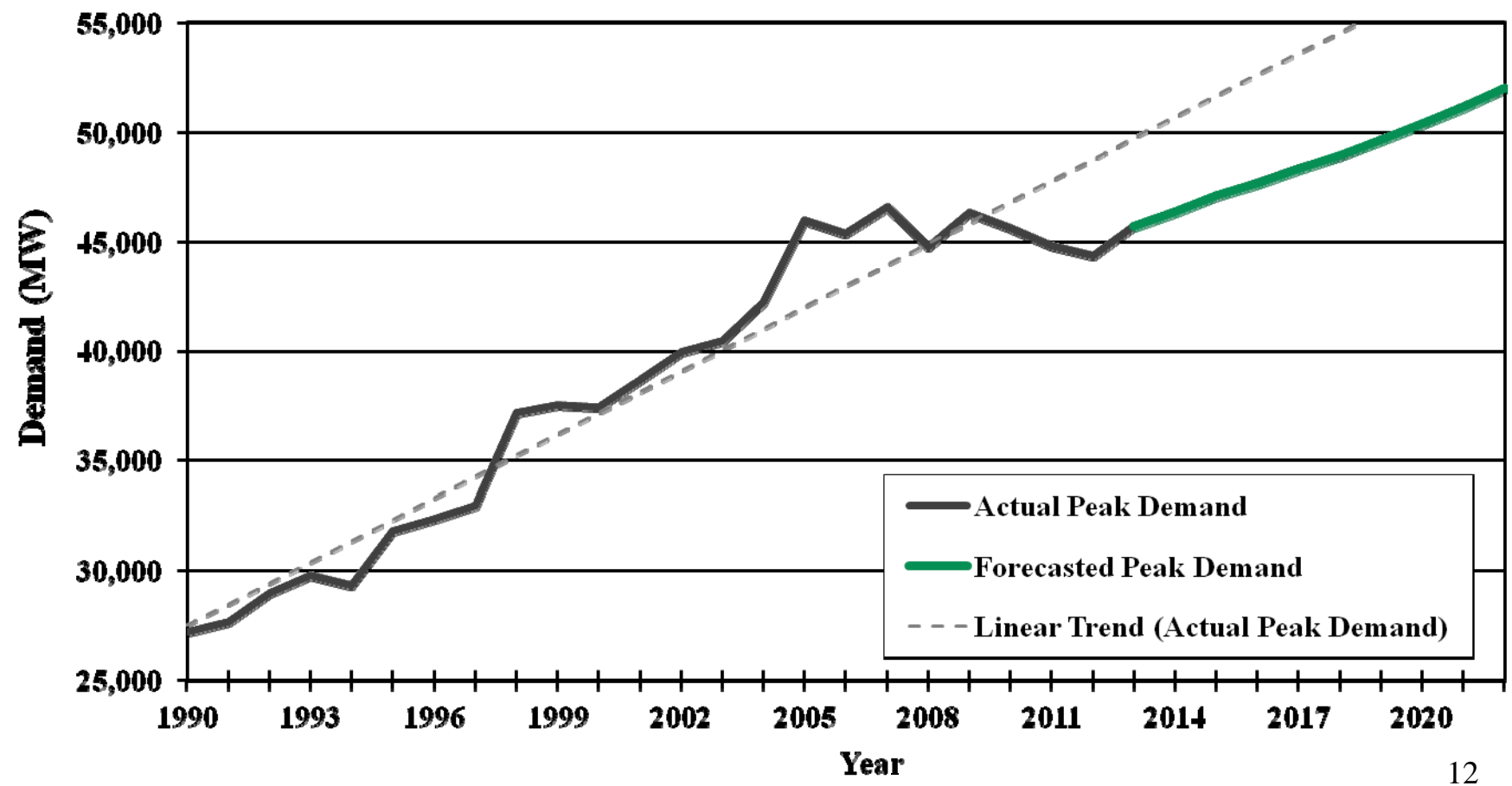


FRCC Region Compound Average Annual Growth Rate^{1/} for Load (MW)



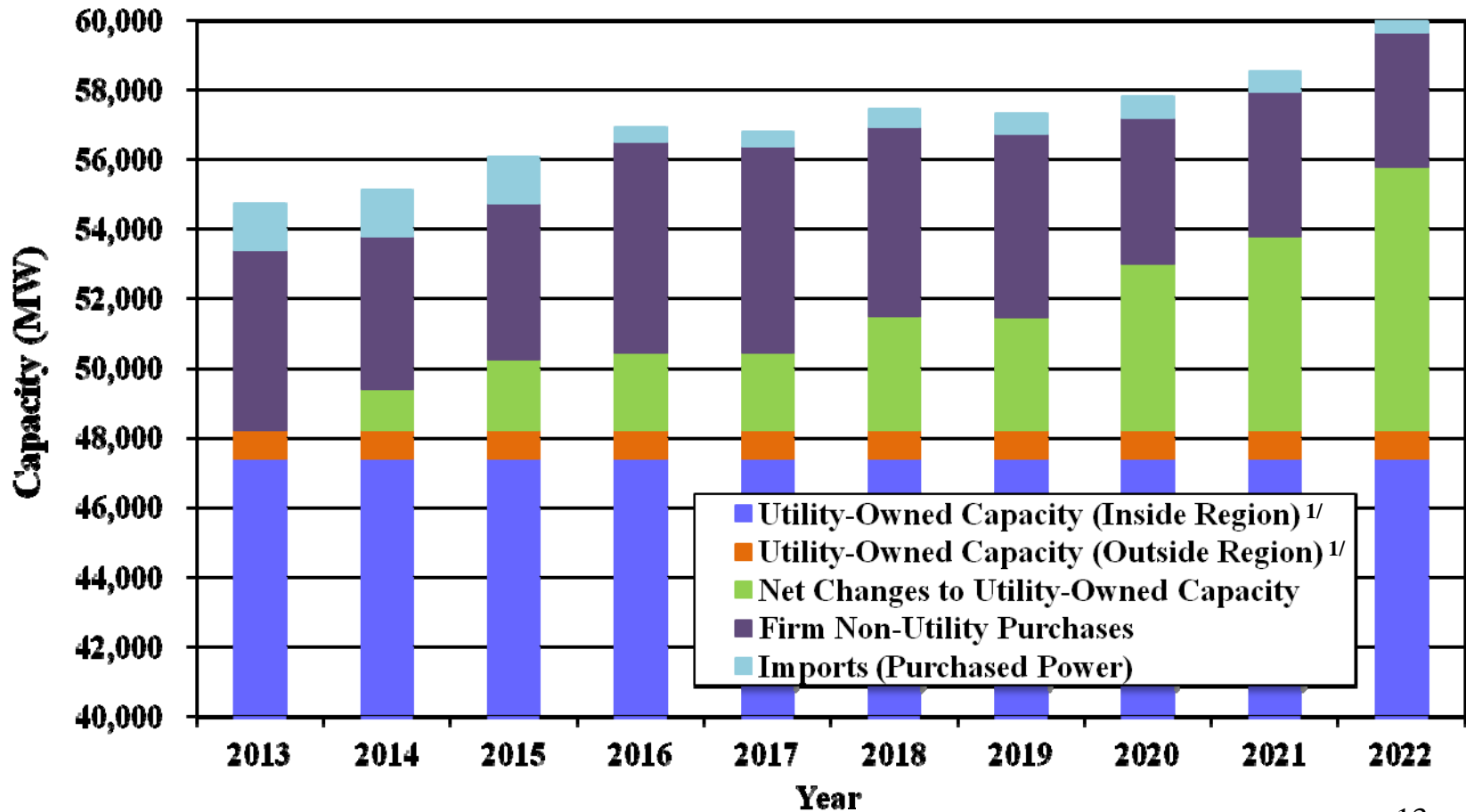
^{1/}Projected growth rate from prior forecasts

FRCC Summer Peak Demands Actual and Forecasted



Load & Resource Plan

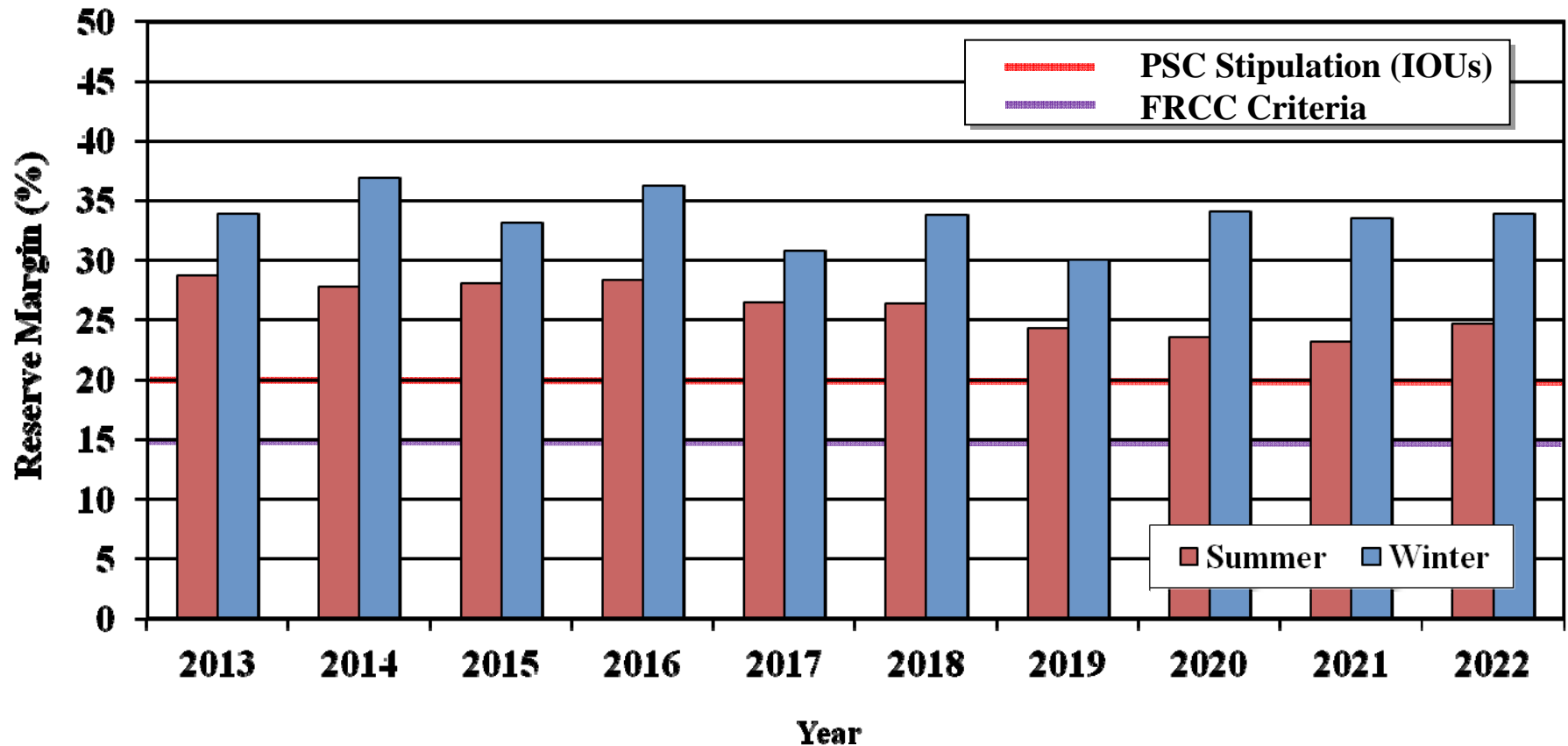
Total Available Capacity (Summer)



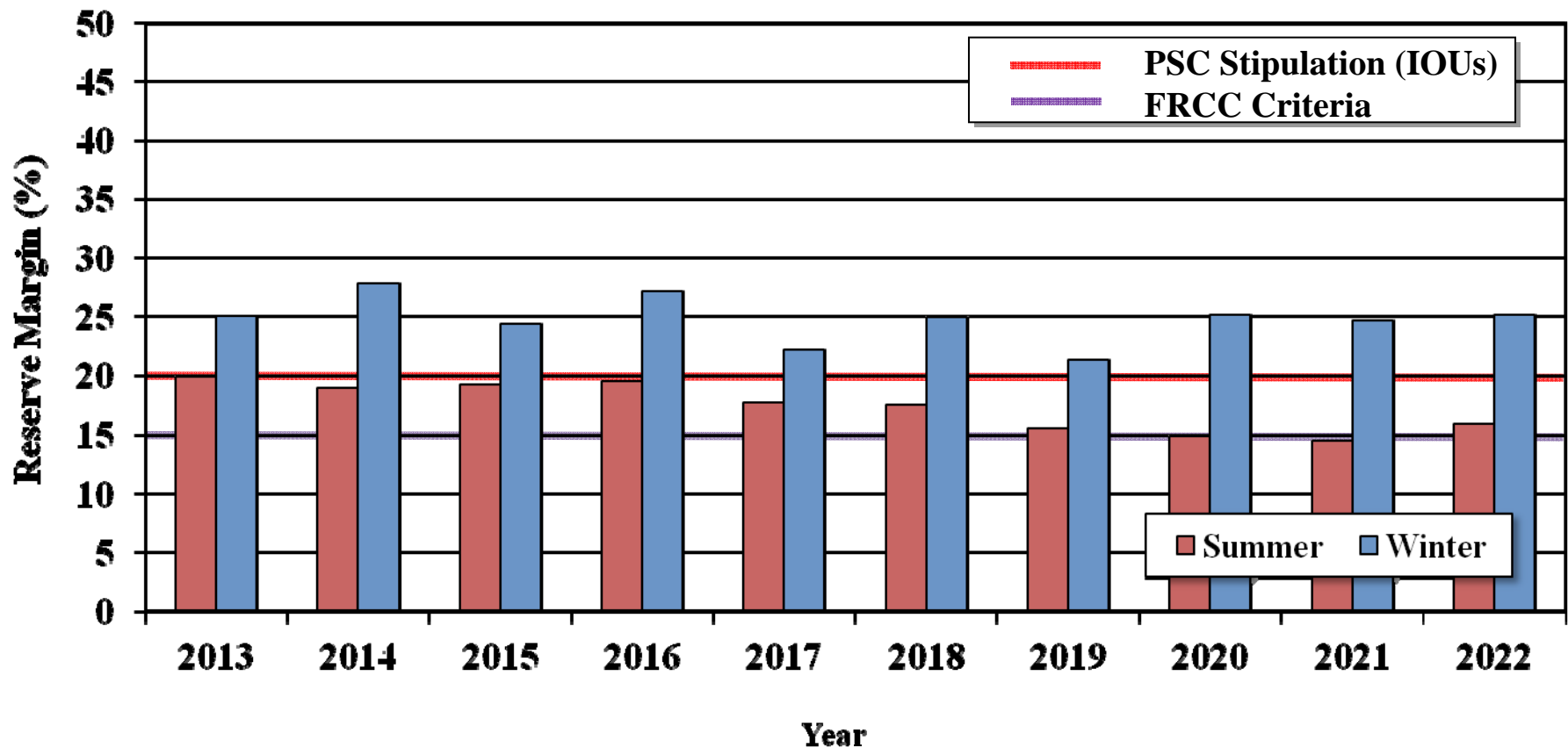
^{1/}Existing generation as of December 31, 2012

Load & Resource Plan

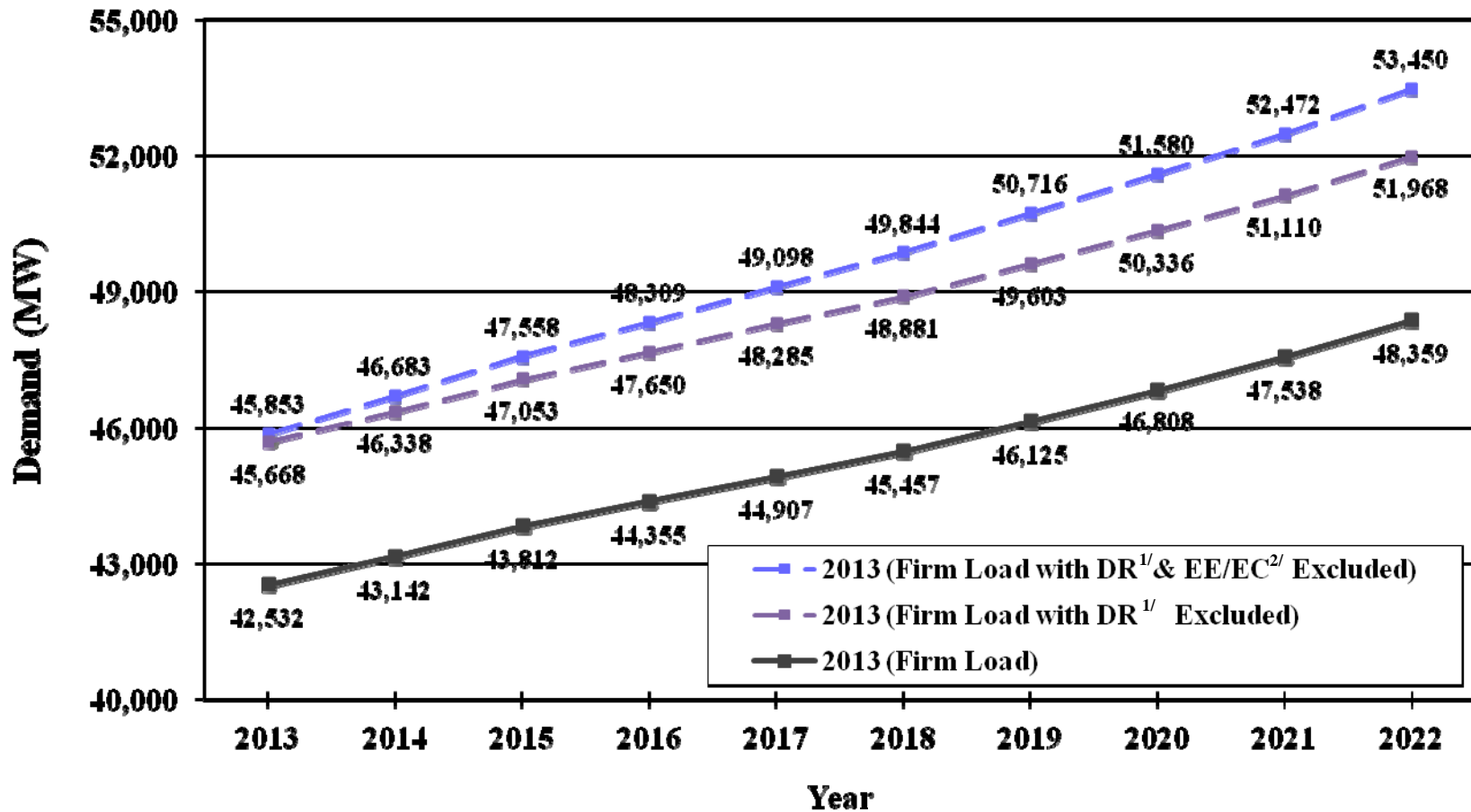
FRCC Planned Reserve Margin



Load & Resource Plan FRCC Planned Reserve Margin (excluding projected DR)



FRCC Demand Forecast (Summer)

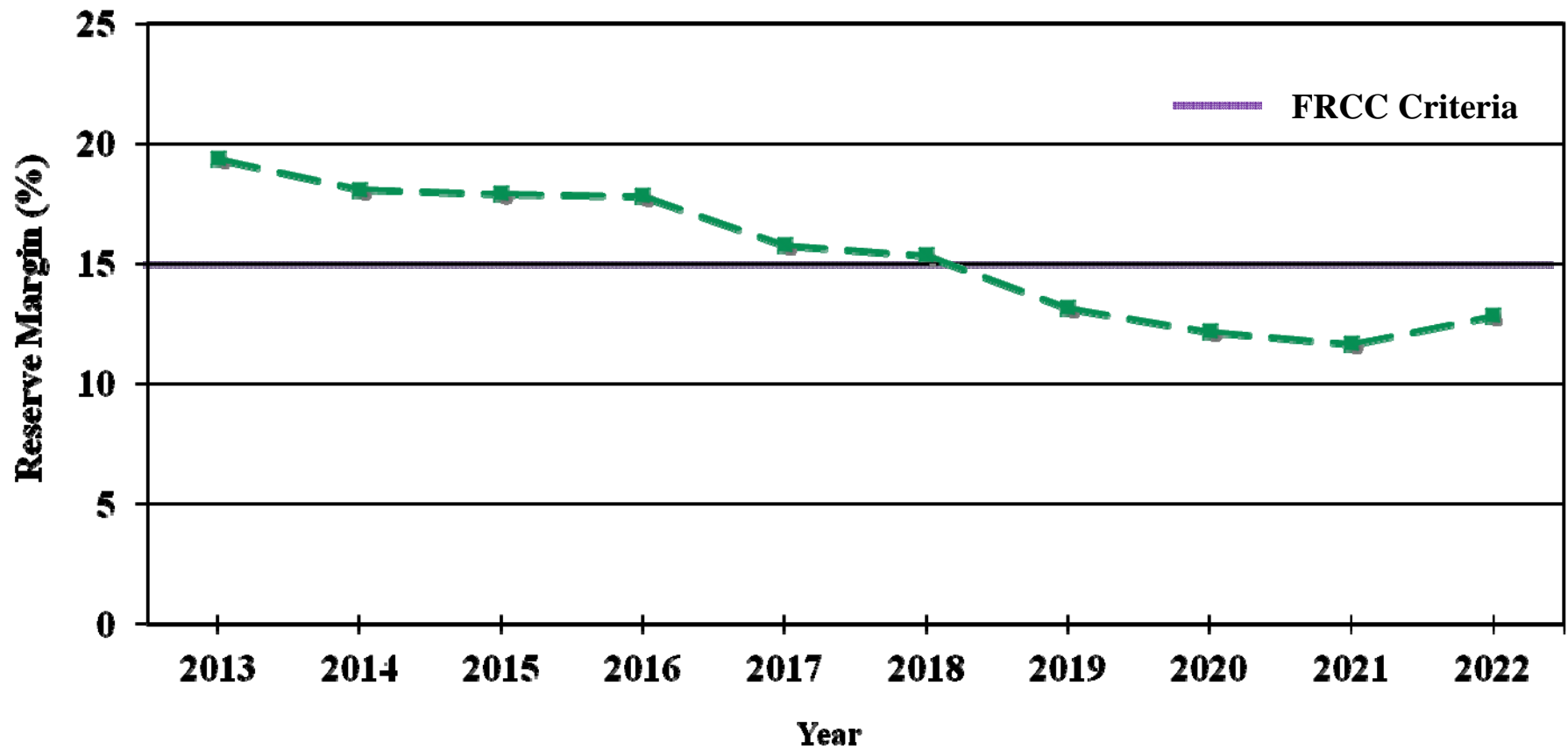


¹DR: Demand Response

²Utility sponsored Energy Efficiency/Energy Conservation (EE/EC) programs only

Load & Resource Plan

Generation-Only Reserve Margin^{1/}

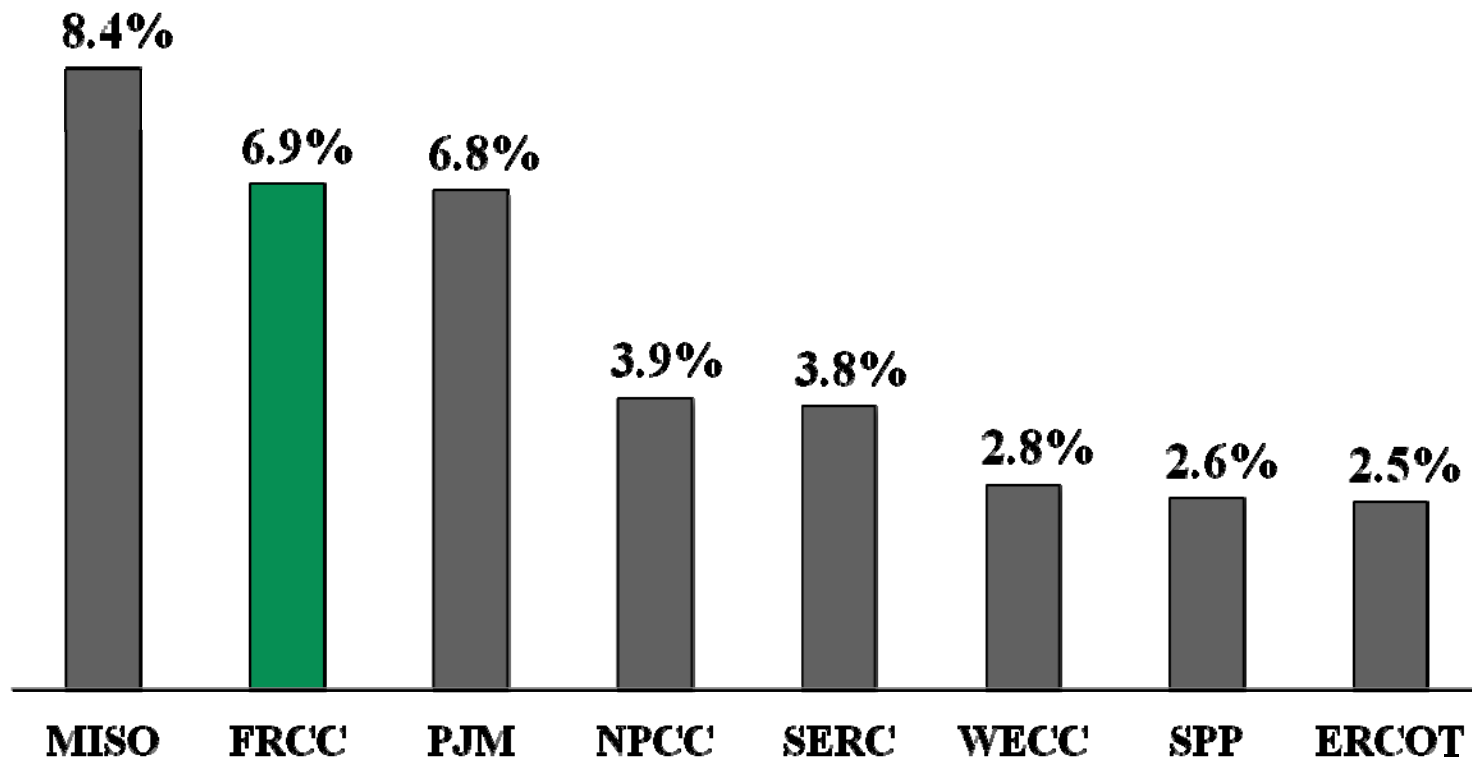


^{1/} Excludes projected cumulative DR and incremental utility EE/EC programs

Load & Resource Plan

Demand Response as a Percentage of Peak Demand

Summer 2013

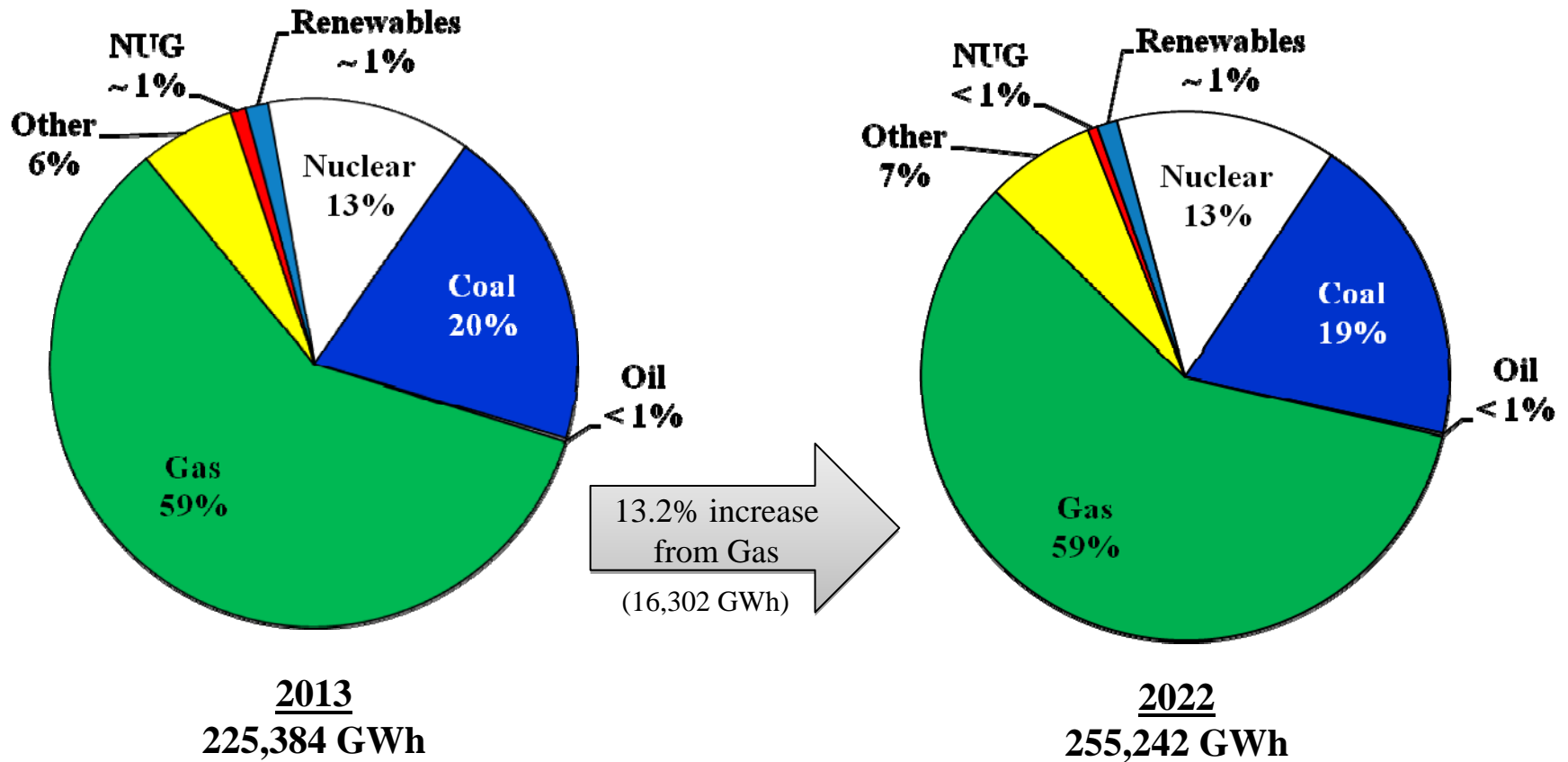


FRCC Reliability Assessment Reserve Margin Review

- Planned Reserve Margins expected to be greater than 20% (but are projected to be increasingly dependent upon all types of DSM)
- FRCC has second highest amount of Demand Response as a percentage of a region's peak load

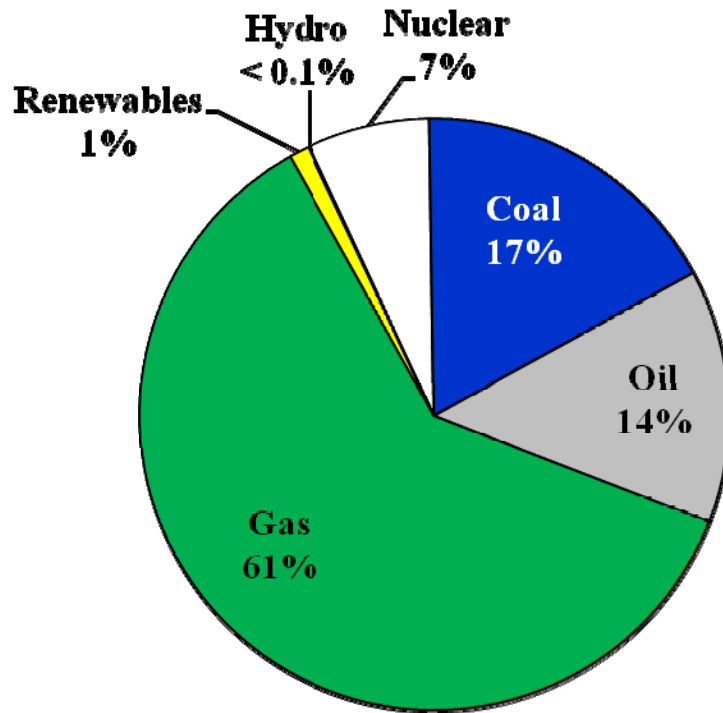
Fuel Mix (Energy)

Net Energy for Load (GWh)

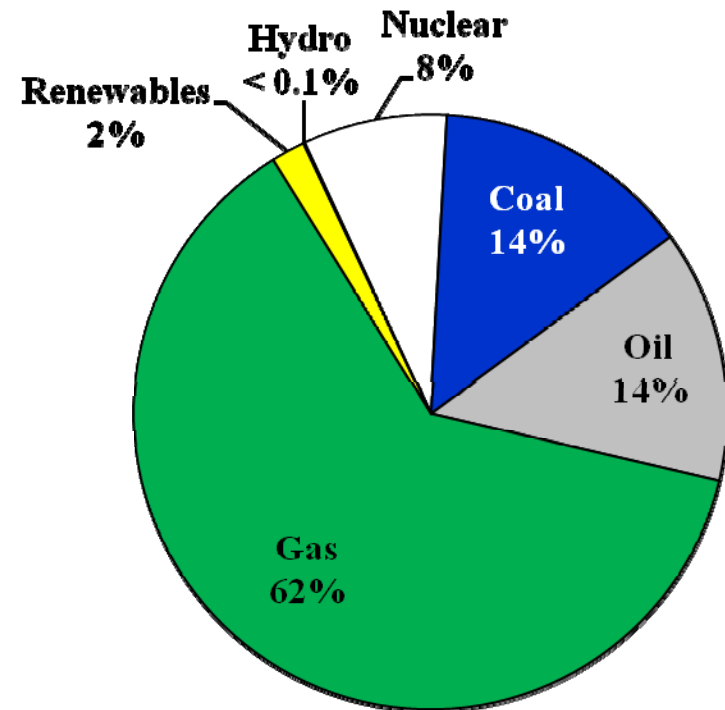


Fuel Mix (Capacity)

Summer Capacity^{1/} (MW)



2013
53,535 MW

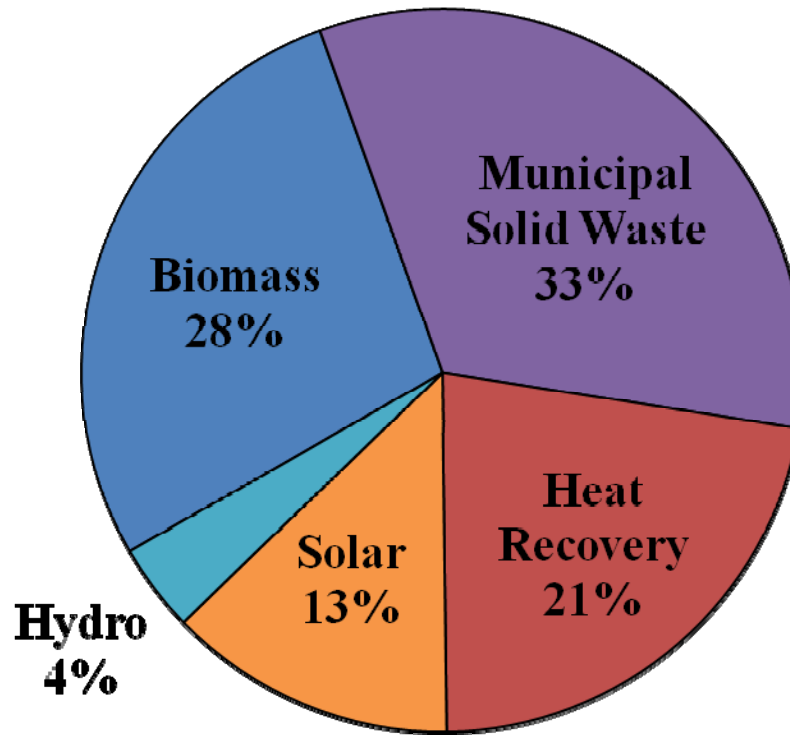


2022
59,792 MW

^{1/}Only accounts for firm capacity

2013 Existing Renewable Resource Capacity

Summer Capacity^{1/} (MW)



1,380 MW

^{1/} Contains non-TYSP data that includes both Firm and Non-Firm Capacity

Renewables Forecast

Existing Renewables Capacity ^{1/}	1,380 MW
Planned Additions (through 2022) ^{1/}	
Biomass	481 MW
Municipal Solid Waste	125 MW
Solar PV ^{2/}	333 MW
<u>Solar Projects (other)</u>	<u>31 MW</u>
TOTAL	~ 970 MW

^{1/} Contains non-TYSP data that includes both Firm and Non-Firm Capacity

^{2/} DEF: 310 MW; GRU: 21 MW; TAL: 2 MW

Nuclear Outlook

Existing^{1/} Nuclear Capacity (Summer)

St. Lucie 1	981 MW
St. Lucie 2	989 MW
Turkey Point 3	808 MW
Turkey Point 4	<u>693 MW</u>
Total	3,471 MW

Planned

Turkey Point 4 ^{2/} (uprate)	120 MW (3/2013)
Turkey Point 6 (new)	<u>1,100 MW (6/2022)</u>
Total	1,220 MW

^{1/} Existing capacity as of December 31, 2012

^{2/} Approximate MWs

FRCC Load & Resource Assessment Conclusion

- The FRCC Region has adequate total planned generation resources over the ten year period
- Greater dependence upon DSM resources and additional analyses will be performed

FRCC

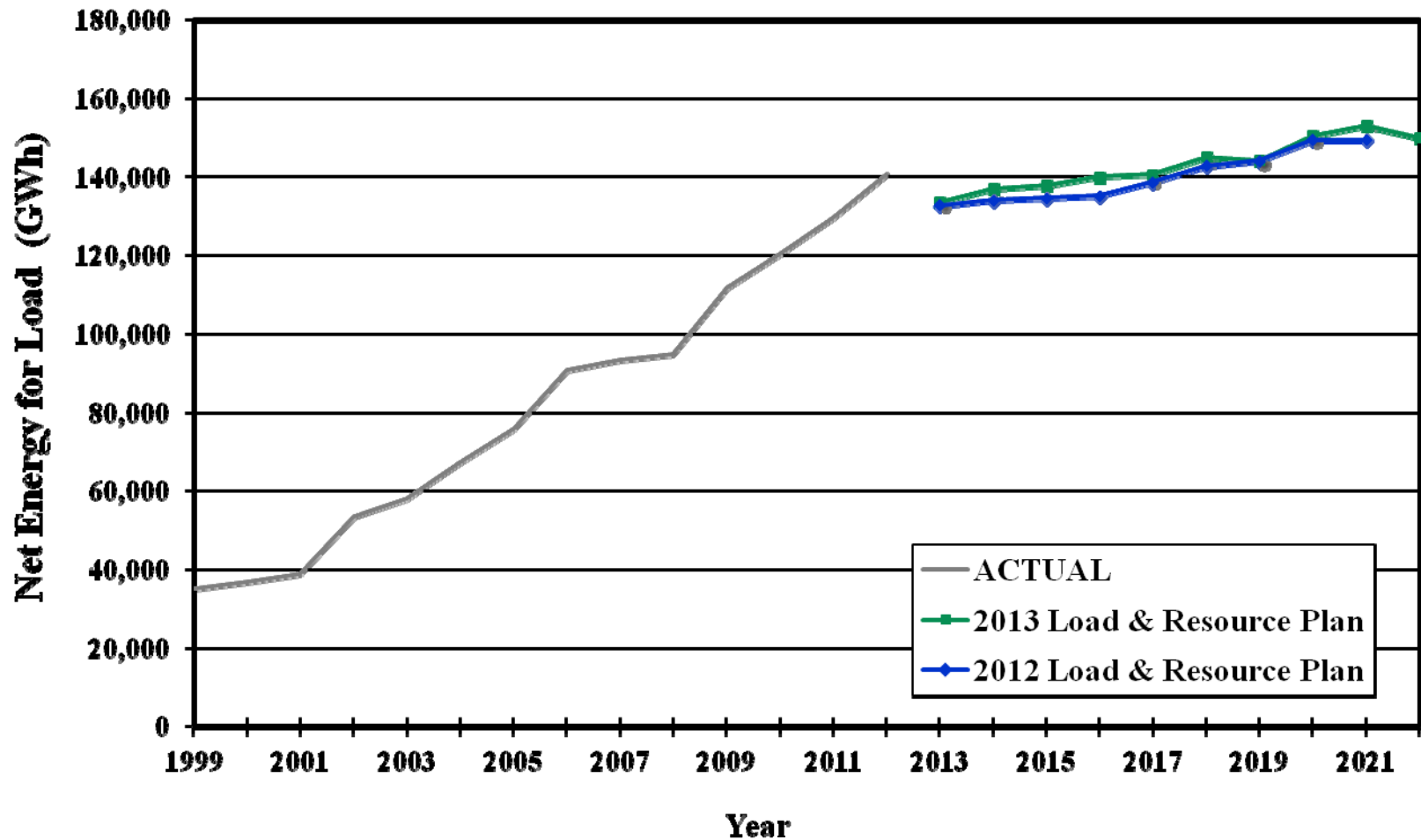
Fuel

Reliability

2013 FRCC Fuel Reliability

- Fuel Reliability Working Group (FRWG)
 - Reviews existing interdependencies of fuel availability and electric reliability
 - Coordinate regional responses to fuel issues and emergencies

Energy Production from Natural Gas^{1/}



^{1/}Extended nuclear outages for uprate work resulted in higher gas usage in 2012

Ten Largest States for NG Consumption (2011 Data)

State	Total Annual Natural Gas Consumption (Bcf)	Annual NG Consumption for Electric Generation (Bcf)	Total Annual Marketed Natural Gas Production (Bcf)	Total Miles of Natural Gas Pipeline	Total Storage Capacity (Bcf)
Texas	3,646	1,555	7,113	58,588	812
California	2,153	651	250	11,770	571
Louisiana	1,398	462	3,029	18,900	690
Florida	1,218	1,050	15	4,971	0
New York	1,217	427	31	5,018	246
Illinois	987	50	2	11,911	997
Pennsylvania	963	304	1,311	8,680	777
Ohio	820	93	79	7,670	580
Michigan	776	100	138	9,722	1,075
New Jersey	661	188	0	1,520	0
Total US	24,385	7,884	24,036	305,954	8,849
Florida as % of Total	5.0%	13.3%	0.06%	1.6%	0%

FRCC entities maintain liquid fuel storage capability to provide service for an average of 4.8 days before replenishing

Pipeline Delivery Capacity to State of Florida Contracted on a Firm Transportation Basis to Electric Generation Customers

Pipeline	Delivery Capacity (MMcf/d)	Approximate Delivery Capacity in Florida Held by Generators (MMcf/d)	Approximate Percentage of Capacity Held by Electric Generators
Florida Gas Transmission	3,075	2,721	88%
Gulfstream Natural Gas	1,300	1,255	97%
Southern Natural Gas Company	121	65	54%
Gulf South Pipeline Company	190	15	8%
Total Capacity into State of Florida	4,686	4,056	87%

The two major existing pipelines are more than 96% subscribed
Recently proposed 3rd gas pipeline by 2017 would enhance gas delivery reliability

Fuel Reliability Conclusions

- Florida has greater natural gas demand than all but four states and greater natural gas demand to support generation than all states but Texas
- Florida has minimal in-state production, no in-state storage and less miles of pipeline within the state than all but one of the ten largest gas consuming states

Fuel Reliability Conclusions

(continued)

- Electric generation with dual fuel capability provides operating flexibility when NG supplies become limited due to unforeseen events
- A disruption to one of the two major pipelines, lasting more than a few days could exceed liquid fuel supply capability
- FRCC to review long term gas transportation adequacy with its entities

FRCC Transmission Planning

FRCC Regional Transmission Planning Process

- Promote the reliability of the Bulk Electric System through coordination of transmission planning activities within the FRCC Region
- Assess transmission adequacy and resource deliverability

Crystal River Unit Retirements

- 2012 FRCC Long Range Study w/ CR 1, 2, and 3 online beyond 2015 showed FRCC grid reliable and secure for TY horizon
- Subsequent FRCC evaluation of the retirement of CR3 and the potential 2015 retirements of CR 1 and 2 indentified:
 - Transmission reliability issues impacting multiple entities starting in 2015 w/ no transmission alternatives available for 2015
 - MATS compliance options under evaluation that would allow CR 1 and 2 to run for a limited period of time and resolve transmission issues
 - Other transmission and generation alternatives under evaluation for 2016 and beyond

Status of Compliance with FERC Order 1000

- FERC jurisdictional entities have the obligation
- Expand FERC Order 890 with regard to regional and inter-regional planning and cost allocation
- Develop regional planning and cost allocation provisions
 - 10/11/2012 Initial Compliance filing
 - 6/20/2013 FERC issues order
 - 8/29/2013 Florida sponsors requested 90 day extension
 - 10/18/2013 Conforming Compliance filing
- Develop inter-regional transmission coordination procedure and address cost allocation for multi-regional projects
 - 7/10/2013 Compliance filing
 - Pending FERC Order

Conclusion

- Planned Reserve Margin exceeds 20% for all peak periods for the next ten years (although resource mix is changing towards greater dependence upon DSM resources)
- Energy production from natural gas expected to increase 13.2% by 2022
- Current pipeline capacity is 96% subscribed
- FRCC to review long term gas transportation adequacy with its entities

Conclusion

(continued)

- Impact of EPA regulations:
 - RICE rule projected to negatively impact Demand Response projections for Commercial/Industrial participants
 - Prospective 2015 retirements at Crystal River due to MATS would have transmission impacts
 - Mitigation plans are being developed

Questions ?