



Value of Solar (VOS)

Update for 2017

Electric Utility Commission – June 20, 2016
Resource Management Commission – June 21, 2016





VOS Assessment Components

Value Component	Basis
Fuel / Energy Value	Avoided cost of fuel to meet electric loads as well as transmission and distribution losses, based on the local solar PV production profile. This is inferred from ERCOT market price data and future natural gas prices.
Plant O&M Value	Avoided costs associated with natural gas plant operations and maintenance by meeting peak load through local solar PV.
Generation Capacity Value	Avoided capital costs of a conventional peaking natural gas plant by meeting peak load through local solar PV, inferred from ERCOT market price data.
Transmission and Distribution Capacity Value	Avoided transmission costs resulting from the reduction in the peak load by local solar PV.
Environmental Compliance Value	Avoided cost to comply with environmental regulations and local policy objectives.



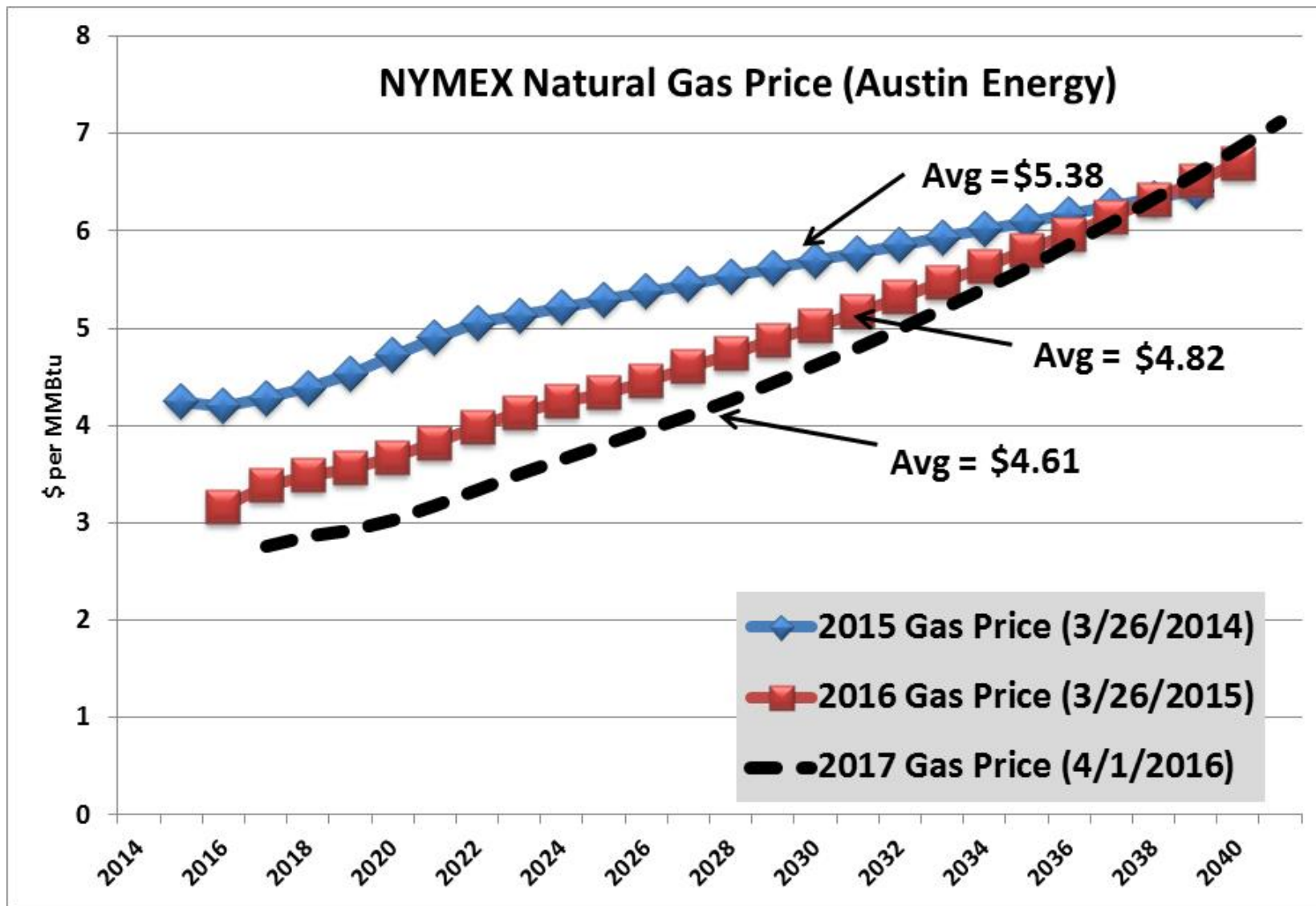
Component Updates

Value Component	2014 Value	2015 Value	2016 Value	2017 Estimate	Value Impact
Base Year	2014	2015	2016	2017	2017
Fuel/Energy Value (NYMEX Natural Gas Price)	Date: 9/23/2013 Avg. \$7.30 per MMBtu	Date: 3/26/2014 Avg. \$5.38 per MMBtu	Date: 3/26/2015 Avg. \$4.82 per MMBtu	Date: 4/1/2016 Avg. \$4.61 per MMBtu	↓
Capacity Value	\$676 per kW	\$690 per kW	\$705 per kW	\$729 per kW	↑
Plant O&M	\$7.04 per kW-yr	\$7.19 per kW-yr	\$7.34 per kW-yr	\$7.65 per kW-yr	↑
Avoided T&D	\$28 per kW	\$41 per kW	\$46.40 per kW	\$50.48 per kW	↑
Discount Rate	Date: 8/27/2013 Avg. 2.27%	Date: 4/01/2014 Avg. 2.72%	Date: 3/25/2015 Avg. 1.95%	Date: 4/01/2016 Avg. 1.91%	↑

1. Updated 2015 VOS Gas Turbine Capital Cost and Fixed O&M to 2017\$
2. The implied market heat rate (8024 btu/kwh) used for energy value calculation has not been updated since 2012 study



Natural Gas Pricing is a Key Driver to Energy Value





Updated Results

2017 Value of Solar Results

	Economic Value (\$/kWh)	Load Match (No Losses) (%)	Distributed Loss Savings (%)	2017 Distributed PV Value (\$/kWh)
Energy Value	\$0.035		4%	\$0.036
Plant O&M Value	\$0.005	100%	6%	\$0.005
Capacity Value	\$0.028	62%	6%	\$0.018
Transmission Value	\$0.026	62%	6%	\$0.017
Environmental Value	\$0.020		0%	\$0.020
Value of Solar (VOS)	\$0.114			\$0.097



VOS Rate

Year	VOS Current Method (Cents/kWh)
2012 (Oct-Dec)	12.8
2013	12.8
2014	10.7
2015	10
2016	9.7
2017 Est.	9.7
5-yr Rolling Avg.	10.6

Current VOS Rate = 10.9