



Florida Public Service Commission

2012 Ten-Year Site Plan Workshop

FRCC Presentation

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Agenda

- **Executive Summary**
- **FRCC Load & Resource Plan**
 - Load Forecast, Generation Additions, Reserve Margins, Fuel Mix
 - Impact of Pending and Proposed EPA Rules
 - Renewable Resources and Demand Side Management
- **FRCC Fuel Reliability**
 - Fuel Reliability Working Group (FRWG)
 - Natural Gas Supply and Transportation Reliability
 - Fuel Reliability Coordination Tools and Plans
- **FRCC Transmission Planning**
 - Review of FRCC Regional Transmission Planning Process
 - Status of Compliance with FERC Order 1000
 - Status of Eastern Interconnection Coordination

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 Margin exceeds 20% for all peak periods for the next ten years
- Demand Side Management expected to reduce load by 7% throughout the 10-year horizon
- Energy Efficiency/Energy Conservation expected to reduce load by 4% by 2021
- Renewables are expected to supply approximate 3,100 GWh (1.2%) of the total energy served by 2021
- Impact of pending and proposed EPA regulations:
 - Short term – Identify issues, if any, related to scheduling of unit outages to perform required retrofits and/or other modifications
 - Long term – No significant impact expected

Executive Summary

(Continued)

- FRCC does not anticipate fuel transportation issues affecting resource capabilities in the near term
- Energy production from natural gas expected to remain near 60% through 2021
- The planned transmission system within the FRCC Region is adequate and reliable

FRCC

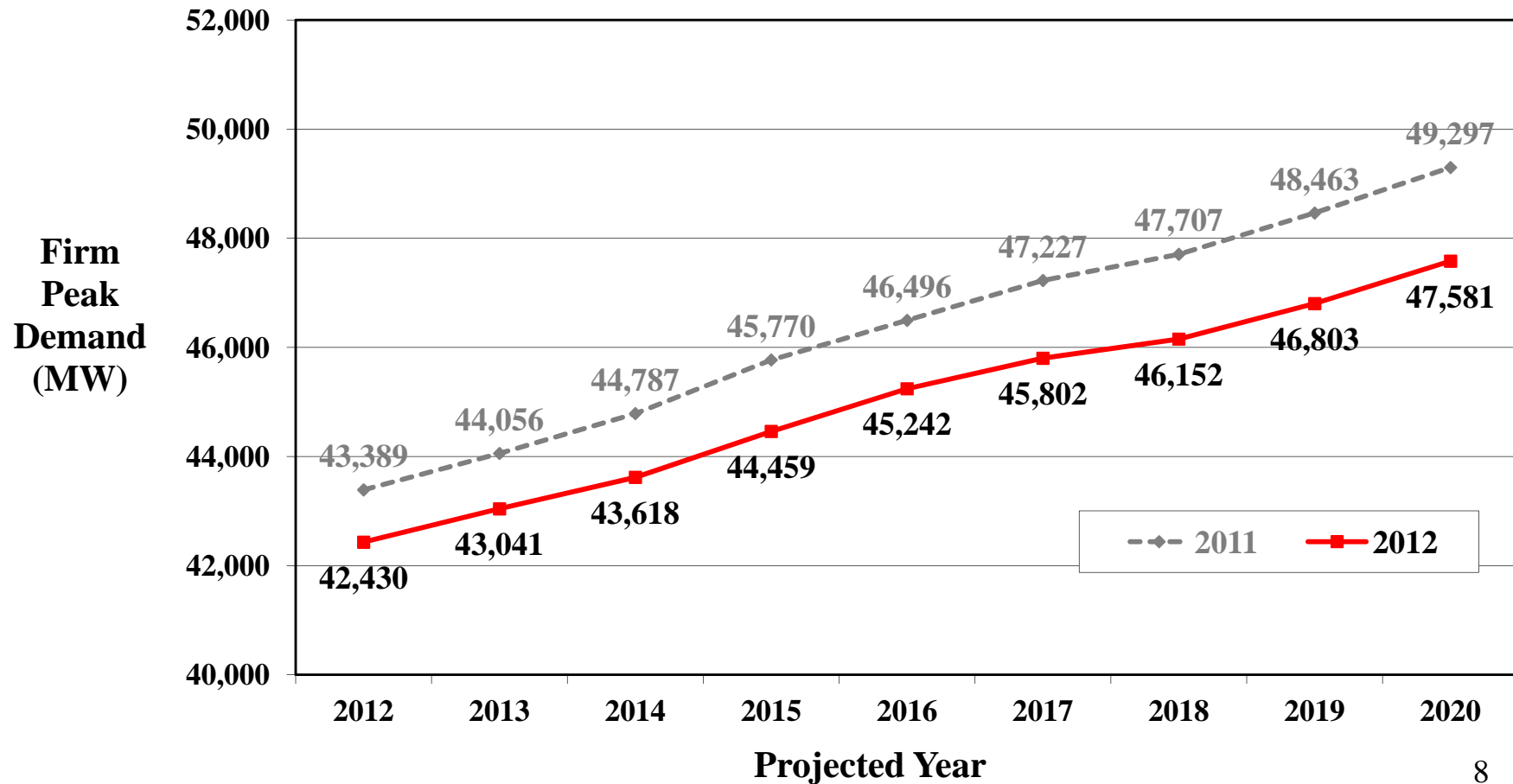
Load & Resource

Plan

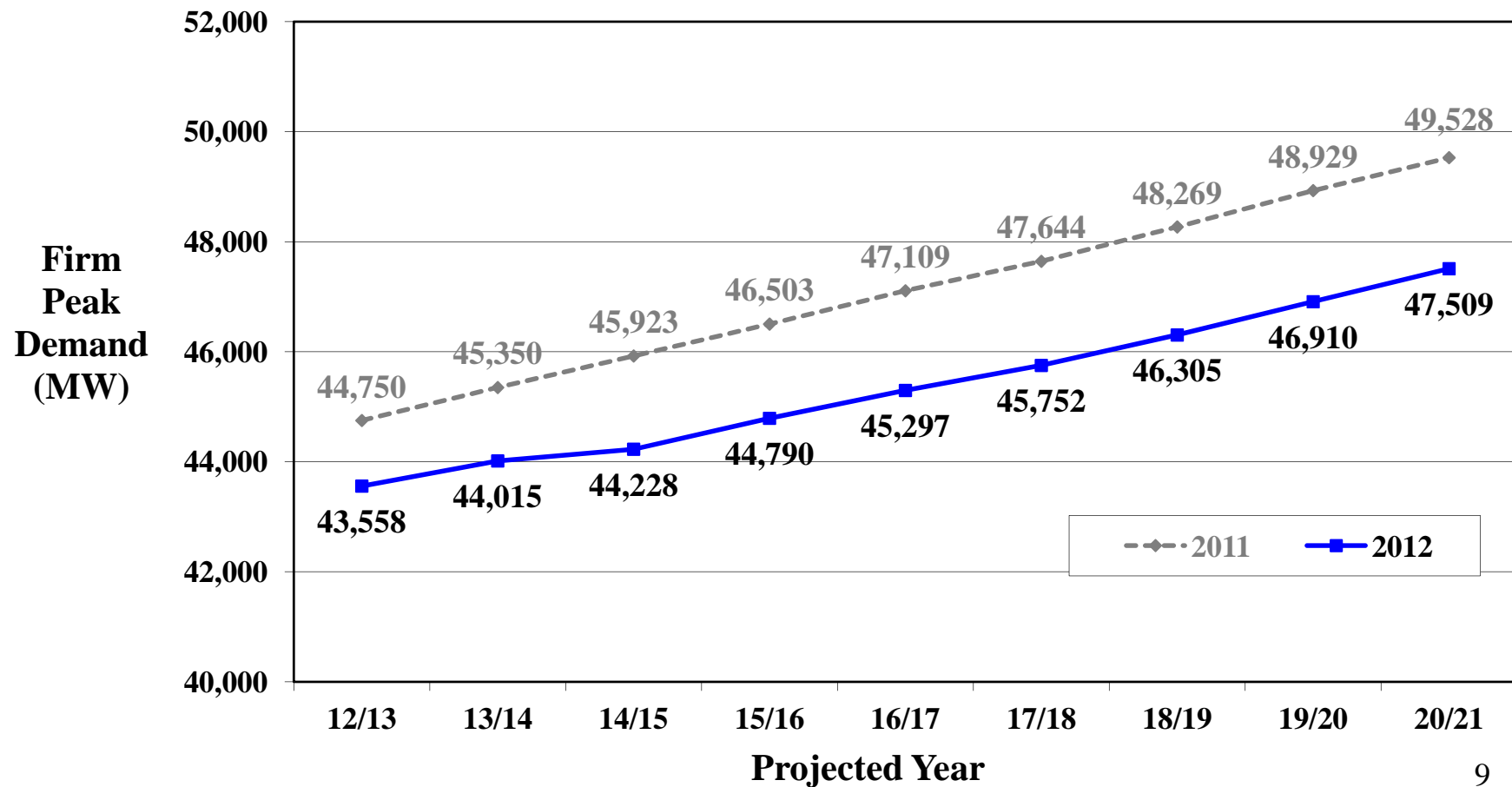
Load Forecast Factors

- Florida unemployment (actual) continues to decrease
- Population continues to pick up momentum
- Florida GDP levels were lower than expected in 2010-11, new projections show a slower recovery
- Extreme weather in 2010 masked the continued downward trend in energy consumption which continued into 2011
- Forecasted energy sales and summer/winter peaks are lower in the 2012 TYSP over 2011 TYSP

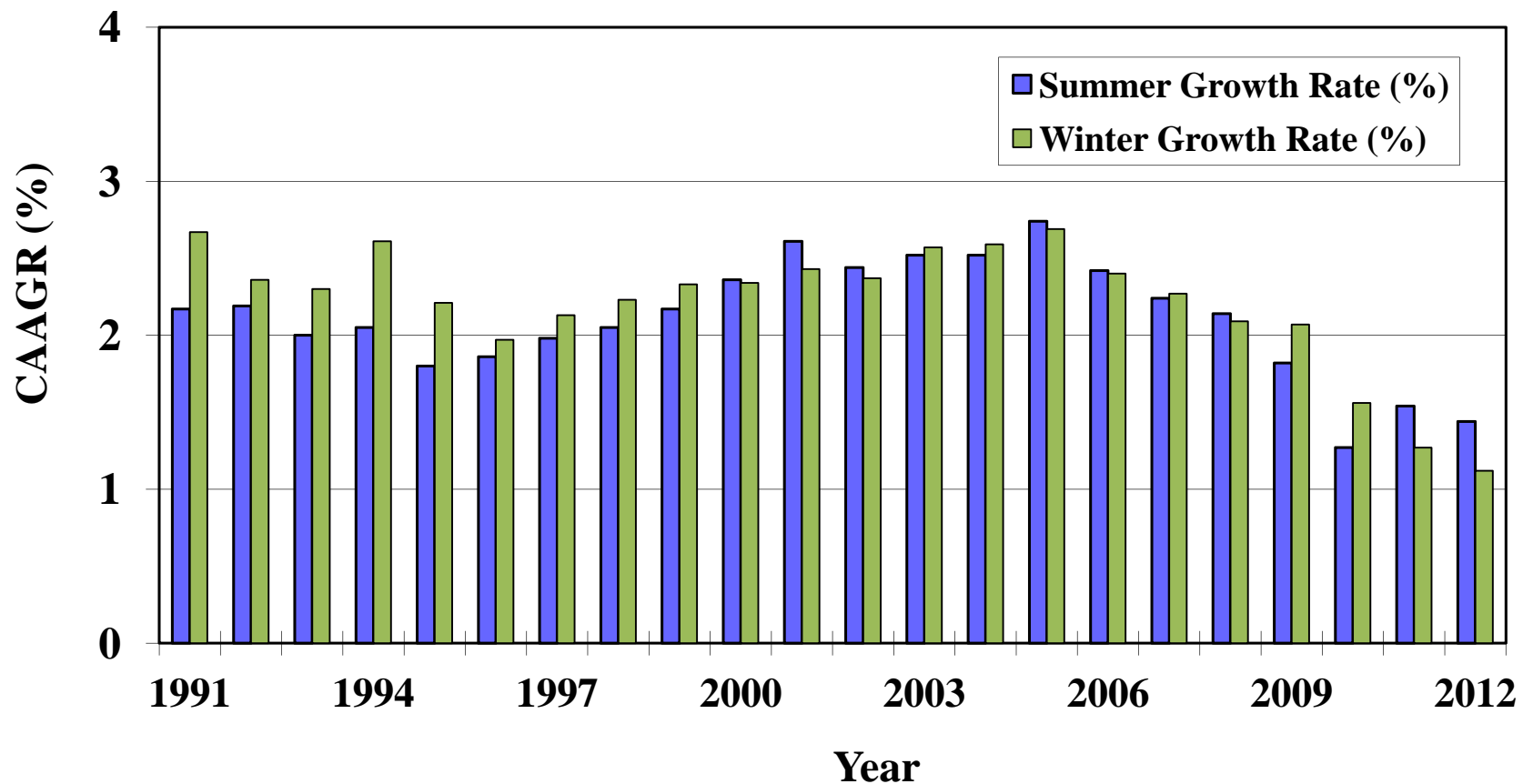
Comparison of 2011 vs. 2012 FRCC Firm Peak Demand Forecast (Summer)



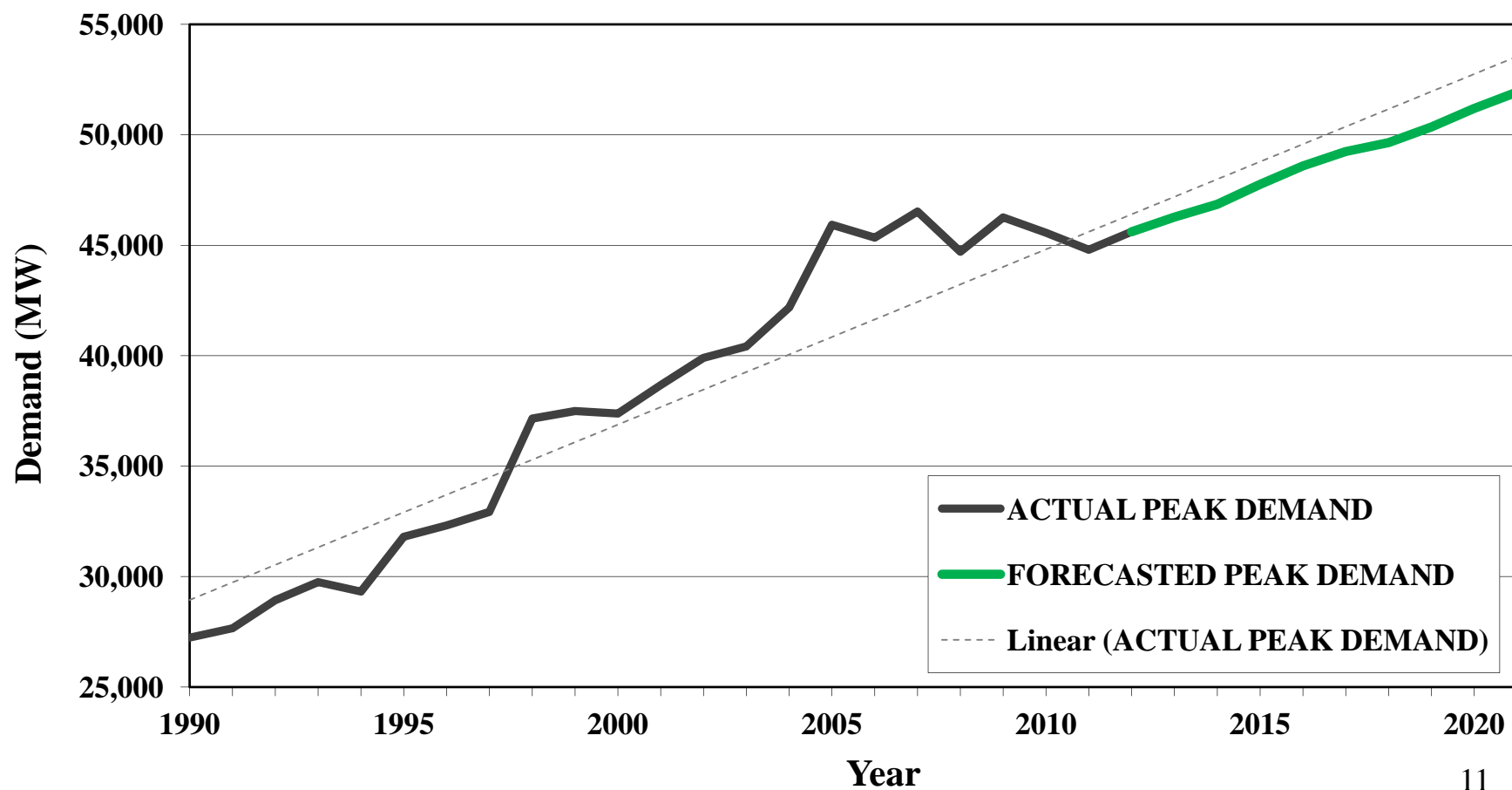
Comparison of 2011 vs. 2012 FRCC Firm Peak Demand Forecast (Winter)



FRCC Region Compounded Average Annual Growth Rate for Load

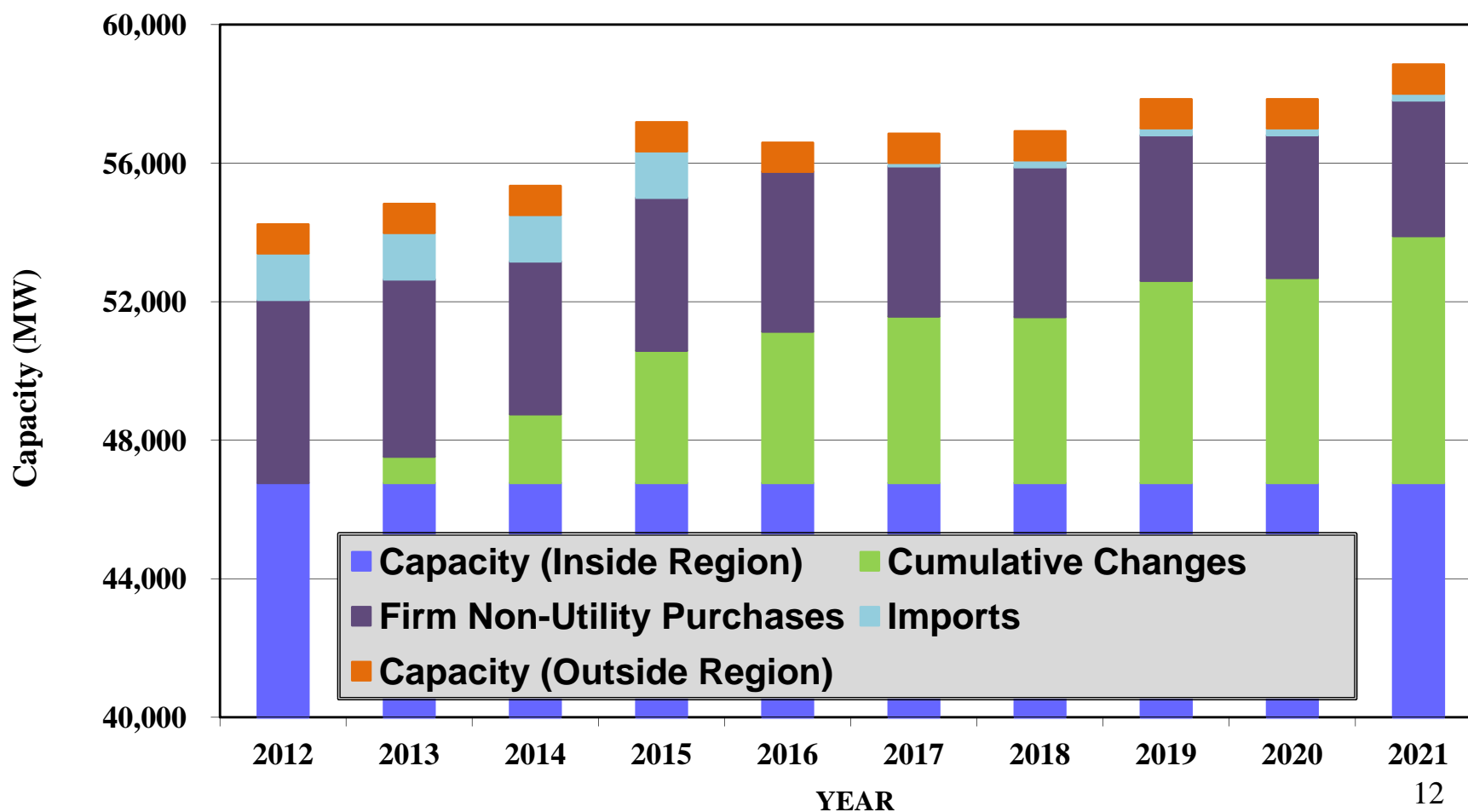


FRCC Summer Peak Demands Actual and Forecasted

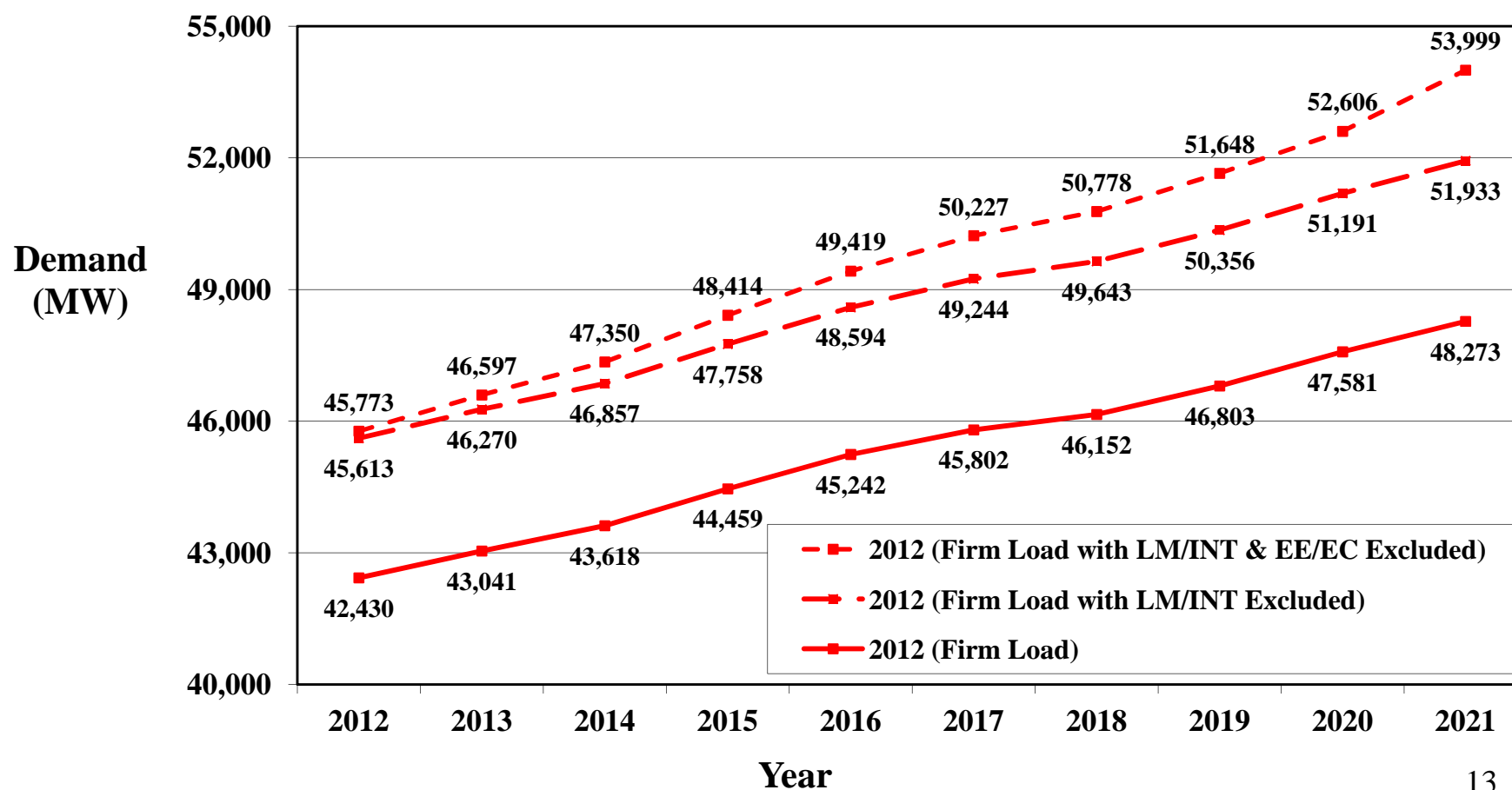


Load & Resource Plan

Total Available Capacity (Summer)

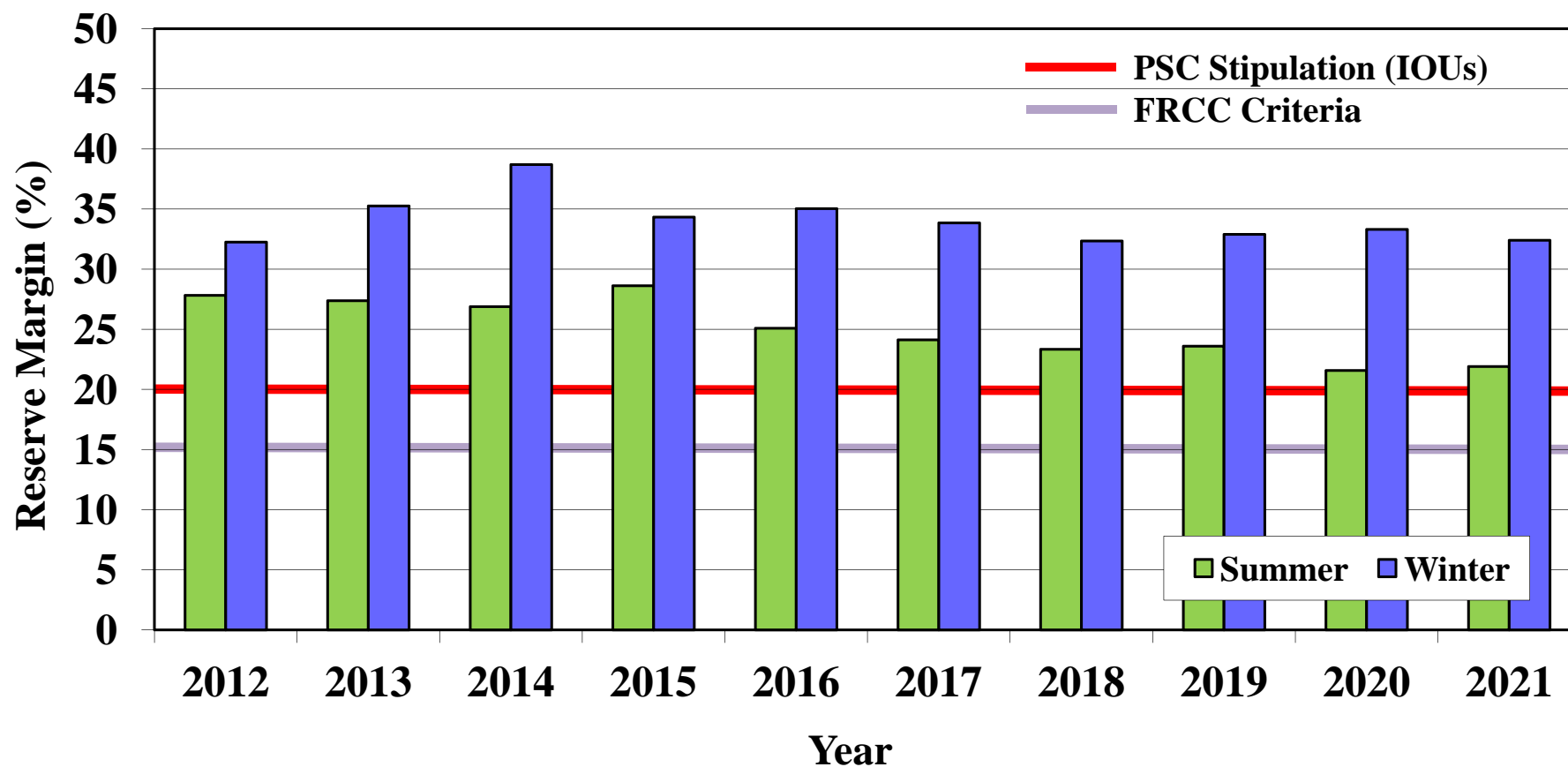


FRCC Demand Forecast (Summer)



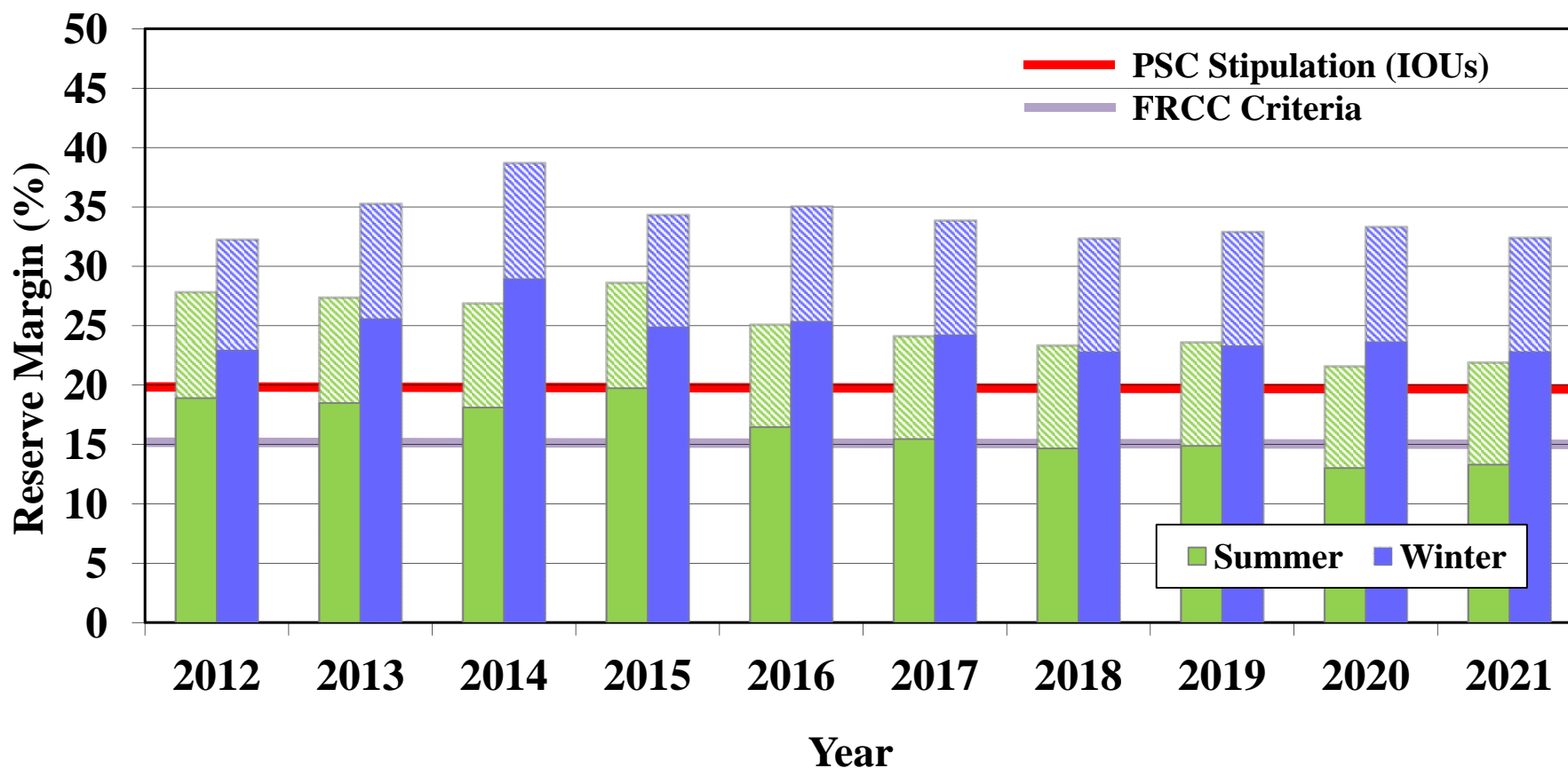
Load & Resource Plan

FRCC Planned Reserve Margin

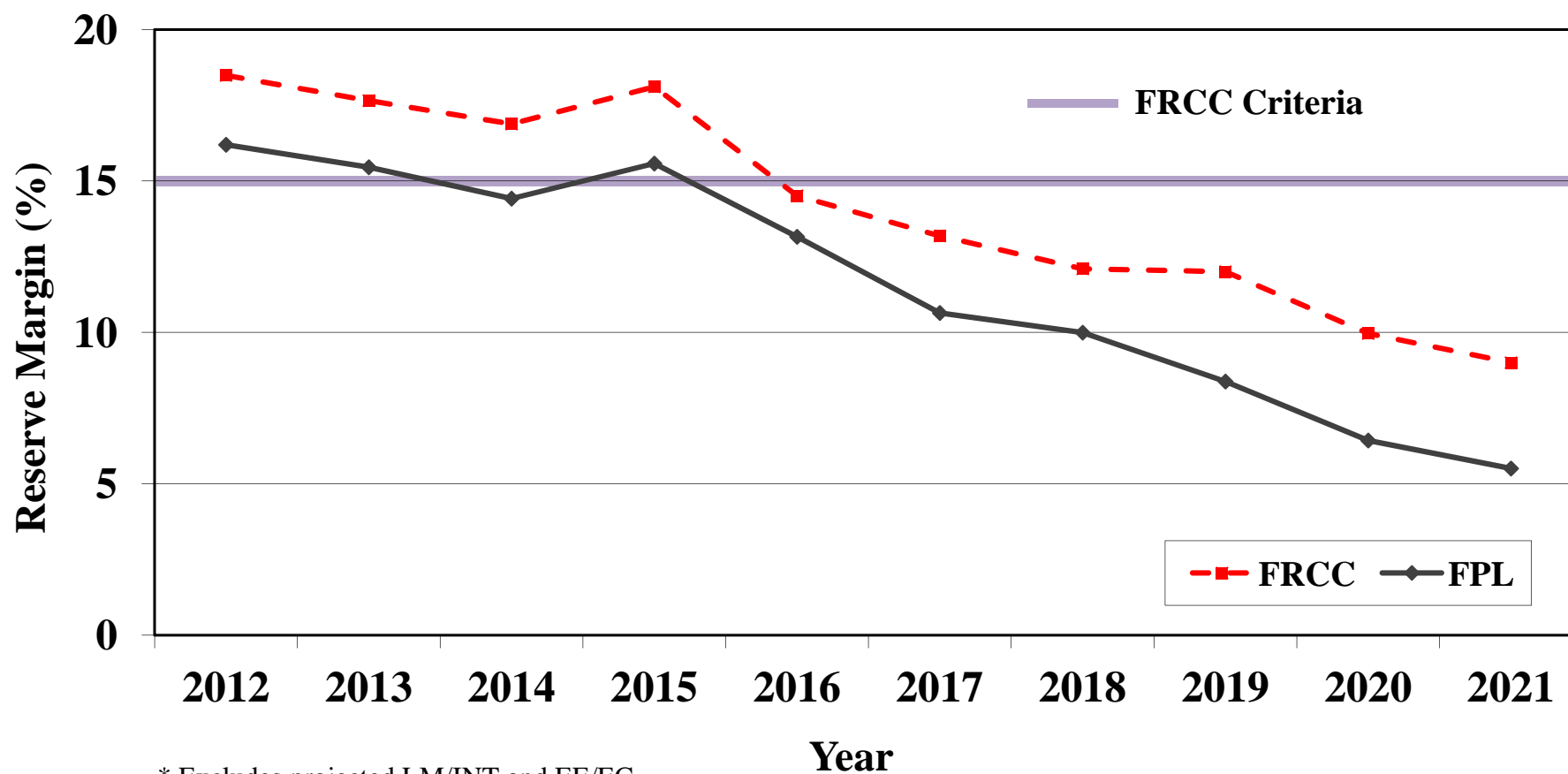


Load & Resource Plan

FRCC Planned Reserve Margin (excluding projected LM/INT)



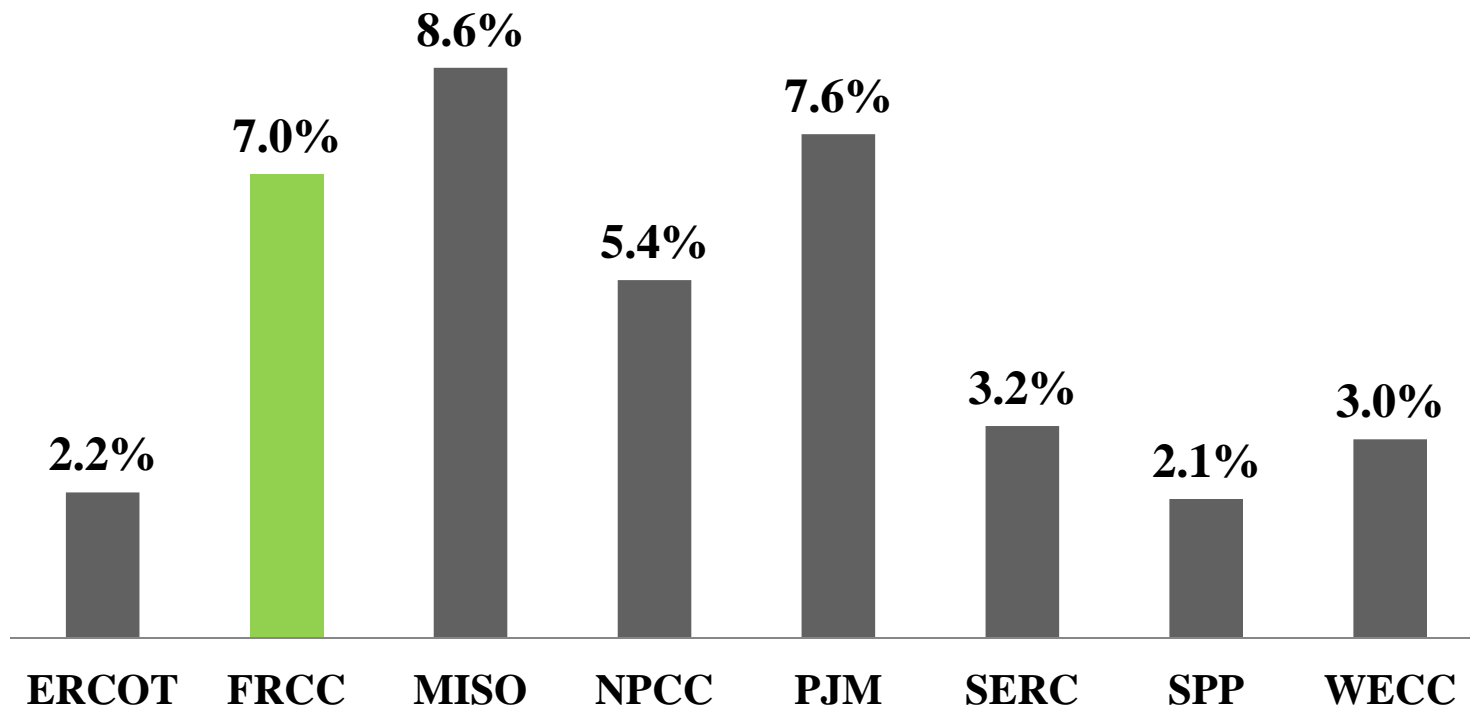
Load & Resource Plan Generation-Only Reserve Margin*



* Excludes projected LM/INT and EE/EC

Load & Resource Plan Dispatchable Demand Side Management as a Percentage of Regional Peak

Summer 2012

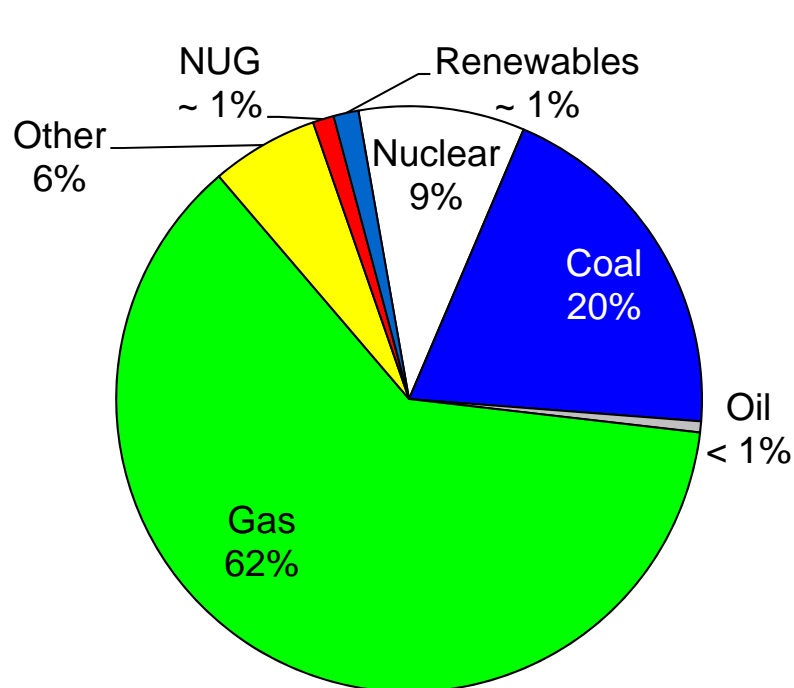


FRCC Reliability Assessment Reserve Margin Review

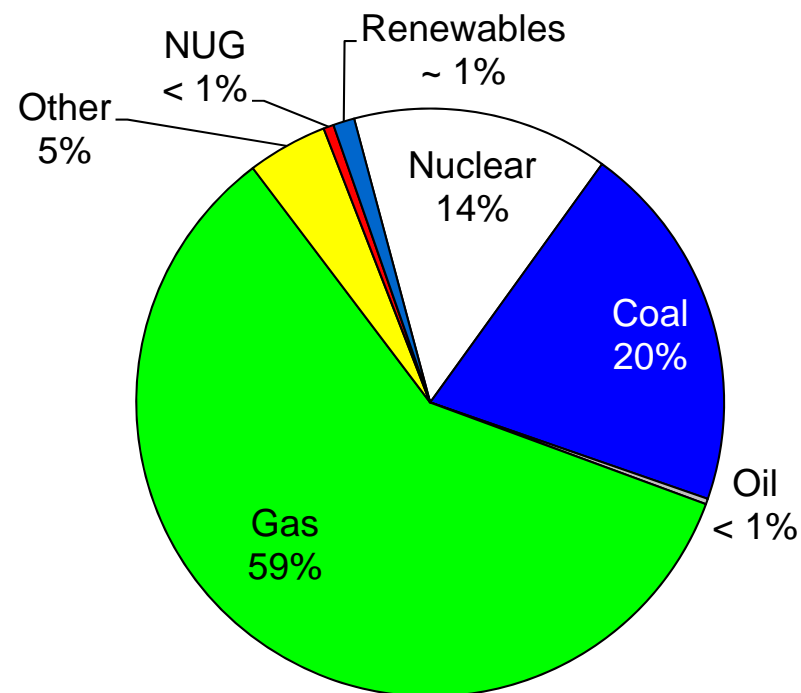
- Regional Planning Reserve Margin meets the 15% FRCC Criteria
- Planned Reserve Margin exceeds 20% for all peak periods for the next ten years (with the availability of dispatchable LM/INT)

Fuel Mix (Energy)

Net Energy for Load (GWh)



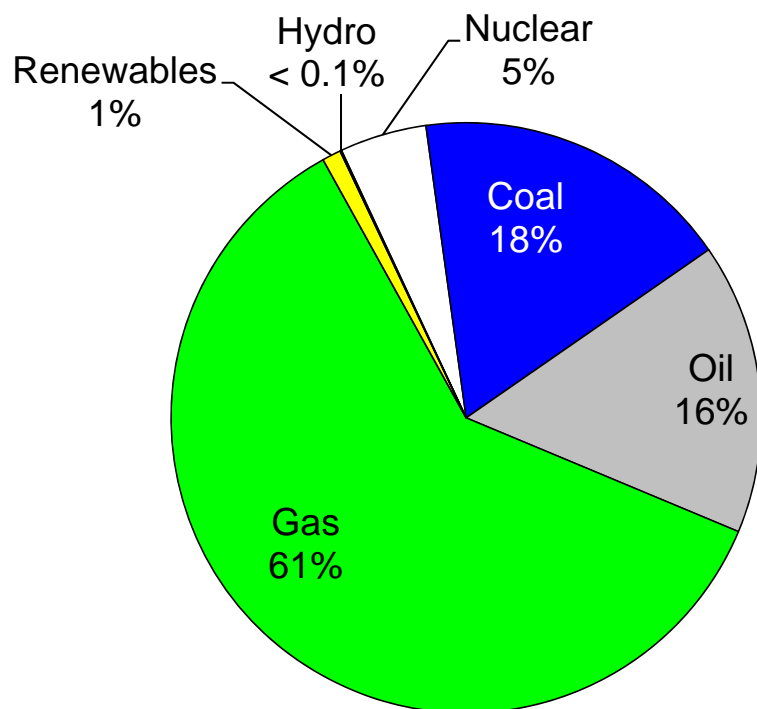
2012
224,337 GWh



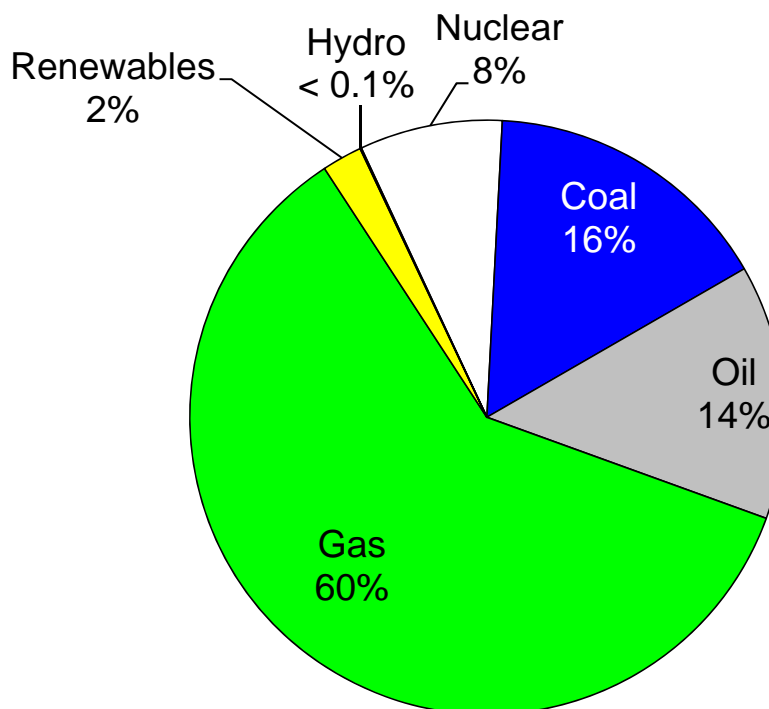
2021
259,024 GWh

Fuel Mix (Capacity)

Summer Capacity (MW)

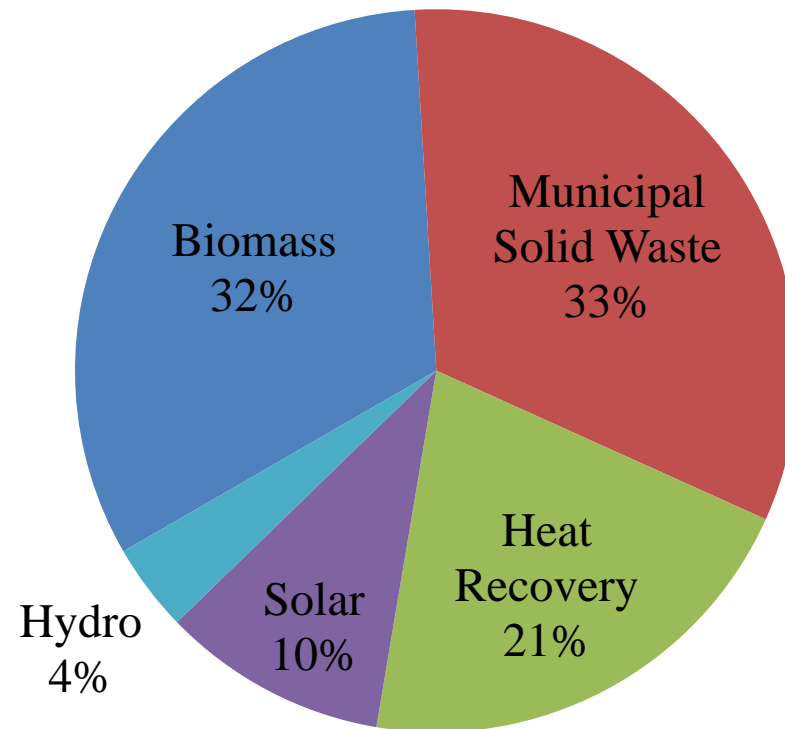


2012
53,036 MW



2021
58,792 MW

2012 Renewable Resource Capacity



~ 1,421 MW

Renewables Forecast

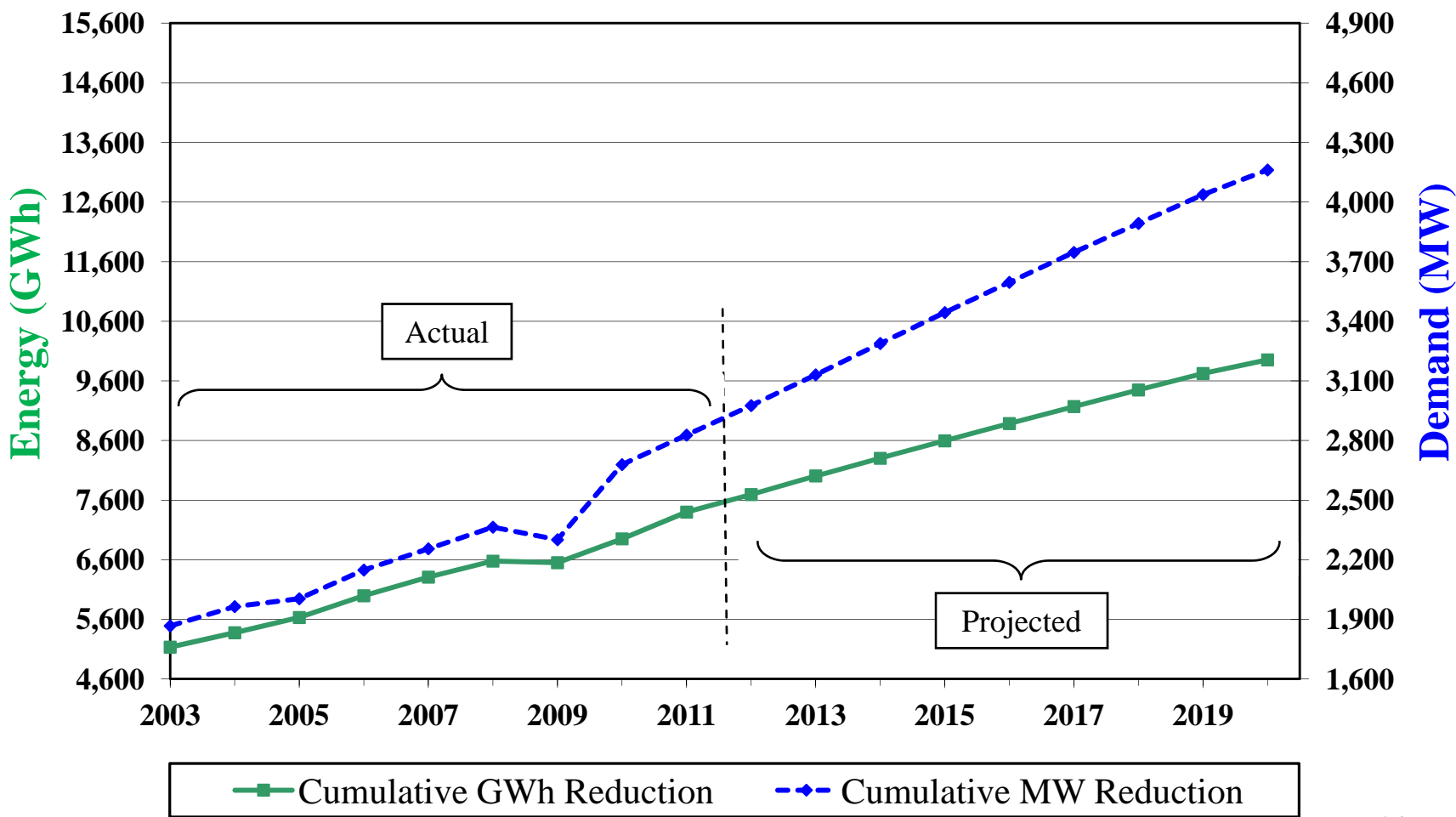
Existing Renewables Capacity	~ 1,421 MW
Planned Additions (thru 2021)*	
Biomass	334 MW
Municipal Solid Waste	70 MW
Solar PV **	512 MW
Solar Projects (other)	41 MW
Wind	0 MW
TOTAL	~ 957 MW

* Contains non-TYSP data

** PEF Area: 500 MW; GRU: 9 MW; TAL: 3 MW

Conservation

Cumulative Energy (GWh) & Summer Demand (MW) *



* Excludes LM and INT

Nuclear Outlook

Existing Nuclear Capacity (Summer)

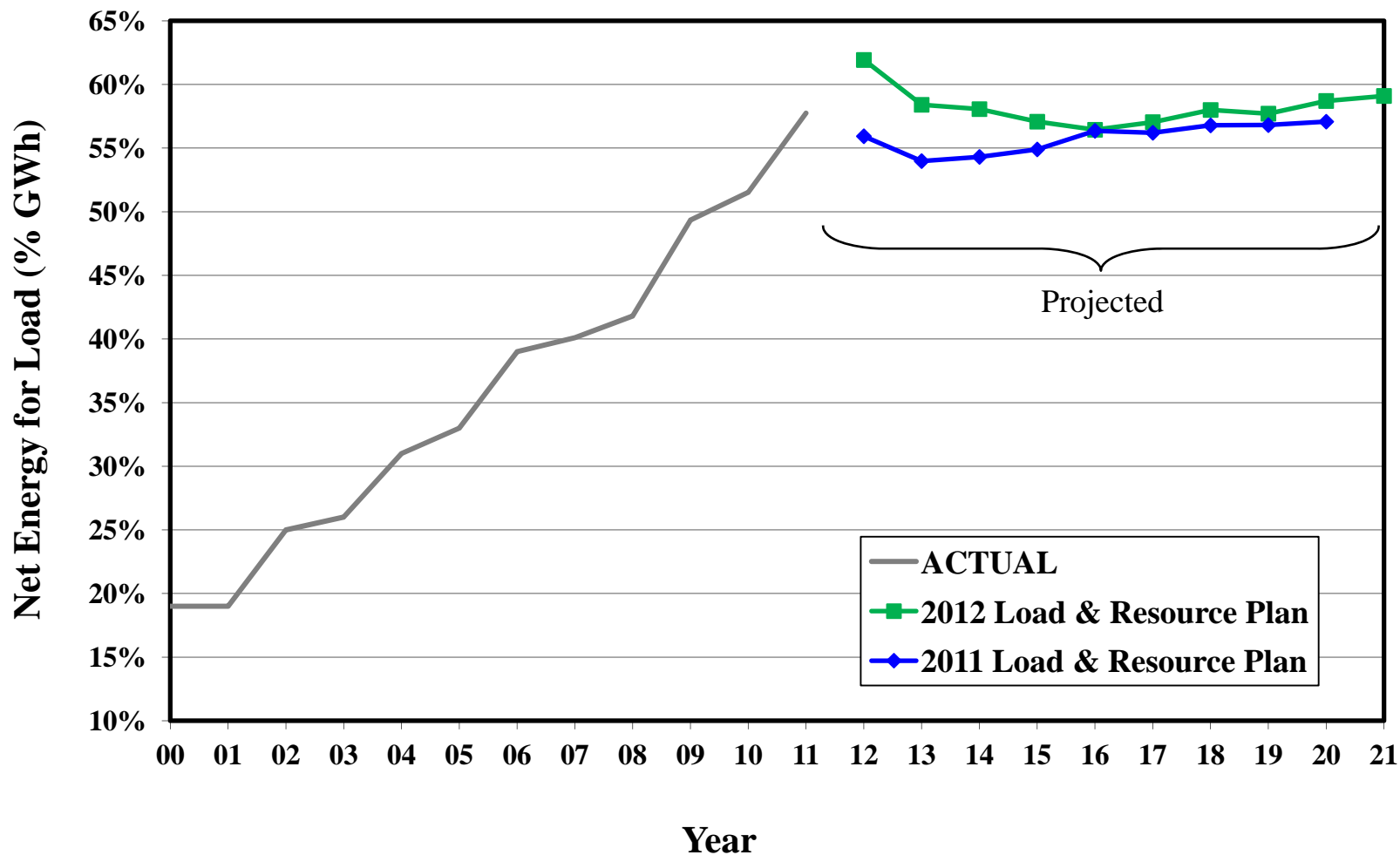
Crystal River 3 ⁽¹⁾	849 MW
St. Lucie 1 & 2	1,712 MW
Turkey Point 3 & 4	<u>1,386 MW</u>
Total	3,947 MW

Planned

St. Lucie 1 (uprate)	129 MW (2012)
St. Lucie 2 (uprate)	99 MW (2012)
Turkey Point 3 (uprate)	123 MW (2012)
Turkey Point 4 (uprate)	123 MW (2013)
Crystal River 3 (uprate)	<u>~ 162 MW (2014)</u>
Total	~ 636 MW

(1) Extended outage through 2014

Energy Production from Natural Gas



Major Federal Environmental Initiatives

- The FRCC's role is to monitor potential reliability impacts
- Short term – Identify issues, if any, related to scheduling of unit outages to perform required retrofits and/or other modifications
- Long term – At this time, the FRCC is not expecting a significant impact on the long term reliability

FRCC Load & Resource Assessment Conclusion

The results of the resource adequacy review indicate that the FRCC Region has planned adequate resources to remain reliable for the next ten years.

FRCC

Fuel

Reliability

2012 FRCC Fuel Reliability

- Fuel Reliability Working Group (FRWG)
 - Dedicated group of FRCC / Member representatives
 - Continue to review interdependencies of fuel availability and electric reliability
 - Coordinate regional responses to fuel issues and emergencies

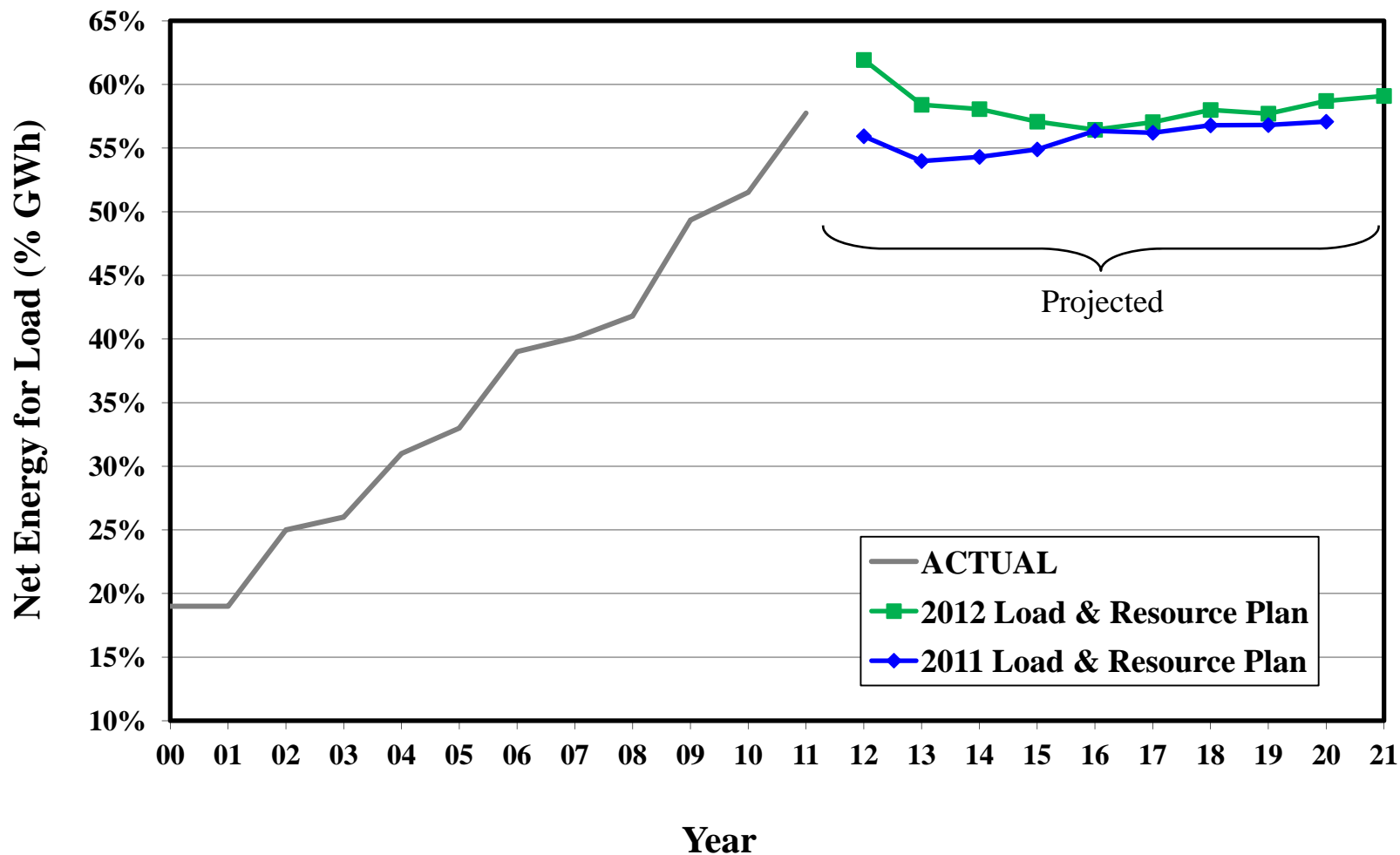
Natural Gas Supply and Transportation Reliability

- Natural Gas (NG) supply continues to grow
- FRCC continues to review and assess various aspects of the current fuel supply infrastructure in terms of reliability for generating capacity
- Continued cooperation between pipelines and FRCC
- Fuel Oil backup is key to reliability for catastrophic failures

Fuel Reliability Coordination Tools and Plans

- *FRCC Generating Capacity Shortage Plan*
- *FRCC Operations - Hurricane Manual*
- *FRCC Communications Protocols – Reliability Coordinator (RC), Generator Operators and Natural Gas Transportation Service Providers*

Energy Production from Natural Gas



FRCC Fuel Reliability Conclusion

- In the near term, FRCC does not anticipate fuel transportation issues affecting resource capabilities considering:
 - Current fuel supply, pipeline capacity and pipeline diversity
 - Alternate fuel capability of generation
- In the longer term, projected increases in energy production from natural gas highlight the need for continued:
 - Communication and coordination
 - Assessment of gas infrastructure capabilities
 - Evaluation of gas/electric interdependencies
 - Evaluation of diversity of gas pipeline interconnects

FRCC

Transmission

Planning

Process

FRCC Regional Transmission Planning Process

- Promotes the reliability of the Bulk Electric System through coordination of transmission planning activities within the FRCC Region
- Assess transmission adequacy and ensure resource deliverability
- Provide a vehicle for ensuring that transmission planning within the FRCC will provide for the development of a robust transmission network within the Region

Status of Compliance with FERC Order 1000

- FERC jurisdictional entities have the obligation
- Extend FERC Order 890 with regard to regional and inter-regional planning and cost allocation
- Develop regional planning and cost allocation provisions
 - 7/23/2012 Entities post revised proposal
 - 9/20/2012 Next stakeholder meeting
 - 10/11/2012 Compliance filing due
- Develop inter-regional transmission coordination procedure and address cost allocation for multi-regional projects
 - 4/11/2013 Compliance filing due

Status of Eastern Interconnection Coordination

- Coordination of modeling information
 - Eastern Interconnection Reliability Assessment Group (ERAG)
Multiregional Modeling Working Group (MMWG) develops
and maintains a library of models
 - Models include proposed system expansion plans
 - Models are the basis for reliability assessments

Status of Eastern Interconnection Coordination

(Continued)

- Eastern Interconnection Planning Collaborative
 - Phase I – Complete
 - Phase II – Working: Analyze three formulated scenarios, including reliability and production cost modeling of alternate transmission options
 - Expect completion by early 2013

Conclusion

- Planned Reserve Margin exceeds 20% for all peak periods for the next ten years
- Impact of pending and proposed EPA regulations:
 - Short term – Identify issues, if any, related to scheduling of unit outages to perform required retrofits and/or other modifications
 - Long term – No significant impact expected
- FRCC does not anticipate fuel transportation issues affecting resource capabilities in the near term
- Energy production from natural gas expected to remain near 60% through 2021
- The planned transmission system within the FRCC Region is expected to be adequate and reliable

Questions ?