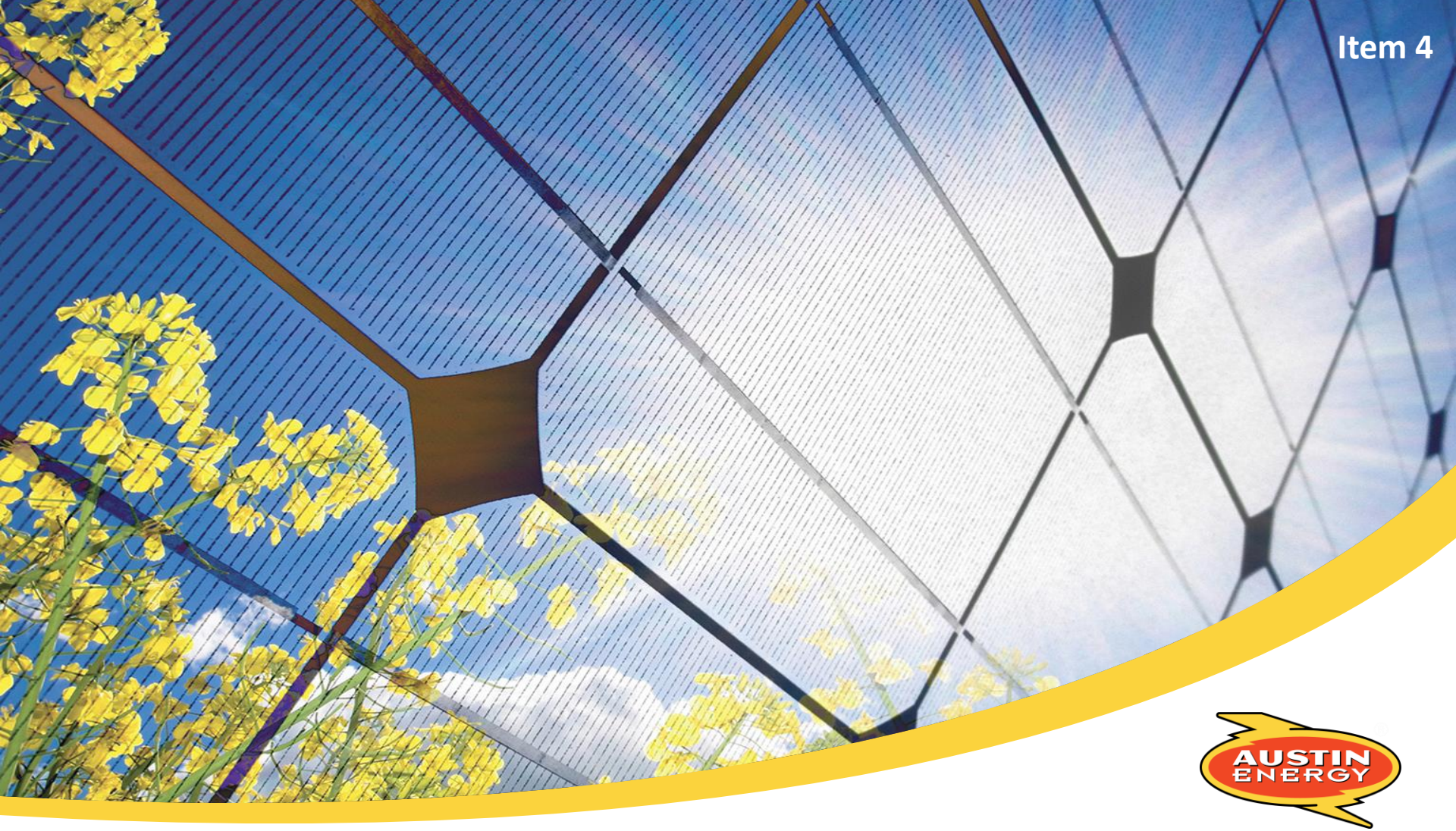
Item 4



Investing in a Clean Future

Austin Energy's Resource, Generation and Climate Protection Plan to 2020 Updates

Austin Energy Utility Oversight Committee Meeting

August 27th , 2015

2014 Resource Plan Update

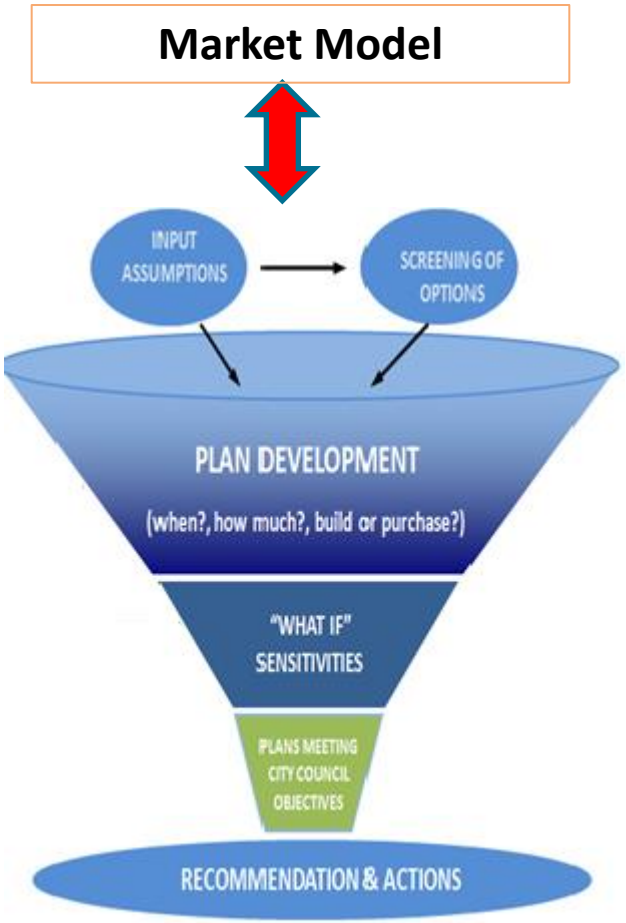
Khalil Shalabi-Vice President, Resource Planning and Energy Market Operations

Setting Context

- Looking back at what has happened to date
  - This process started in January 2014 as part of our two year update

- Review of resource plan approved by previous council
  - We have never taken you through the whole planning process

Resource Planning: It's a Process…



Resource Plan Update Timeline (proposed Feb '14)

1Q 14	• Targeted briefings and stakeholder input meetings
1Q 14	• Present scenarios & stakeholder results to Commission 3/17
2Q 14	• Run and analyze scenario results
3Q14	• Present preliminary recommendations to Committee
3Q14	• Committee/Commission review
Sep 14	• Present 2014 Generation Plan Update to Council

Major Milestones to Date

	Austin Energy	Council	Stakeholders	EUC
Jan 2014	Presents options to council to retire FPP			
Feb 2014	AE conducts public hearings on resource Plan			
April 2014		Council forms the Generation Task Force	Environmental & business Stakeholders engage AE with RP	
June 2014			Generation Task Force Issues Report	
Aug 2014	AE presents affordability analysis for 157 & presents RP recommending 500+ Plan	Resolutions 157/158 issued by council		
Sept 2014			Some environmental stakeholders work with AE on variations of plan	
Dec 2014	AE presents to council a variation of the 500+ plan	Council approves a variation of the 500+ plan conditional on a study		
Feb 2015	AE Issues RFP for 600MW solar	Council selects Navigant to conduct Study		EUC approves SOW for study with extensive input
April 2015				
June 2015				EUC approves resolution RE: 600MW solar
Aug 2015				

Customer Survey Highlights

Conducted interviews with 904 of Austin Energy's customers (Residential = 486, Commercial = 400 and Key Accounts = 18)

- There is no significant difference in the gap analysis between the importance of the generation mix and the satisfaction of the generation mix.
  - The current proposed mix meets expectations.
- Differences exist between Residential, Commercial and Key Account (large industrial and commercial) customers in terms of an ideal generation mix for 2020.
- Customers vary on the desire to reduce or increase an specific fuel within the current mix.
  - Not all want to decrease a fossil fuel at the same rate as a renewable.
  - Less than 40% of any one customer group reported wanting to change a specific fuel within the proposed mix.
  - Similar results were found in the independently fielded Community CAP study which asked the same set of generation mix questions.
- There was no agreement across customer groups in terms of an ideal fuel mix.

Customer Survey Highlights – cont'd

- The table below shows the percentage of customer wanting a change by specific fuel mix

Gen Mix Plan 2020	Residential	Commercial	Key Accounts
Lower Coal	27%	20%	0%
Lower Nuclear	12%	13%	6%
Lower Natural Gas	12%	9%	6%
Lower Renewables	6%	6%	11%
Increase Coal	4%	4%	6%
Increase Nuclear	6%	8%	17%
Increase Natural Gas	9%	5%	11%
Increase Renewables	33%	28%	39%

- In terms of paying for the changes to the fuel mix, amounts ranged from zero dollars to more than $100 per month.
  - For the majority of options, paying zero dollars ("nothing") was the most common response.
  - An aggregated category indicated that customers would be willing to pay between $1 and $24 per month for the desired fuel change.
  - Interestingly, higher amounts of monthly increases were found in customers with lower reported household incomes.
  - Green Choice participation stands at 7 – 8%

Resolution 20140828-157 Adopted by Council to reflect Task Force Recommendations

- Eliminate CO_2 from Austin Energy generation sources by 2030
  - Retirement of Decker Power Plant in 2017
  - Retirement of Fayette Power Plant in 2025
  - Retirement of Sand Hill Power Plant in 2030
- Construct transmission for alternative power support
  - $370 million in capital
- Renewable targets and specific solar additions
  - Additional 600 MWs of utility-scale solar by 2017 by purchase power agreement
  - Additional 100 MWs local solar by 2020 (requires $40 million in distribution upgrades)
  - Double renewable energy from 25% to 50% by 2020 by purchase power agreement
  - Further increase to 65% by 2025 by purchase power agreement
    - Requires additional 825 MW of MW of wind by 2025

As a result of the Resource Plan Austin Energy Recommended the 500+ Plan:

- Acquire 500 MW of solar, a 250% increase
- Add 375 MW of wind to achieve 50% renewables by 2025
- Reduce FPP output beginning in 2020, retire FPP in 2025
- Retire existing Decker steam plants by 2019
- Add 500 MW of highly efficient gas generation at Decker site
- Do not expand Sand Hill combined cycle unit
- Add grid-scale storage as technology and prices improve

Austin Energy Methodology

- UPLAN production cost model
  - 200 scenarios
  - Numerous inputs: Cost of gas, coal, nuclear, oil, carbon, cost of new build of various technologies, fixed and variable O&M of every plant in ERCOT
  - Calculates both the cost and revenues of every asset in ERCOT and pricing at each node – 6,600 data output points
  - Results modeled for rate impact and financial metrics
- Task Force calculation & Subsequent Stakeholder Analysis
  - Considered costs, but not revenues from power production
  - Uses the average values of two inputs: energy & solar prices

Industry Standard Methodology

- Brattle Group Findings:

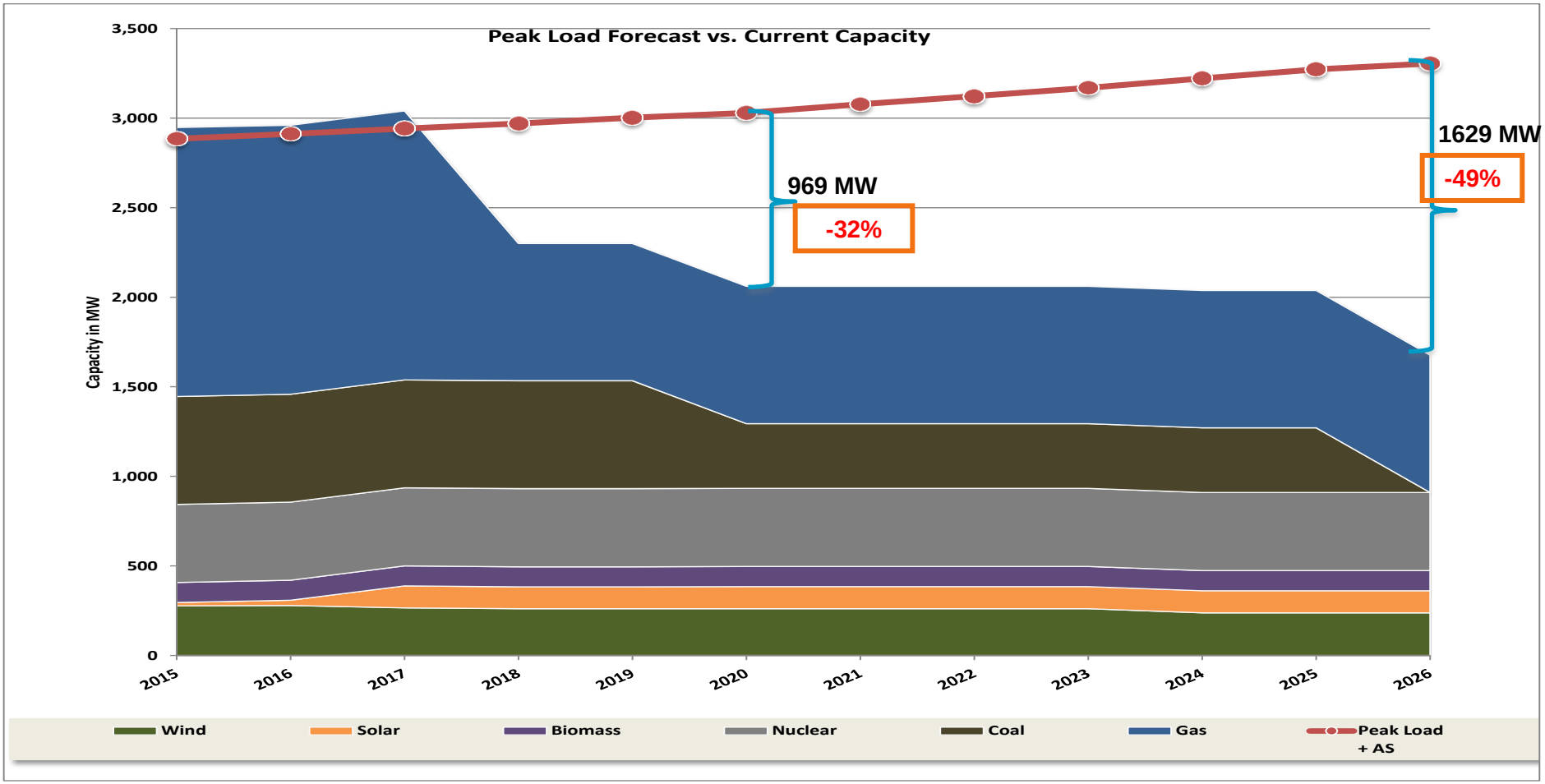
  'AE's resource planning methods and tools are careful and consistent with good industry practices, with a range of input assumptions and possible resource plans that are reasonable.'

- Full report & subsequent observations available at AustinEnergy.com

Key Assumptions Range

- Load
  - ERCOT and Austin Energy extreme to mild weather
  - Captures scarcity risk in Market Price forecast
  - Austin Energy 2015 peak 2,511 to 2,810 MW
  - Austin Energy 2025 peak 2,863 to 3,176 MW
- Natural gas price
  - 10-yr base average $5.95 per MMbtu
  - Average $4.42 to $7.08 per MMBtu
- Carbon (CO_2) pricing
  - 2020 to 2040 from $0 to $54 per metric ton on average

Resource Capacity Looking Forward

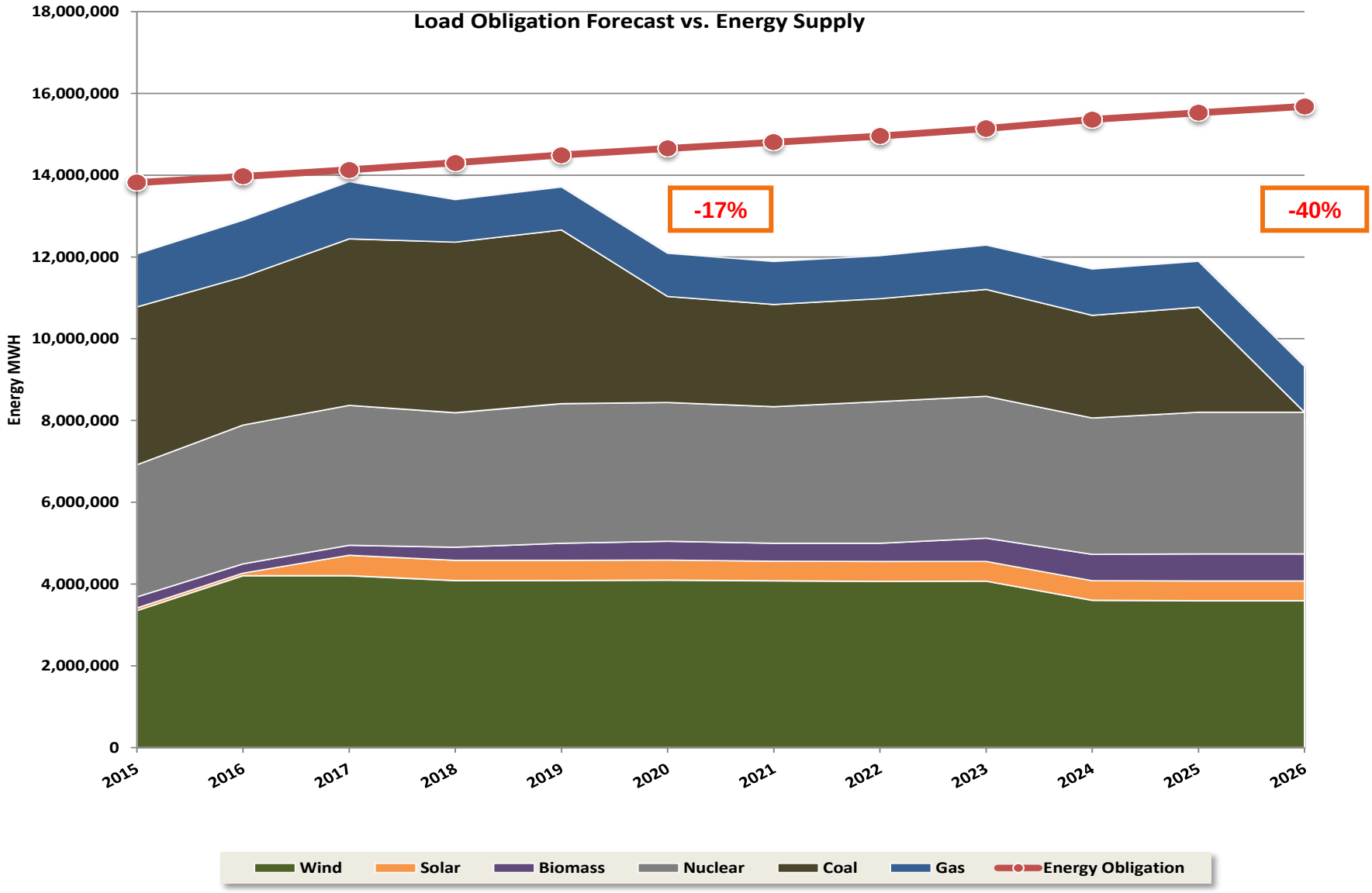


Assumption based on AE Studies:

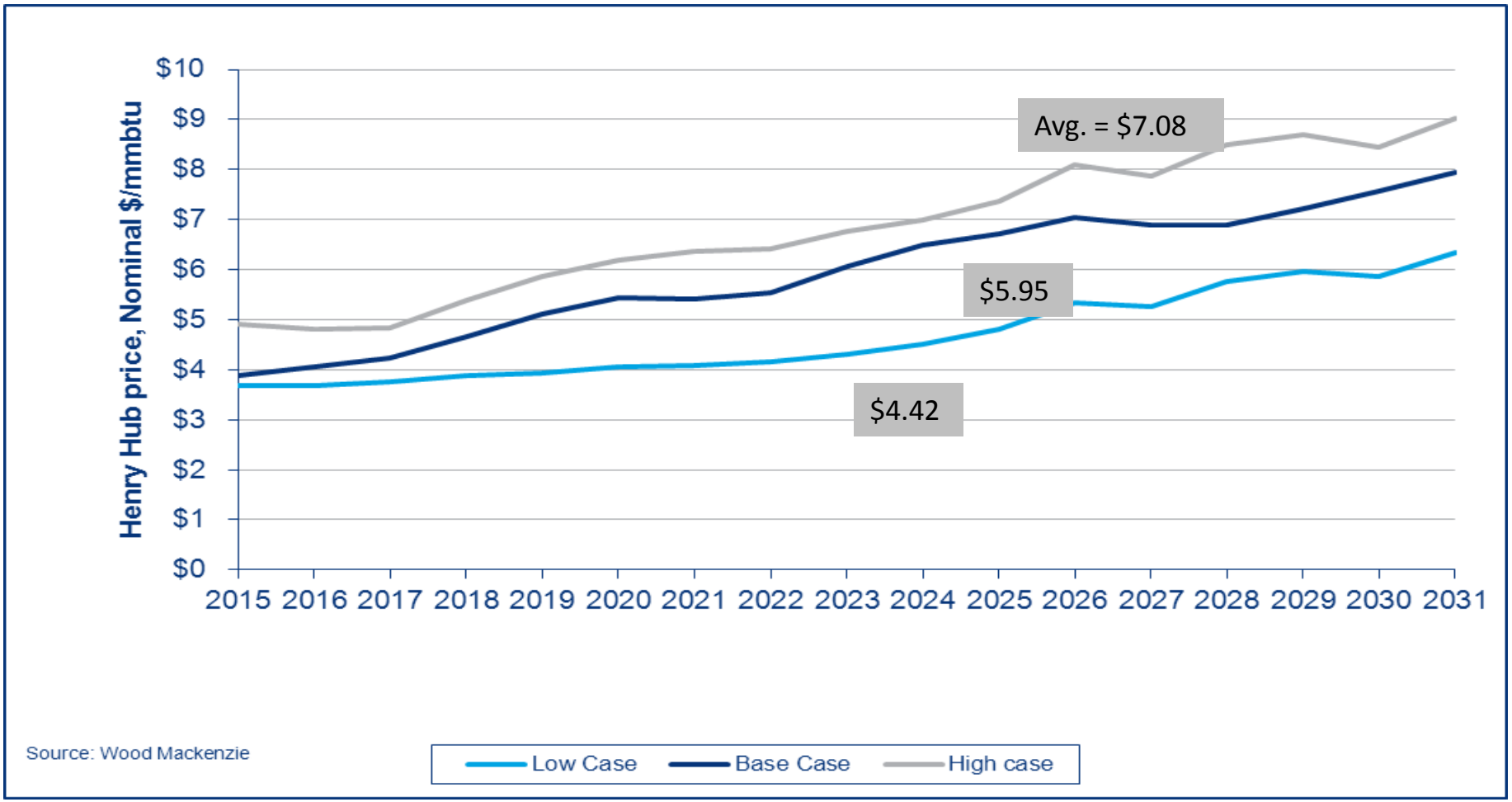
- Peak contribution of south wind = 27%
- Peak contribution of west wind =14%
- Peak contribution of solar = 62%

The load assumes 800 MW DSM goal

Resource Energy Looking Forward



Fuel Price Forecasts (Nominal$)



- Updated 4/12/2014, First 2 years is replaced by NYMEX futures.
- Assumes about a 2% annual inflation rate

HOME

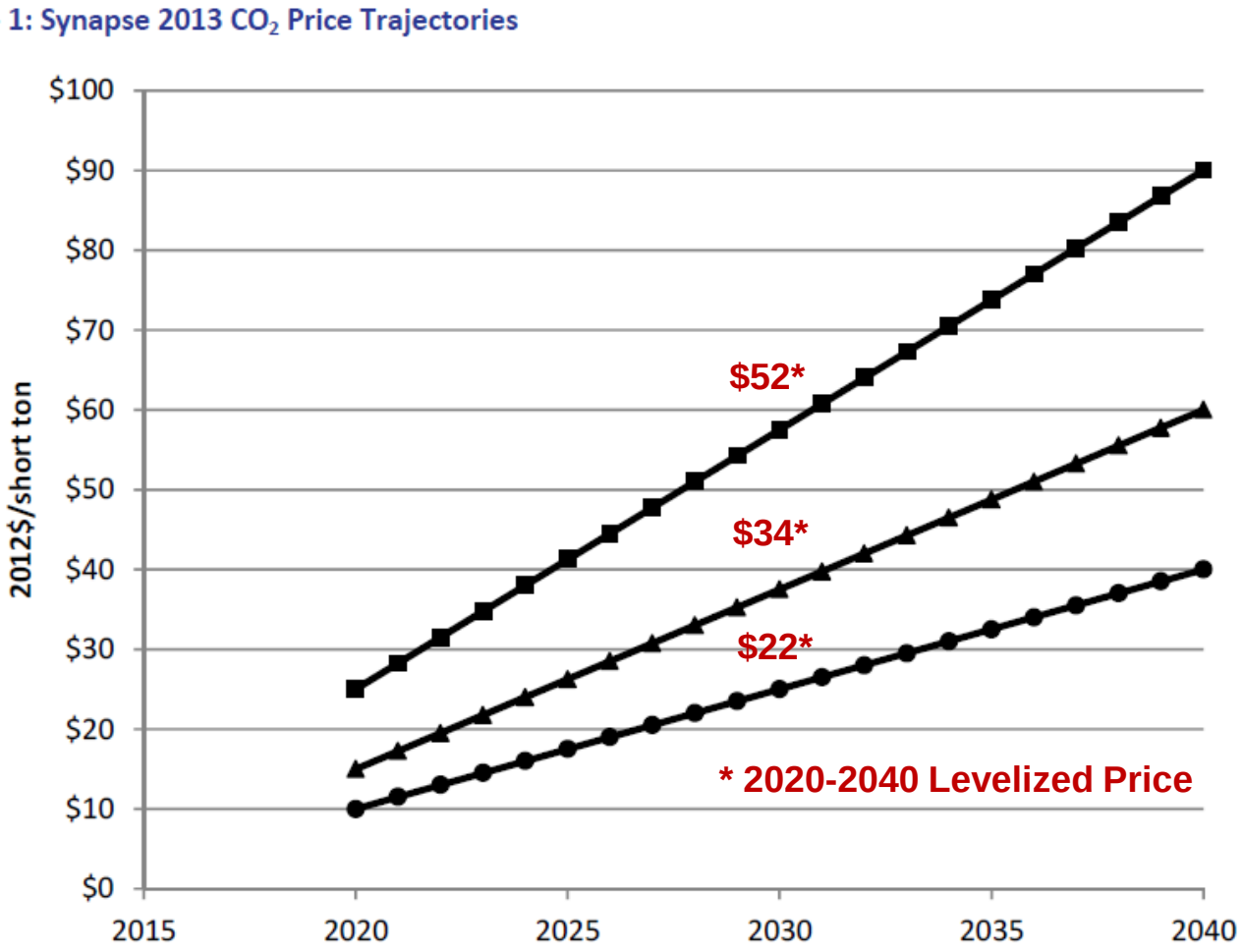
What is the long term outlook in gas prices?

Brattle Observations from Sept 24th, 2014 CCAE Meeting:

- It was alleged that shale gas might be petering out and that US gas prices could climb to EU or Pacific Rim levels (of $9/mmBtu or more) in the next few years.
- *This is extraordinarily unlikely and not supported by any gas market review we have seen, including ones targeted at preventing US gas exports. The netback costs of LNG transport from the US are too great, usually estimated at $5-8/mcf, such that US wellhead prices will almost always stay that much below those EU and Pacific points, i.e. at about where they are today.*
- *The biggest bumps we have seen in gas price forecasts for LNG or coal retirements are on the order of $1/mmBtu, and those only last for 2-4 years because the supply of shale gas is so deep that the industry can catch up fairly soon.*
- *It is more likely that the EU and Pacific costs will fall than our gas costs will rise.*

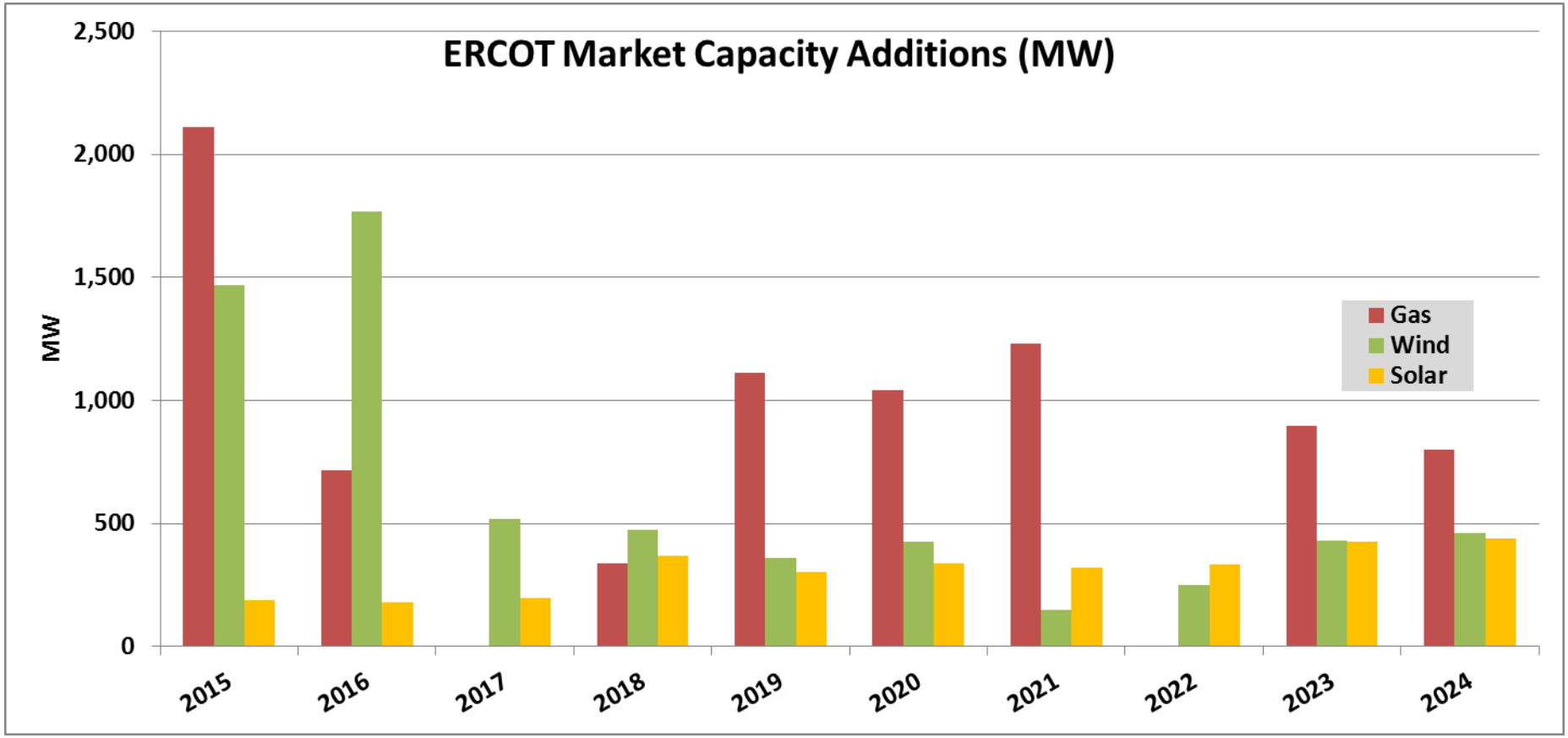
Environmental Assumptions

- ERCOT 2014 Long Term System Assessment (LTSA) Report
- Source: Synapse Energy Economics
  - Eventual Federal Cap and Trade due to regional and state inconsistency
  - Emission abatement cost per Energy Modeling Forum (EMF) research
  - Forecast range from 28 utility IRPs



HOME

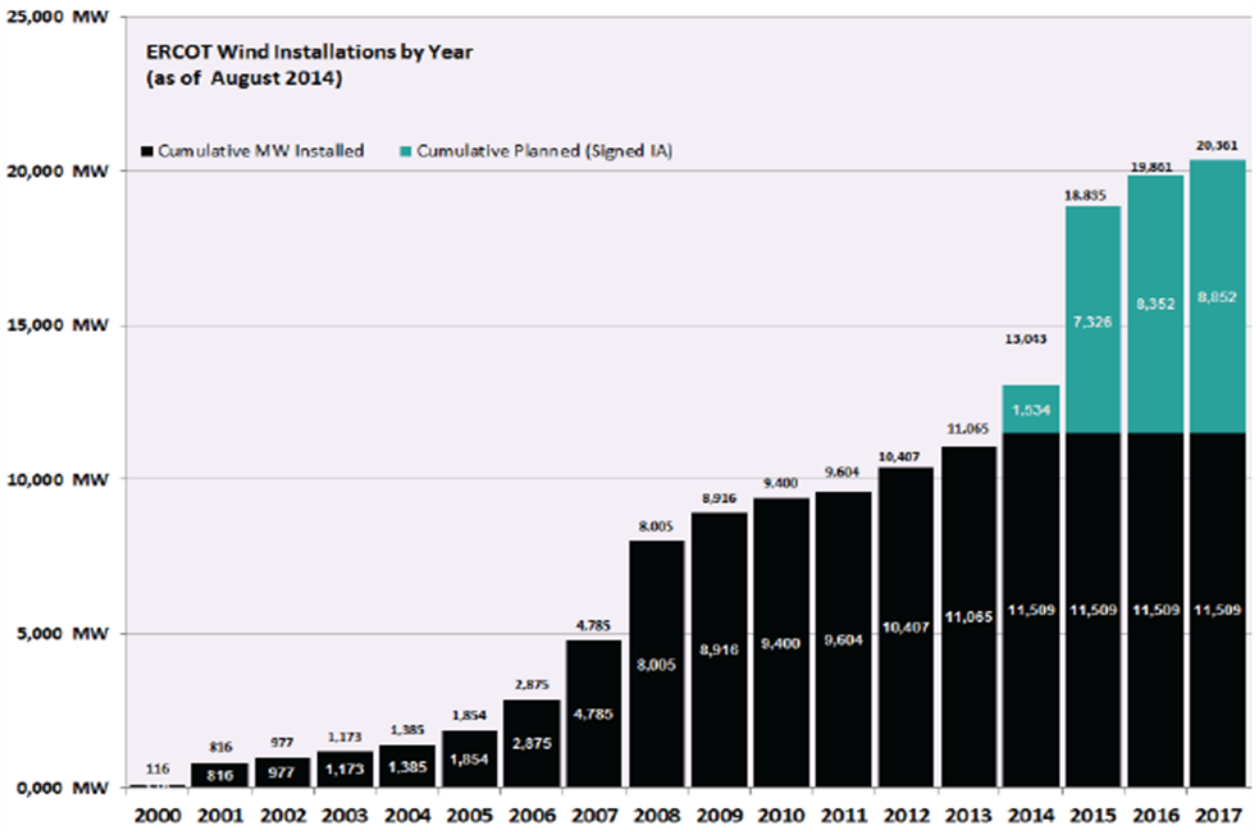
Assumed Generation Additions for ERCOT



- Gas & Wind additions are based on ERCOT CDR
  - The timing of additions adjusted to reflect more realistic expectations
- Solar additions are based on ERCOT CDR and AE projections

ERCOT Wind Installations by Year

Wind Generation Development in ERCOT



Current ERCOT Wind Generation Records

10,296 MW, on March 26, 2014, at 8:48 p.m.

- Non-Coastal Wind Output = 8,863 MW
- Coastal Wind Output = 1,433 MW
- Wind gen. supplied 28.78% of the 35,768 MW Load

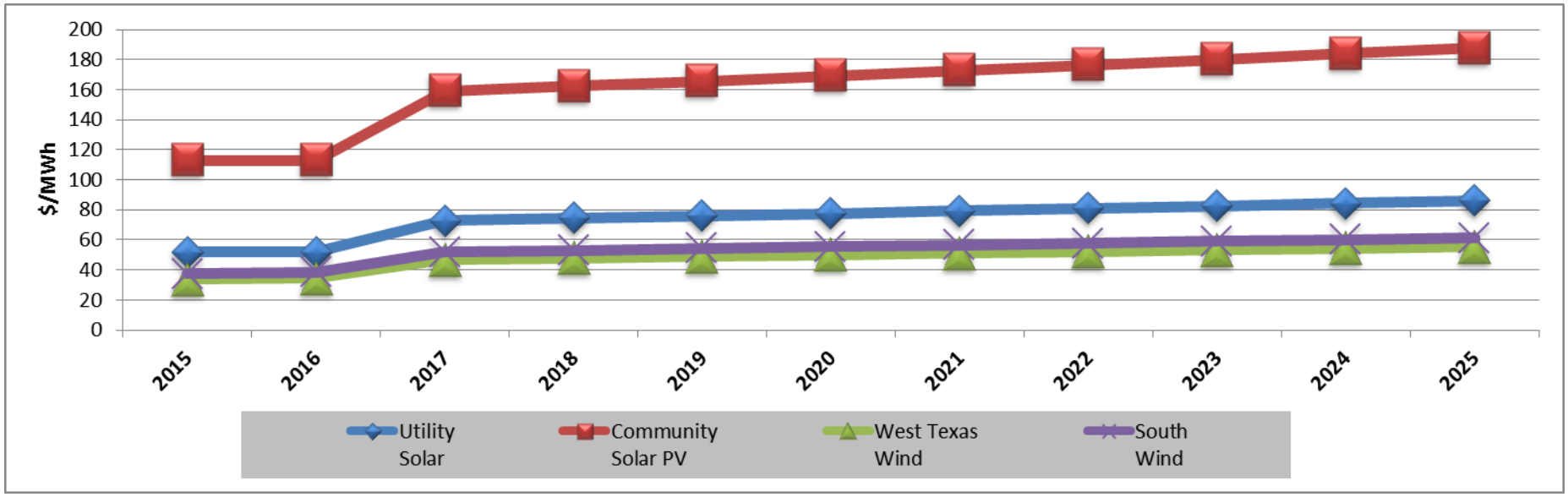
39.40% Wind Penetration, on March 31, 2014, at 2:12 a.m.

- Total Wind Output = 9,699 MW
- Total Load = 24,618 MW

ERCOT Public

Renewable Cost Assumptions

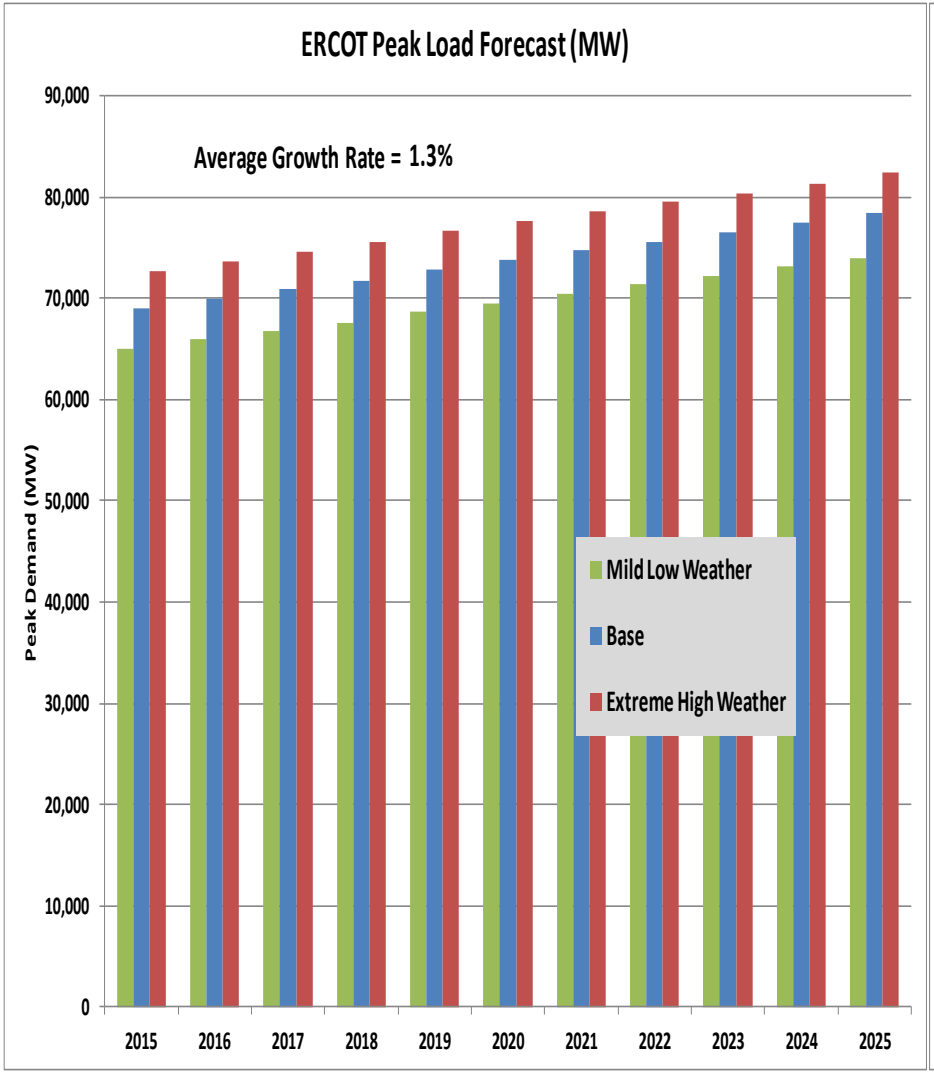
Base Cost Assumptions without PTC/ITC ($/MWh)				
	Utility Solar	Community Solar PV	West Texas Wind	South Wind
2015	52	113	34	38
2016	52	113	35	38
2017	73	159	47	52
2018	75	162	48	53
2019	76	166	49	54
2020	78	169	50	55
2021	79	173	51	57
2022	81	176	52	58
2023	83	180	53	59
2024	84	184	54	60
2025	86	188	55	61

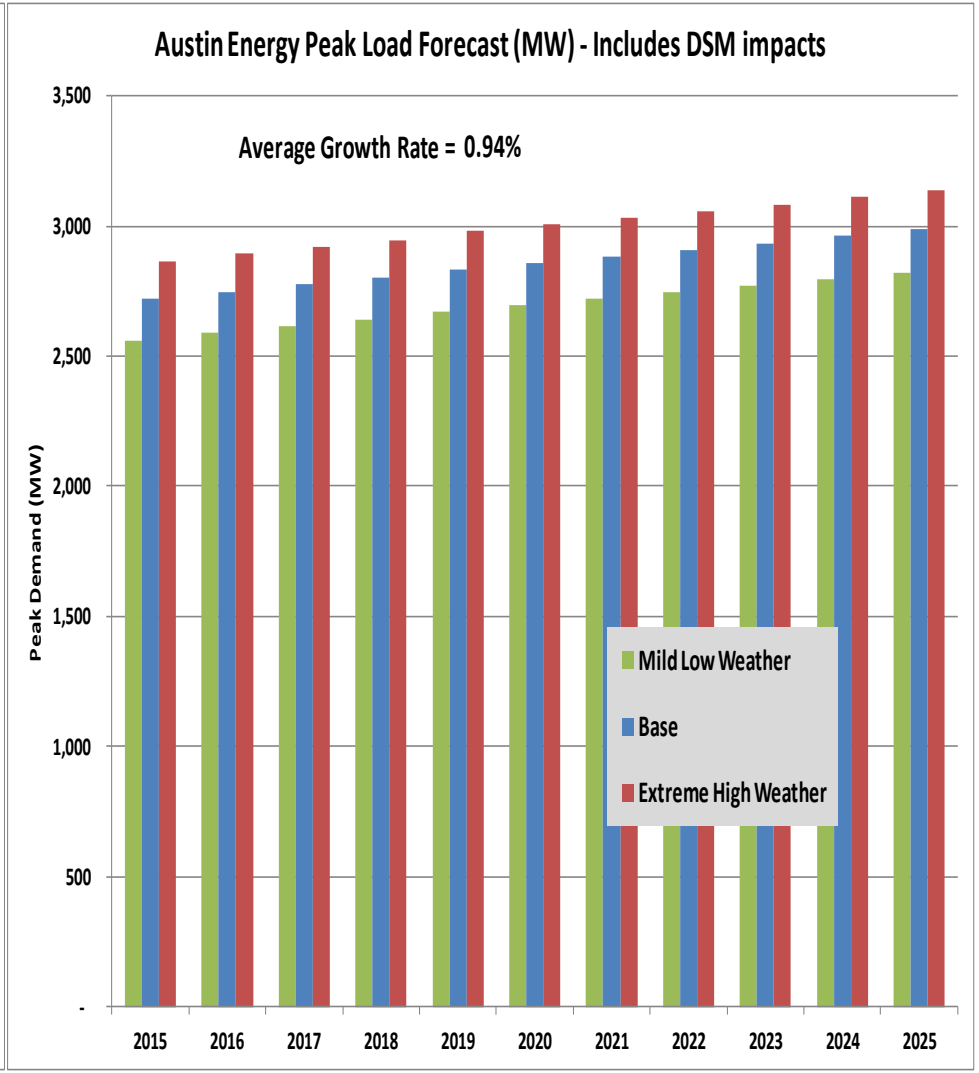


Water Usage

Table ##. Austin Energy Water Usage Calendar Year 2013	Decker Creek Power Station	Fayette Power Project (facility-wide)	Sand Hill Energy Center	South Texas Project (facility-wide)	Facility Totals using only Austin Energy generation & consumption[3]
Water diverted from Colorado River (1,000 gallons)	1,573,950	6,942,265	0	14,343,469	6,153,394
Consumption due to Forced Evaporation (all facilities) and Groundwater pumping (STP only) (1,000 gallons)[1]	348,630	3,713,077	0	11,080,775	3,343,424
Consumption of Potable Water (1,000 gallons)	65,527	5,179	85,654	19,225	155,961
Reclaimed or Recycled Water (1,000 gallons)[2]	0	227,313	338,580	108,501	430,741
Total Consumptive Use with Reclaimed Water (1,000 gallons)	**414,157**	**3,945,569**	**424,234**	**11,208,501**	**3,930,126**
Total Consumptive Use without Reclaimed Water (1,000 gallons)	**414,157**	**3,718,256**	**85,654**	**11,100,000**	**3,499,385**
Percent of Use that is Reclaimed/Recycled Water (%)	**0.0%**	**6.0%**	**80.0%**	**1.0%**	**11.0%**
Total Site Generation (MWh)[4]	602,879	11,204,810	1,403,723	17,827,856	8,546,209
Water Usage Rate with Reclaimed Water (gal/KWh)	**0.690**	**0.350**	**0.300**	**0.630**	**0.460**
Water Usage Rate without Reclaimed Water (gal/KWh)	**0.690**	**0.330**	**0.060**	**0.620**	**0.410**
Water Diversion Rate (gal/KWh)	**2.610**	**0.620**	**0.000**	**0.800**	**0.720**

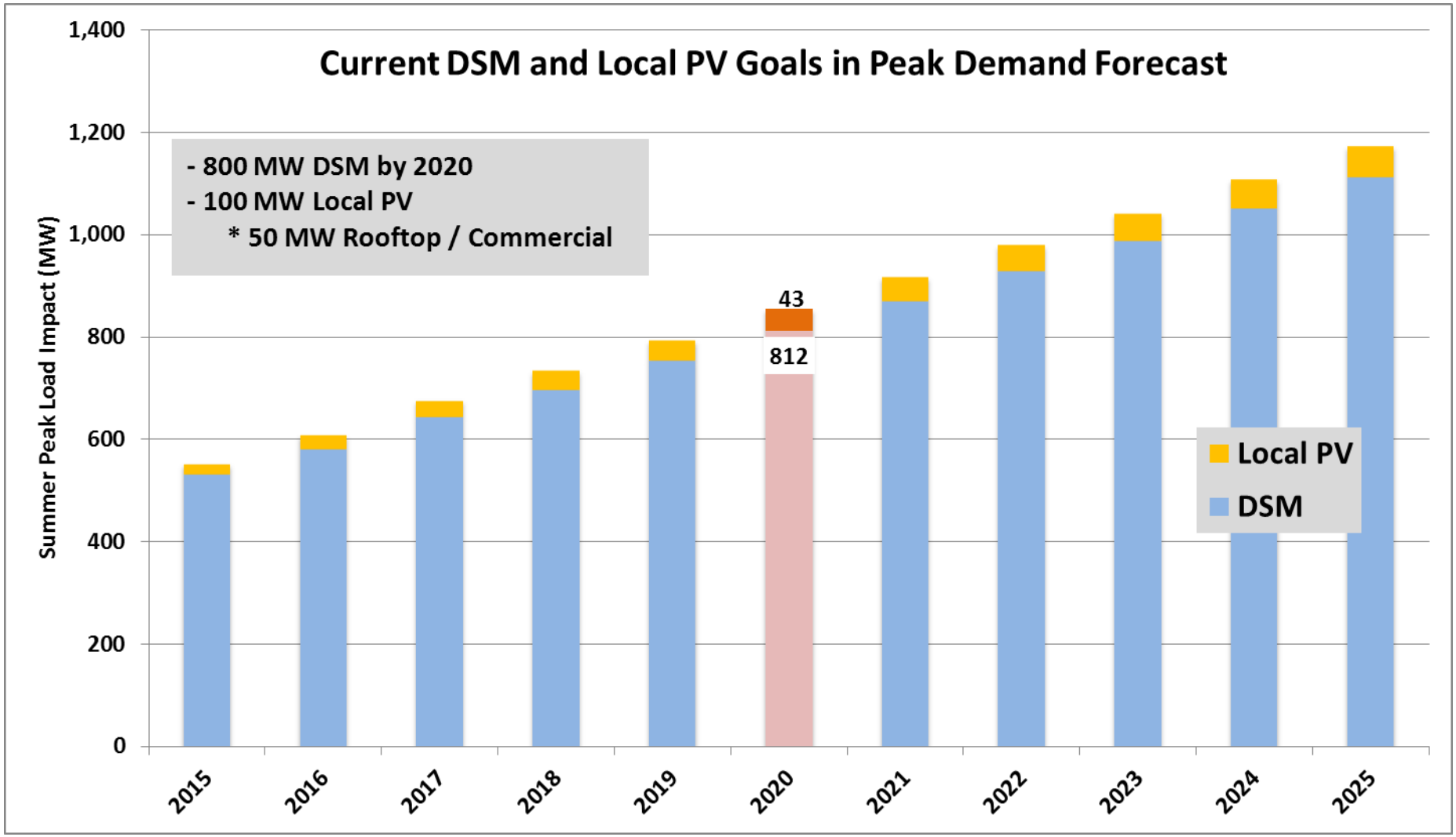
ERCOT vs. AE Peak Load Forecast





Home

DSM & Local PV Forecast



Financial and Economic Assumptions

- Capital
  - 30 year 80% debt financing
  - 5% interest rate (near term: 5 years)
  - 5.5% interest rate (beyond year 6)
  - Applies to CIP for current plants

- Economic parameters
  - General inflation @ 3%
  - Discount Rate @ 10% (i.e. AE WACC)

Evaluation Metrics and Scorecard

Scenario	20-yr NPV$	20-yr NPV$ Fixed Cost Owned/PPA	2018 Near term Avg. Rate	2035 Long term Avg. Rate	20-yr Cost at Risk NPV$	Environmental

- Expected Net Present Value i.e. 2015 $ (NPV$) – Primary metric for resource planning
- NPV$ Fixed Cost (Owned vs. PPA)- Capital investment
- Average System Price (cents/kWh) - Affordability
  - Short term (2018)
  - Long term (2035)
- Cost at risk (NPV$ 95th Percentile – Expected Value NPV$) – Market risk
- Environmental
  - CO_2 savings from current goal (i.e. 20% below 2005)
  - Generation portfolio carbon intensity (lbs/MWh)
  - Renewable energy percentage of load
  - Water usage (acre-ft)

How Do We Measure Risk?

- Distribution with same expected value but different 95% percentiles (i.e. Cost at Risk)
- Cost at Risk is the difference between expected value and 95% percentile
- Blue curve is less risky than Red curve

Eight Broad Scenarios (30 plans, 210+ Sensitivities)

1. Meeting 2010 Council Goals
2. Do Nothing or No Additional Generation

   Includes current 800 MW DSM goal
3. Increase Renewables & DSM (40% Renewables/1000 MW DSM/2020)
4. Increase Renewables & DSM More (50% Renewables/1200 MW DSM/2025)
5. Increase Renewables & Carbon Free Strategies (Retire all fossil /40% /50% /1000 MW/1200 MW DSM/Res 157)
6. Retire & Replace FPP (~58% Renewables/317 MW CAES)
7. Retire & Replace Decker Plant (~38% Renewables/317 MW CAES)
8. Retire & Replace both Decker & FPP (~65% Renewables/317 MW CAES /500+)

List of Scenarios and Plans

Current Strategy

Do Nothing

Increase Renewables & DSM

Increase Renewables & DSM more

Various Renewable & Carbon Free Strategies

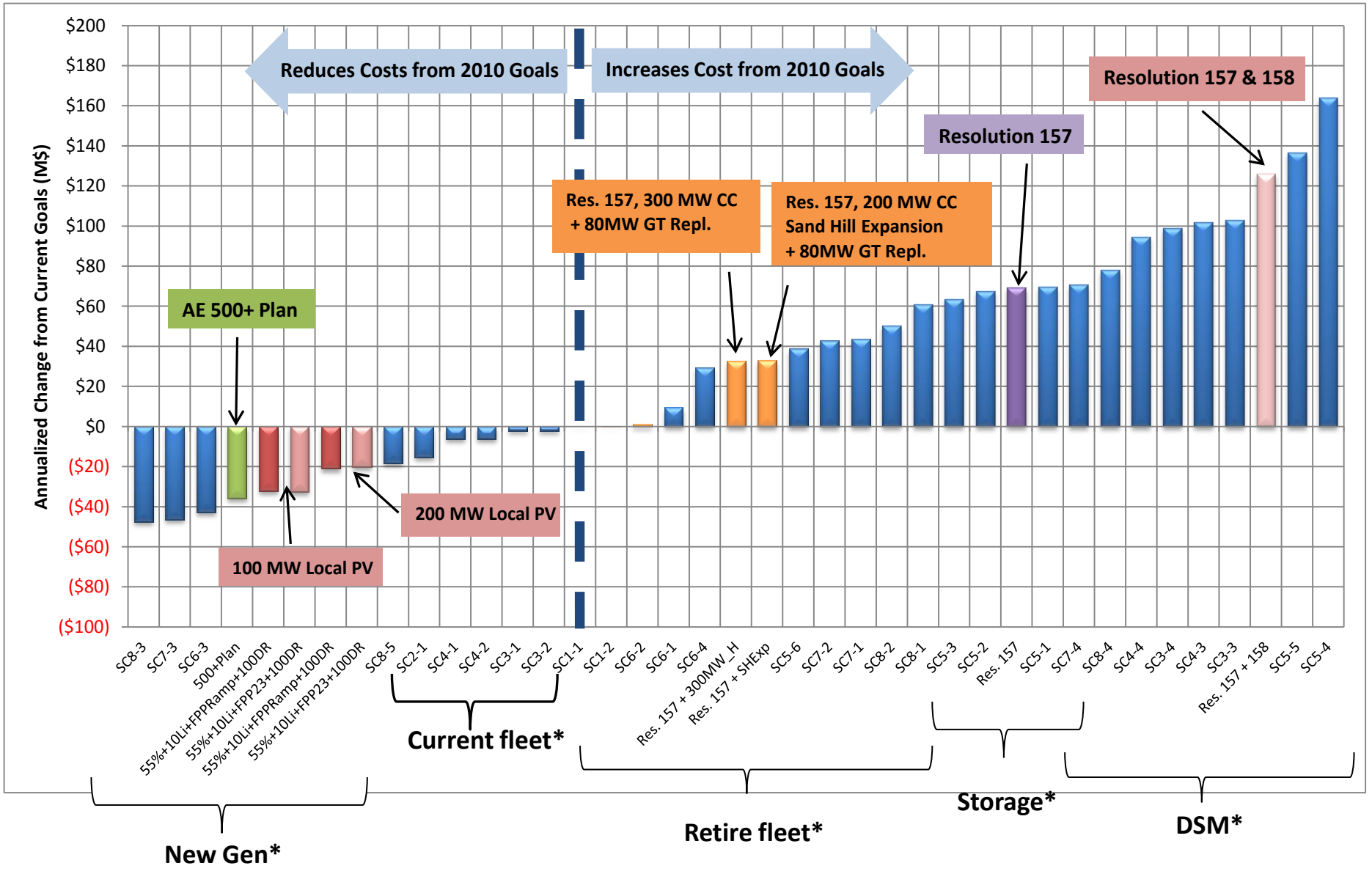
Retire & Replace FPP

Retire & Replace Decker Plant

Retire & Replace Both

Plan ID	Description
	Scenario 1 - Plan Meeting Council Goals
SC1-1	Reduce FPP, 800 MW DSM, 35% Renewable, 200 MW PV (100 MW Local) 2020
SC1-2	SC1-1, Add GT & CCs
	Scenario 2 - No Additional Generation
SC2-1	Current System, No New Additions, PPAs Expire Per Term
	Scenario 3 -1000 MW of DSM and/or 40% Renewables by 2020
SC3-1	SC1-1, 40% Renewables by 2020, Optimized Wind & PV
SC3-2	SC3-1, Add GT & CCs
SC3-3	SC1-1, 1000 MW DSM, 40% Renewables by 2020, Optimized Wind & PV
SC3-4	SC3-3, Add GT & CCs
	Scenario 4 - 1200 MW of DSM and/or 50% Renewables by 2025
SC4-1	SC1-1, 50% Renewables by 2025, Optimized Wind & PV
SC4-2	SC4-1, Add GT & CCs
SC4-3	SC1-1, 1200 MW DSM, 50% Renewables by 2025, Optimized Wind & PV
SC4-4	SC4-3, Add GT & CCs
	Scenario 5 - 100% Emission Free by 2025
SC5-1	SC1-1, Retire FPP and All Gas Units by 2025
SC5-2	SC3-1, Retire FPP and All Gas Units by 2025
SC5-3	SC4-1, Retire FPP and All Gas Units by 2025
Res. 157	***65% Renewables by 2025, Retire FPP and All Gas Units by 2030, 600 MW Solar(+200 MW Local), 200 MW Storage***
SC5-4	SC3-3, Retire FPP and All Gas Units by 2025
SC5-5	SC4-3, Retire FPP and All Gas Units by 2025
SC5-6	SC5-1, Replace Retirements with Optimized Wind & PV
	Scenario 6 - Retire FPP (AE Share)
	Scenario 7 - Retire Decker Plant
	Scenario 8 - Replace FPP & Decker
SC6-1	SC1-1, Retire FPP 2025
SC6-2	SC6_8-1, Replace with Optimized Wind & PV
SC6-3	SC6_8-1, Replace with Optimized Wind & PV & GT/CC
SC6-4	SC6_8-1, Replace with Optimized Wind & PV & CAES
SC7-1	SC1-1, Retire Decker 2018
SC7-2	SC7_1, Replace with Optimized Wind & PV
SC7-3	SC7-1, Replace with Optimized Wind & PV & GT/CC
SC7-4	SC7-1, Replace with Optimized Wind & PV & CAES
SC8-1	SC1-1, Retire FPP 2025 and Decker 2018
SC8-2	SC8-1, Replace with Optimized Wind & PV
SC8-3	SC8-1, Replace with Optimized Wind & PV & GT/CC
SC8-4	SC8-1, Replace with Optimized Wind & PV & CAES
SC8-5	SC8-1, Replace with Optimized Wind & PV & GT/CC & CAES
500+Plan	***Ren Goal50% + RetFPP_DEC + 500MW CC + 500MW SolarPV***

Yearly Change from 2010 Goals in $Millions per year



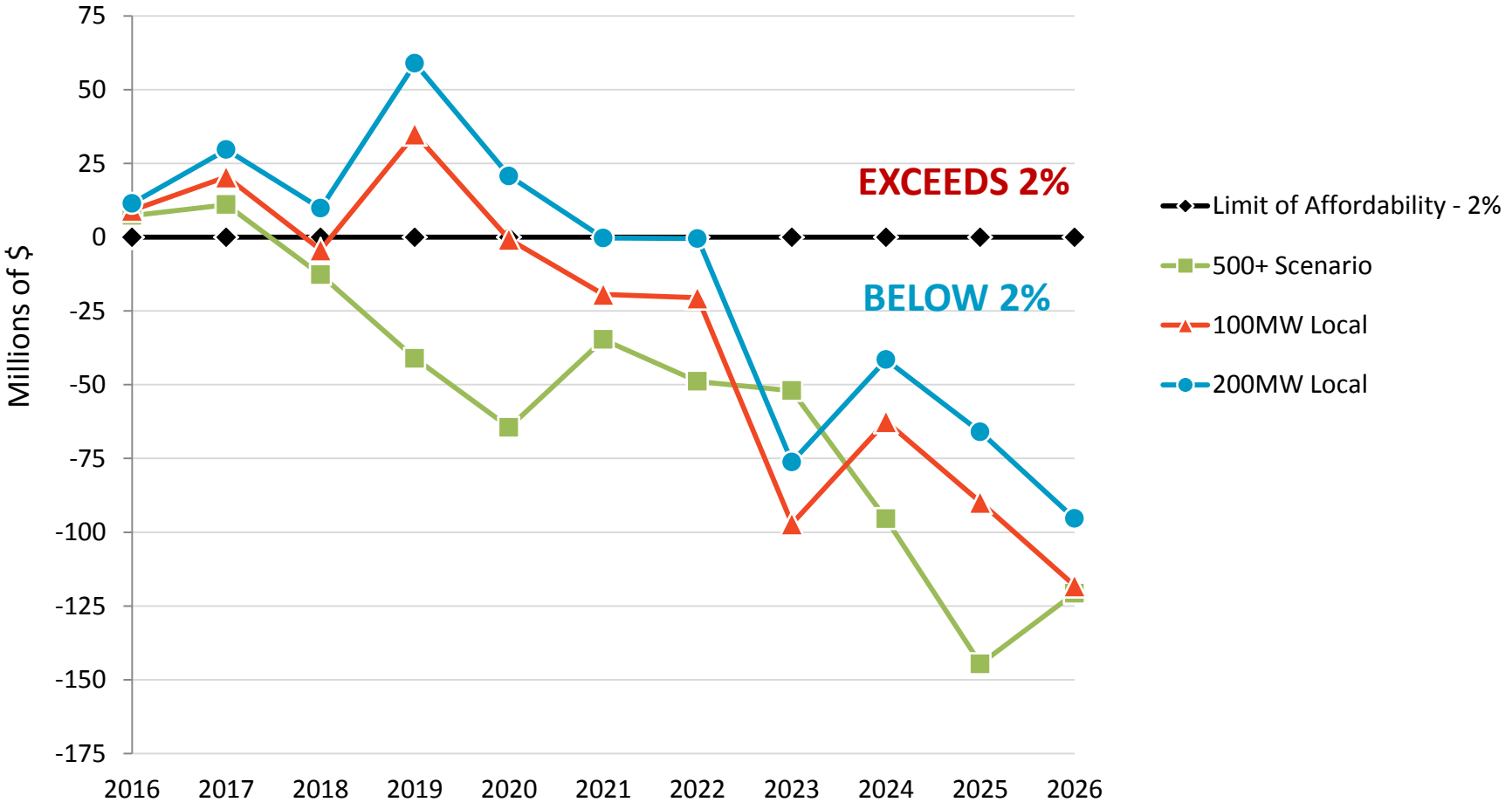
* - Major drivers

Variations to Austin Energy 500+ Plan:

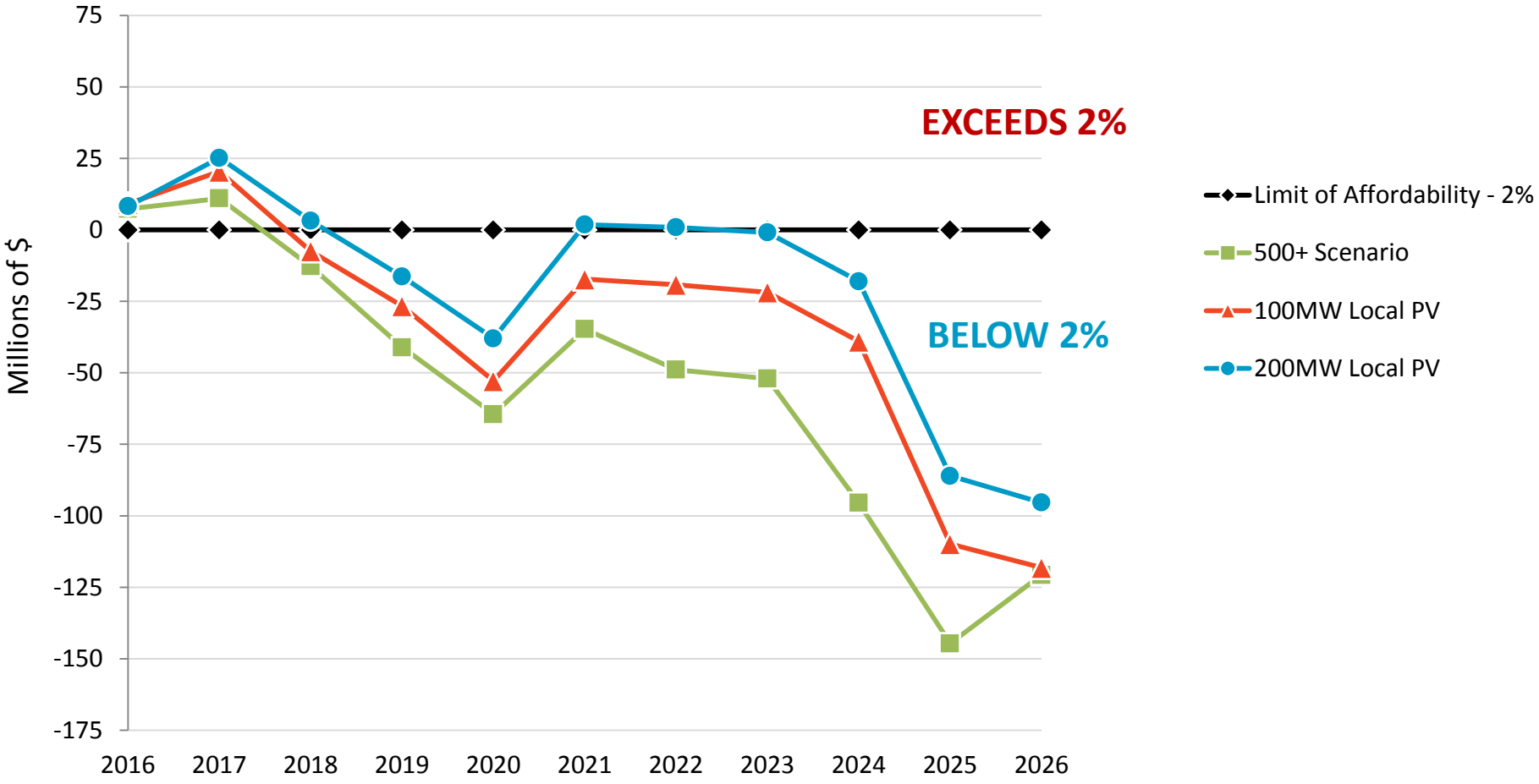
- 500+ 55% + 10 Li + FPP 2022 + 100 DR + (100/200 local):
  - Increase to 55% renewables by 2025
    - ✓Additional 100 MW of West Texas Solar
    - ✓Additional 75 MW of Wind
  - 10 MW (Lithium Ion batteries) of local storage by 2025 + 20MW of thermal storage
  - Retire FPP starting in 2022
  - 100 MW of new demand response by 2025
    - ✓Approximately 20 MW per year beginning in 2021
  - Local Solar sensitivities with 100 MW vs. 200 MW

- 500+ 55% + 10 Li + FPP Ramp + 100 DR + (100/200 local):
  - Same as above, except gradual ramp down of FPP beginning in 2018 (8% to 10% per year) then retired by 2025

Austin Energy 500+ 55% + 10 Li + FPP 2022 + 100 DR + (100/200 local): Affordability Chart



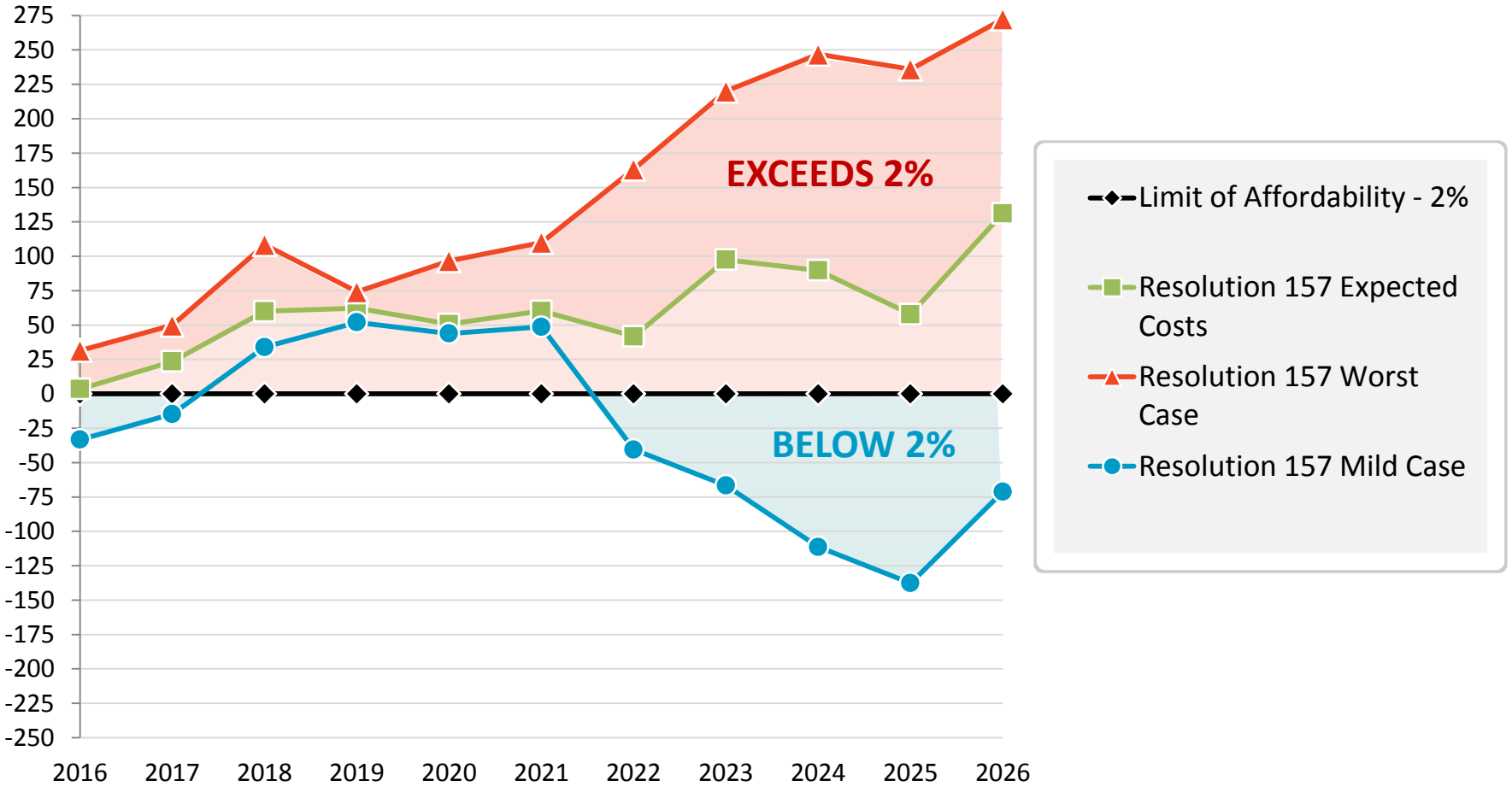
Austin Energy 500+55% + 10 Li + FPP Ramp + 100 DR + (100/200 local): Affordability Chart



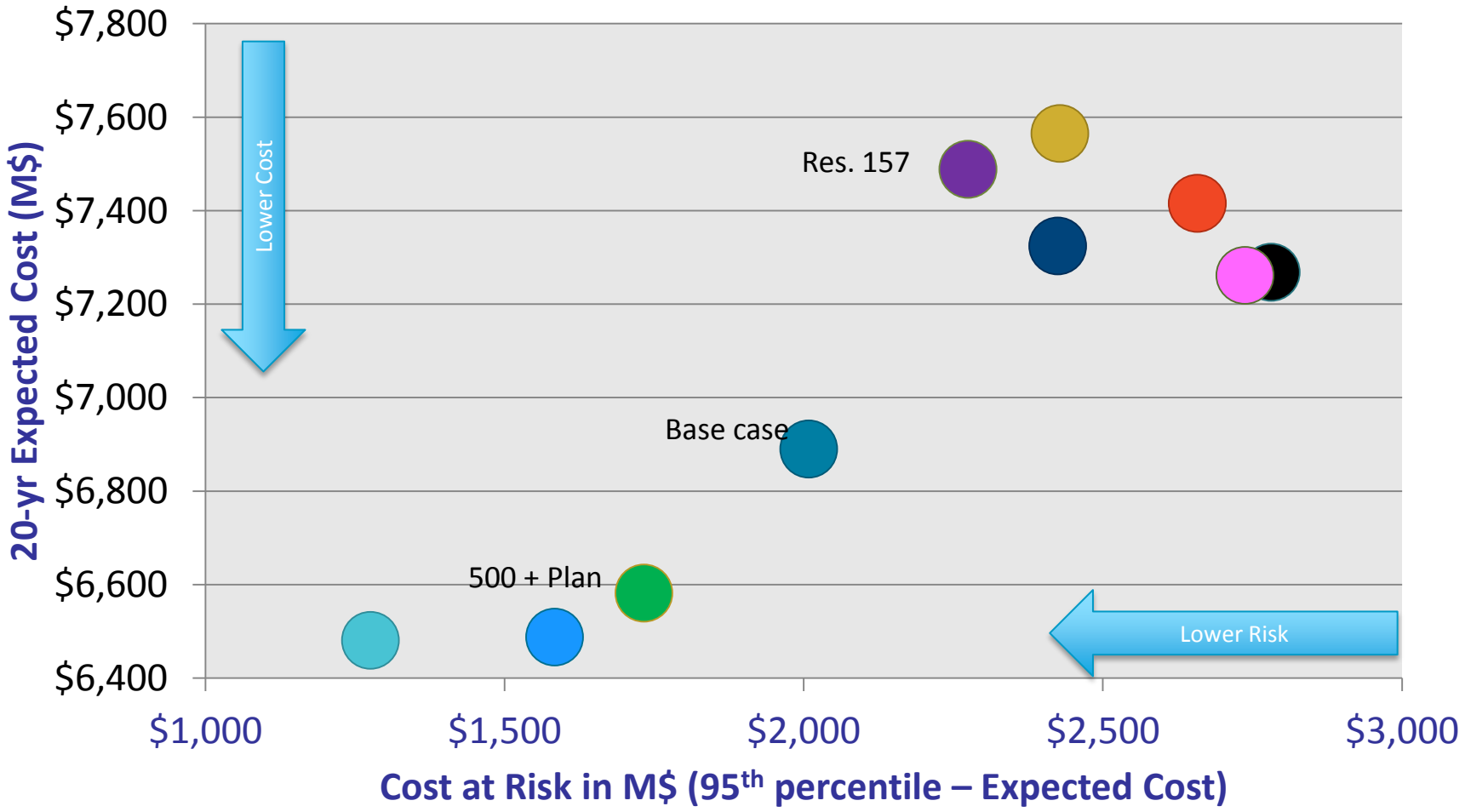
Conclusions from variations on 500+ plan

- 500 + Plan:
  - Early bumps in 2016/2017 due to capital on new plant and decker retirement
  - New plant revenues start in 2018 driving rates down through 2020
  - FPP retirement account drives rates up in 2020 but still affordable due to 500 CC revenues
  - Capital on new utility solar in 2019/2022/2025
  - Loss of FPP revenues are seen in 2025 but rates still stable due to 500 CC
- Early 2022 FPP Retirement
  - Earlier FPP collection and additional wind/solar for 55% drives rates up in 2019 above affordability
  - Incremental DR felt in 2021
  - Loss of FPP revenues comes earlier in 2023
  - Increased 100MWs of local solar keeps rates above affordability for the next few years
- Gradual FPP Retirement
  - Similar dynamics as above but maintains affordability

Resolution 157 Affordability Chart



Expected Cost vs. Cost at Risk



Do Renewable Contracts Reduce Risk?

Brattle Observations from Sept 24th, 2014 CCAE Meeting:

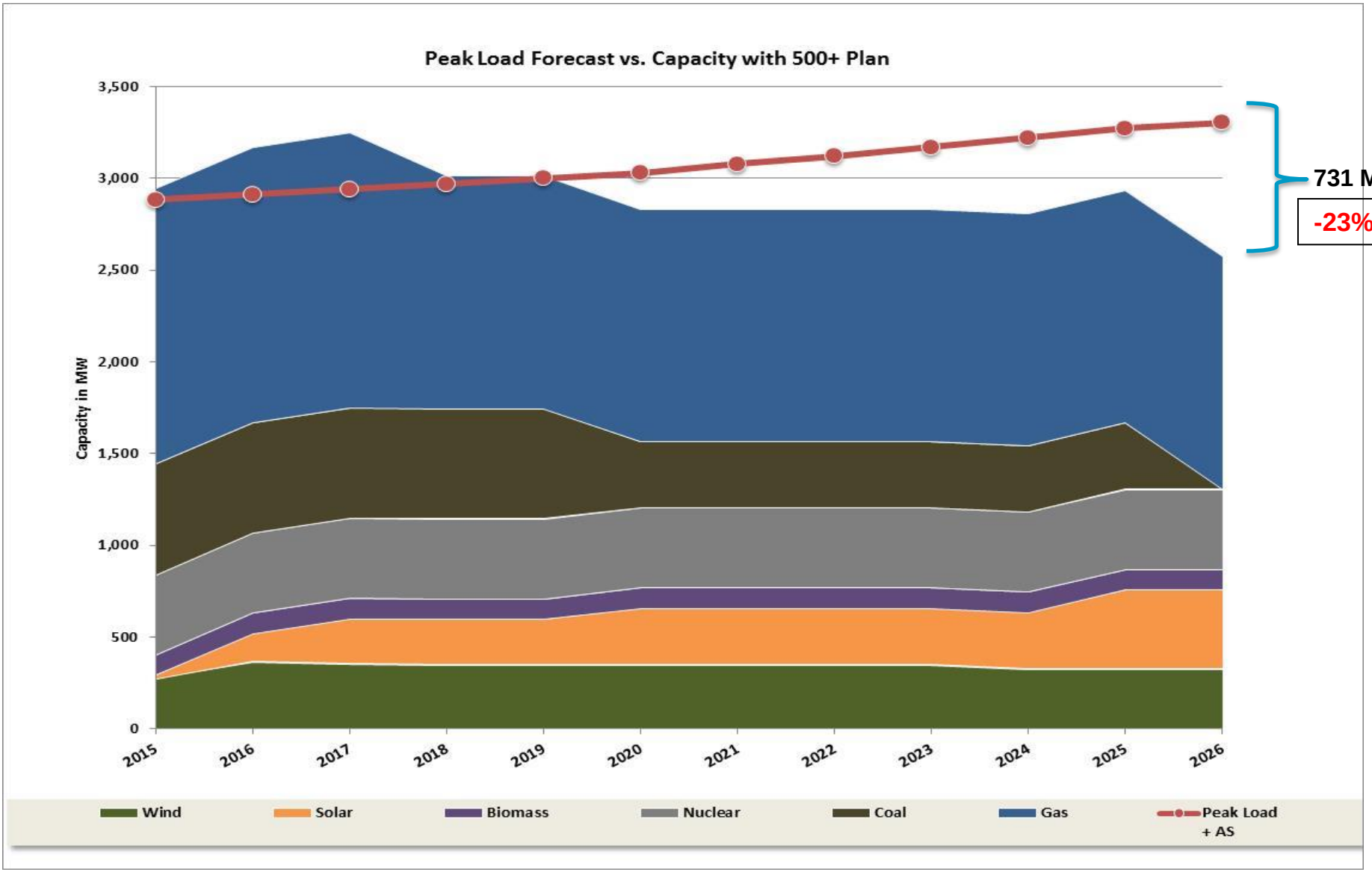
- *This is an intuitive and widely held view, but it is largely false in regard to power cost risks over the next few years (and probably longer).*
  - *it ignores the increased exposure to spot, real time purchases when relying on renewable resources, which can be extremely pricey in ERCOT*

- *This view also confuses costs with value, and with how value is captured. Even though AE must pay for the fuel at a gas or coal plant, it only does so (i.e. burns the fuel) when that is cheaper than the spot value of power-- so the dispatch always reduces net cost and net volatility.*

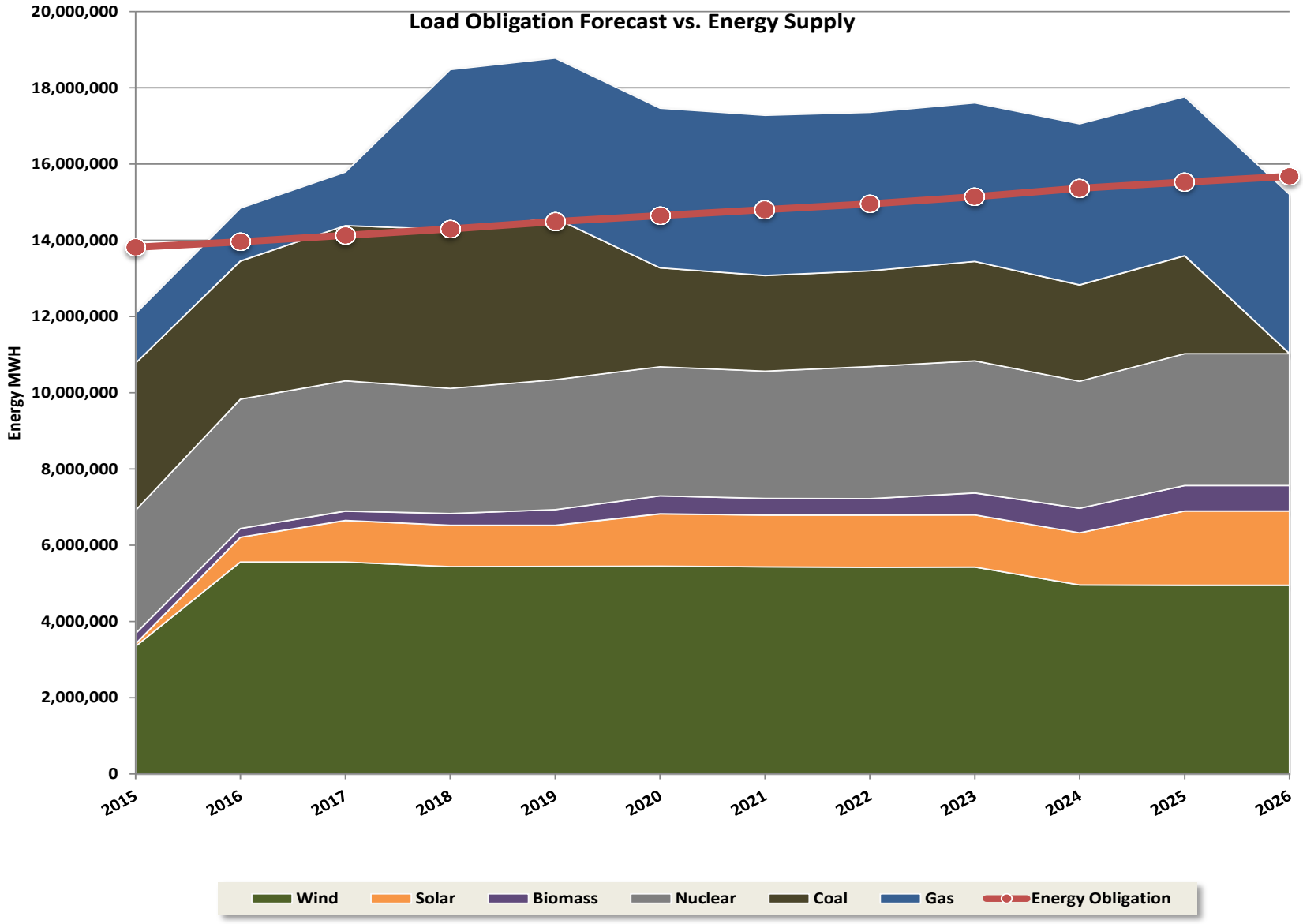
- *There are also MUCH cheaper ways of reducing risk than diversifying into renewables, even if they did work as proponents assume. In particular, gas hedging is almost costless and feasible over 2-5 years with standard products, and longer if desired with customized ones.*

- *One sense in which this view is correct is in regard to very long term risks, such as running out of water or facing a high carbon price 5 or 10 years from now. Renewables can help avoid those particular risks and there may be no financial hedge. But if that is a goal, the potential savings should be quantified and compared to the excess net cost of renewables vs. conventional alternatives. That is, it should not be deemed to be a per se benefit to avoid those future risks, if they are not very large or very expensive.*

Capacity with 500+ Plan



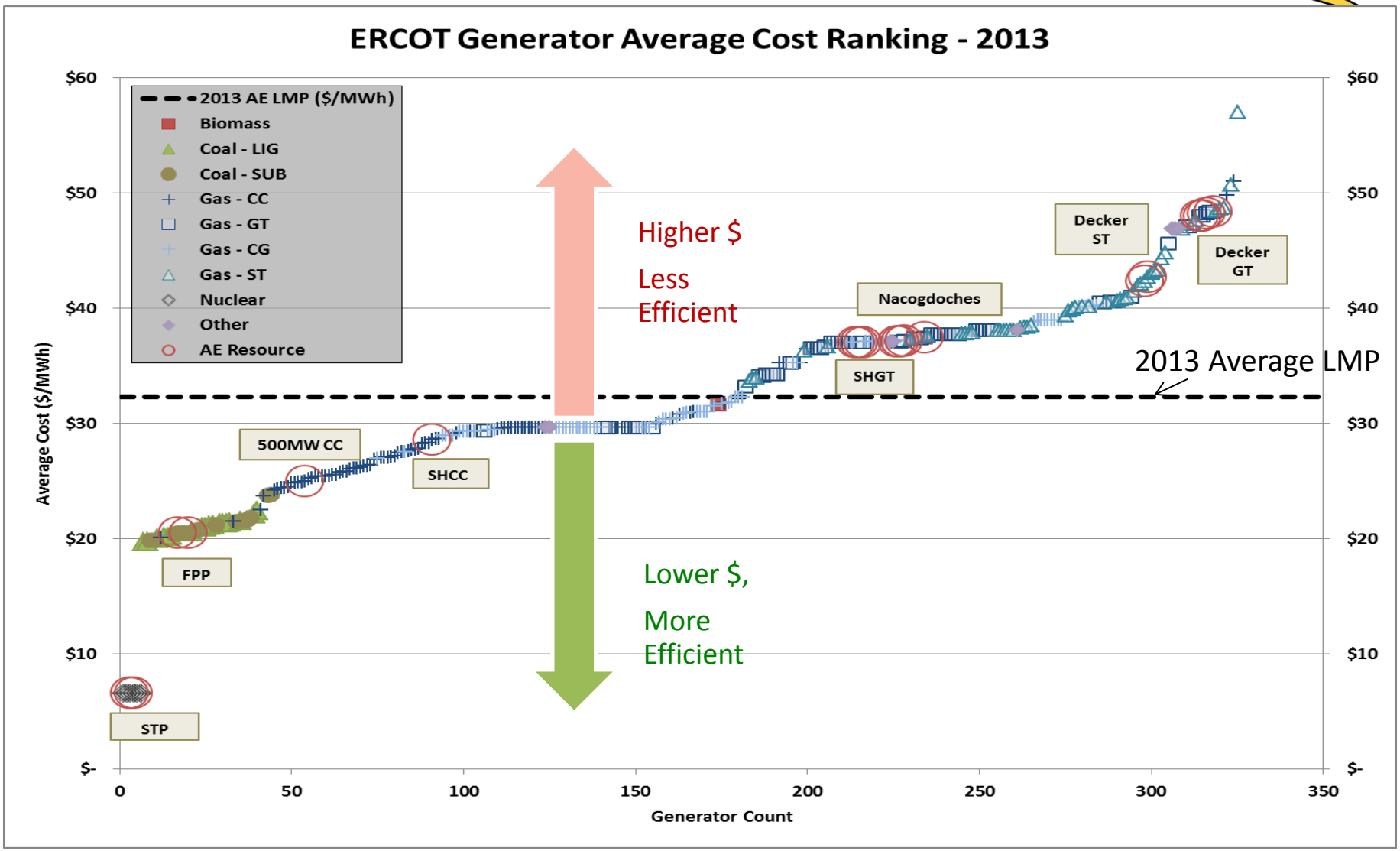
Energy Supply with 500+ Plan



New Facility Design Considerations

- Clean
  - Conservation as core of design
  - Reduce water, air, and waste profiles by design (i.e., utilize most advanced air controls, efficient cooling technologies, best methods to eliminate waste)
  - Technologies: reclaim water reuse, efficient condenser cooling, zero liquid discharge, selective catalytic reduction systems, etc.
- Efficient
  - Design most efficient facility, for customer long term benefit and lessen resources required to produce power
  - Technologies: efficient gas turbine, heat recovery and steam turbine systems
- Flexible
  - Utilize latest technology, to have rapid response to grid needs, and adjust down when other resources (wind, solar, etc.) are available
  - Technologies: quick start, agile ramp characteristics to optimize grid response
- Affordable
  - Deliver efficient, clean, flexible plant in the most affordable manner through project design and execution

New Resources displace Higher Cost Gas Resources



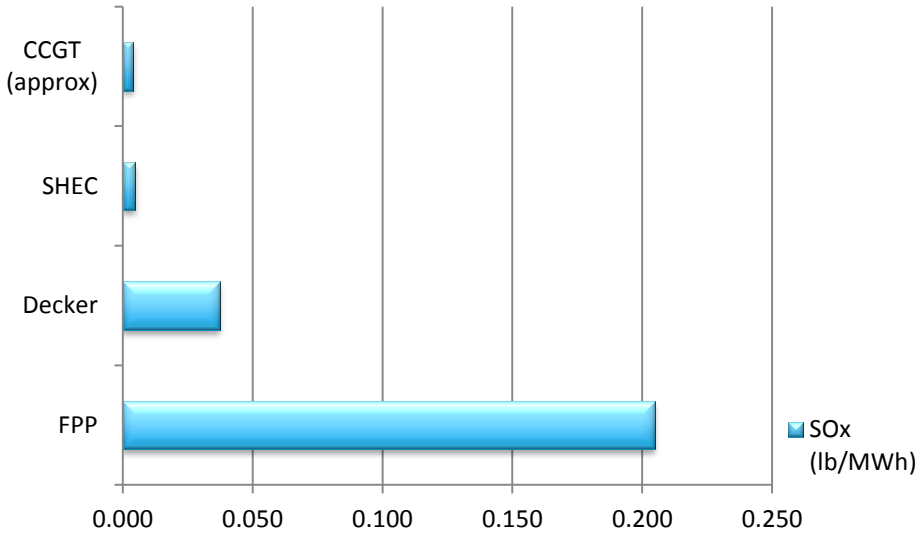
- Having units in the most efficient position within ERCOT keeps energy prices low for AE customers

Comparing Emissions

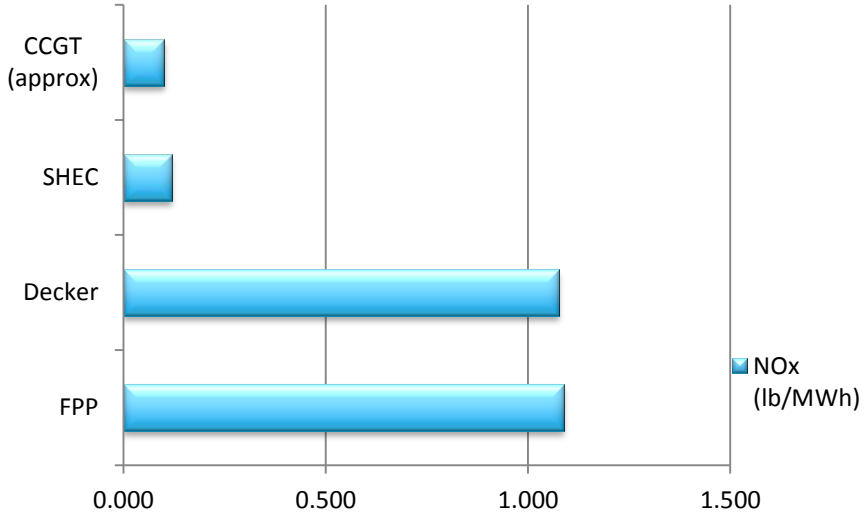
Migration to Latest Combined Cycle Technology results in (per MWhr):

- 53% more efficient gas to electricity conversion than Decker
- 60-90% less water use than Decker steam units
- 88% reduction in SO2 compared to Decker, 98% to FPP
- 92% reduction in NOx compared to Decker, 93% to FPP
- >50% reduction in CO2 over FPP

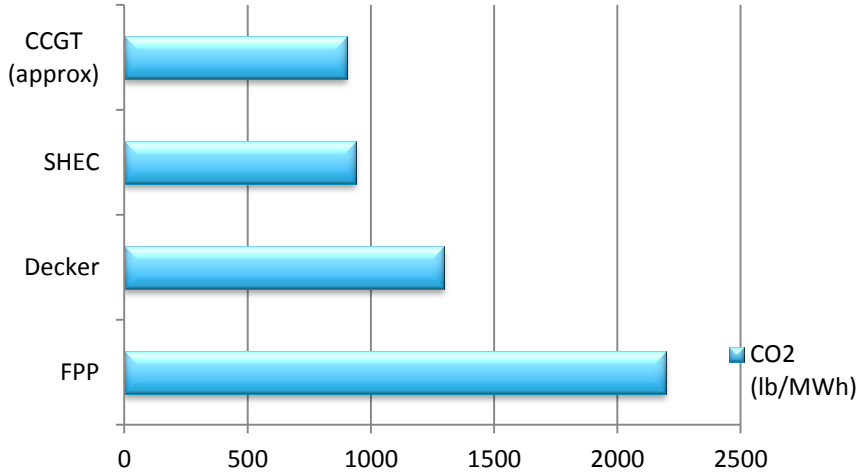
Sulfur Dioxide Emissions (lb/MWh)



Nitrous Oxides Emissions (lb/MWh)



Carbon Dioxide Emissions (lb/MWh)



New Combined Cycle Location

Preferred characteristics:

- Existing space and power plant infrastructure that minimizes cost
- Access to transmission lines
- Access to cooling water
- Access to major natural gas lines
- Located in or near the AE Load Zone

AE has two locations meeting these criteria

Why is Proximity to Austin Important?

- The AE Load Zone is defined by Austin Energy's service area
- It is the metered demand of AE customer load
- Power generation within or in close proximity to Austin minimizes congestion risk and helps lower the price of energy in the load zone

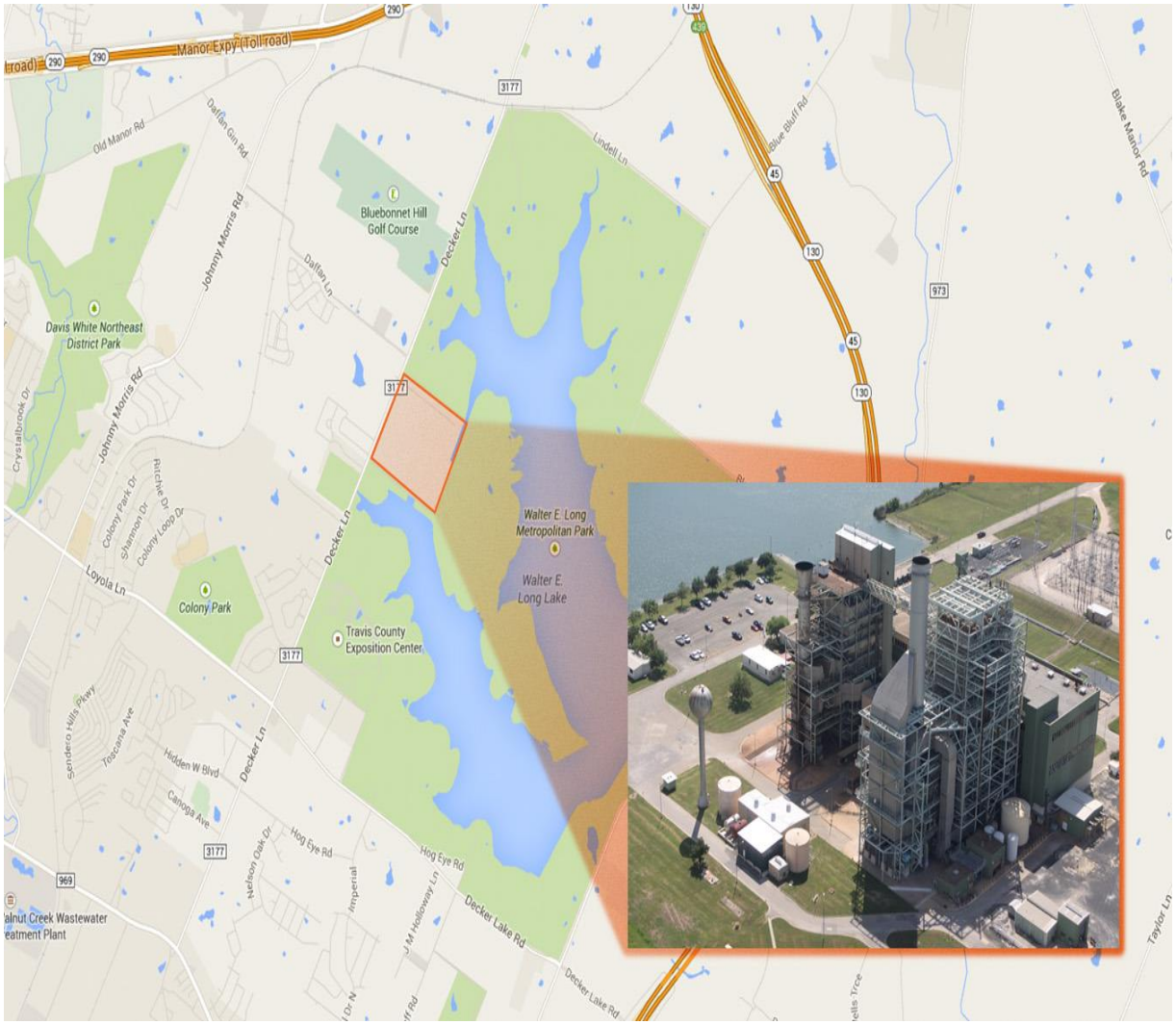
WHY?

Basic Economics

Increased Local Supply vs. Local Demand Helps Lower Prices

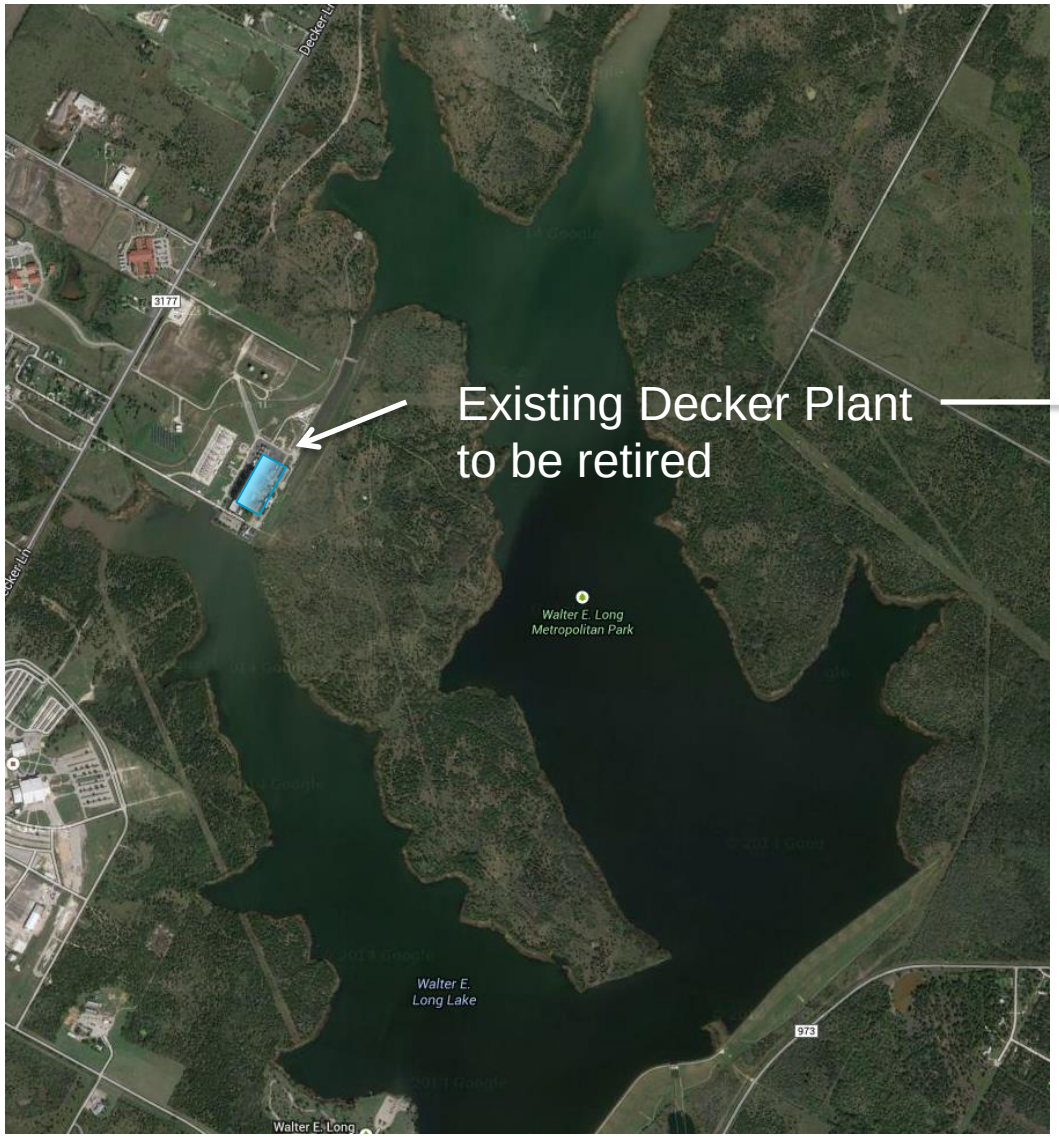
AE Service Area

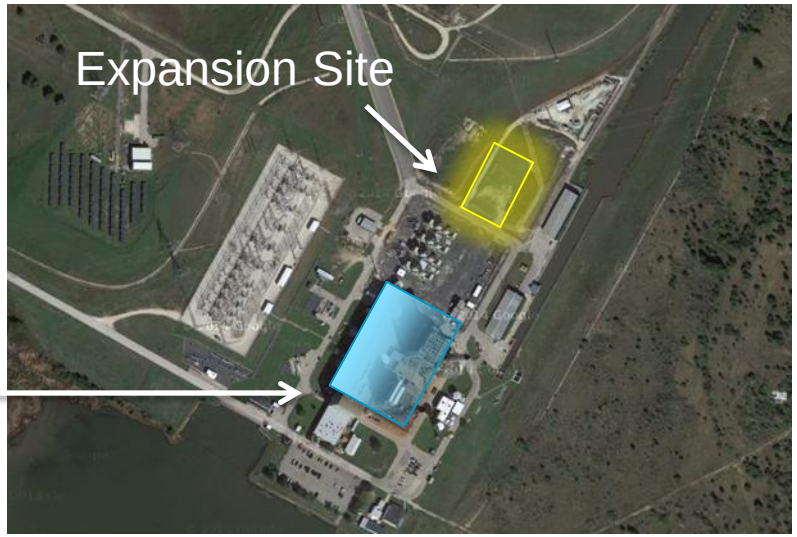
Decker Location



- Meets preferred characteristics
- Projections indicate Decker offers $6M per year in savings over Sand Hill
  - Better transmission location
  - Subject to refinement after detailed transmission studies

Decker Creek Power Station

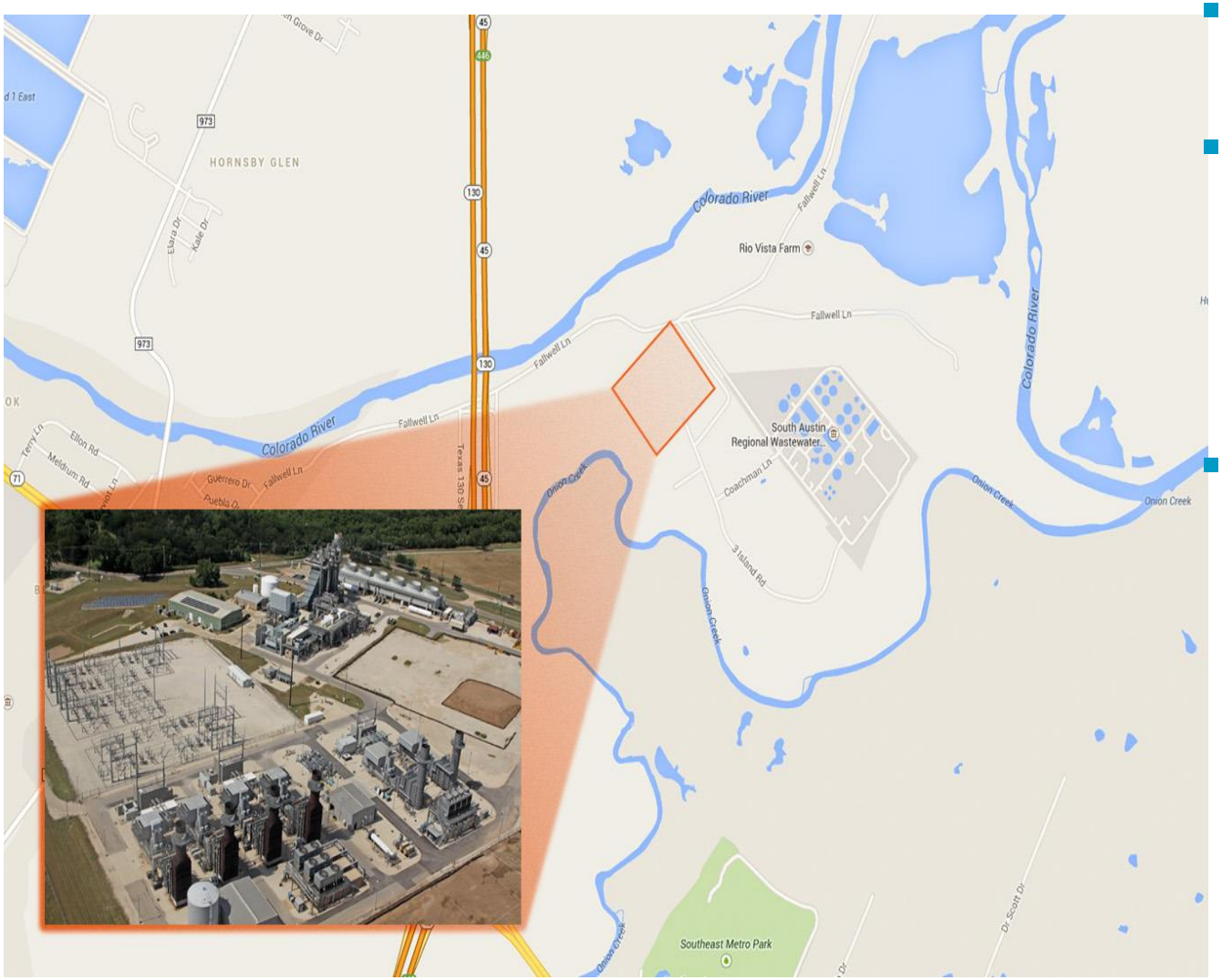




Characteristics

- Transmission
- Gas supply
- Control Center
- Solar farm
- Buffered by Tallgrass Prairie preserve
- Proximity to Walnut Creek Wastewater Plant

Sand Hill Location



- Meets preferred characteristics
- Less favorable financially than Decker
  - Subject to refinement
- Opportunity to expand reclaimed water use from adjacent South Austin Regional Wastewater Plant

Value of the Decker Plant in relation to solar

Brattle Observations from Sept 24th, 2014 CCAE Meeting:

- There are claims that Decker is running at low capacity factors, so purportedly it is not needed.
- *This ignores the capacity and perhaps transmission value of the plant.*
- *Assertions that Decker is dumping lots of pollution into the Austin area. This is not supported by any environmental studies which mostly show that ozone problems in the area are regional and not a result of Decker as a point source*
- *Solar output, and spot prices at the solar site and the AE load center, will show a variability and mismatch between output and value for renewables.*
- *Average calculations are a generalization that ignore location and type of solar facility*
- It was suggested that now is a good time to move fast on solar, because of expiring tax benefits and the CREZ lines will fill up; *this ignores the optionality benefit of waiting for solar costs or performance to improve further.*

Observations and Drivers for Resource Plan Results

- Affordability is dependent on keeping existing generation in service or replacing with new efficient gas generation. Both cost and risk improve with the efficiency and size of the replacement unit(s).
  - Location matters, the closer generation is to the Austin load zone the better

- A significant amount of renewable energy can be added economically with a marginal improvement to cost and risk if a gas fleet is maintained. This is not the case, however, if renewables are added and the gas fleet is retired without replacement. In this case, both cost and risk are increased.
  - The optimal amount of renewable energy for Austin Energy is around 50% of its load obligations; greater amounts result in diminishing returns

- Overall CO2 emissions are not affected by changes to Austin Energy's gas fleet. The retirement or addition of gas owned by AE will either be replaced by underutilized generation or displace less efficient generation within ERCOT. In other words, AE is too small a fish to affect the larger ERCOT market (i.e. ~4 percent).

Recommendation

The plan adopts and acts immediately on:

- Commencing a project to replace Decker steam units with a 500MW highly efficient gas plant contingent on an independent review and council approval
- Issuing an RFP for 600MW of utility scale solar to commence the process towards a generation portfolio consisting of 55% renewable energy.
- Maintaining the current goal of 800 MWs of EE and DR by 2020, and adding an incremental 100 MWs of DR to achieve a total of at least 900 MWs of DSM by 2024.
- Implementation plan for distribution connected local storage of at least 10 MWs complemented by as much as 20MWs of thermal storage.
- Create cash reserve fund for FPP retirement approved through the regular budgeting process and targeted to retire Austin's share of the plant beginning in 2022

Recommendation - Continued

- The Plan also recommends the following contingent upon further study, technological development, progress towards goals and rate adjustments or restructuring:
  - An additional 100MWs of DR or EE to increase the DSM achieved to 1000MWs by 2025
  - An additional 100MWs of local solar for a local solar portfolio of 200MWs contingent upon development of rate structure that maintains equity amongst customers
  - Issuing an RFI for 170 MWs large scale storage such as Compressed Air Energy Storage

Leadership

Plan Attribute	2020 Plan	2025 Plan	Improvement	Leadership
% Renewable	35%	55%	71% increase	Exceeds leading state goals (Hawaii 40%) and top European goals (Germany/Sweden 50%)
Solar	200 MWs	950 MWs	375% increase	If Austin were a state it would rank second behind CA
Wind	1200	1575	31% increase	Austin will have 14% share of Texas wind, 3.5x its load share
DSM	800	900	12% increase	Covers 3 years of peak demand growth
Fossil Fuel	Fleet as is	Retire FPP coal & Decker gas, add 500MW gas CC	36% decrease	Nearly 80% carbon free
Storage	NA	30 MWs	NA	Nearly equal to ERCOT's current installed battery storage (34 MW)

Solar Appendix

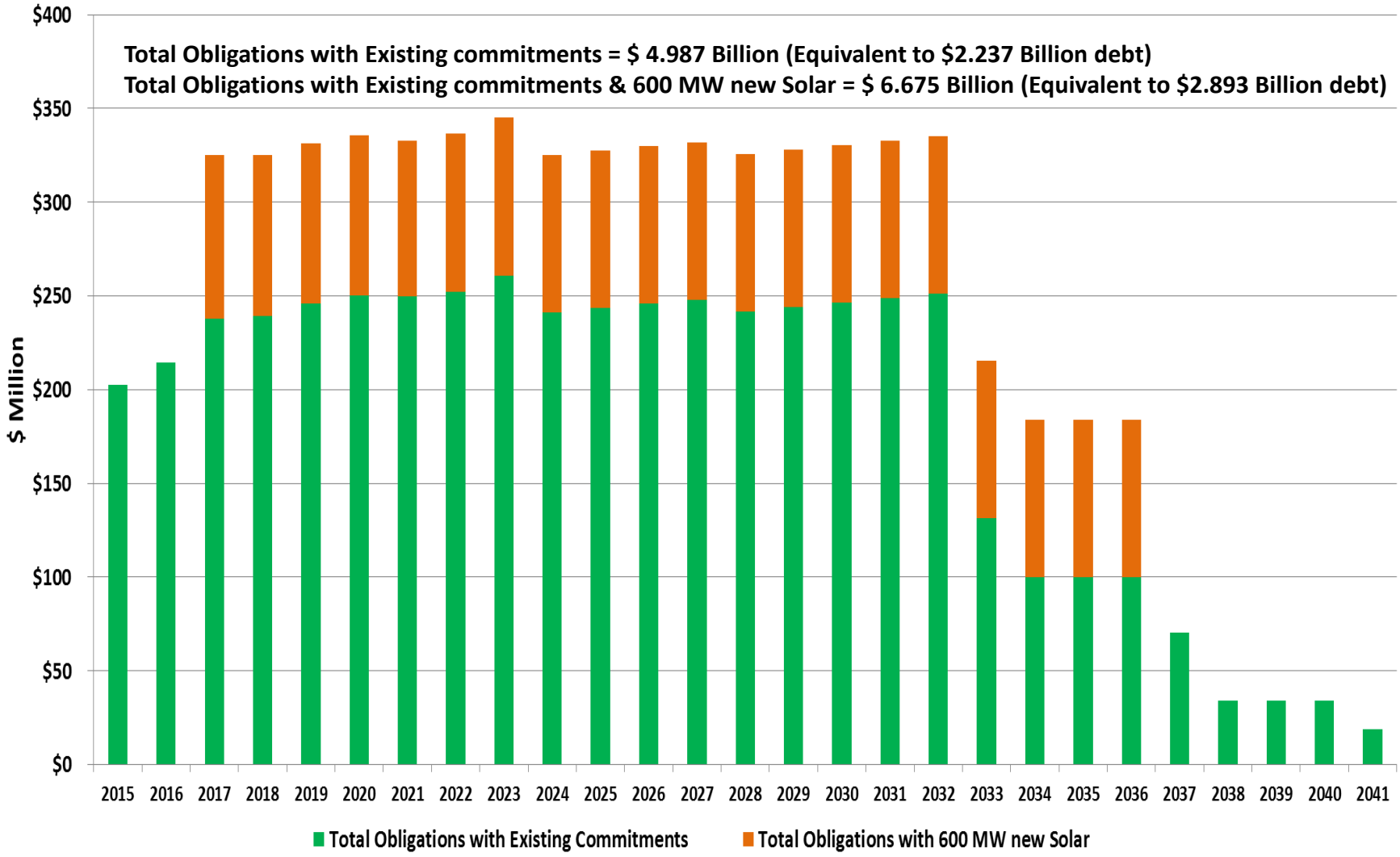
2015 Solar RFP

- RFP Issued April 8th
- Responses received May 15th
- Review and analysis are underway:
  - 33 Proposers offered 149 separate proposal variations / options
  - A total of 7,976 MW of unique projects were offered
  - 1,295 MW offered at prices below AE's 2014 150 MW Recurrent Solar Project
  - Majority are located in West Texas

2015 Solar RFP – Initial Takeaways

- Solar continues to exhibit a steady cost decline as the technology improves and matures – good news (and "bad")
- "Bad" news – 18 months after our last solar contract, prices are ~20% lower
  - Illustrates the risk of early / over-commitment to rapidly changing technologies
- Good news – a clear trend shows costs have declined and will continue to improve
- The reduction of the Investment Tax Credit (ITC) from 30% to 10% at the end of 2016 isn't a driver to act immediately or go big
    - Prices for 2017-2020 are lower still if the ITC is extended at 30% and only moderately higher if not:
      - A less than 4% adder compared to acquiring 600 MW now – this could easily be erased by continued cost declines
      - Direct build / ownership is also a tool to mitigate this – we retain the developer's profit
- Trend clearly suggests a measured approach to adding new solar – consistent with our resource plan
- Future RFPs will likely garner even lower prices

PPA Commitments with 600 MW Solar Addition



- AE Total debt is $1.253 Billion, AE's total valuation is ~$ 3Billion

Solar Trends in the News

- In remarks at a conference this June, Jim Hughes, CEO of First Solar, one of the largest utility solar builders in the world said the following:

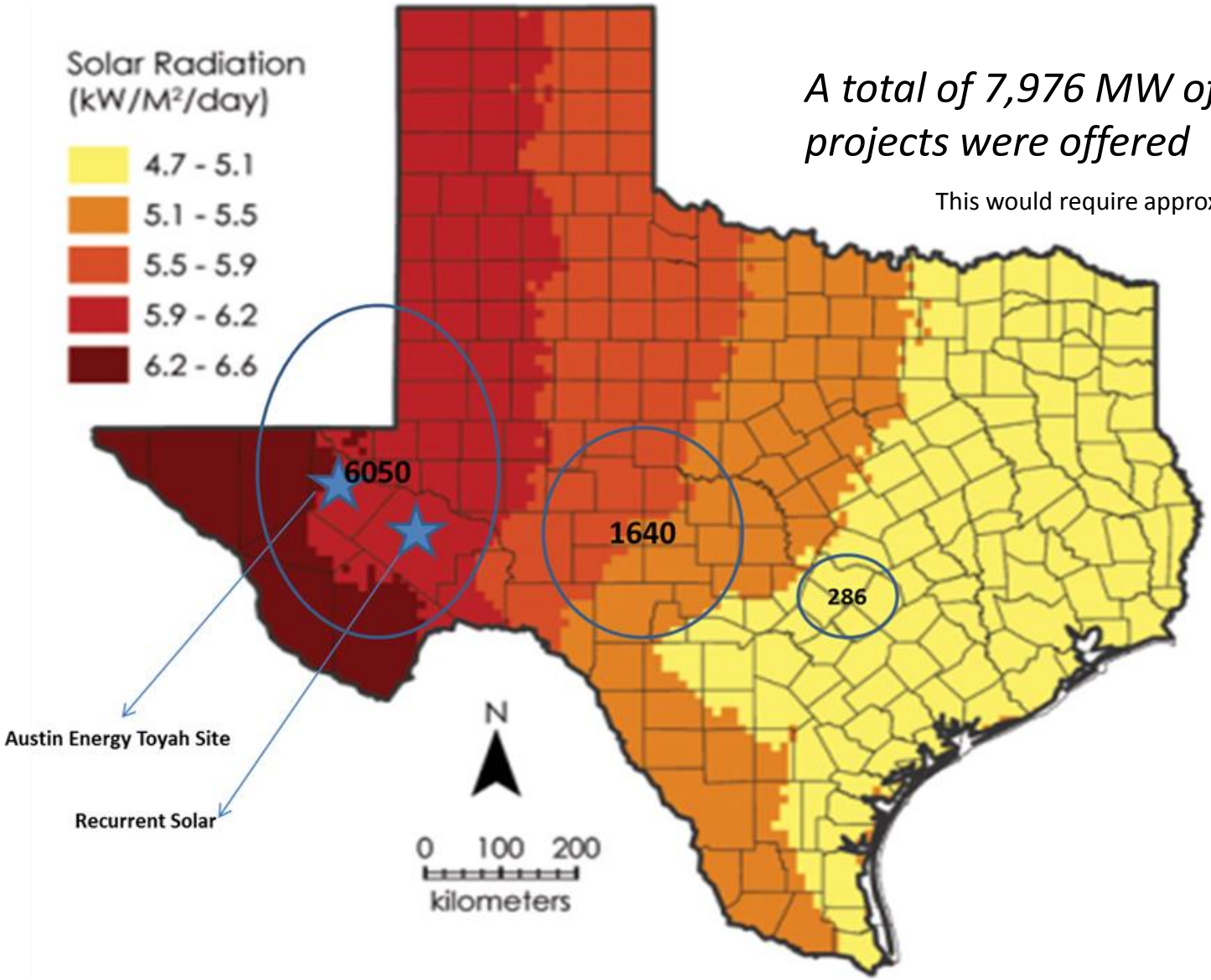
  - ***Hughes called the expiration of the ITC "irrelevant," saying, "Within 18 months, we will overcome the cost delta resulting from the drop [of the ITC] from 30 percent to 10 percent.***

  - ***"I fully believe that within 10 years we'll be talking about low-3-cent power on a peak basis."***

Proposed Schedule for Solar RFP

By Oct 1st	• AE Brings forward RCA for 200MWs
1st – 15th	• AE will review Navigant initial results
Oct 15th	• Final Navigant Report Issued
15th – 20th	• AE Provides Feedback to Navigant
Oct 22th	• AE/Navigant Presents Report to Council with Recommendations on Gas Plant and More Solar

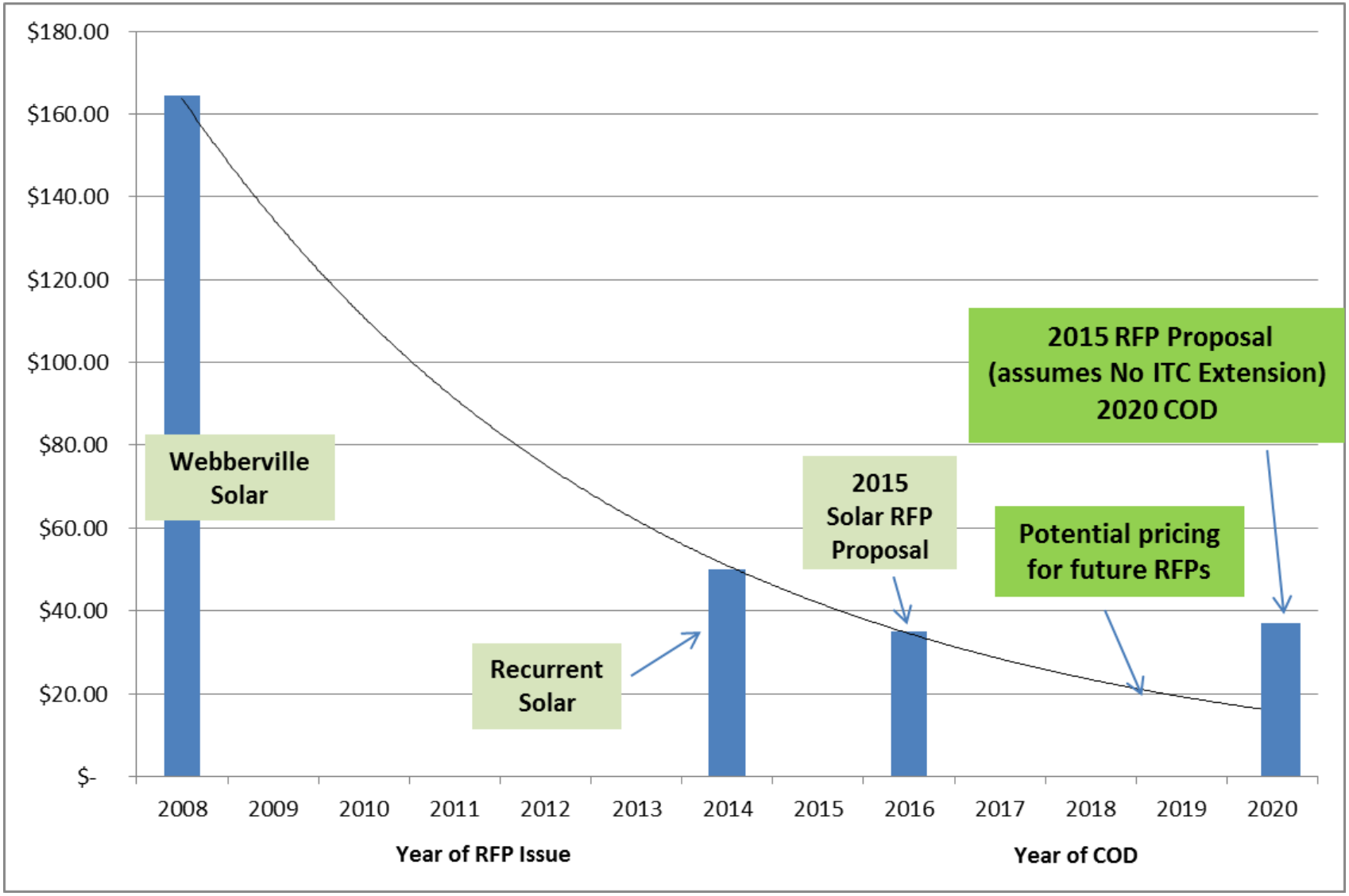
Proposed Projects



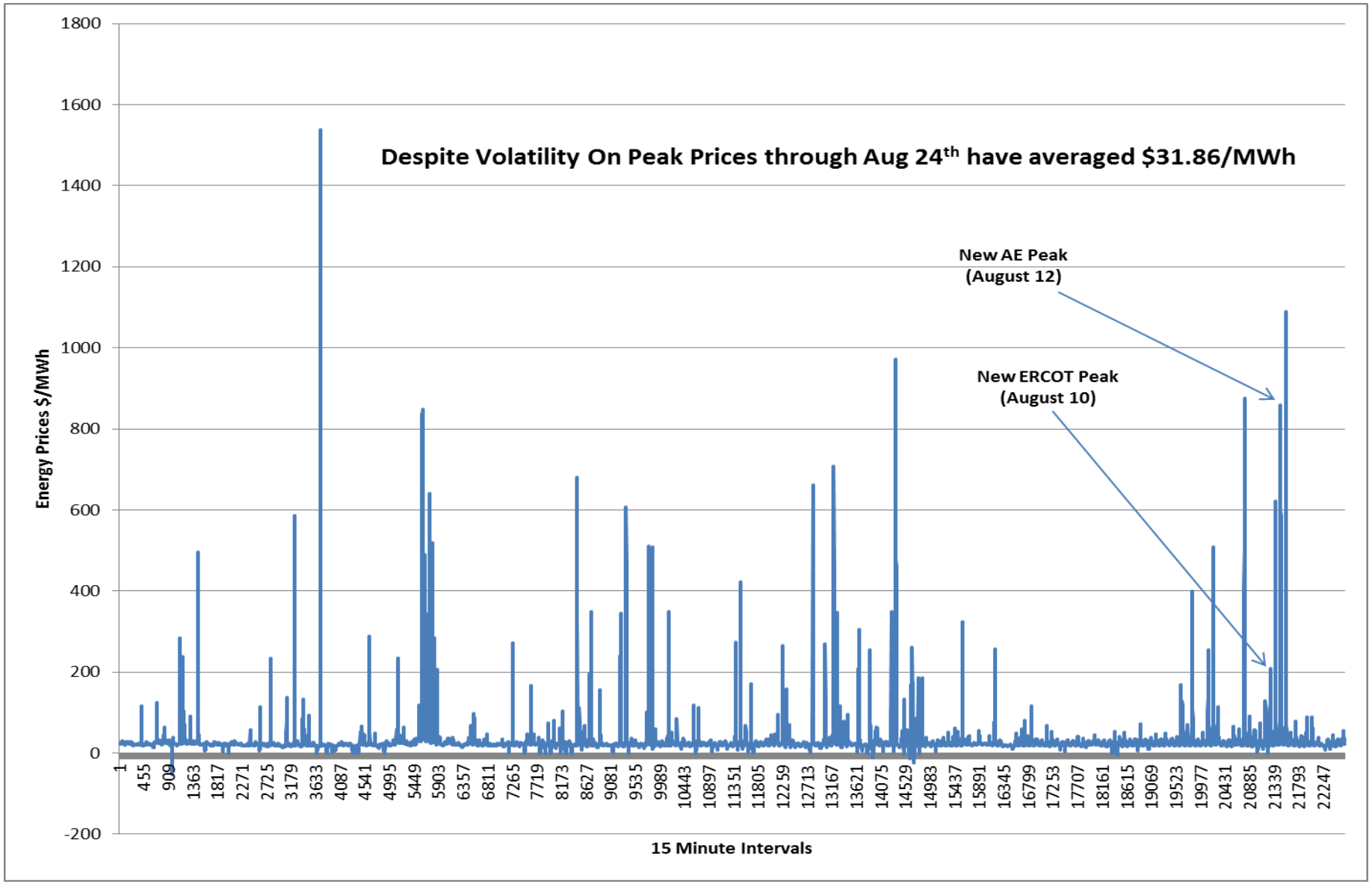
A total of 7,976 MW of unique projects were offered

This would require approximately 66,000 acres of land

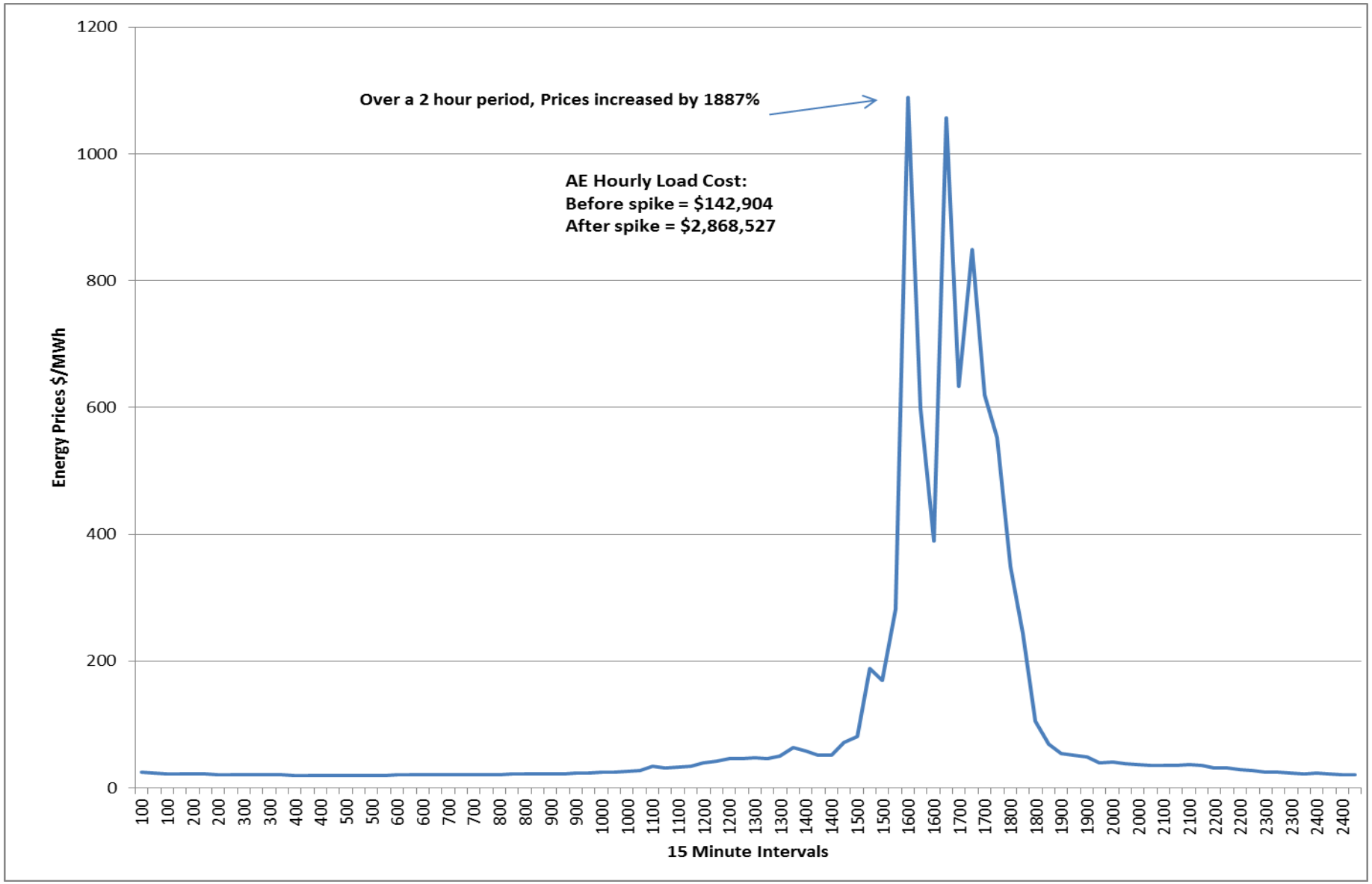
The Cost of Solar Continues to Decline



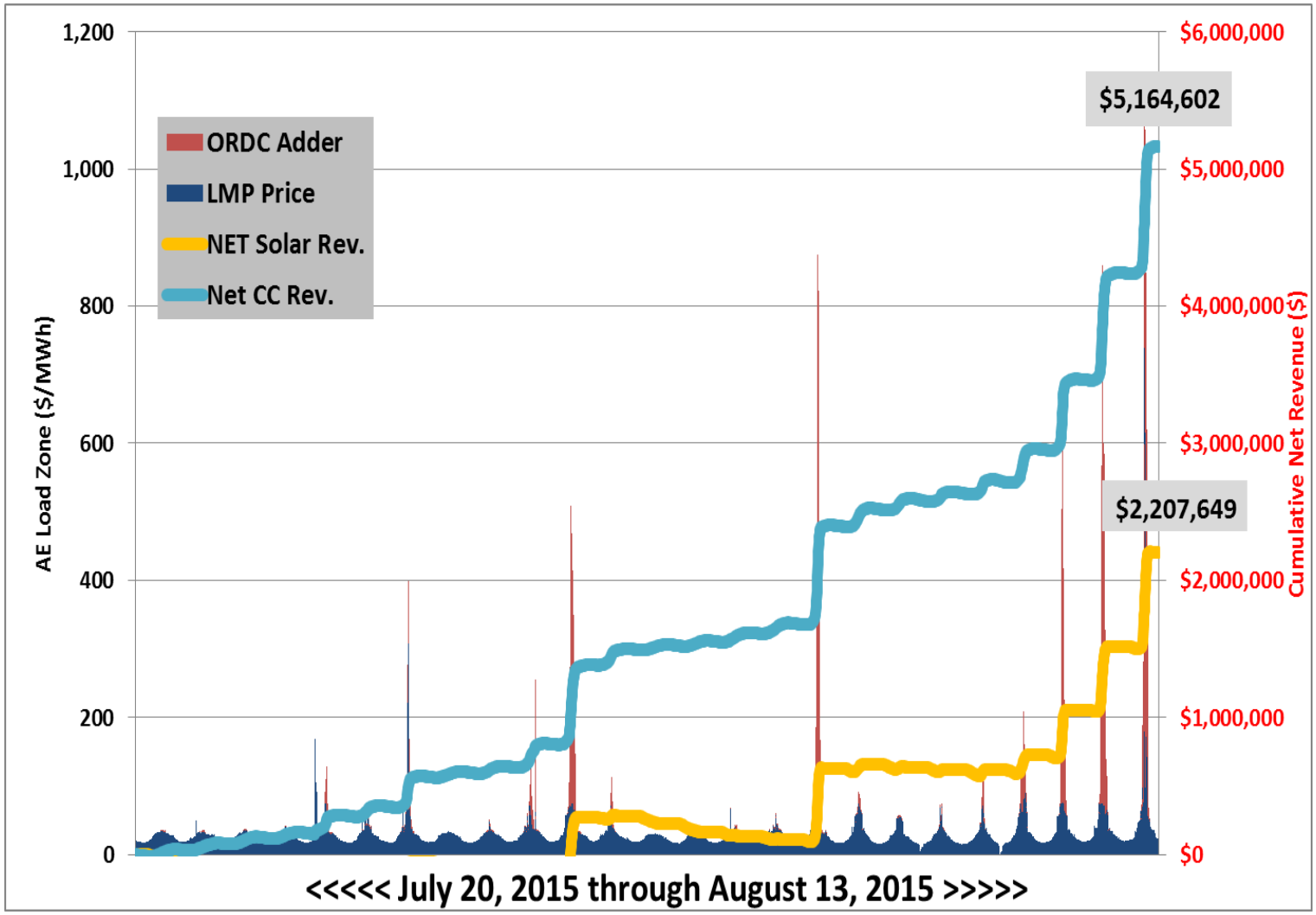
ERCOT Energy Prices (January – August 2015)



Price Volatility in ERCOT (August 13, 2015)



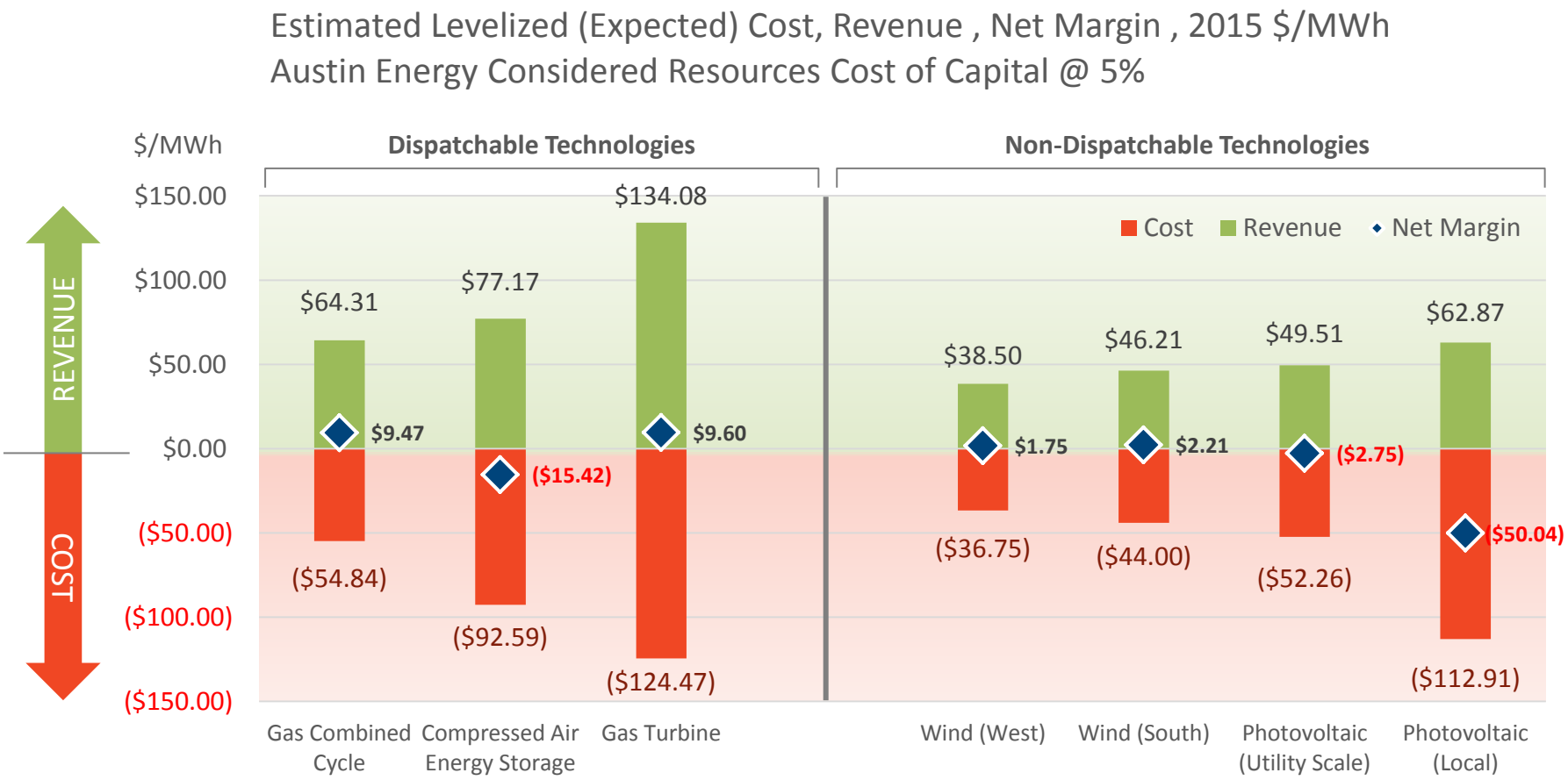
Net Revenue Backcast - Solar PV PPA vs. Combined Cycle (**500 MW Equivalent**)



Key Assumptions:

MW	500
Intervals	2400
CC Capital $/kW	900
Interest Rate	5%
Term Yrs	30
CC Capital $/yr	$29,273,146
CC $/interval	$835.4
CC O&M $/KW-yr	30
CC O&M $	$15,000,000
CC O&M $/interval	$428.1
CC Fixed $/Interval	$1,263.5
CC Heat Rate	6,800
Solar PV	$40.00

Estimated Levelized Cost/Revenue



Note:

- Cost includes Capital, O & M and Fuel
- Levelized cost/revenue assumes 30 year book life
- The cost assumptions are based upon the 2014 resource planning
- The revenue for the local solar is consistent with the Value of Solar Methodology excluding transmission & environmental savings

Net Cashflow – Owning vs. Renting (PPAs)