



Generation Planning to achieve the Resource and Climate Protection Plan



December 5, 2013 Special-called City Council Meeting
Cheryl Mele, Deputy General Manager and Chief Operating Officer

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 (Expire)	Solar ³	Renewable Portfolio
2013	602	436	1497	112	849.4	48.0	22.9%
2014							23.8%
2015					370	25.0	34.9%
2016					200 / (195.6)	25.0	35.2%
2017			200		(91.5)	25.0	33.4%
2018			800 ²		100 / (35)	25.0	34.8%
2019						30.0	35.0%
2020						47.0	35.4%
2021							35.0%
2022							34.6%
Capacity 2020	367¹	436	2,497	112	1,197	200	Total 4,809

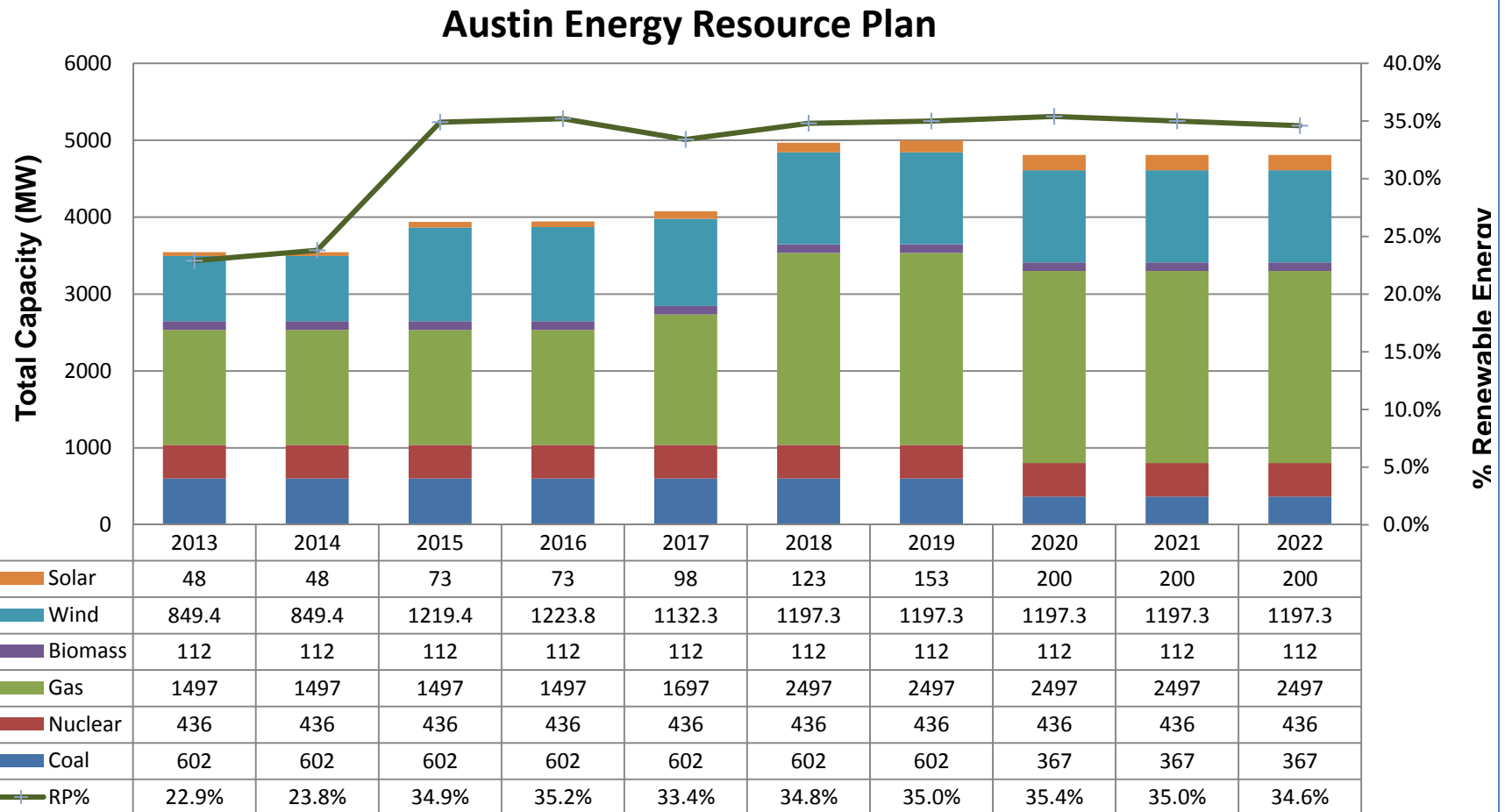
Notes:

- 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





New Wind Update

- **In June 2013 Council authorized PPAs for 570 MW of wind slated for 2015-16**
 - 2 x 200 MW projects with Duke
 - 1 x 170 MW project with EOn
- **Duke projects are underway, however, EOn declined to execute the PPA citing tax and financing issues**
- **AE has refreshed its RFP responses to identify a replacement**
- **AE believes the replacement can be achieved within the same cost and renewable goal expectations approved by Council last June**
- **AE expects to seek Council approval of a replacement in January**





Achieving Goals is a Balancing Act

- **Affordability Objectives**

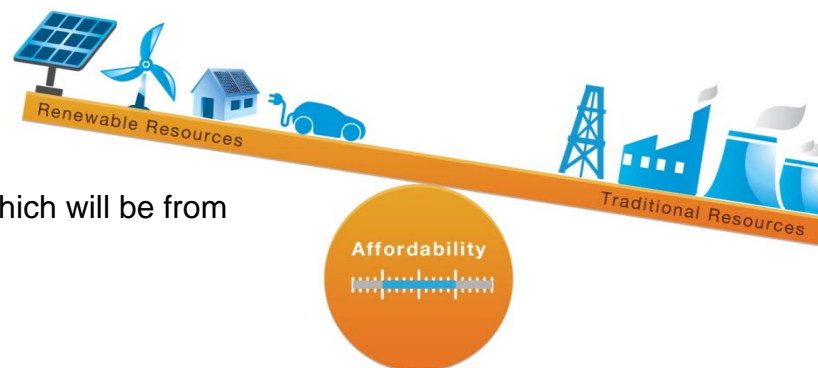
- Lower 50th percentile of Texas Retail Rates
- Average annual rate changes of no more than 2%

- **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
- CO₂ 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

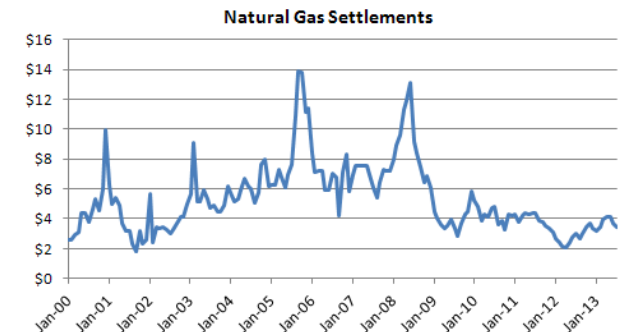
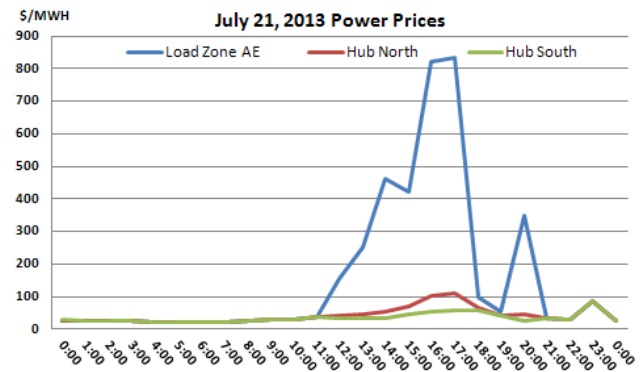
• Market Conditions

- 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





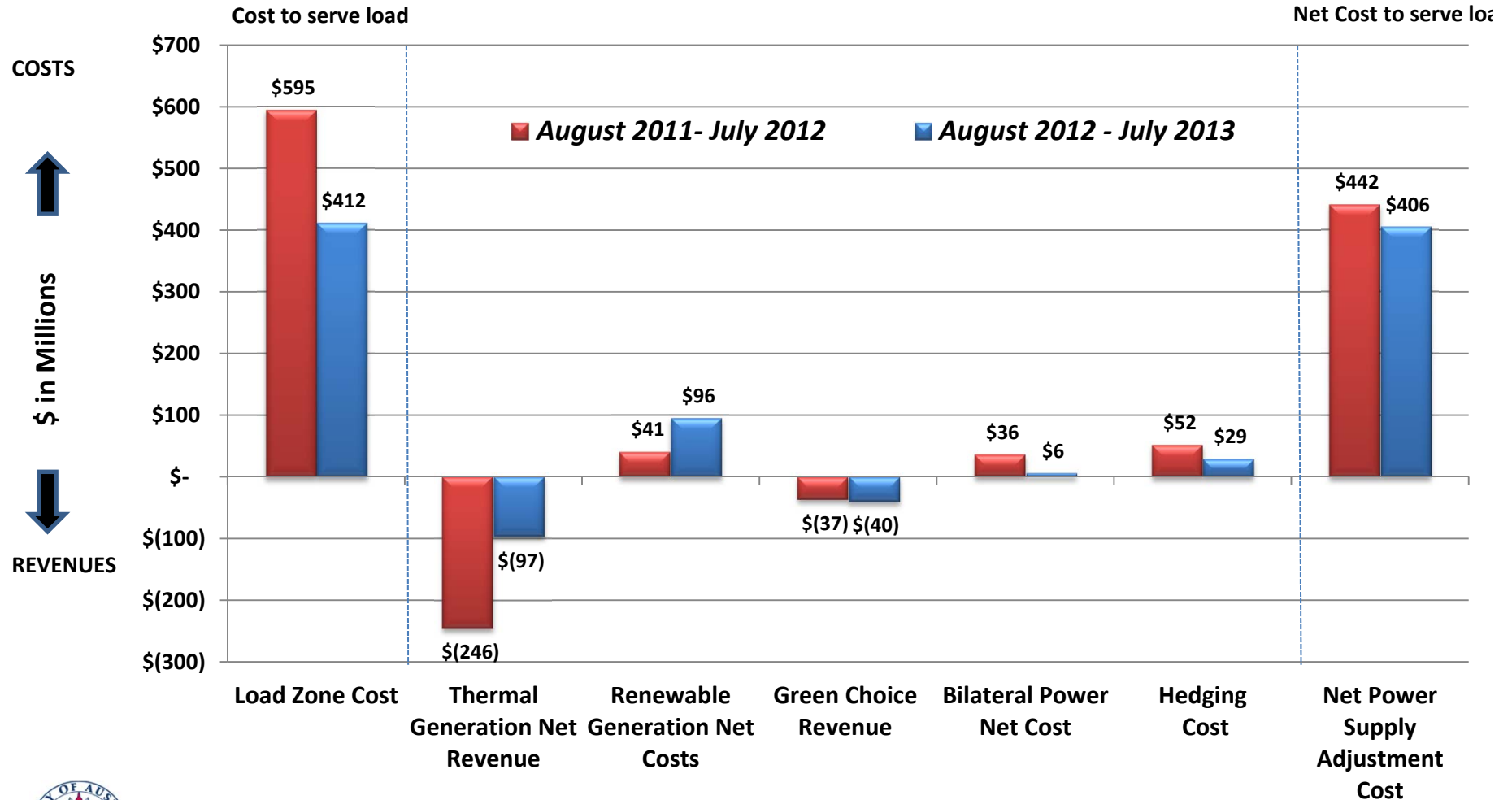
Planning focused to meet goals

- **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

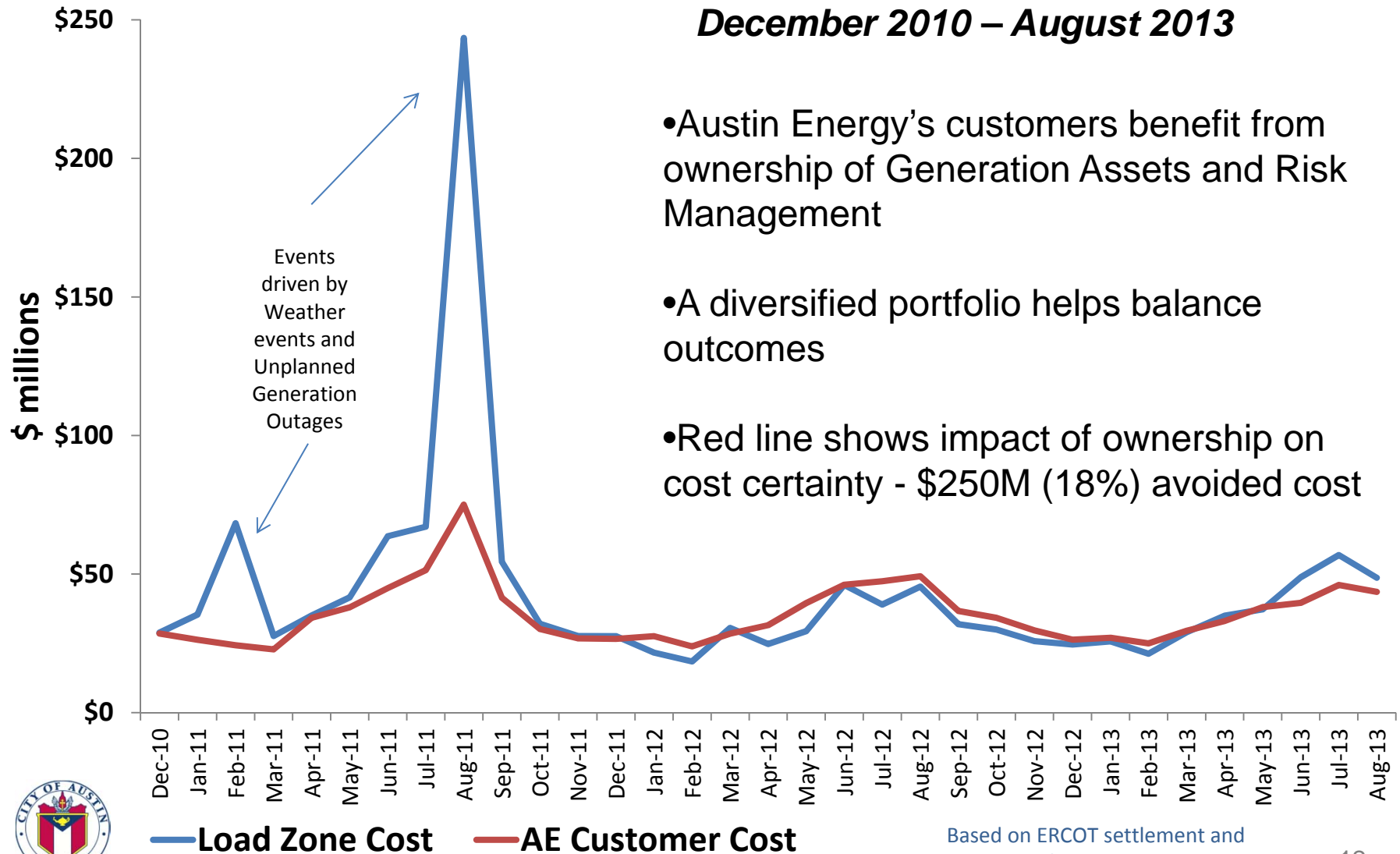


Based on ERCOT Settlement and unaudited financial data



Customer Impact Trend

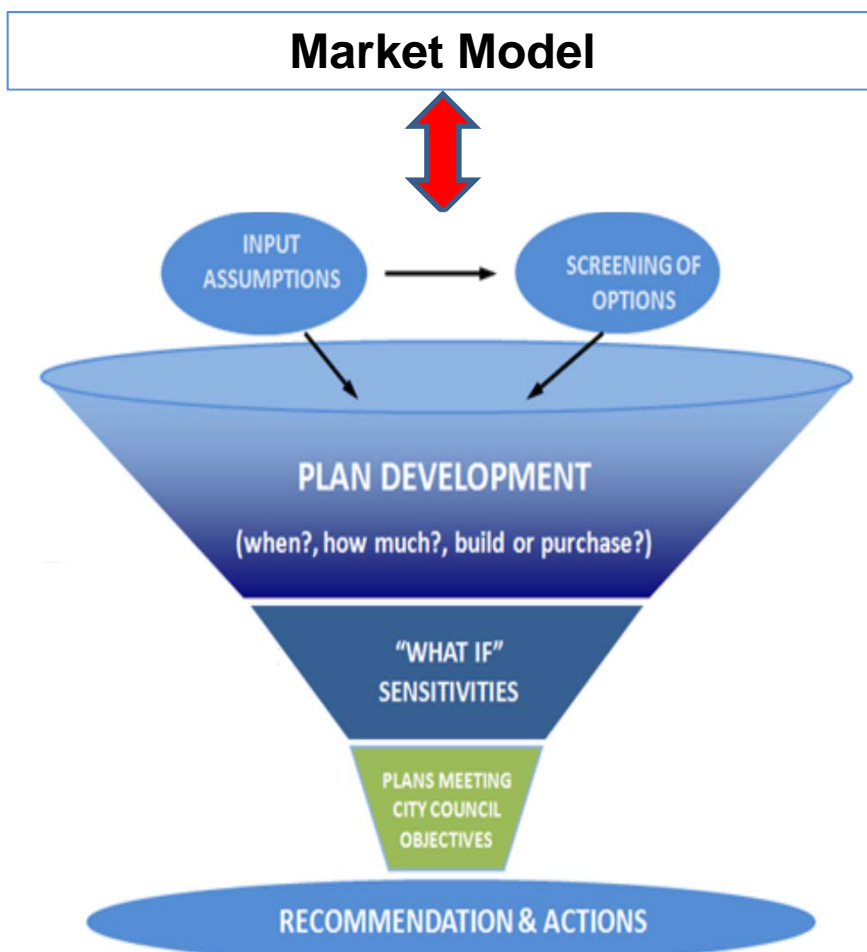
December 2010 – August 2013



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

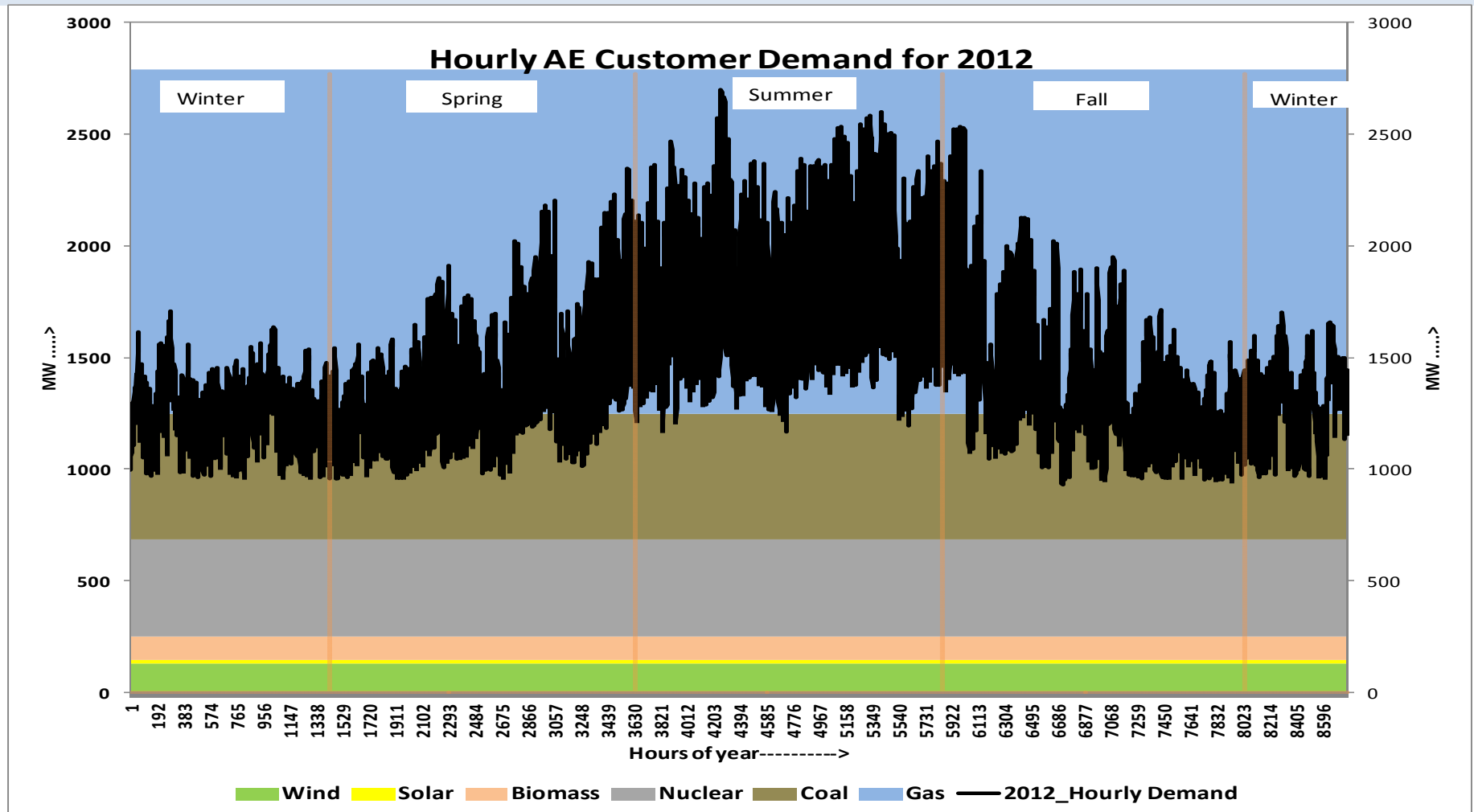
OUTPUTS

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





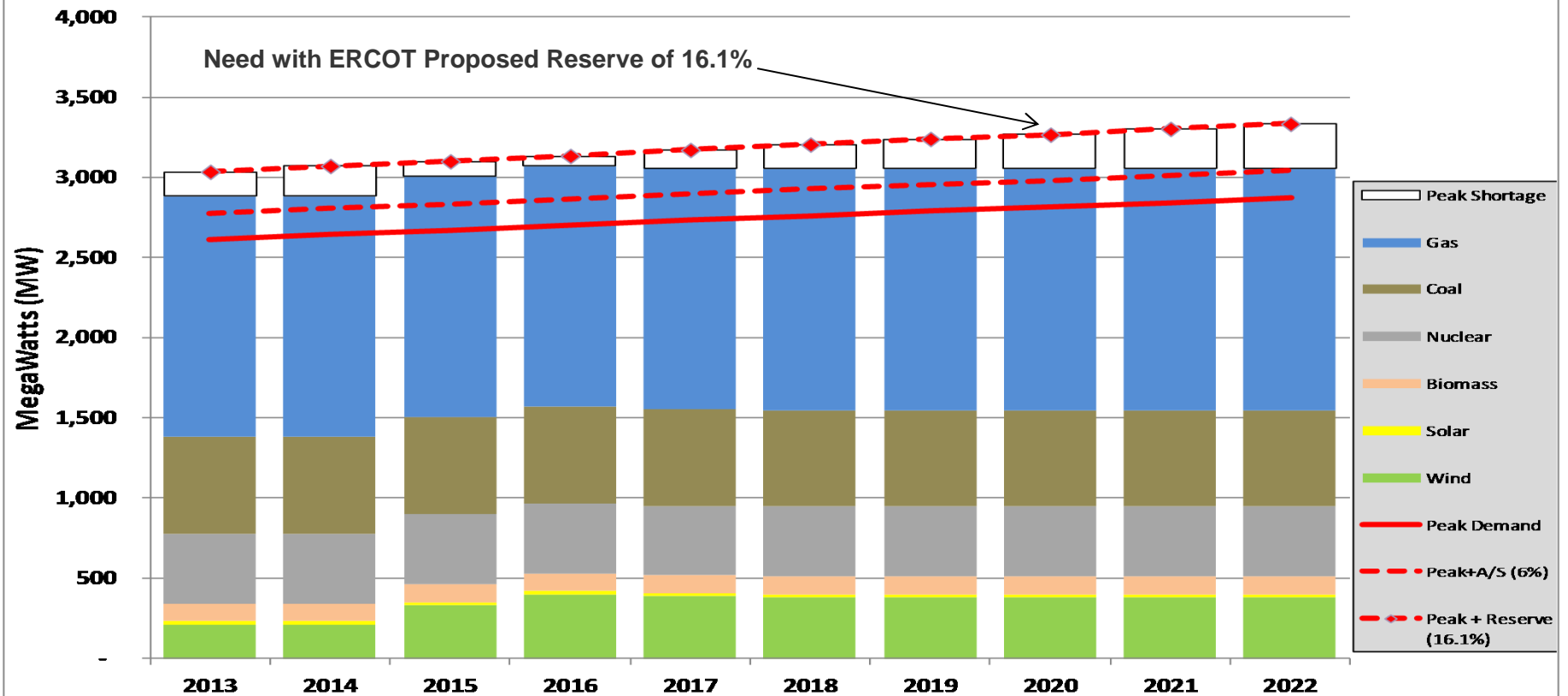
Hedging Customer Demand with a Portfolio



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

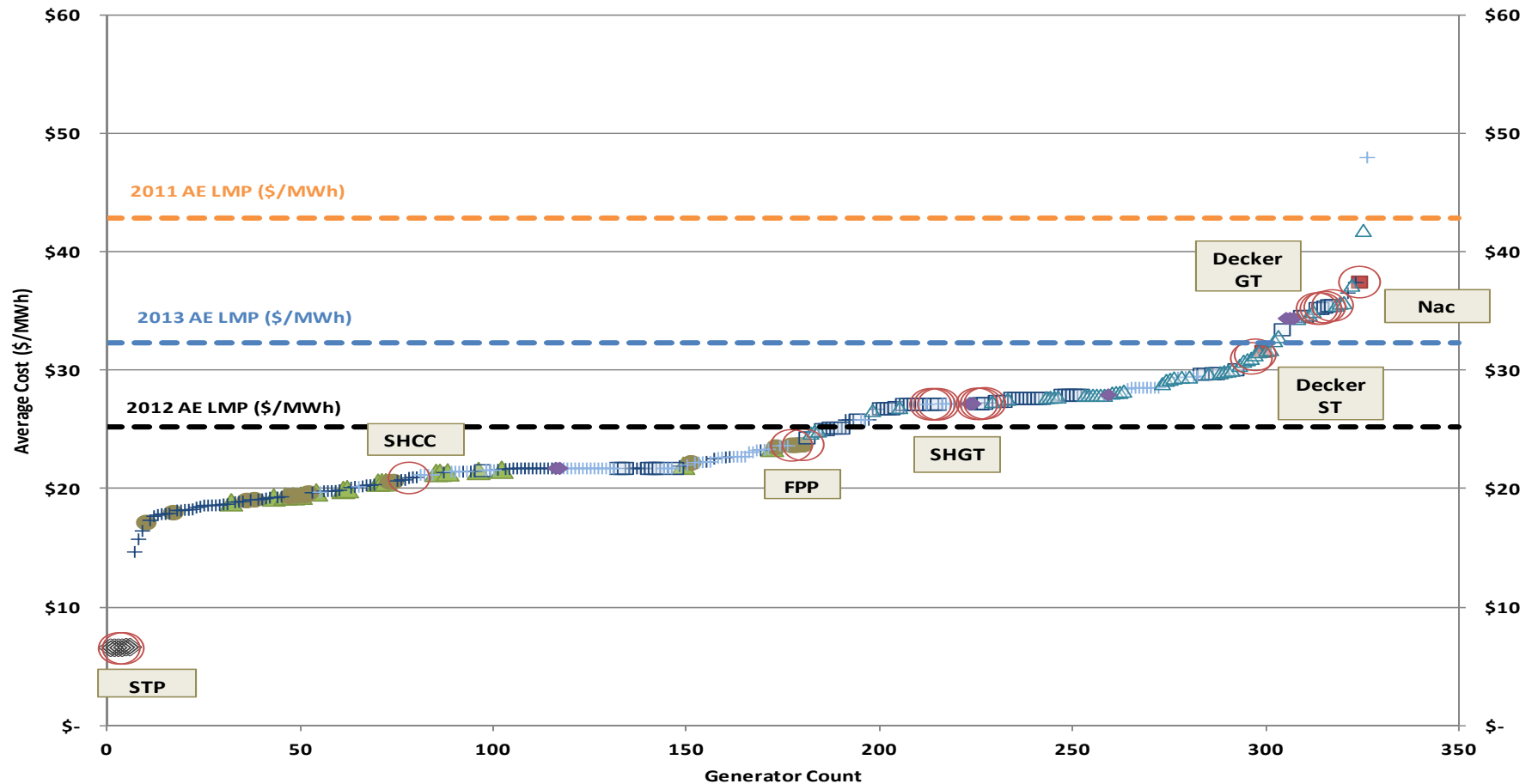


Note: Demand is net of energy efficiency and conservation program impacts



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*





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 CO₂ Goal:**
 - > Ramp down output
 - > Monitor regulatory and market conditions
 - > Retire on economic basis
- **Possible scenarios to study:**
 - > Meet 2020 CO₂ goal early
 - Immediate ramp down to 2020 CO₂ goal, start 2014
 - Goal based early ramp down toward 2020 CO₂ goal, phase in output reduction each year
 - > Coal Free
 - Sell AE share – does that achieve Climate Protection CO₂ 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 21st
 - > Responses due December 3rd
- Issue Community Solar RFP in December
- Stakeholder Input January-February 2014
- Overall Generation Resource Plan Update Summer/Fall 2014

