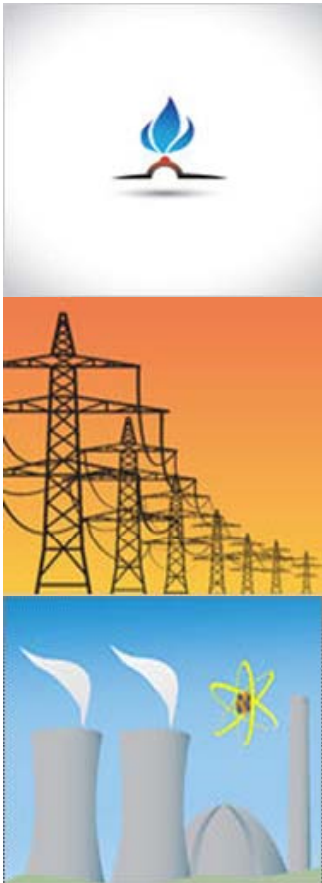




# Generation Planning to achieve the Resource and Climate Protection Plan



October 31, 2013 Council Committee on Austin Energy  
Cheryl Mele, Deputy General Manager/COO

**Mission:** Deliver clean, affordable, reliable energy and excellent customer service.



## Areas for briefing and discussion

- **Current Generation Resource Plan & Goals**  
“Austin Energy will review the Plan annually and issue a report on performance against goals. .. Austin Energy will reassess the Plan in a public forum every two years.”
- **Generation Update Process**
- **Fayette Project Study Scenarios**
- **Summary and Next Steps**





# Current Resource Plan

## MEGAWATT CAPACITY

Fall 2013 RFP

Year	Coal	Nuclear	Gas	Biomass	Wind Add <b>(Expire)</b>	Solar <sup>3</sup>	Renewable Portfolio
2013	<b>602</b>	<b>436</b>	<b>1497</b>	<b>112</b>	<b>849.4</b>	<b>48.0</b>	<b>22.9%</b>
2014							<b>23.8%</b>
2015					<b>370</b>	25.0	<b>34.9%</b>
2016					<b>200 / (195.6)</b>	25.0	<b>35.2%</b>
2017			200		<b>(91.5)</b>		<b>33.4%</b>
2018			800 <sup>2</sup>		<b>100 / (35)</b>	25.0	<b>34.8%</b>
2019						30.0	<b>35.0%</b>
2020						47.0	<b>35.4%</b>
2021							<b>35.0%</b>
2022							<b>34.6%</b>
<b>Capacity 2020</b>	<b>367<sup>1</sup></b>	<b>436</b>	<b>2,497</b>	<b>112</b>	<b>1,197</b>	<b>200</b>	<b>Total 4,809</b>

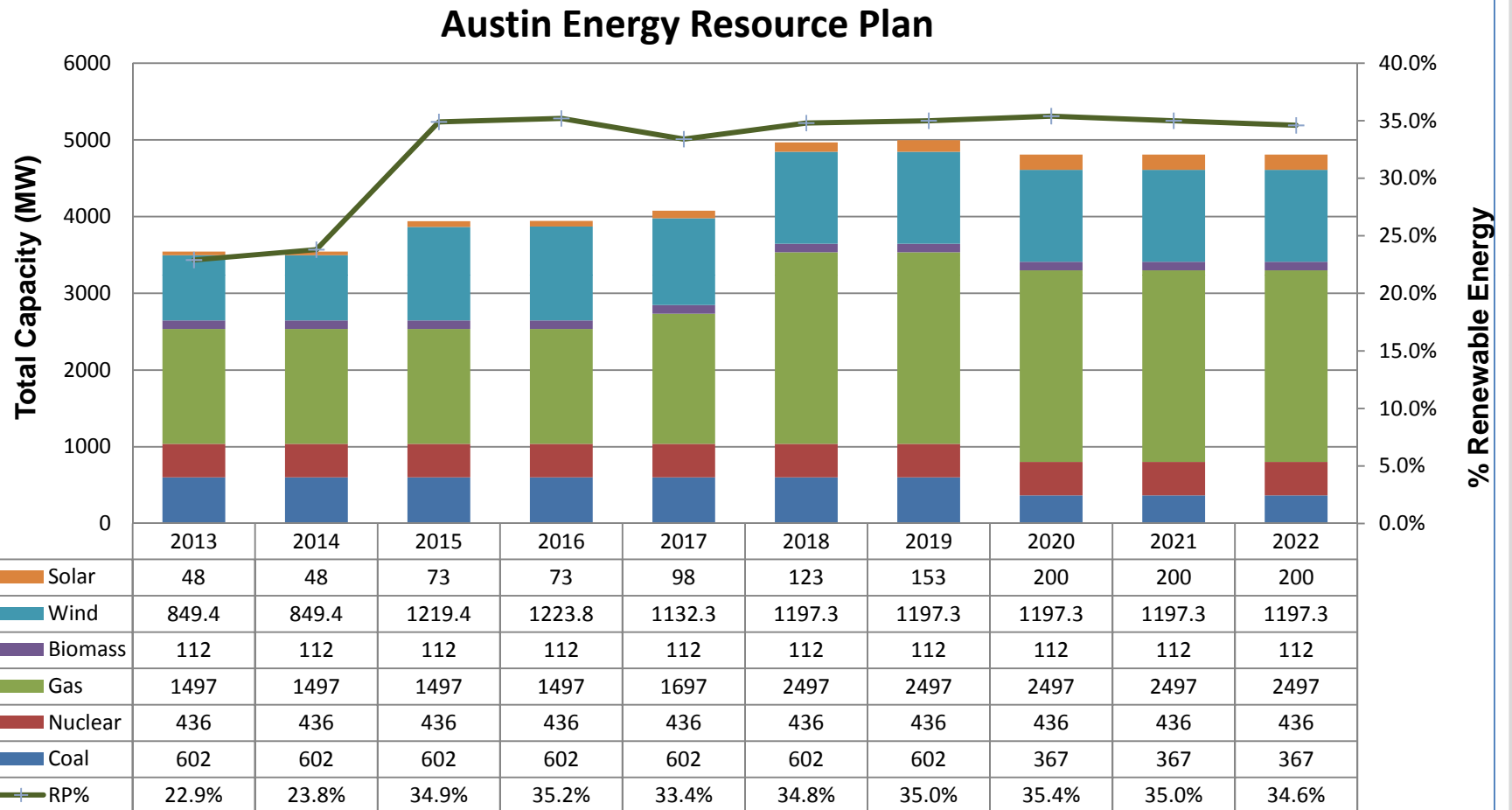
### Notes:

- 1) Capacity equivalent to meet CO2 reduction goal
- 2) Potential natural gas combined cycle additions up to 1,000 MW by 2019, subject to change
- 3) Includes distributed solar
- 4) Additional note: Plan assumes achievement of DSM goals
- 5) Bold are existing assets or executed PPAs, other black numbers indicate planned





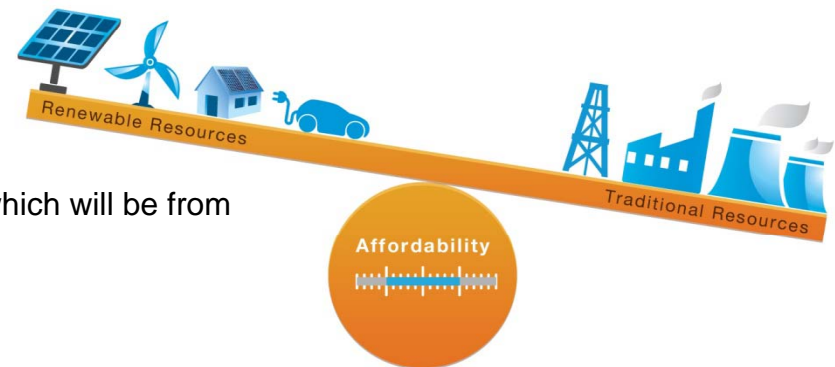
# Current Resource Plan





# Achieving Goals is a Balancing Act

- **Affordability Objectives**
  - Lower 50th percentile of Texas Retail Rates
  - Average annual rate changes of no more than 2%
- **AE Financial Stability**
  - Maintaining the annual dividend to the City's general fund
  - Current and desired Capital & Debt and Reserve levels
- **Climate Protection Plan goals approved by Council**
  - 800 MW of energy efficiency
  - 35% of Energy from Renewables
  - CO<sub>2</sub> 20% below 2005 Level
  - 200 MW of Solar
    - Including 100 MW of local solar, at least half of which will be from customer based systems





# Key External Influences

## • Regulatory Uncertainties

- New Greenhouse gas limits
  - Current proposal applies to new facilities – final rule expected mid-2014
  - Rule for existing facilities likely to be proposed in mid-2014
- Nox
  - Clean Air Interstate Rule (CAIR) replacement expected mid-2014
  - New (lower) Ozone standard possible by mid-to-late 2014

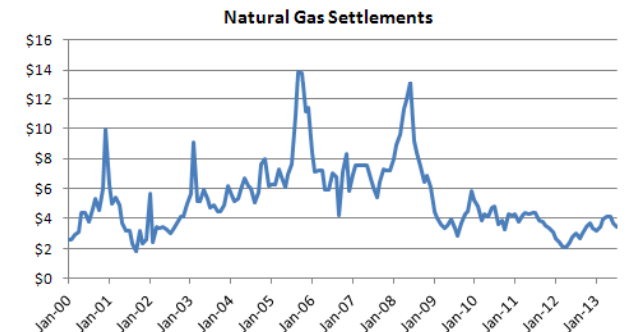
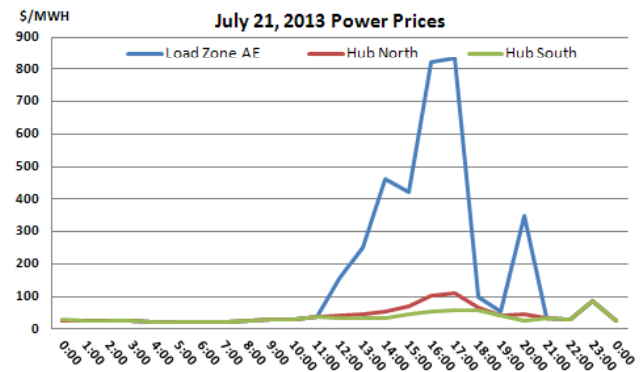
## • Market Conditions

- ERCOT reserves
- Economy/Financial
- Fuel Costs - primarily natural gas
- Market Design - ERCOT Capacity Market

## • Supply & Demand Portfolio

- Seasonal and Hourly differences
- Current and Future AE and ERCOT demand

Current and Future generation resource capabilities





# Market Exposures & Opportunities

- **Public Utility Commission market caps**
  - > Market Cap \$5,000 MWh now, rising to \$7,000 in 2014, \$9,000 in 2015
  - > Energy payments due within a week of the date incurred
- **Possible Capacity Market**
  - > Reduce reliance on volatile energy prices to support adequate supply
  - > AE generally supportive - potential reliability benefit
  - > AE currently has relatively balanced portfolio
- **Demand Response**
  - > Operate on short notice similar to a peaking generator
  - > Reduces load during high market prices
  - > Possible capacity payment





# In today's market resource planning has changed

- **Historically**

- Generation provided capacity needed to meet AE forecasted peak demand plus a reserve to ensure reliability
- AE generation dispatched to meet AE demand (load)
- Generation additions were made considering least-cost comparison

- **Today**

- Generators dispatched by ERCOT to yield lowest cost, reliable dispatch plan
  - AE's demand is supplied (bought) from the market via ERCOT
  - AE's generators sell to the market via ERCOT
- ERCOT responsible for reliable grid
- Generation additions must provide sufficient wholesale revenue to the owner to justify the investment







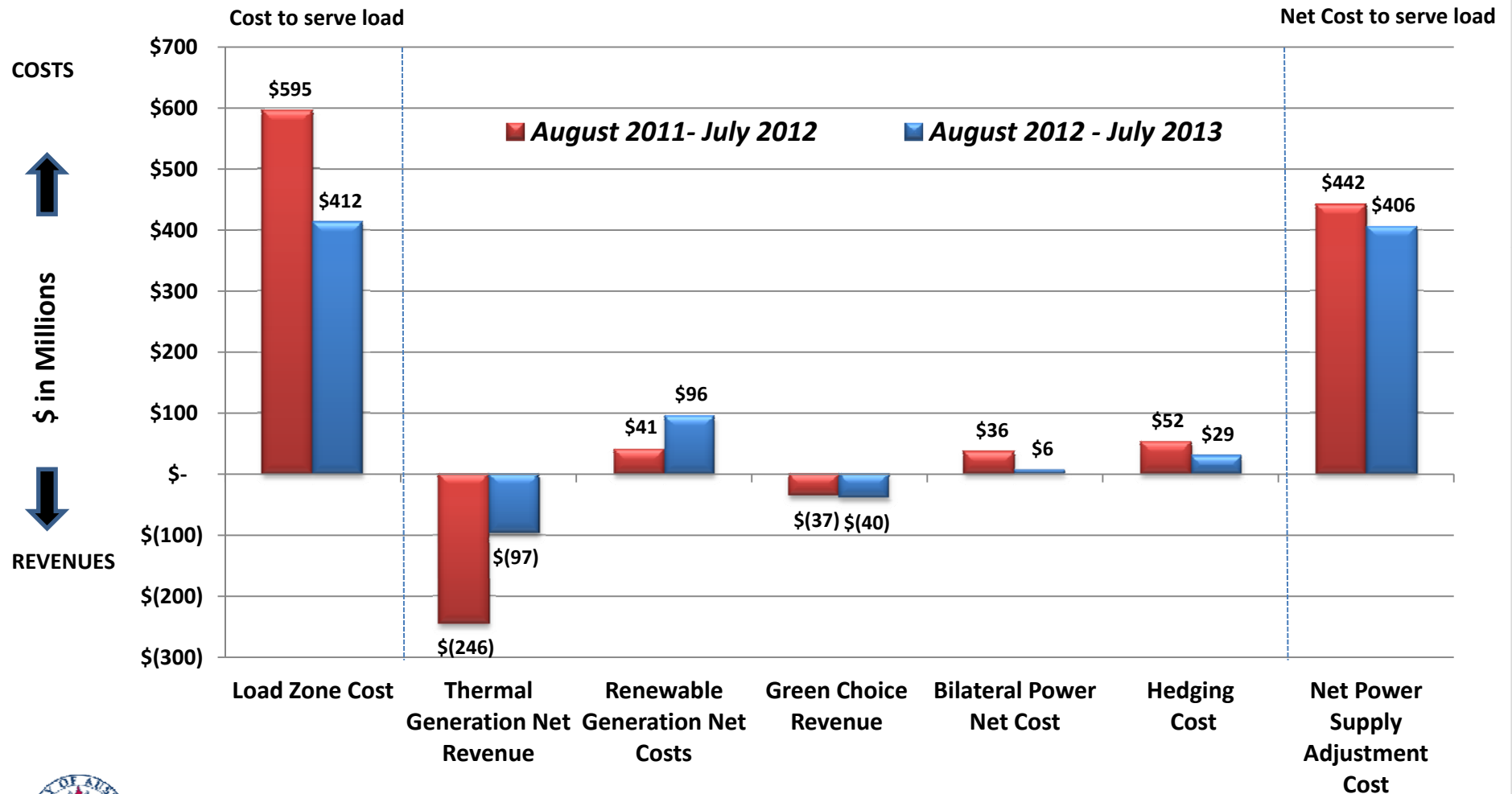
## Planning focused to meet goals

- **Renewable Energy & Climate Protection**
- **Price Certainty / Affordability**
  - A competitive generation portfolio creates predictable costs, serves as a hedge against market volatility
  - Hedge effectiveness is a function of capabilities and economics
  - The most efficient, economic and flexible resources dispatch first and have the most revenue potential
  - New investments may increase base rates, but potentially reduce Power Supply Adjustment (PSA)





# Benefits of Diversified Portfolio – PSA Components

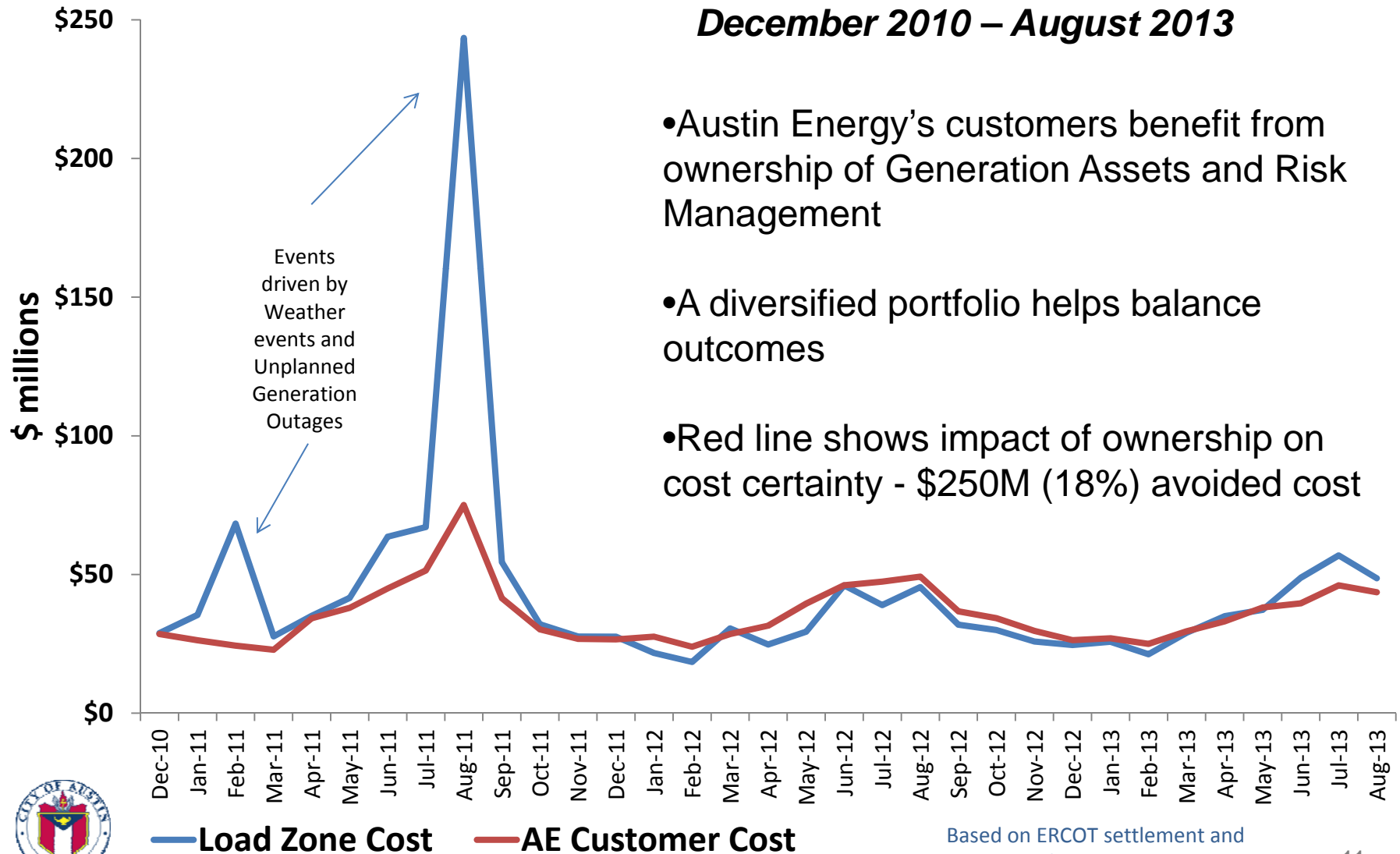


Based on ERCOT Settlement and unaudited financial data



# Customer Impact Trend

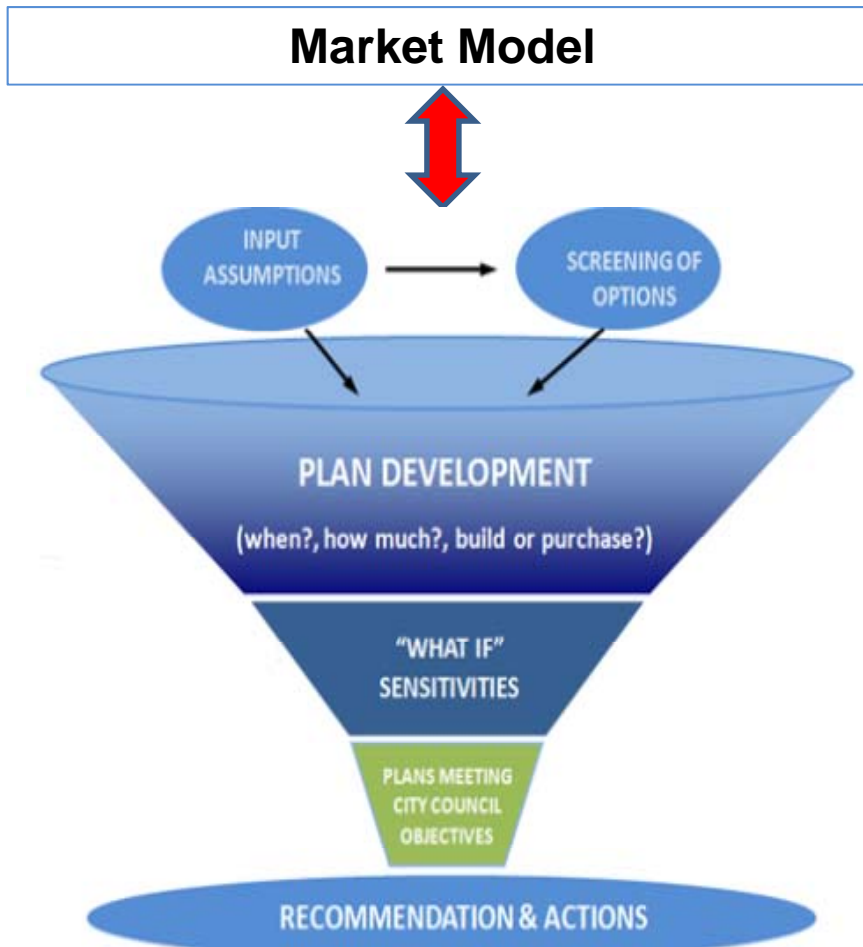
**December 2010 – August 2013**



Based on ERCOT settlement and unaudited financial data



# Resource Plan Process



## 2014 Resource Plan Update

### INPUTS

- Generation resource capabilities and costs
- Load forecast
- Fuel Forecast
- Renewable goals
- Council & Community

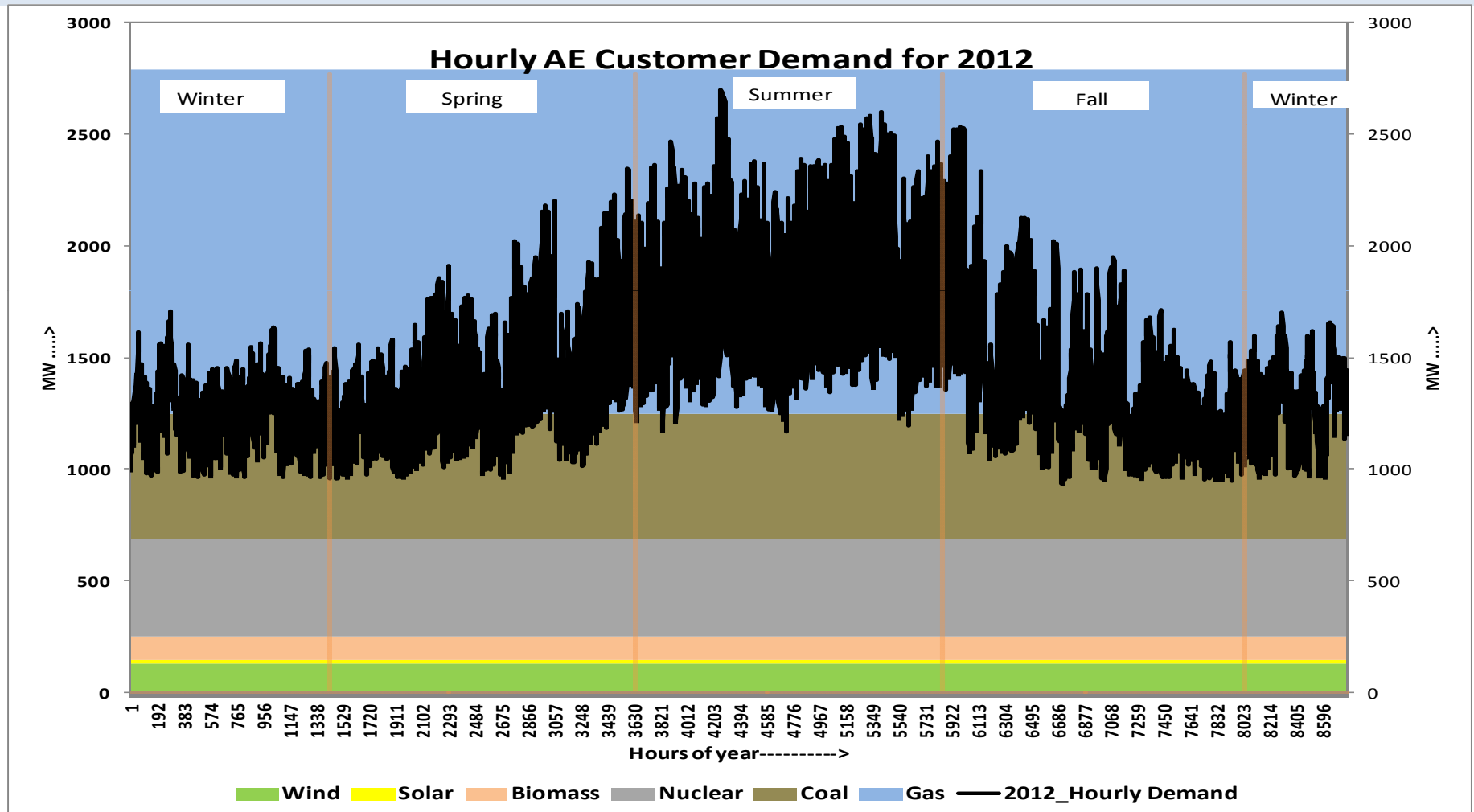
### OUTPUTS

- Comparison of alternatives that meet AE objectives
- Comparison of alternatives to expected market costs
- Flexible and On-going roadmap





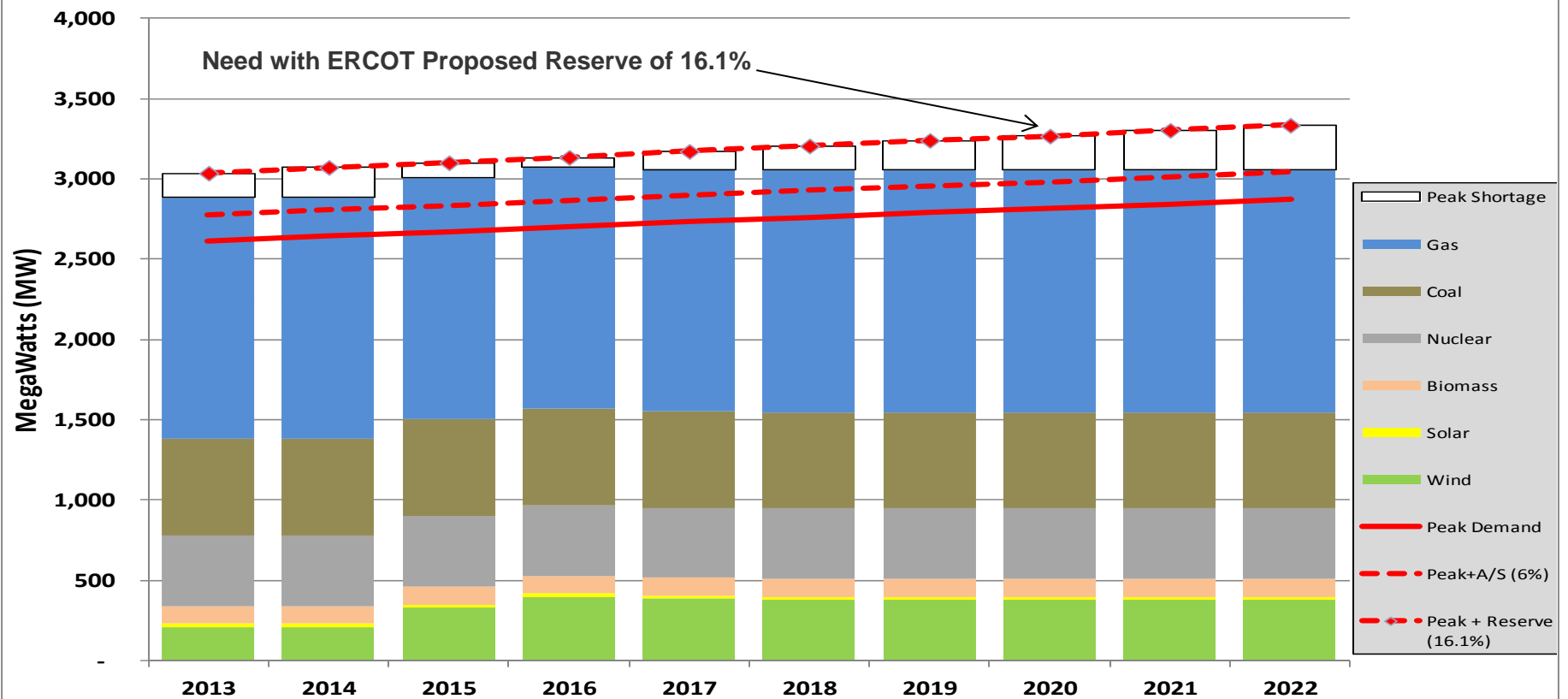
# Hedging Customer Demand with a Portfolio



Note: Demand does not include Ancillary Service Obligations which increases requirement approximately 6%



# Demand vs. Committed Resource Capacity



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Peak Shortage	149	185	92	60	110	148	183	210	246	277

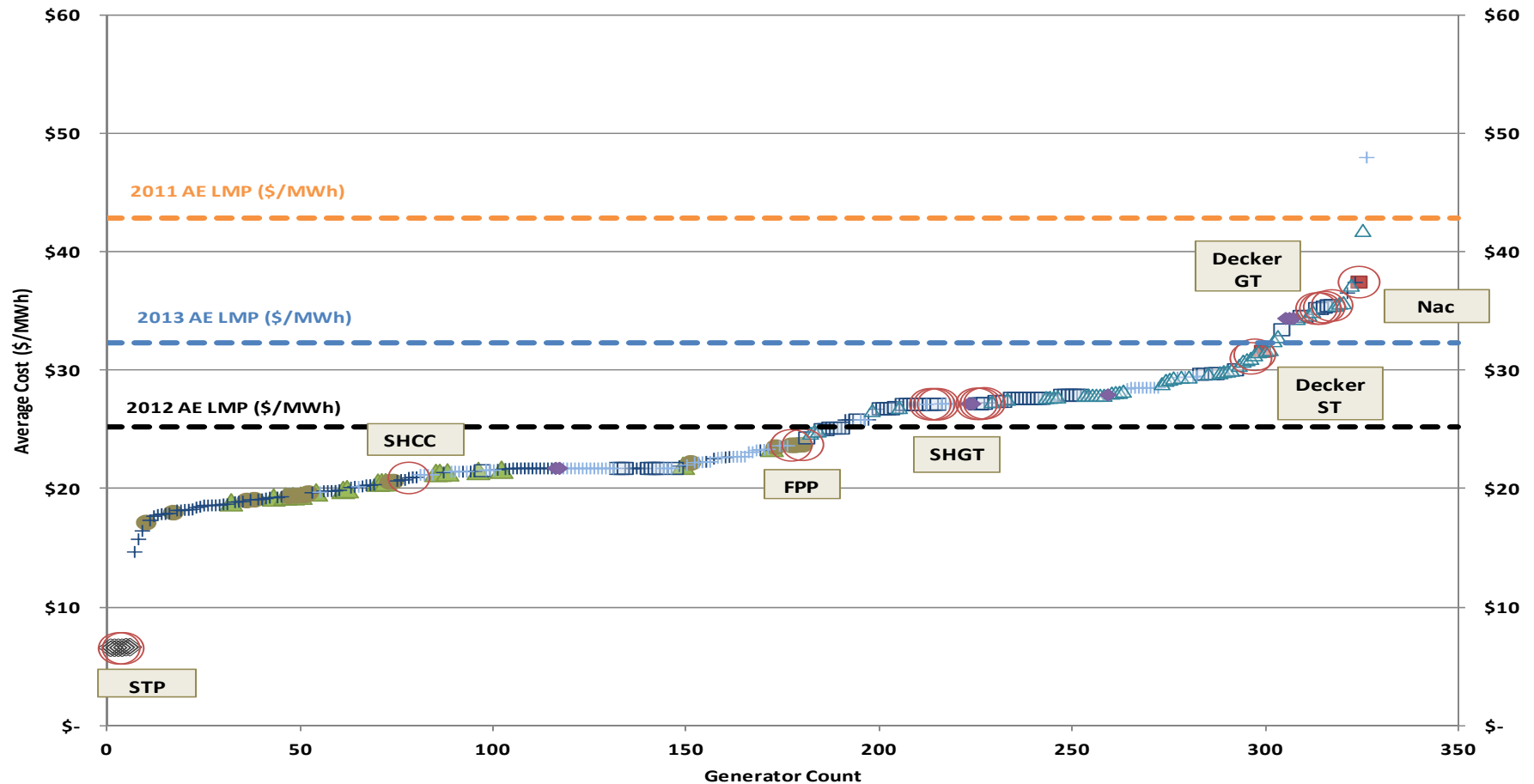


Note: Demand is net of energy efficiency and conservation program impacts



# Competitive Standing of Dispatchable Resources

ERCOT Generator Average Variable Cost Ranking - 2012





## Proposed timeline

1Q 14

- Targeted briefings and stakeholder input meetings

1Q 14

- Present Final Scenario list to Committee/Commission

2Q 14

- Run and Analyze Scenario Results

3Q14

- Present Preliminary Recommendations to Committee

3Q14

- Committee/Commission Review

3Q 14

- Present 2014 Generation Plan Update to Council







## Inform Stakeholders - Share AE view

- Stakeholders can expect AE to provide:
  - > AE view of market, technology, capabilities, risks and regulatory trends
  - > Overview and status of Climate Protection Plan goals and affordability objectives
  - > Scenarios AE proposes to study
  - > Examples of scenario results format





## Stakeholder Input

- AE will expect Stakeholders to Provide:
  - > Feedback on AE proposed scenarios
  - > Feedback on additional scenarios to consider
  - > Feedback on trade-offs, risks and priorities
  - > Feedback on effectiveness of scenario results format

*Resource Plan material will be posted to  
[austinenenergy.com](http://austinenenergy.com)*





## Resolution 20130627-066 Fayette Power Project

- **Council requested an update on FPP options**
  - > Considers moving beyond Climate Protection Plan goals to be coal free by 2015
- **AE recommends deferring December 2013 response and integrating into the 2014 update**
  - > More complete picture with other scenarios, possible decisions on a capacity market and environmental updates
  - > AE needs Council input to confirm scenarios to be studied





## Council Input on FPP Scenarios

- **AE strategy for FPP to meet 2020 CO<sub>2</sub> Goal:**
  - > Ramp down output
  - > Monitor regulatory and market conditions
  - > Retire on economic basis
- **Possible scenarios to study:**
  - > Meet 2020 CO<sub>2</sub> goal early
    - Immediate ramp down to 2020 CO<sub>2</sub> goal, start 2014
    - Goal based early ramp down toward 2020 CO<sub>2</sub> goal, phase in output reduction each year
  - > Coal Free
    - Sell AE share – does that achieve Climate Protection CO<sub>2</sub> Goal?
    - Retire AE Share – negotiate with LCRA





## Summary

- **Generation Resource Planning changes**
  - > Less about capacity and load balance
  - > More about risk management and achieving goals
- **Retirement or removal of large generating assets needs careful planning**
  - > Identify options and select action plan to fill voids to avoid price risk
  - > Replacement or addition of large generating assets likely to impact both Power Supply Adjustment and Base Rates
    - Potential base rate changes in the short-run vs. potential long-term revenue benefits





## Next Steps

- Utility scale solar RFP issued October 21<sup>st</sup>
  - > Responses due December 3<sup>rd</sup>
- Issue Community Solar RFP in December
- Stakeholder Input January-February 2014
- Overall Generation Resource Plan Update Summer/Fall 2014

