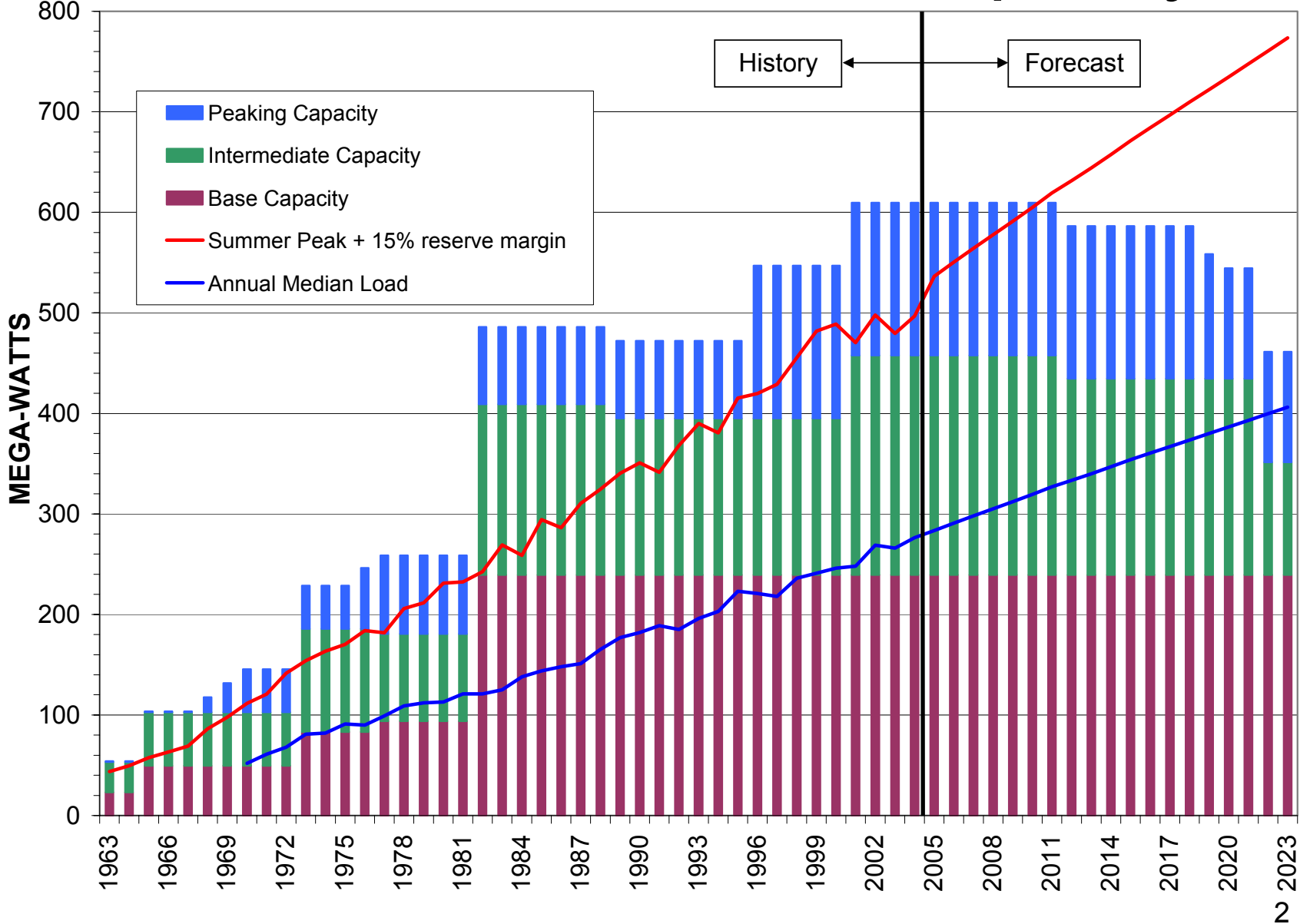


GAINESVILLE REGIONAL UTILITIES' LONG TERM ELECTRICAL SUPPLY PLAN

Presented to
Alachua County Board of County Commissioners
November 23, 2004



We Need Base Load Capacity

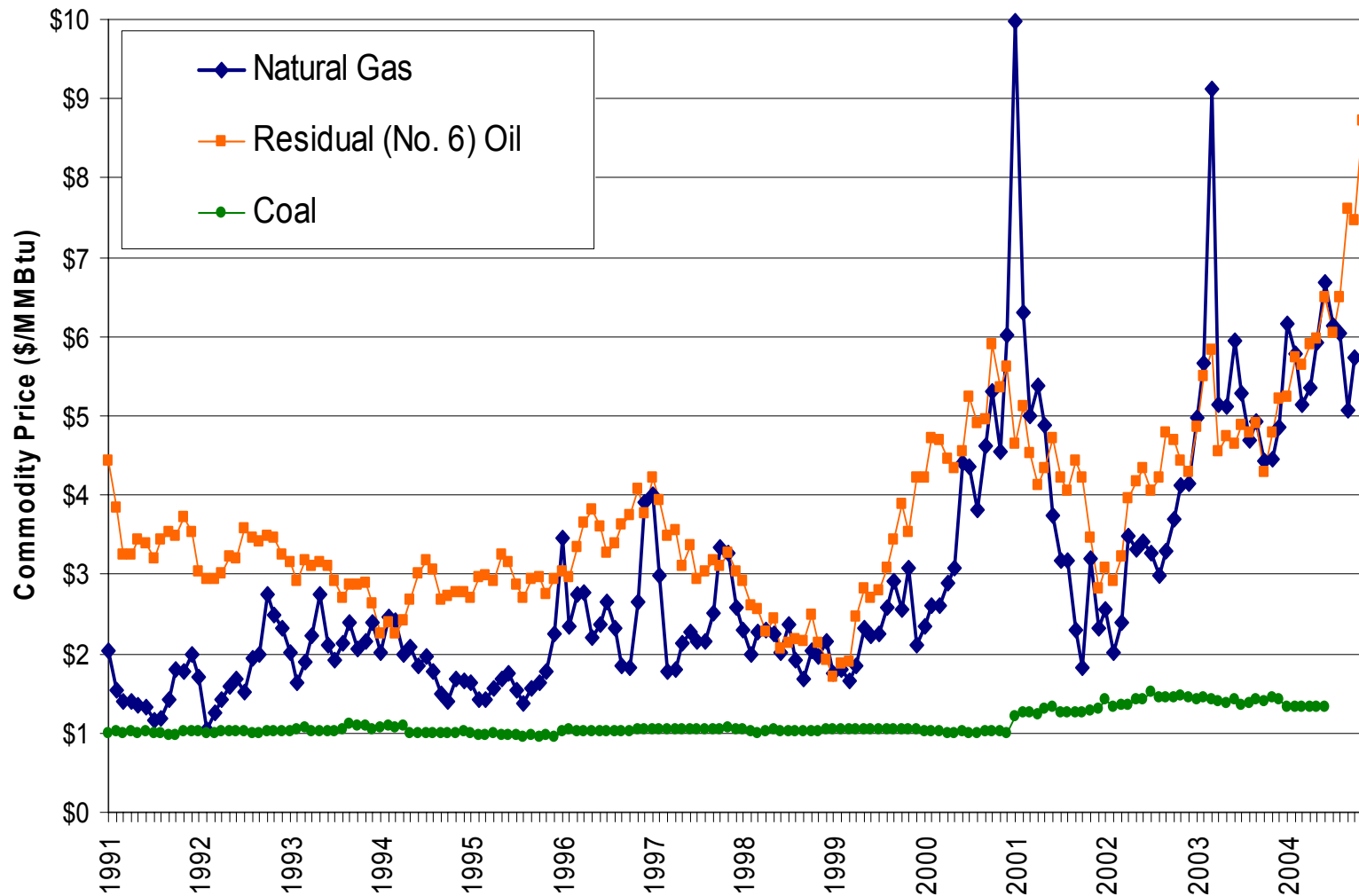


USA Oil And Gas Production Has Peaked

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



Here's What We Hear From Our Community Outreach:

Our Community Expects:

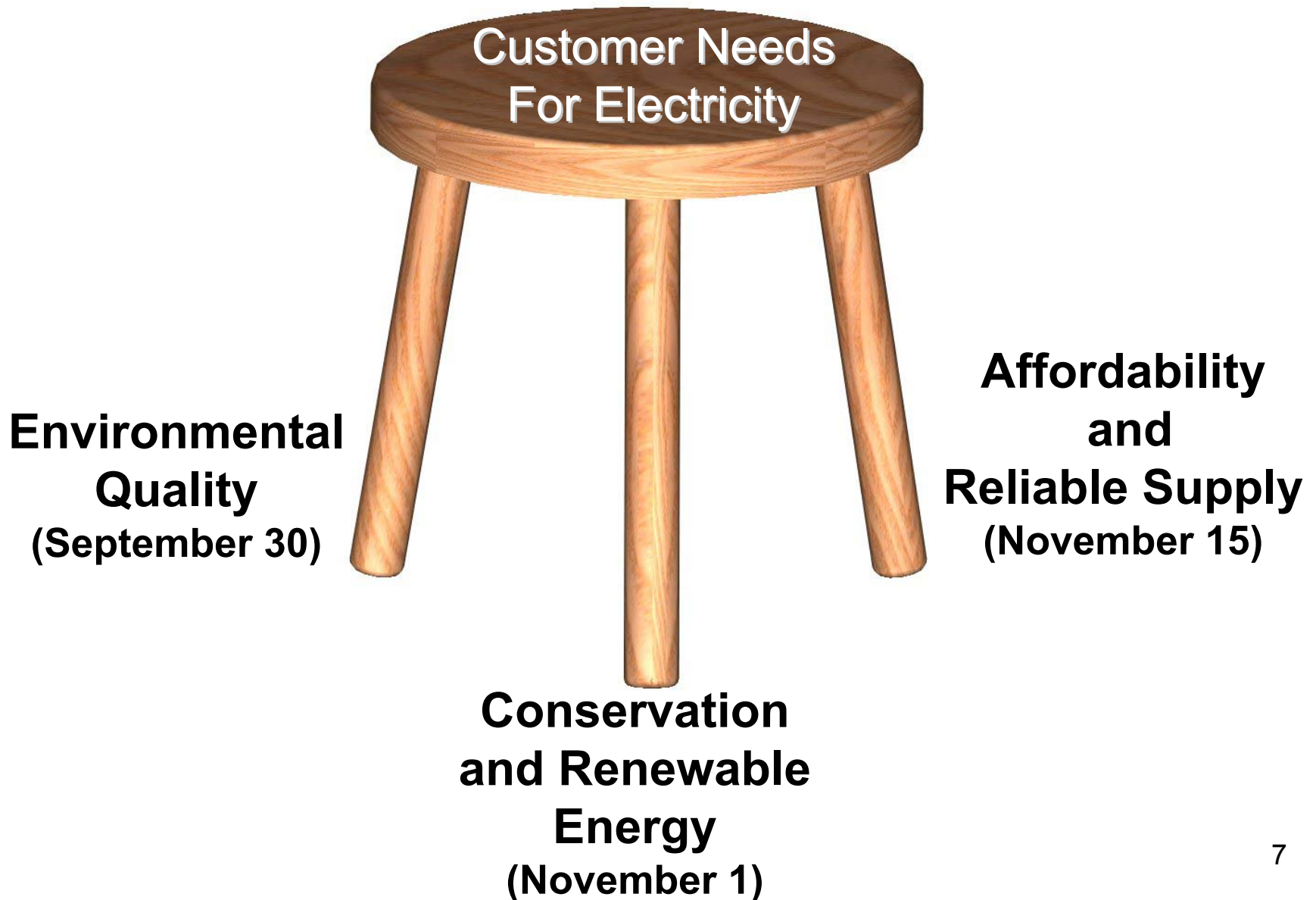
- A Clean Environment
- Reliable Electric Supplies
- Resource Conservation And Renewable Energy
- Affordable Electric Rates
- A Financially Strong Utility

We Reviewed A Wide Range Of Technologies


Biomass Cofiring
Biomass Gasifiers
Biomass Stand Alone
Bubbling Bed Boilers
Circulating Fluidized Bed
Cogeneration (heat and power)
Combustion Turbines - combined cycle
Combustion Turbines - simple cycle
Direct Load Control
Distributed Generators
Fuel Cells
Geothermal
Hydro-Electric
Integrated Gasification Combined Cycle
Market Purchases

Microturbines
Nuclear
Plasma Arc Reduction
Pulverized Coal
Pulverized Coal - subcritical
Pulverized Coal - supercritical
Refuse Derived Fuel Units
Repowering DH1
Solar Concentrating Collectors
Solar Photovoltaic
Solar Thermal Electric
Solid Fuel Gasifiers
Tidal Generators
Wave Energy Generators
Wind Turbines

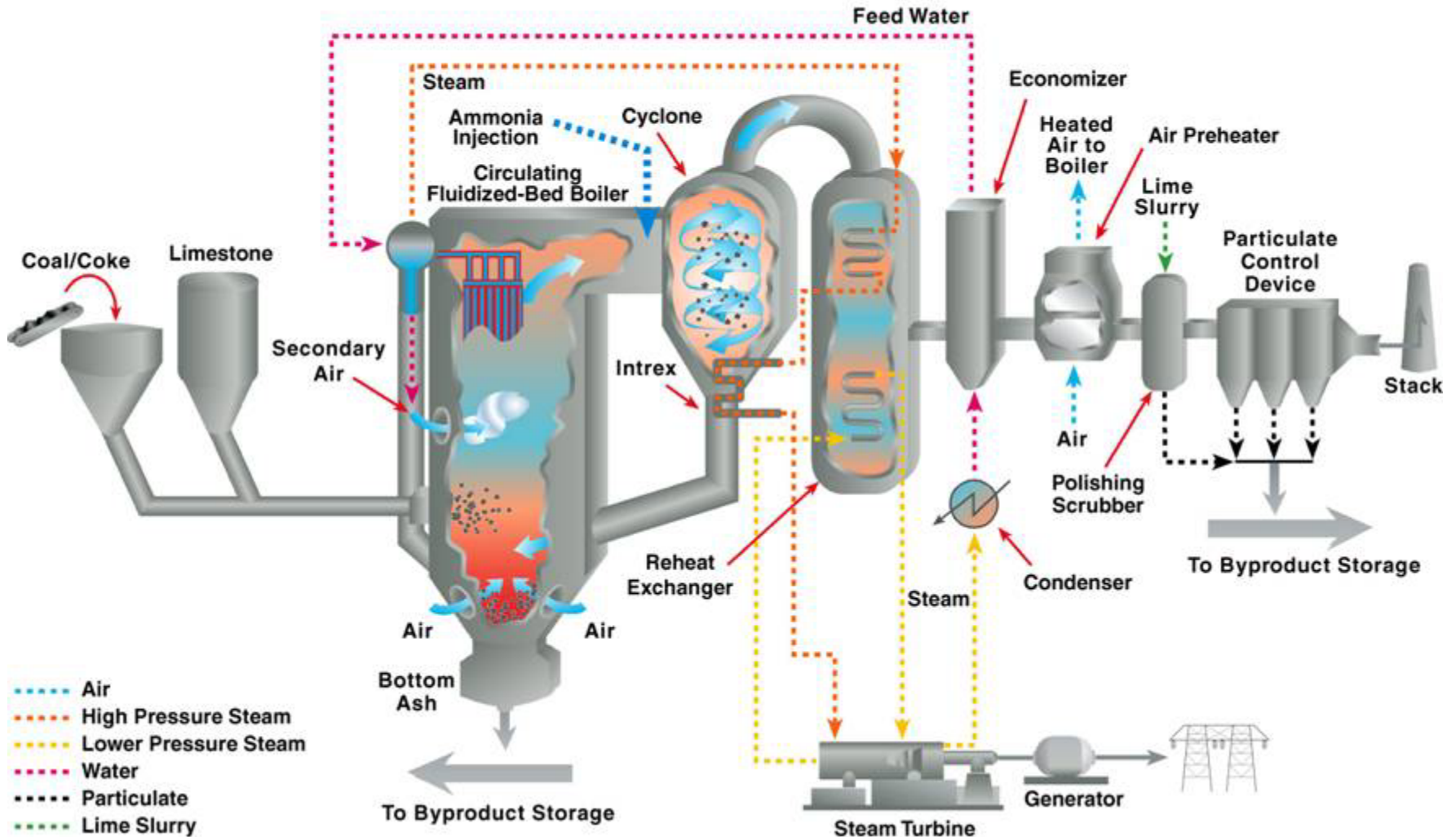
Finding The Balance



Our Proposed Long Range Energy Supply Plan

- Energy Conservation
 - 7 New Programs
- Renewable Energy
 -  GRU Green
 - Biomass (Waste Wood)
- Solid Fuel Capacity (220 MW CFB)
 - Waste Wood
 - Coal
 - Petroleum Coke
- Additional Emission Controls
- Use of Reclaimed Water

CFB: Proven, Efficient and Flexible (Circulating Fluidized Bed)



*Conceptual Diagram

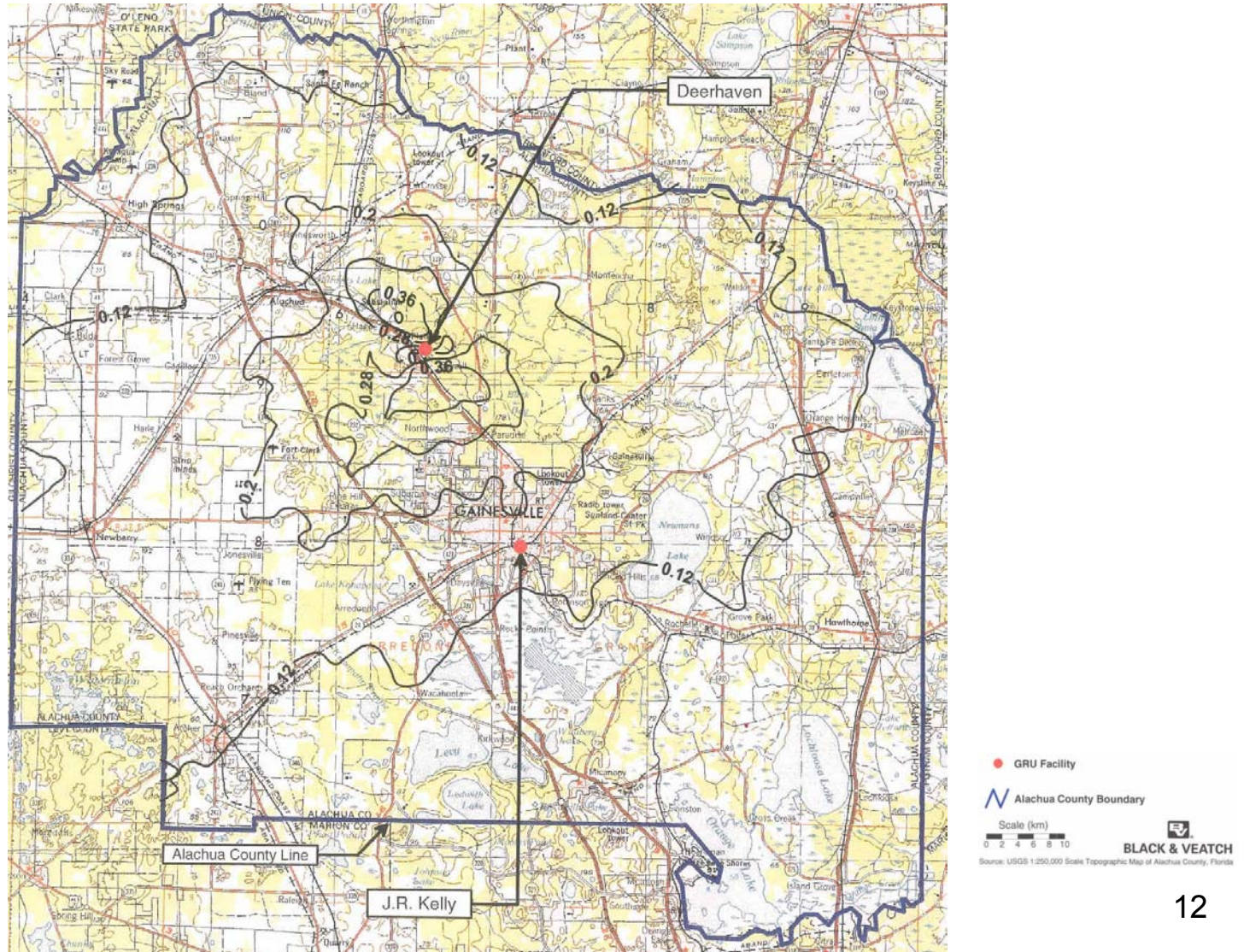
Emissions Would Be Reduced – Even With Higher Sulfur Fuels

Parameter	CURRENT - Deerhaven 2		FUTURE - Deerhaven 2 & CFB	
	Permitted (tons/yr)	Actual (tons/yr)	Permitted (tons/yr)	Expected (tons/yr)
SO ₂	12,761.6	6,992.6	3,707.5	2,800.4
NO _x	7,444.2	3,316.5	1,580.3	1,215.7
PM	1,063.5	162.9	296.3	227.9
Hg	N/A	71 lbs/yr	N/A	20 lbs/yr

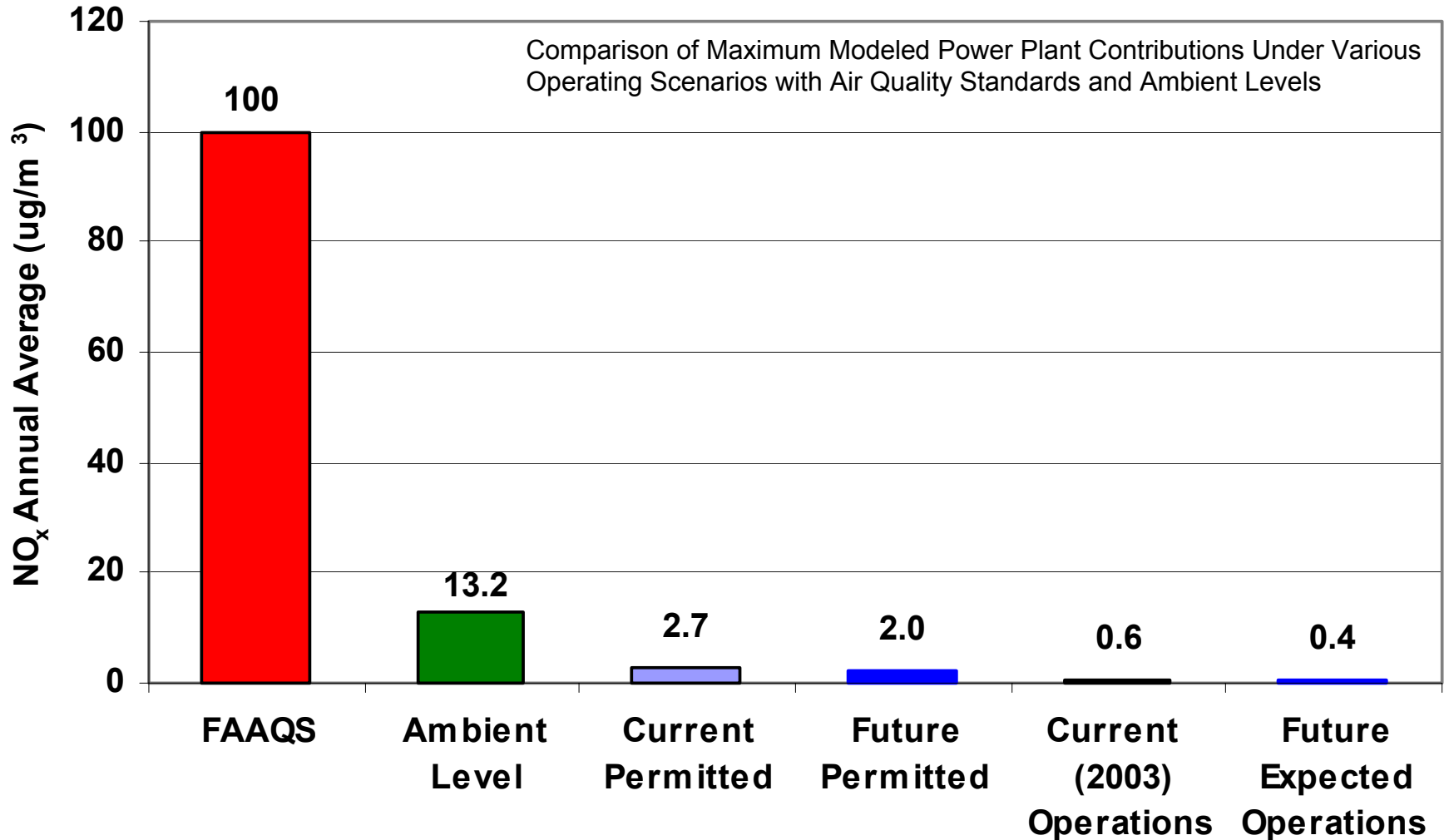
Note: Ambient air quality concentrations are not linearly related to mass reductions in emissions

EFFECTS OF EXISTING AND PROPOSED POWER PLANTS ON AMBIENT AIR QUALITY

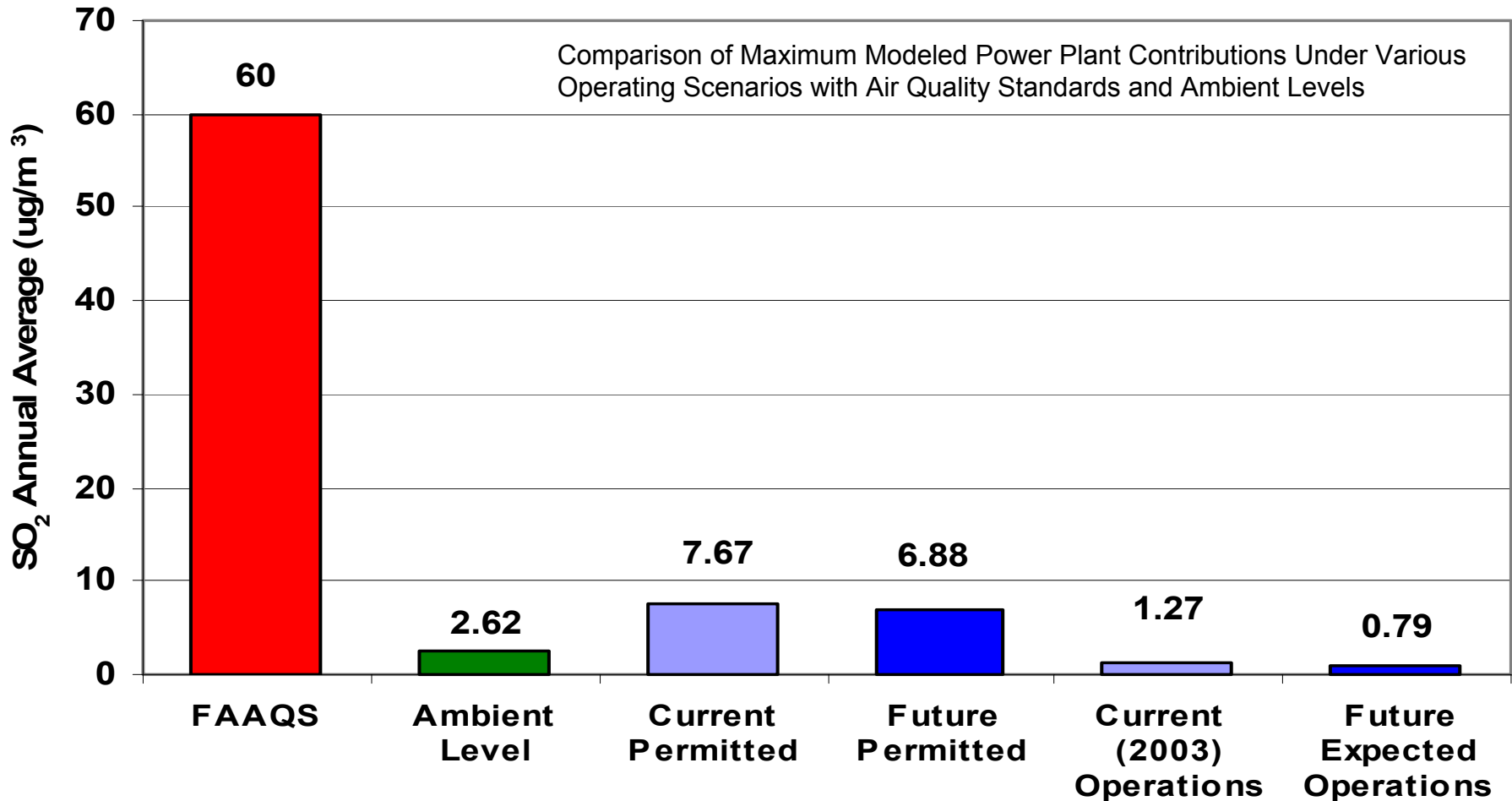
Air Modeling Results Sample Average Annual NO_x Contributions From GRU Generation - 2003 Operations



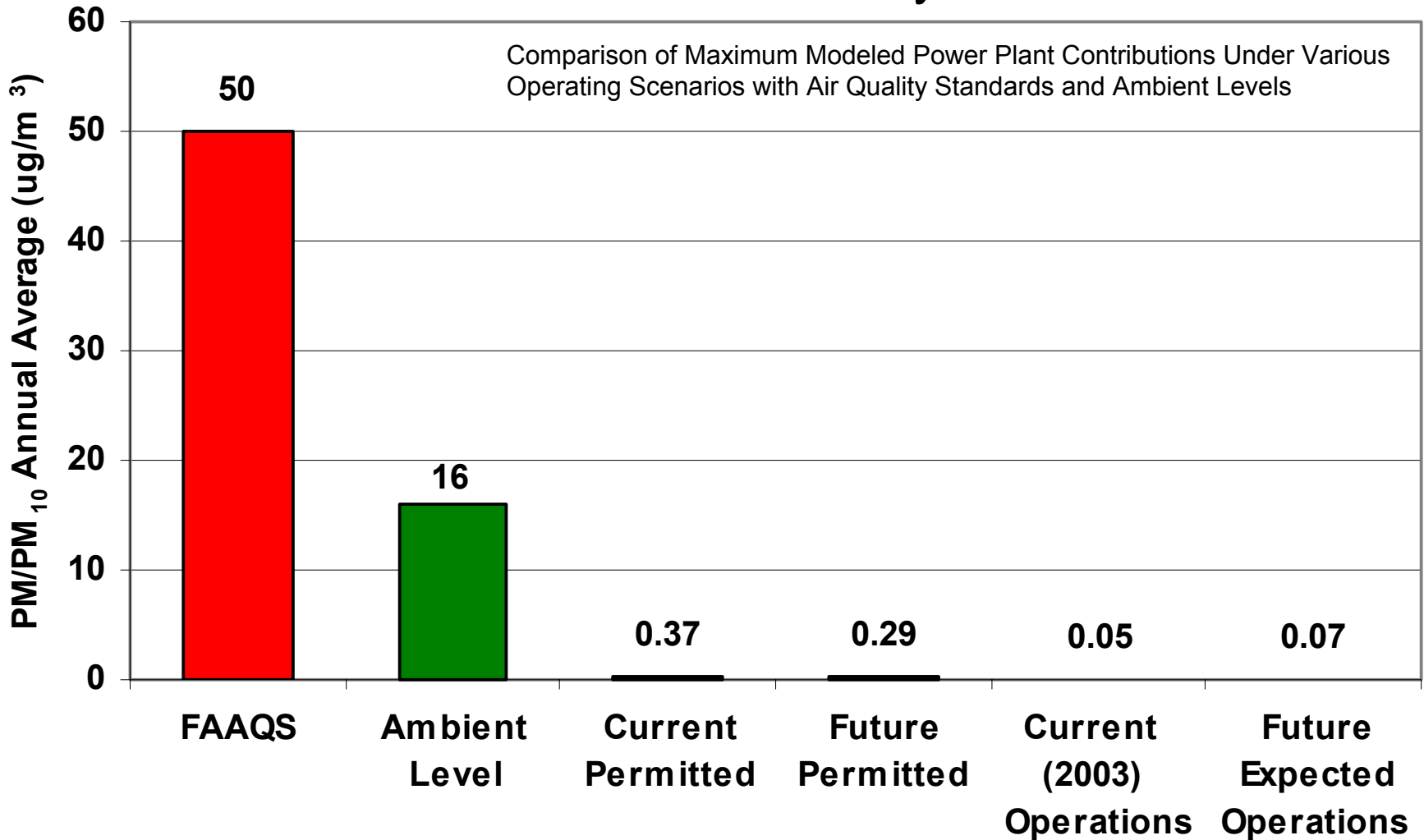
Annual Average NO_x Maximum Point Contributions In Alachua County



Annual Average SO₂ Maximum Point Contributions In Alachua County

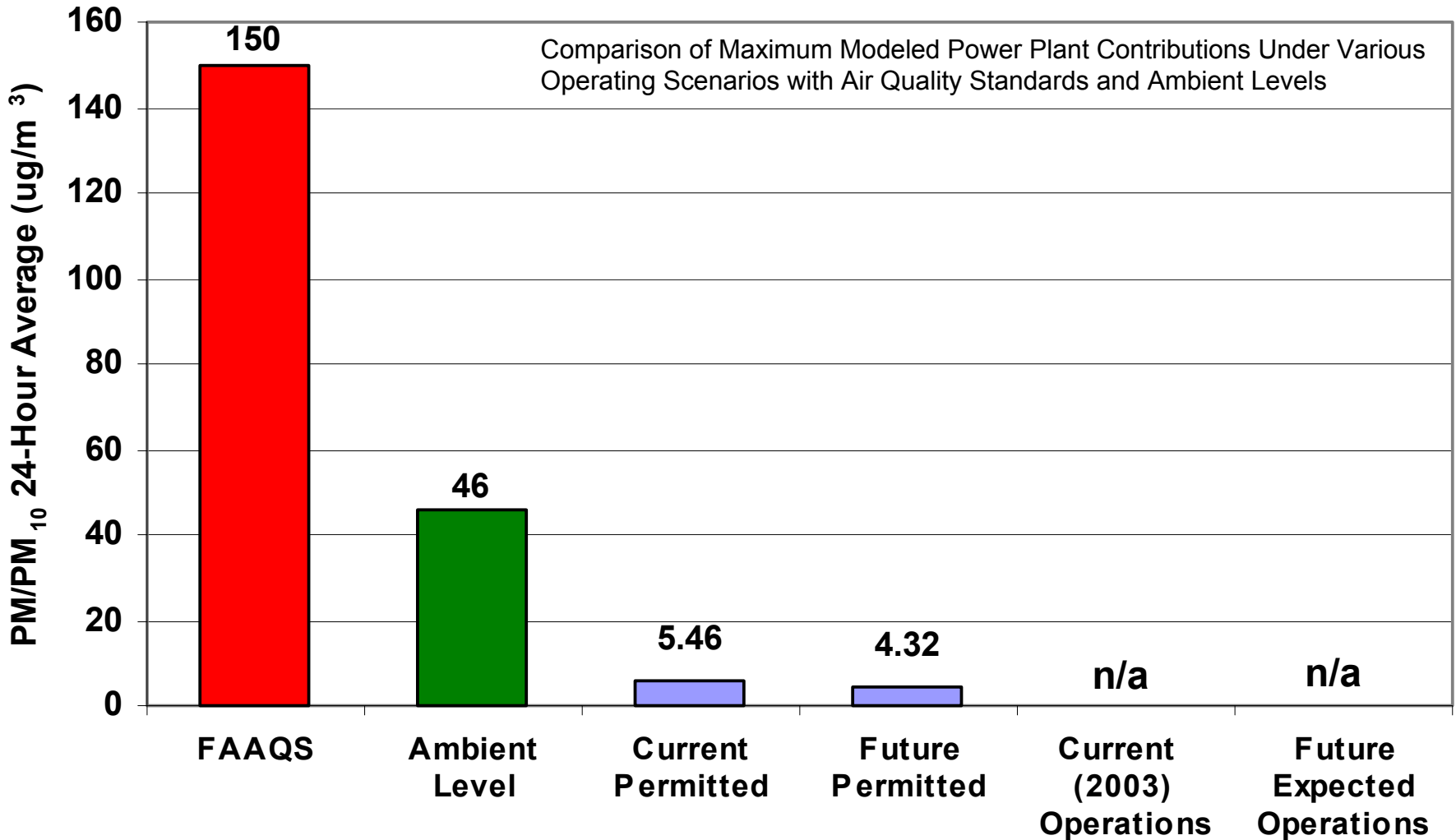


Annual Average PM/PM₁₀ Maximum Point Contributions In Alachua County

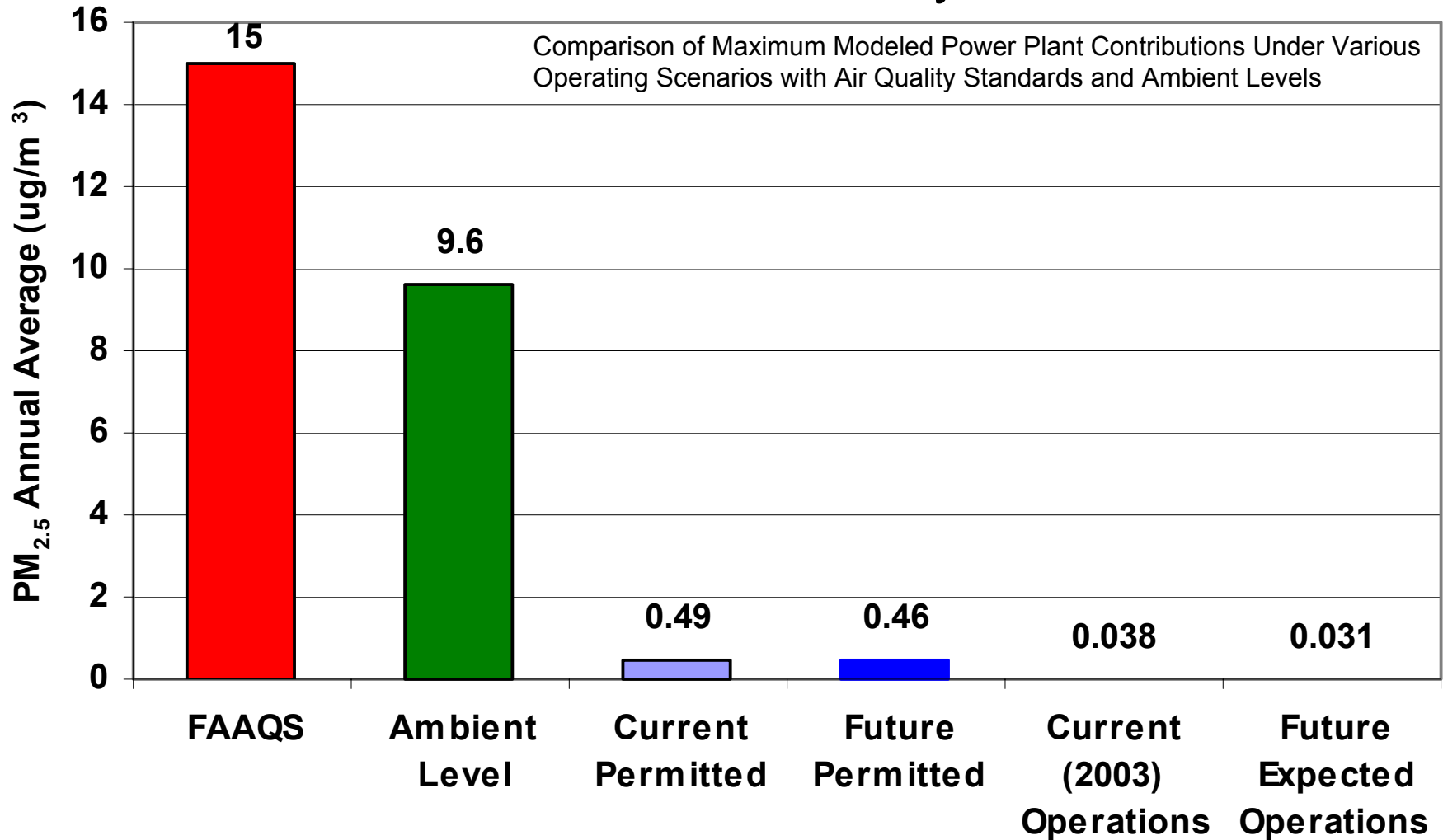


24-Hour Average PM/PM₁₀

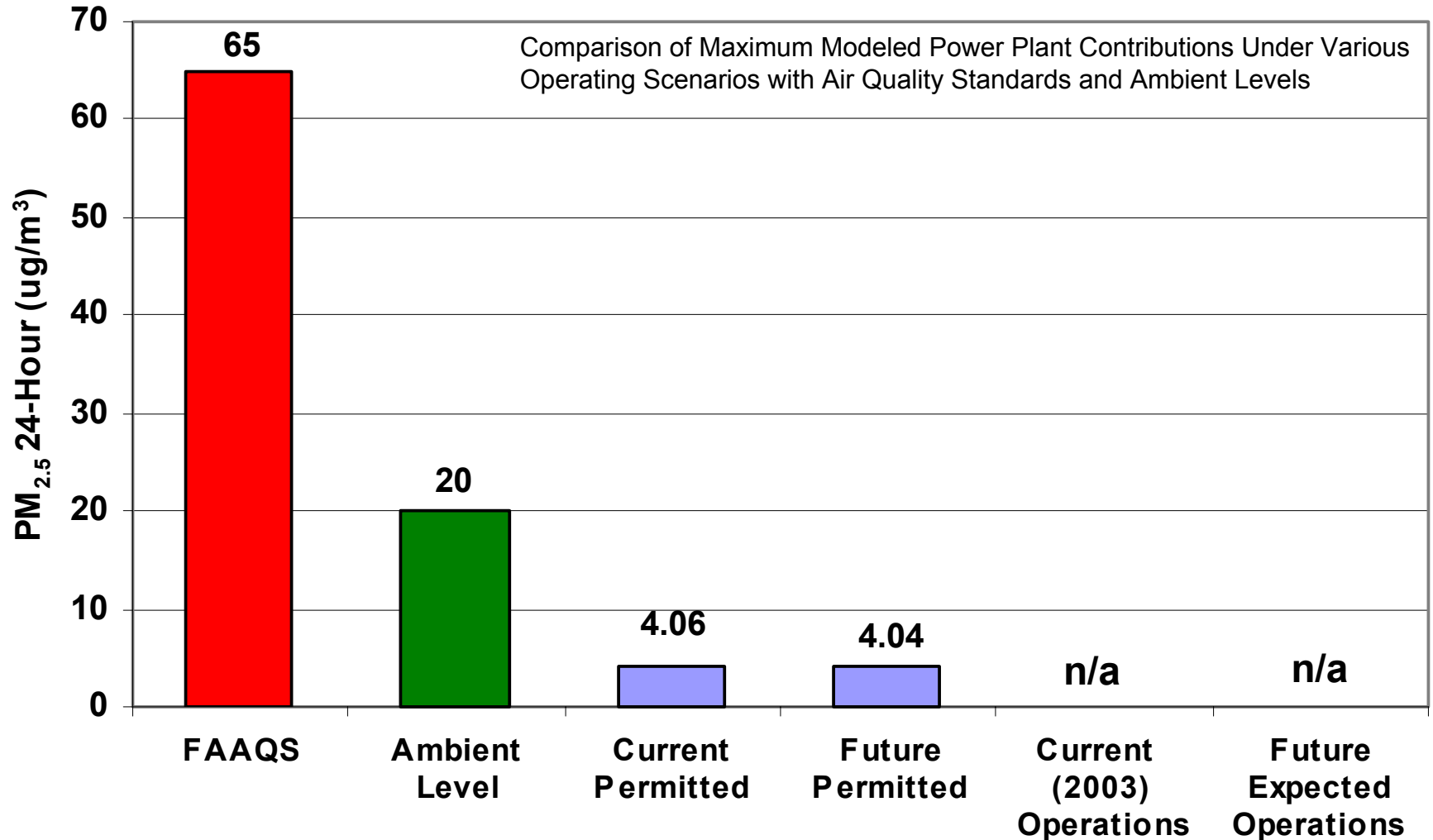
Maximum Point Contributions In Alachua County



Annual Average PM_{2.5} Maximum Point Contributions In Alachua County



24-Hour Average PM_{2.5} Maximum Point Contributions In Alachua County

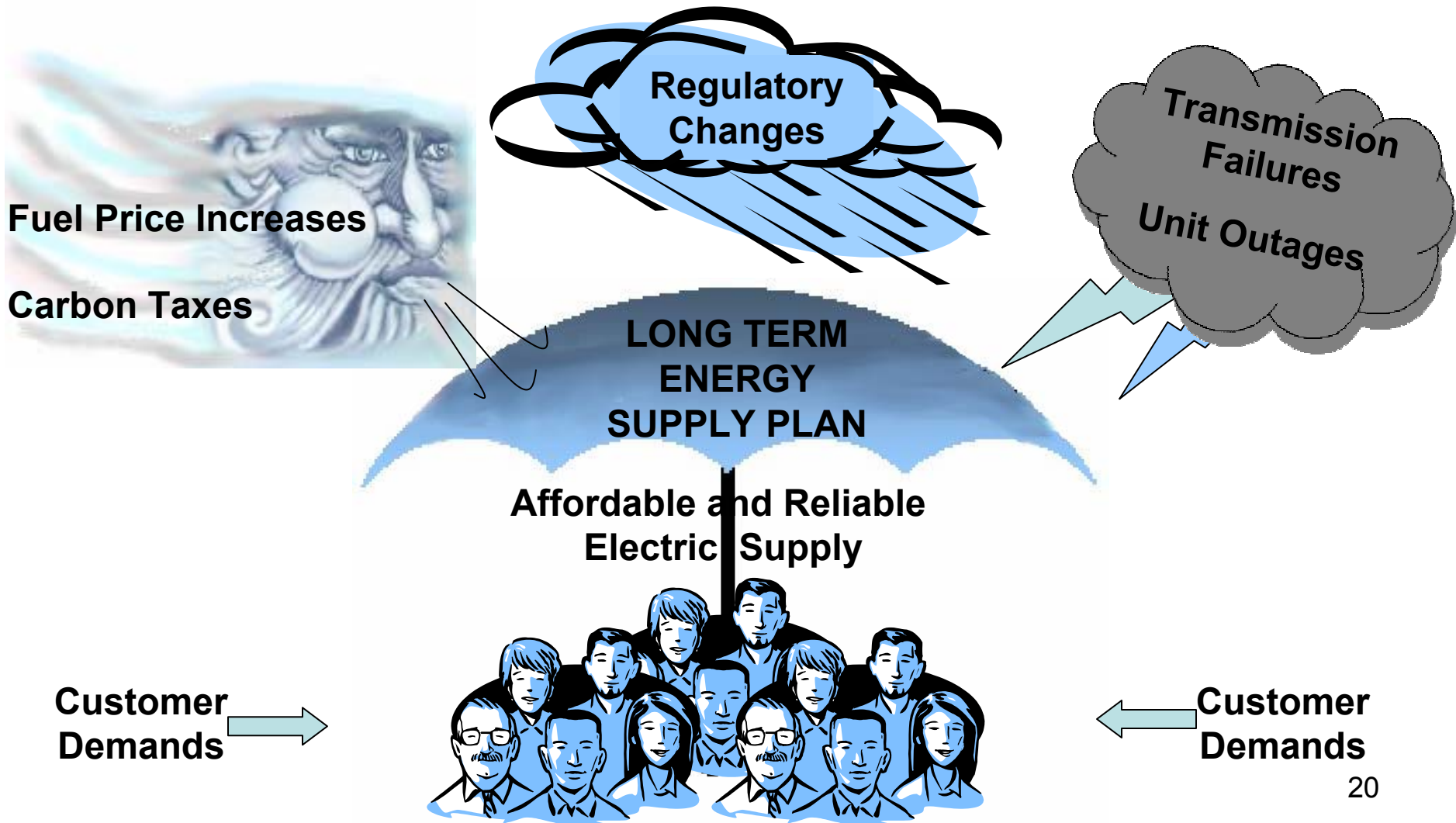


Overall CO₂ Intensity Would Be Reduced By 14%

Year	Carbon Emissions (Million Tons CO₂)	Carbon Intensity* (lb-CO₂/Gross MWh)
2003	1.8	1,998
2012	3.2	1,721

* Adjusted To Reflect No Offsets in 2003. Carbon Offsets Include Treating Biomass As Carbon Neutral, Methane Reductions from Landfill Gas, Demand Side Management, Equipment Efficiency Upgrades and Photovoltaic Electric Installations.

Affordability And Reliability Require Us To Manage Risk



Potential Electric Supply Risks Change Through Time

- Financial Risks Are Relatively Minor Until Equipment Orders Are Placed
- This Is 3 to 4 Years After The Design Process Starts

Each Step Of Our Proposed Process Provides Safeguards

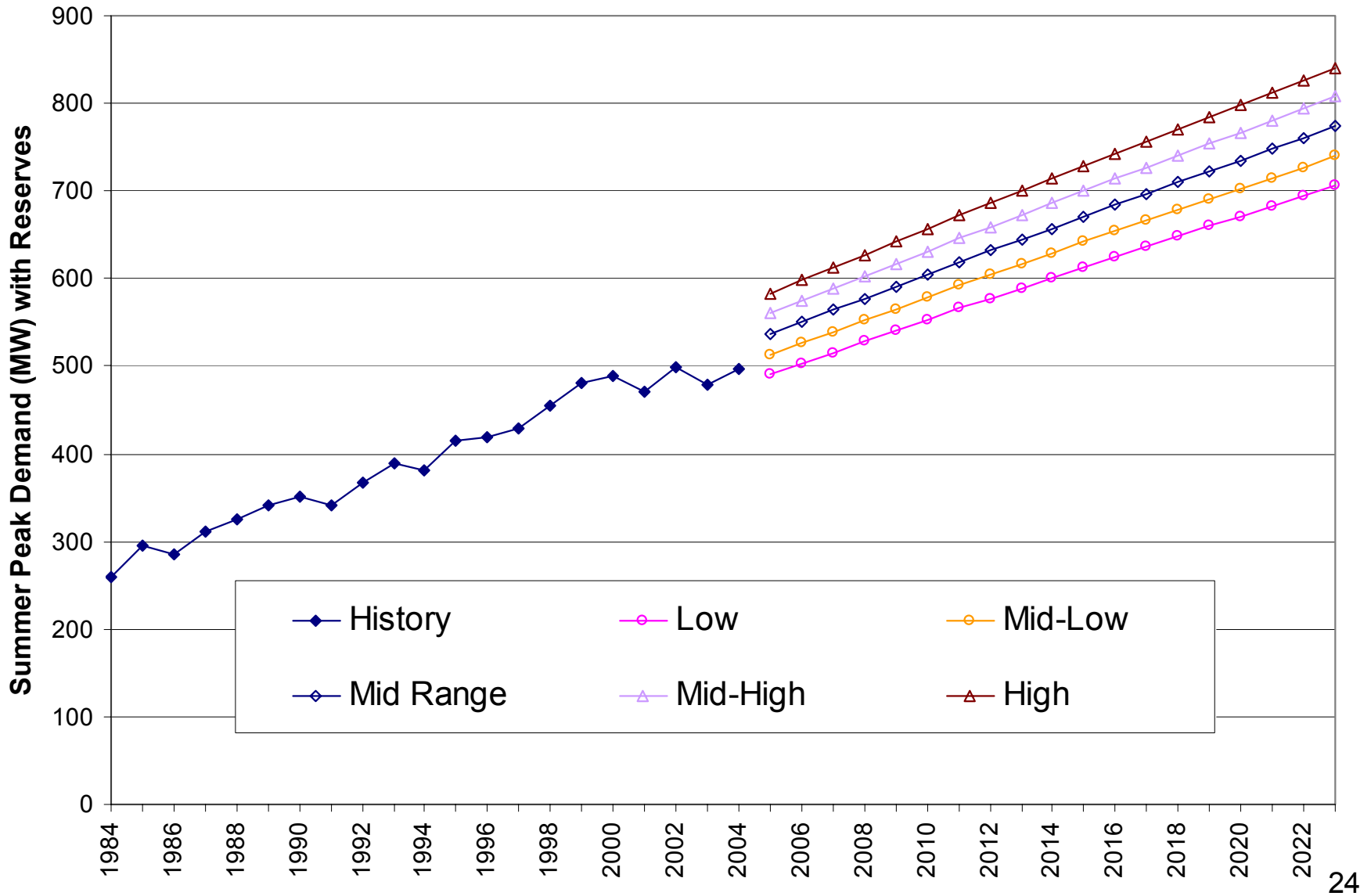
1. Review By A Qualified And Independent Consultant (R.W. Beck)
2. Prepare An Engineering Design
 - Establish 220 MW CFB Costs
 - Establish Performance Criteria
3. Request Bids Against 220 MW CFB Option
 - Open To Alternative Technologies
 - Open To Creative Risk Management And Performance Ideas
4. Based On Outcome Of Bid Process, Finalize Plan

Our Process Has Many Safeguards

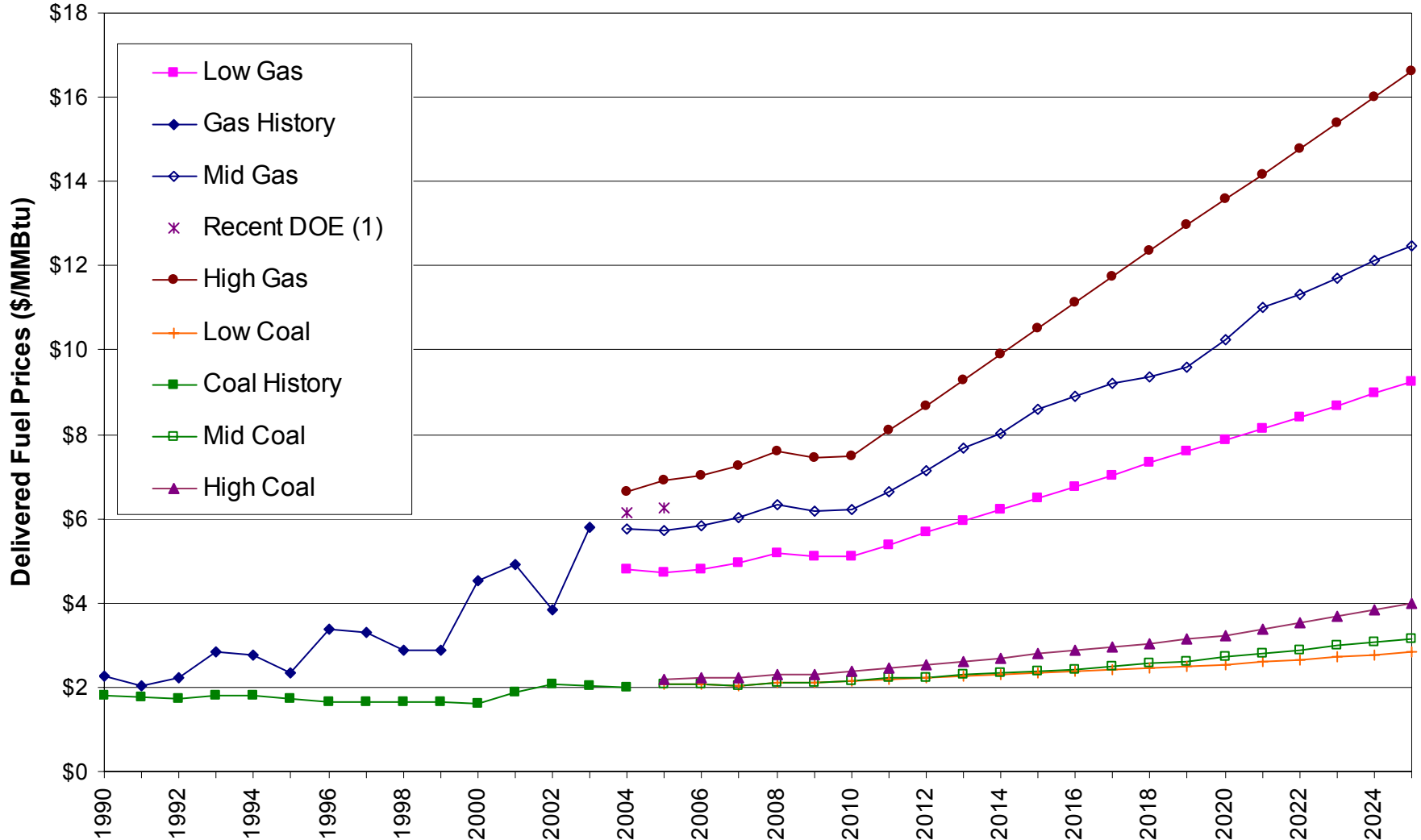
(Continued)

5. Obtain A “Determination of Need” From The Florida Public Service Commission
6. Obtain “Site Certification” From The Governor And Cabinet
 - County Has Legal Standing
7. Obtain Federal And State Environmental Permits
 - Extensive Public Participation
8. Secure Firm Contractual Commitments For Excess Capacity In Early Years
 - Eliminates Market Risks

The Range Of Forecasts We've Tested



The Range Of Natural Gas And Coal Prices We've Tested



Range Of Potential Carbon Prices We've Tested

(\$/Ton Carbon By 2015)

	<u>LOW</u>	<u>HIGH</u>
• Carper Bill ¹	\$18	\$ 51
• McCain Lieberman ²	\$44	\$106
• Range Tested	\$50	\$100

1. EIA Analysis of S.485 "The Clear Skies Act of 2003" and S.843 "The Clean Air Planning Act of 2003". Unsuccessful Legislation.

2. Charles River Associates analysis of S.139. Unsuccessful Legislation.

Source: An Assessment of AEP's Actions To Mitigate The Economic Impacts of Emissions Policies, American Electric Power, August 2004

Alternative Plans For Comparison

(2005 Construction Costs-\$Million)

Plan	Cost
•Solid Fuel –220 MW CFB <ul style="list-style-type: none">▪ Biomass▪ Coal▪ Pet Coke –Deerhaven 2 Retrofit	\$415
•Natural Gas –240 MW Combined Cycle –Deerhaven 2 Retrofit	\$223
•Rent Capacity –Market Purchases –Deerhaven 2 Retrofit	\$73

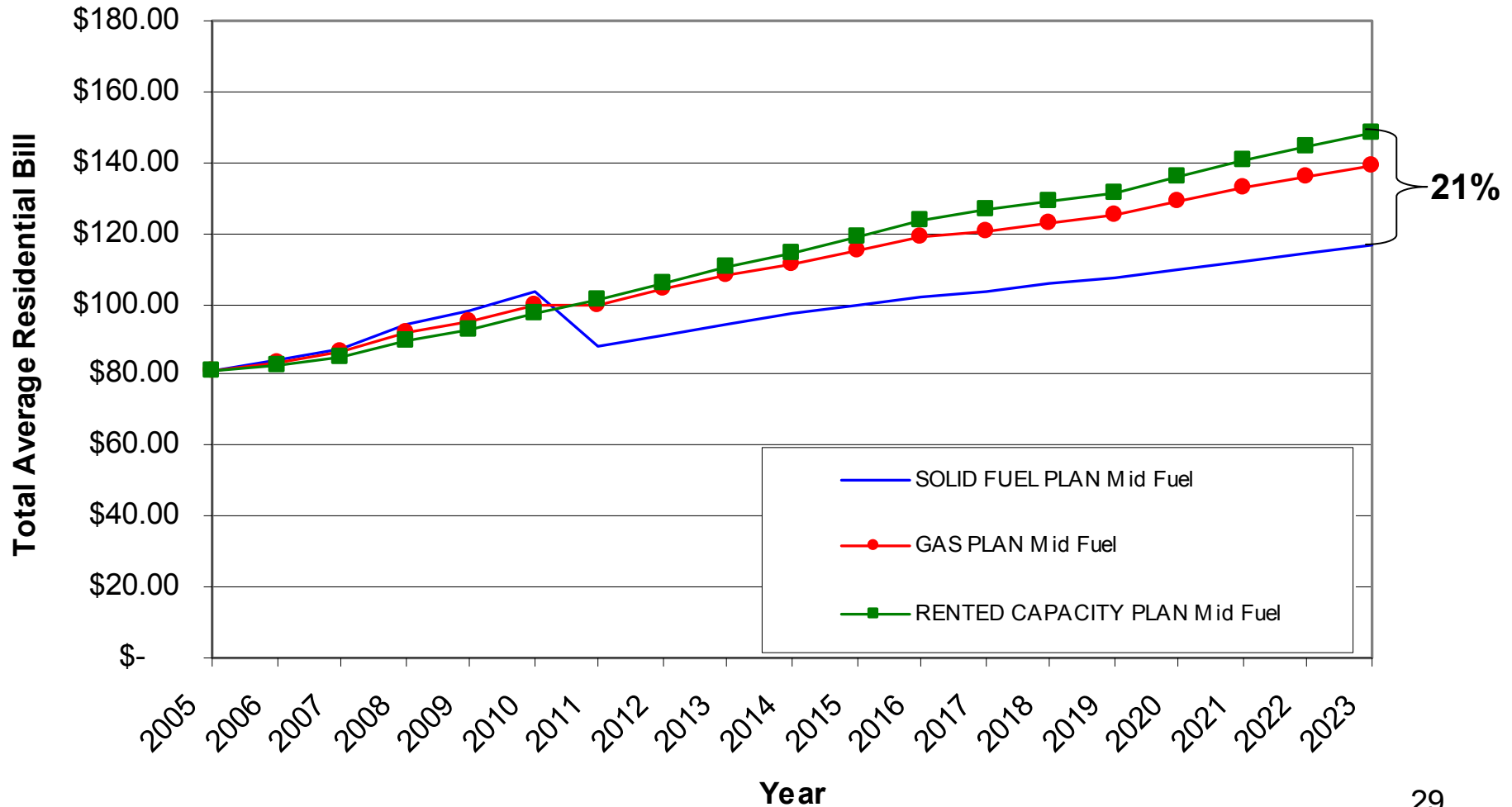
Savings From Solid Fuel Plan Are Substantial And A Sound Investment

(\$ Millions)

Scenario	Present Value Savings Compared To Rented Capacity	Benefit ¹ To Cost ² Ratio
Minimum Savings Potential ³	191	1.6
Mid-Range Forecasts ⁴	753	3.2
Maximum Savings Potential ⁵	1,418	5.1

1. Benefits = Difference in total net present value costs from "Rent Capacity" plan plus present value of incremental capacity cost of plan
2. Cost = Present value of incremental capital cost compared to "Rent Capacity" plan
3. Smallest gas-coal price spread, low est customer demand forecast, \$100/ton carbon tax
4. Mid range fuel price spread and customer demand forecast, \$50/ton carbon tax
5. Biggest gas-coal price spread, highest customer demand forecast, \$0/ton carbon tax

A Typical Residential Customer's Bill Would Be Much Less



The Proposed Plan Is Robust Because It:

1. Improves Our Ability To Use Relatively Inexpensive And Abundant Domestic Fuels
2. Includes Substantial Investments In State-Of-The-Art Emission Control Technology And Improves Ambient Air Quality
3. Maximizes The Use Of Regionally Available Renewable Energy
 - Reduces Carbon Intensity
 - Promotes Local Industry
4. Has The Lowest Cost Under A Wide Range Of Customer Demands And Fuel Price Forecasts