



Austin Energy Utility Scale Solar Plan

October 15, 2015
City Council Meeting



Options & Impacts to Reach 600 MW

- Four options that step up to 600 MW reflect available projects and their respective sizes

- Bill impacts reflect the mix of projects and are driven by :
 - Quantity additions of 100 to 350 MW
 - Pricing
 - Project prices generally increase as we move from better to lower ranked projects
 - Project Net Revenues
 - Some projects are projected to earn less revenue due to their location (congestion)



Project Combinations and their 2017 \$ Impacts

Project Sizes	Projected Net Revenue =(Cost of PPA – Market Revenues)
Up to 300 MW	< \$ 3.7 > Million
350-400 MW	< \$ 8 > Million
400-450 MW	< \$ 9 > Million
500 -550 MW	< \$ 11 > Million
600-650 MW	< \$ 16 > Million

Values reflect expected outcomes



Project Combinations and their 2017 Bill Impacts

Customer Type	Bill Difference - Up to 300 MW Solar Addition			
	Range - Annual Increase		Range - % Change	
Average Residential	\$3	\$7	0.26%	0.55%
Small Office	\$4	\$8	0.23%	0.48%
Convenience Store	\$43	\$90	0.36%	0.75%
Large Grocery Store	\$1,486	\$3,078	0.34%	0.70%
Medium Tech Firm	\$2,904	\$6,017	0.35%	0.73%
Large Tech Firm	\$10,892	\$22,564	0.41%	0.85%
Extra Large Tech Firm	\$65,350	\$135,384	0.39%	0.82%
Transmission	\$9,558	\$19,802	0.41%	0.84%

Customer Type	Bill Difference - 350 to 400 MW Solar Addition			
	Range - Annual Increase		Range - % Change	
Average Residential	\$7	\$10	0.55%	0.75%
Small Office	\$8	\$10	0.49%	0.65%
Convenience Store	\$91	\$122	0.76%	1.03%
Large Grocery Store	\$3,114	\$4,192	0.71%	0.95%
Medium Tech Firm	\$6,086	\$8,194	0.74%	1.00%
Large Tech Firm	\$22,822	\$30,728	0.86%	1.16%
Extra Large Tech Firm	\$136,931	\$184,371	0.83%	1.11%
Transmission	\$20,028	\$26,967	0.85%	1.15%



Project Combinations and their 2017 Bill Impacts

Customer Type	Bill Difference - 400 to 450 MW Solar Addition			
	Range - Annual Increase		Range - % Change	
Average Residential	\$8	\$11	0.65%	0.88%
Small Office	\$9	\$12	0.57%	0.77%
Convenience Store	\$107	\$144	0.90%	1.21%
Large Grocery Store	\$3,660	\$4,932	0.83%	1.12%
Medium Tech Firm	\$7,155	\$9,641	0.87%	1.17%
Large Tech Firm	\$26,829	\$36,154	1.01%	1.37%
Extra Large Tech Firm	\$160,975	\$216,925	0.97%	1.31%
Transmission	\$23,545	\$31,728	1.00%	1.35%

Customer Type	Bill Difference - 500 to 550 MW Solar Addition			
	Range - Annual Increase		Range - % Change	
Average Residential	\$10	\$13	0.78%	1.04%
Small Office	\$11	\$15	0.68%	0.91%
Convenience Store	\$127	\$170	1.07%	1.43%
Large Grocery Store	\$4,354	\$5,841	0.99%	1.32%
Medium Tech Firm	\$8,511	\$11,416	1.04%	1.39%
Large Tech Firm	\$31,915	\$42,810	1.21%	1.62%
Extra Large Tech Firm	\$191,489	\$256,858	1.15%	1.55%
Transmission	\$28,008	\$37,569	1.19%	1.60%

Customer Type	Bill Difference - 600 to 650 MW Solar Addition			
	Range - Annual Increase		Range - % Change	
Average Residential	\$15	\$19	1.15%	1.49%
Small Office	\$16	\$21	1.01%	1.30%
Convenience Store	\$188	\$244	1.58%	2.05%
Large Grocery Store	\$6,459	\$8,370	1.46%	1.90%
Medium Tech Firm	\$12,626	\$16,361	1.54%	1.99%
Large Tech Firm	\$47,347	\$61,355	1.79%	2.32%
Extra Large Tech Firm	\$284,084	\$368,127	1.71%	2.22%
Transmission	\$41,551	\$53,843	1.77%	2.29%



Approval Authorities for Project Combinations

Project Sizes	Estimated Annual Amount	Estimated Total Over Contract Terms *
<i>Authority approved previously</i>		
Up to 300 MW	\$33,000,000	\$695,000,000
<i>Varying project combinations in incremental tranches</i>		
Up to 400 MW	\$11,000,000	\$110,000,000
Up to 450 MW	\$17,000,000	\$425,000,000
Up to 550 MW	\$27,000,000	\$535,000,000
Up to 650 MW	\$44,000,000	\$ 1,100,000,000

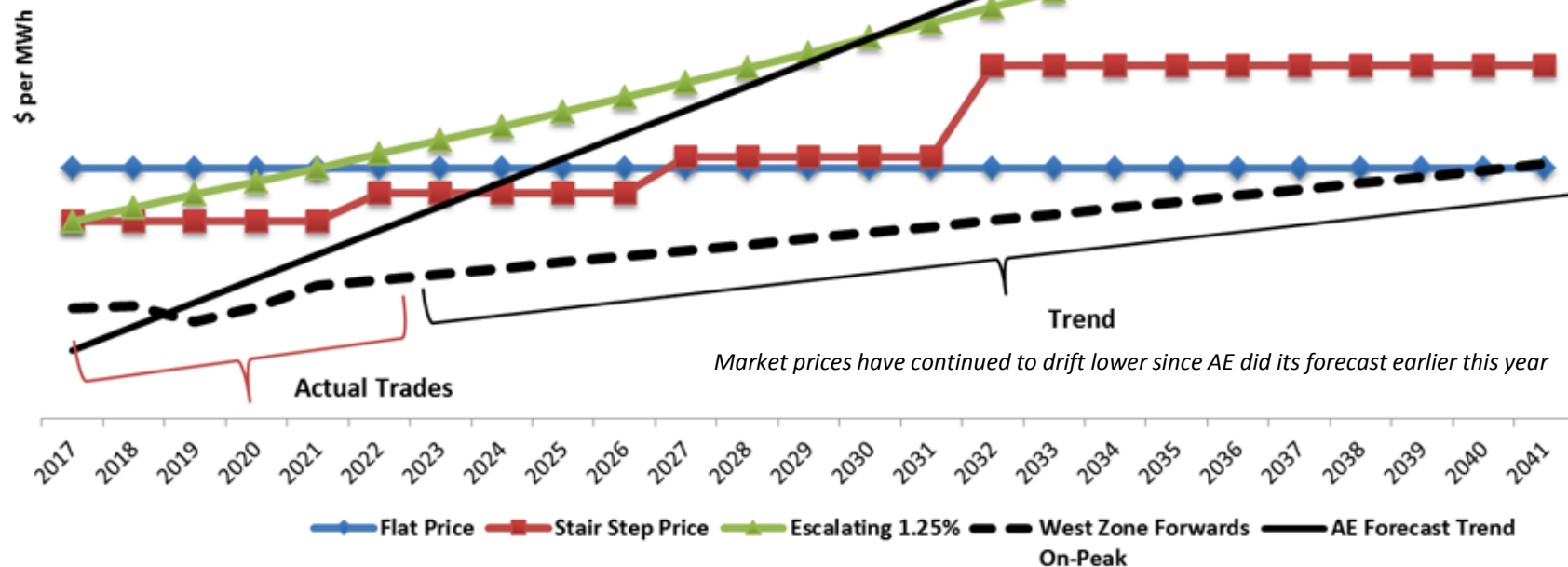
* Contract terms vary from 10 – 25 years



Options to Lower Initial Price Requires Escalations Resulting in Above Market Costs in Later Years

West Zone On-Peak Forward Market vs. Various Solar PV Price Structures

Alternatives are only 5% lower than flat fixed initially but are 15 to 34% higher than the flat price by contract end





Investment Tax Credit vs. Ownership

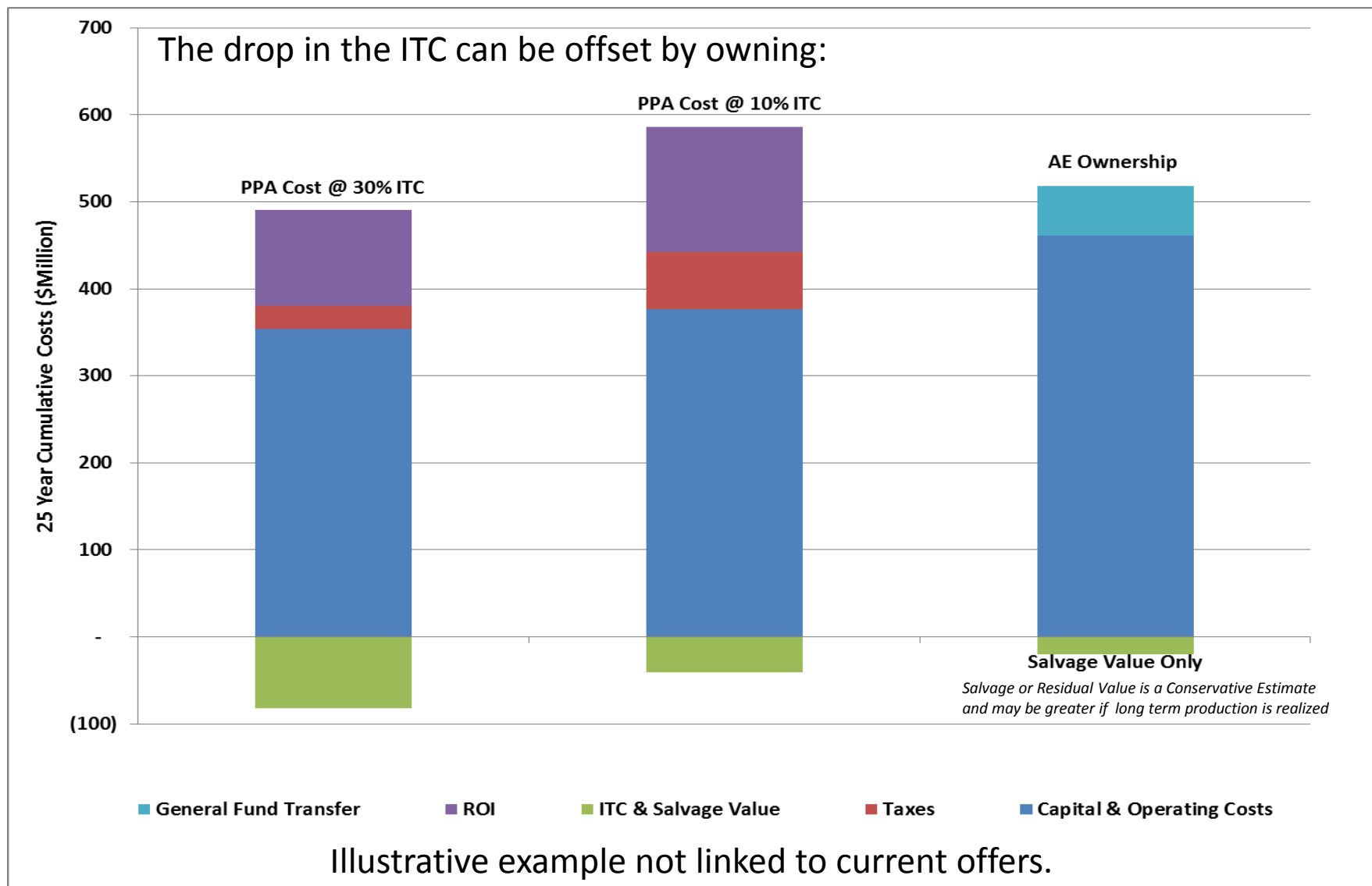
- The Investment Tax Credit (ITC) drop creates two opportunities for AE:
 - Take advantage of a potentially depressed market
 - Take advantage of benefits of moving to an ownership model

- The step-down of the ITC from 30% to 10% after 2016 does not guarantee a sizeable price increase:
 - A handful of offers were received for projects after 2016 that were within +2% of those with a 2016 completion date. This indicates an expected decline in solar cost irrespective of a reduction in the (ITC). This is likely due to supply & demand factors:
 - The 2016 step down has spurred near term demand for both panels and constructors to meet the deadline
 - After the step-down, demand is expected to slacken at least temporarily while panel and construction supply chains are unchanged – this is expected to reduce prices

- These conditions offer AE the opportunity to move from ‘renting’ assets under a PPA approach to owning them over their full life



ITC Decline = Opportunity to Own





Recommendation

Defer additional utility scale solar until after 2017:

- Avoids further cost / competitive pressure
- Maintains Renewable leadership
- Provides the opportunity for lower costs in the future:
 - Solar prices continue downward trend
 - ITC is extended at current level
 - Option to build, own operate
 - Ability to receive EPA Clean Power Plan Early Action Credits for projects built after 2017
- Test the market in 2017 for additional utility scale solar including the possibility of ownership



End