



Governor's Action Team on Energy and Climate Change

State of Florida

Governor's Action Team on Energy and Climate Change

Phase II Process

Additional Slides Describing Draft Electricity Supply Forecast Revisions

*Energy Supply and Demand
Technical Work Group (TWG)*

Meeting #18

September 23, 2008

Revised Electricity Supply and Demand Forecast

Draft CAT Forecast Comparison with FRCC Forecast

- At the July 23, 2008 FL ESD TWG meeting, the TWG requested that a comparison be made between:
 - The existing FL ES forecast prepared by CCS and
 - The forecast by the Florida Reliability Coordinating Council (FRCC) in its report entitled: "2008 Regional Load & Resource Plan" that was published in July 2008, and including utility forecasts as filed through April 15, 2008
 - Note that several utilities report that their more recent forecasts do and/or will show lower growth in sales
- At the September 9, 2008 FL ESD TWG meeting, the TWG by consensus recommended an approach to revised the Electricity Supply forecast, based in part on the FRCC forecast, but with significant changes

Revised Electricity Supply and Demand Forecast

At their 9/9 Meeting, the ESD TWG Suggested:

- Estimate future FL sales based on application of a 1.7%/yr growth rate from 2008-2025 (lower than FRCC results for 2008-2017)
- Adjust future generation estimates by fuel source downward to meet demand for generation by reducing FRCC estimates of generation from natural gas
- Adjust Solar generation upward to account for 110 MW (22% capacity factor) to be on line in 2010/2011
- Note: no specific TWG guidance provided on use of alternative trends in transmission and distribution losses

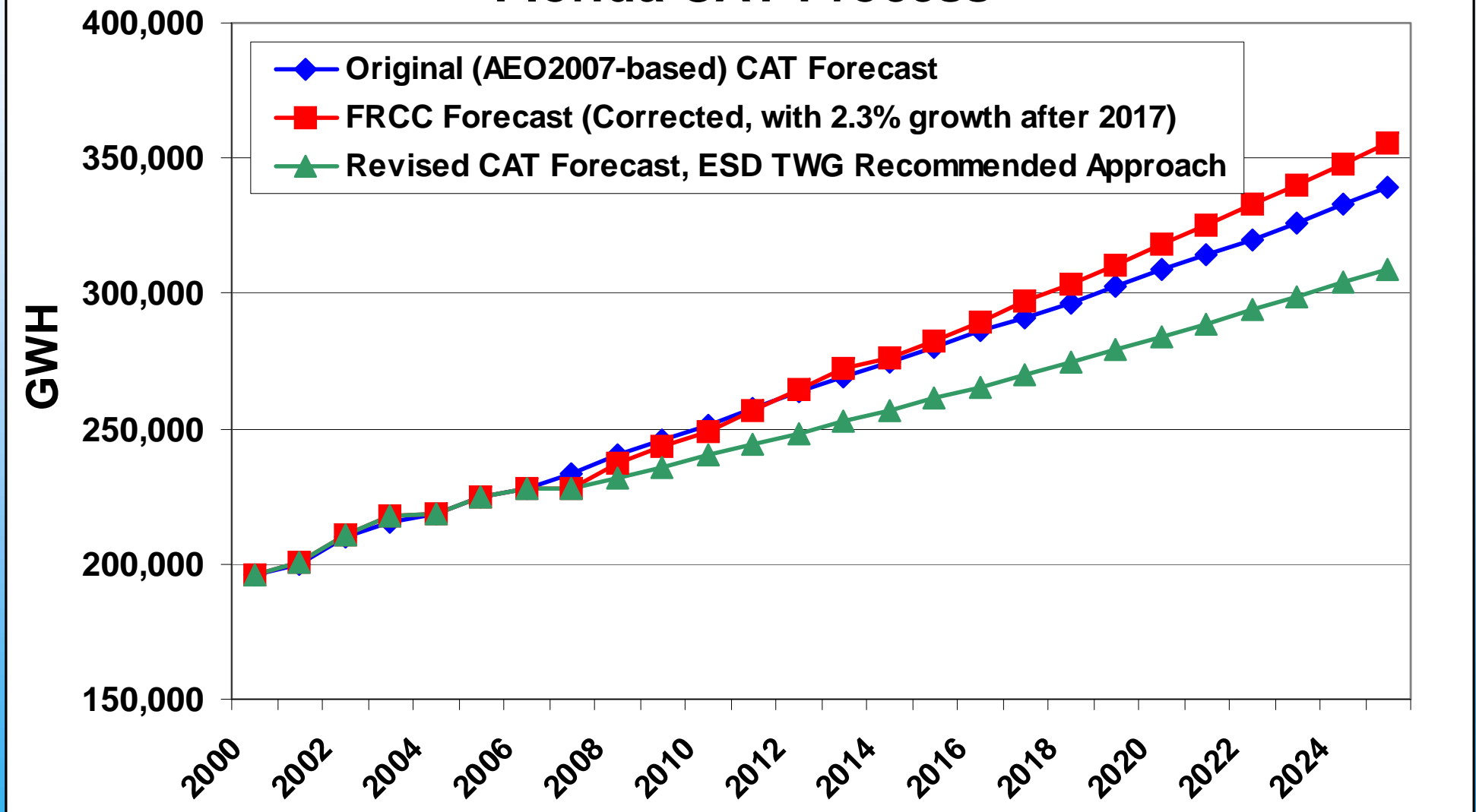
Revised Electricity Supply and Demand Forecast

Draft revisions including TWG input now complete for:

- FL Electricity Sales: Using TWG recommendations, sales in 2025 are 8.8% lower than original (AEO2007-based) CAT forecast, 13.2% lower than (extrapolated) FRCC forecast
- Transmission and Distribution Losses: FRCC estimates of T&D losses as a fraction of net generation increase over 2008-2017, and are substantially higher than in original CAT forecast.
 - Preliminary revision assumes FRCC T&D loss fraction through 2013, then constant through 2025

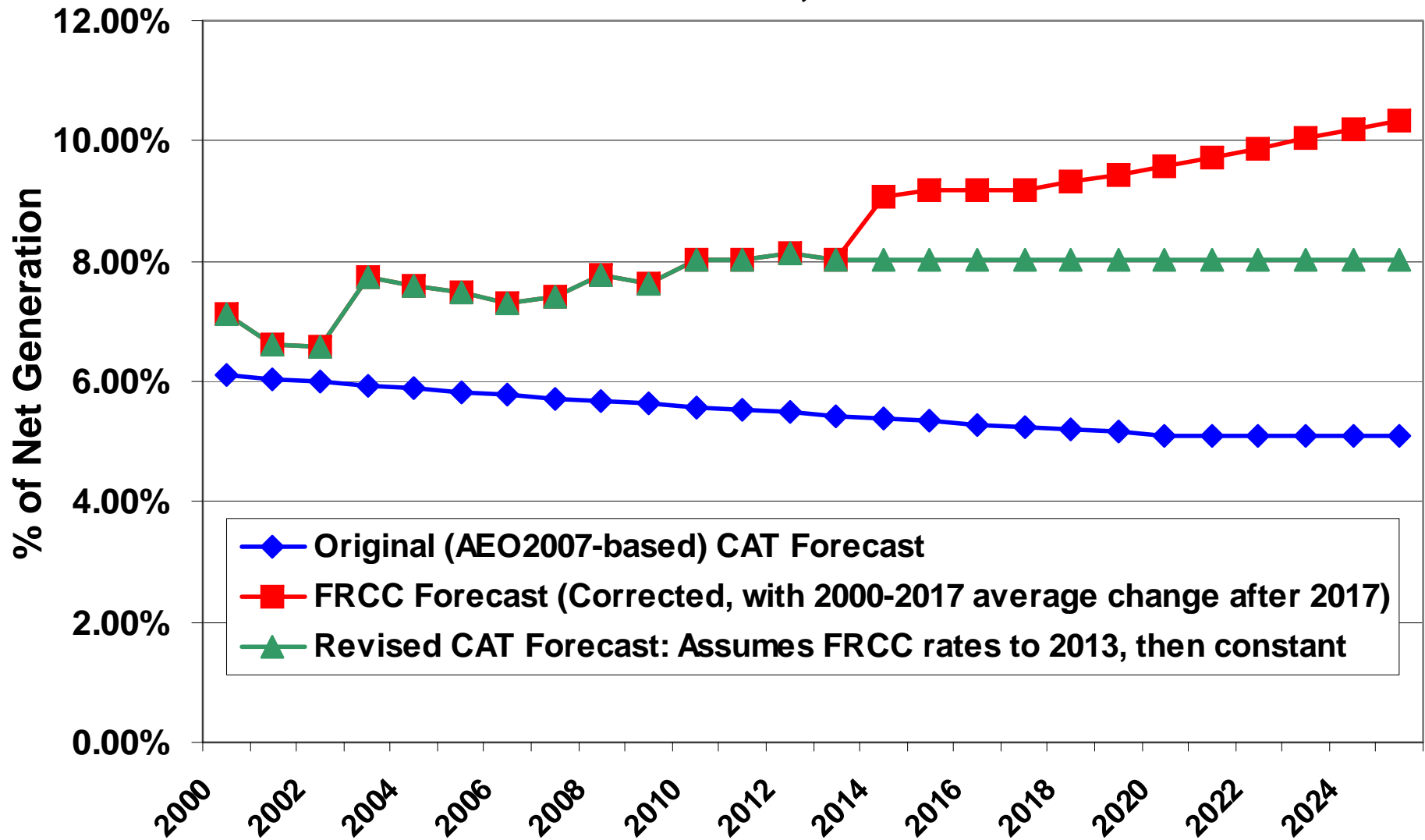
Revised Electricity Supply and Demand Forecast

Comparison of Electricity Sales Forecasts, Florida CAT Process



Revised Electricity Supply and Demand Forecast

Comparison of Electricity Transmission and Distribution Loss Forecasts, Florida CAT Process

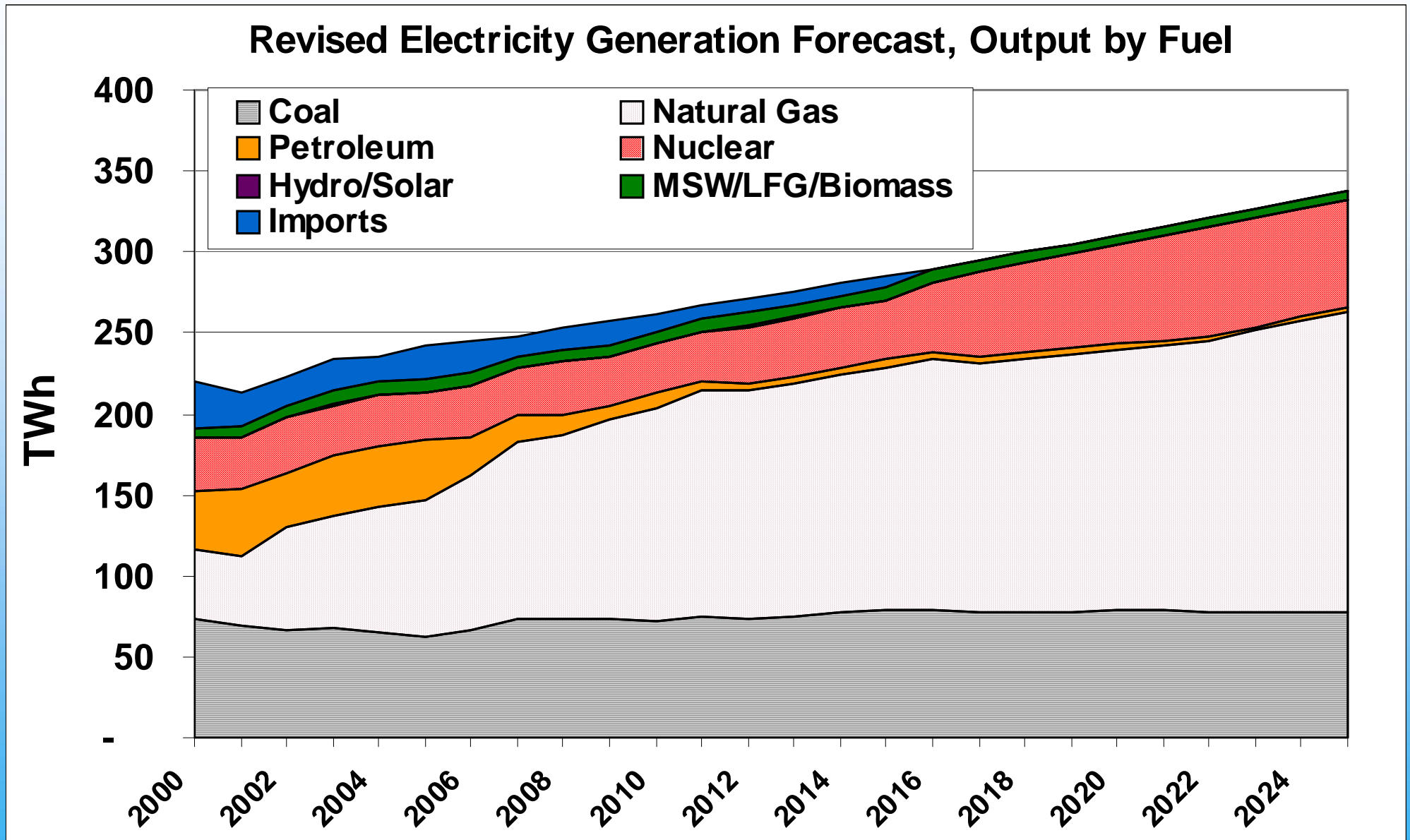


Revised Electricity Supply and Demand Forecast

Draft revised estimate of future generation fuel shares and CO₂e emissions impacts **complete**

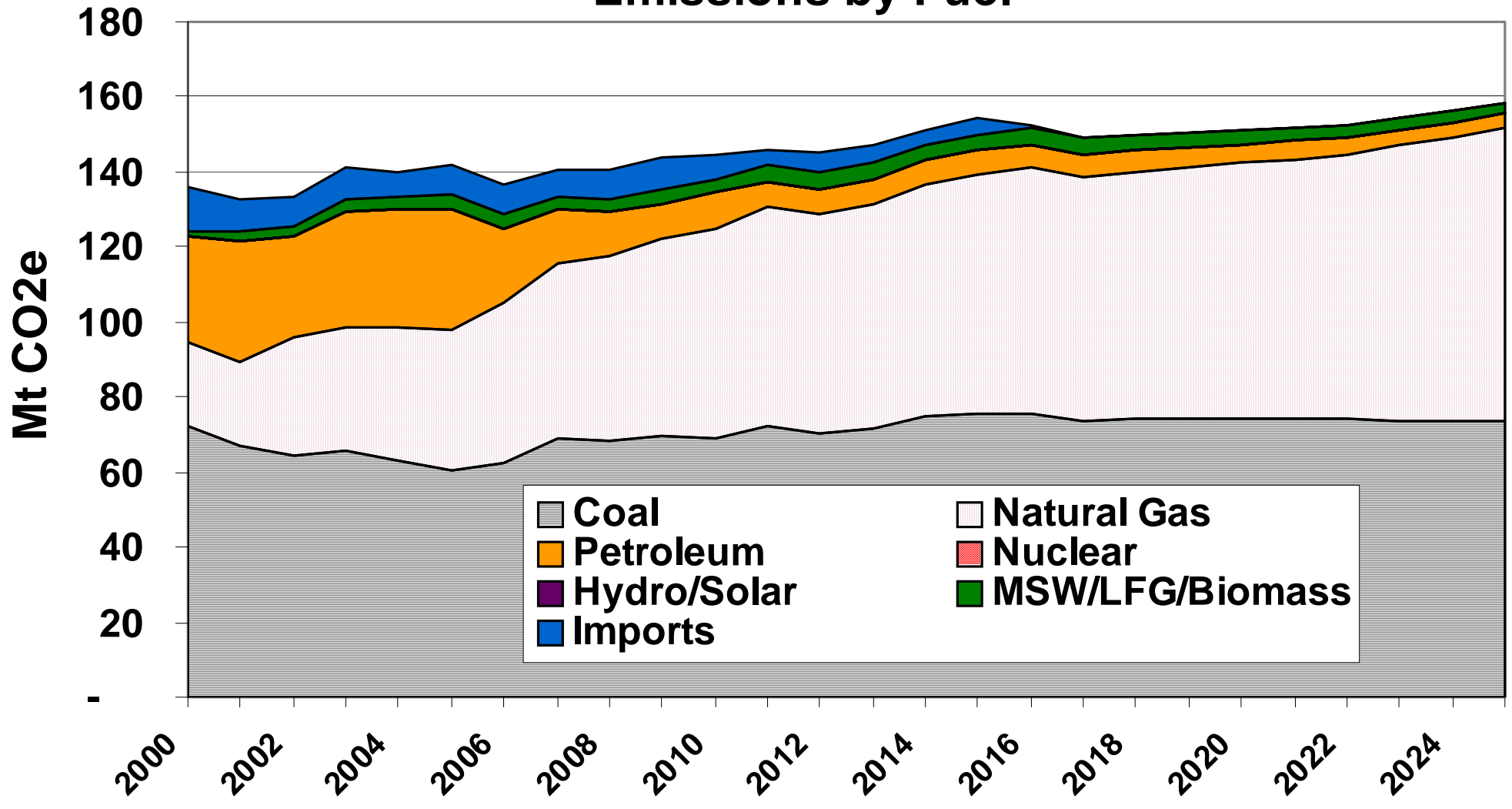
- Based on review of FRCC estimates through 2017 and TWG suggestions, major elements of Revised Forecast generation fuel shares are, relative to previous (AEO2007-based CAT Forecast):
 - More nuclear generation (nearly double by 2023)
 - Less oil-fired generation (>90% less by 2017)
 - Less coal-fired generation (~20% less by 2017, ~40% less by 2025)
 - More gas-fired generation (~30% more by 2017, ~60% more by 2025)
- Average fossil-based CO₂e/MWh **~12% less** in 2015 vs. previous forecast, marginal emissions 2015-2025 ~50% less

Revised Electricity Supply and Demand Forecast



Revised Electricity Supply and Demand Forecast

Revised Electricity Generation Forecast, GHG Emissions by Fuel



Revised Electricity Supply and Demand Forecast

Impacts of Forecast Changes on ESD Options Results

- Forecast changes affect ESD options through three mechanisms:
 - Change in **Sales forecast** where ESD options goals are sales-based
 - Change in **T&D losses** where ESD options provide demand-side generation or savings
 - Changes in **generation fuel shares**, which affect the avoided emissions “factor” (CO₂e emissions avoided per MWh generated) **for all options**
- Note that forecast changes also reduce overall FL GHG emissions, **thus reducing required overall reductions**

Revised Electricity Supply and Demand Forecast

Impacts of Forecast Changes on ESD Options

Cumulative 2009-2025 CO₂e Savings and Costs

- ESD-3, ESD-5 (RPS): (affected by sales, emission factor changes)
- ESD-6 (Nuclear): (affected by emission factor changes only)
- ESD-8 (CHP): (affected by T&D and emission factor changes)
- ESD-9 (Power Plant Efficiency): (affected by emission factor changes only)
- ESD-11 (Landfill Gas):
 - GHG Savings reduced by less than 1%, as most GHG savings from LFG capture, not generation

Revised Electricity Supply and Demand Forecast

Impacts of Forecast Changes on ESD Options

Cumulative 2009-2025 CO₂e Savings and Costs

- ESD-12 (DSM): (affected by sales, T&D, emission factor changes)
- ESD-13a, -14 (Existing Building improvements and new building code changes): affected by T&D, emission factor changes)