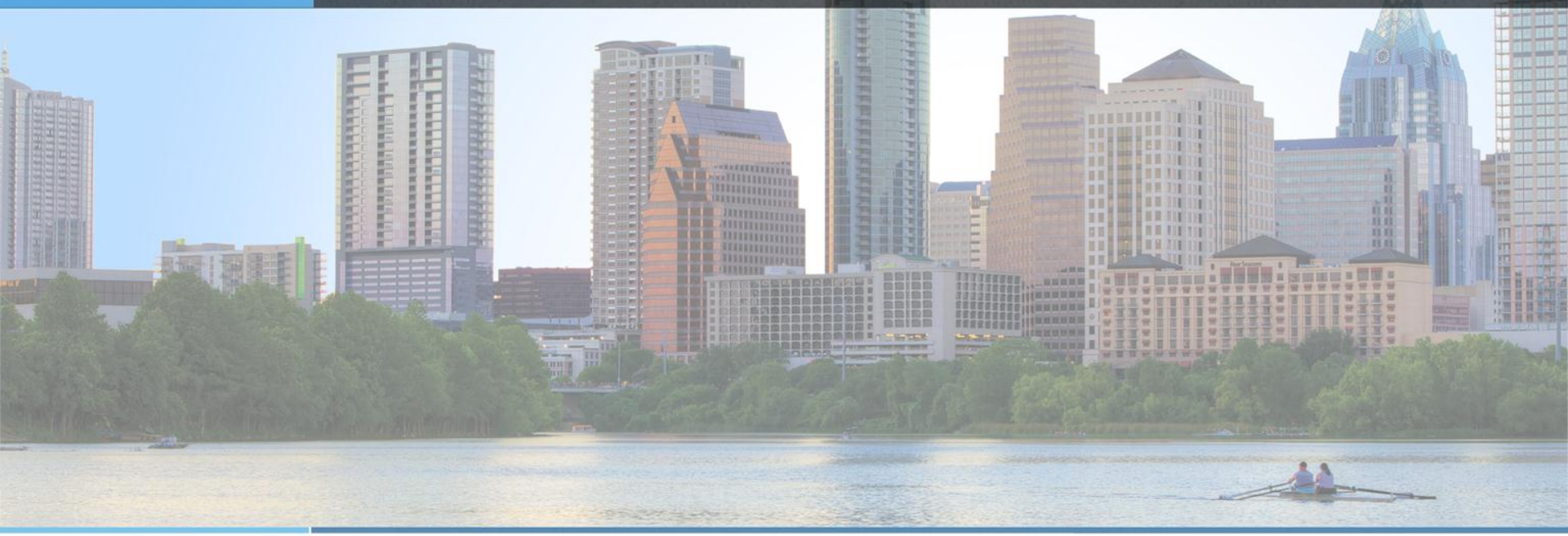
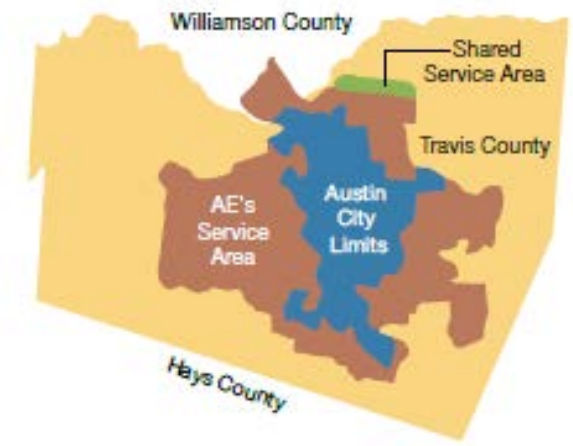
Austin Energy's Residential Solar Rate



Leslie Libby
Austin Energy
Project Manager

Austin Energy - Overview

Austin Energy Service Area



Austin Energy Customer Profile

Customer Type	Customer Total	Customer Percentage
Residential	368,700	89.10%
Commercial	43,489	10.40%
Industrial	80	0.10%
Other	1,601	0.40%
Total	**413,870**	**100.00%**

Projected Overall Generation Portfolio

MEGAWATT CAPACITY

Year	Coal	Nuclear	Gas	Biomass	Wind	Solar	Renewable Portfolio
2013	602	436	1497	112	849	36	27.5%
2014	(602)[1]		1000[2]				27.3%
2015					150	25	31.6%
2016					100[3]	25	29.9%
2017					100[3]	25	30.6%
2018					100[3]	30	31.9%
2019					35	25	32.7%
2020					75	34	35.0%
2021					25		35.0%
2022					25		35.1%
TOTAL	**0**	**436**	**2,497**	**112**	**1,137**	**200**	

Notes:

1) Potential sale of FPP

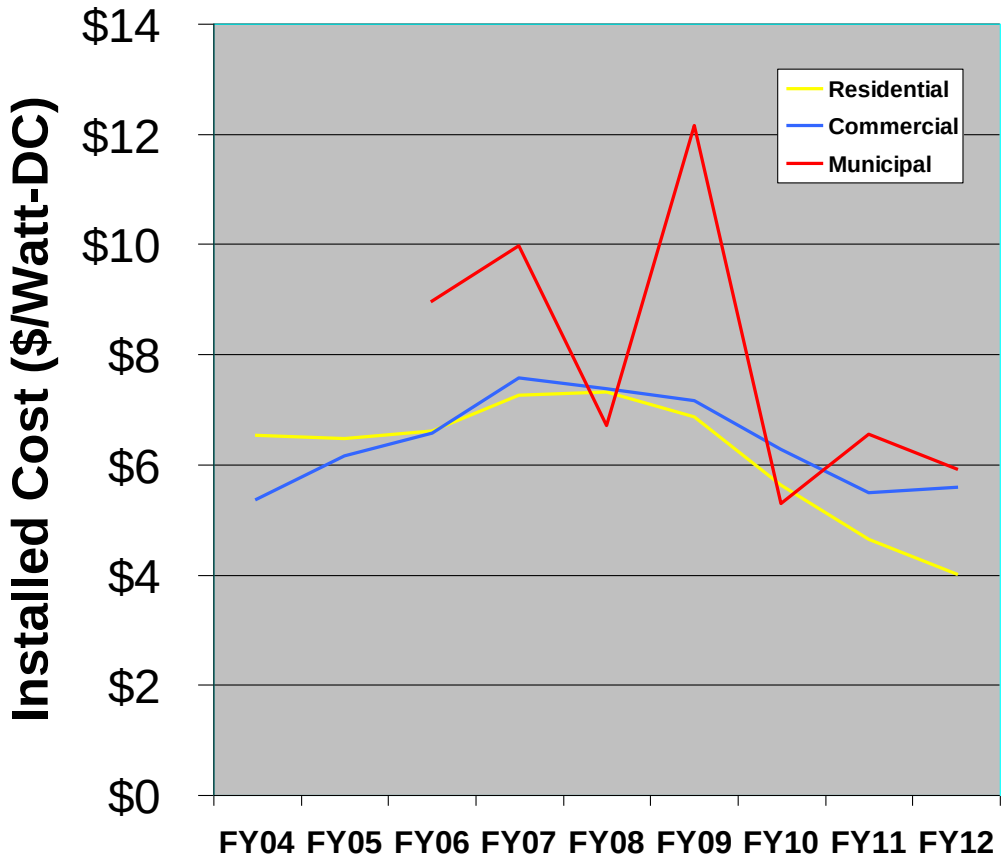
2) Gas Plant Purchase up to 1000 MW

3) Wind Contracts totaling 322 MW expire 2016-2018

AE Solar Goal – 200 MW by 2020

- 2020 Utility Scale Solar Goal 175 MW
  - 30 MW PPA at Webberville
- 2020 Distributed Solar Goal 25 MW
  - Residential – 7.0 MW
  - Commercial – 1.4 MW
  - Municipal and Schools – 1.0 MW
  - TOTAL – 9.4 MW

Installed Cost of Distributed Solar



Residential Solar Programs

- Residential Rebate $2.00/Watt
- Average Installed Cost $3.75/Watt
  - *SEIA Q2 2012 Report - Austin had the lowest installed cost in the nation ($3.88/W-DC)*
- FY04-FY12 Participation - 1918
- FY13 Participation Goals - 660
- Migrated all solar customers from Net Energy Metering to the Residential Solar Rate on October 1, 2013
- Residential Solar Rate $0.128/kWh

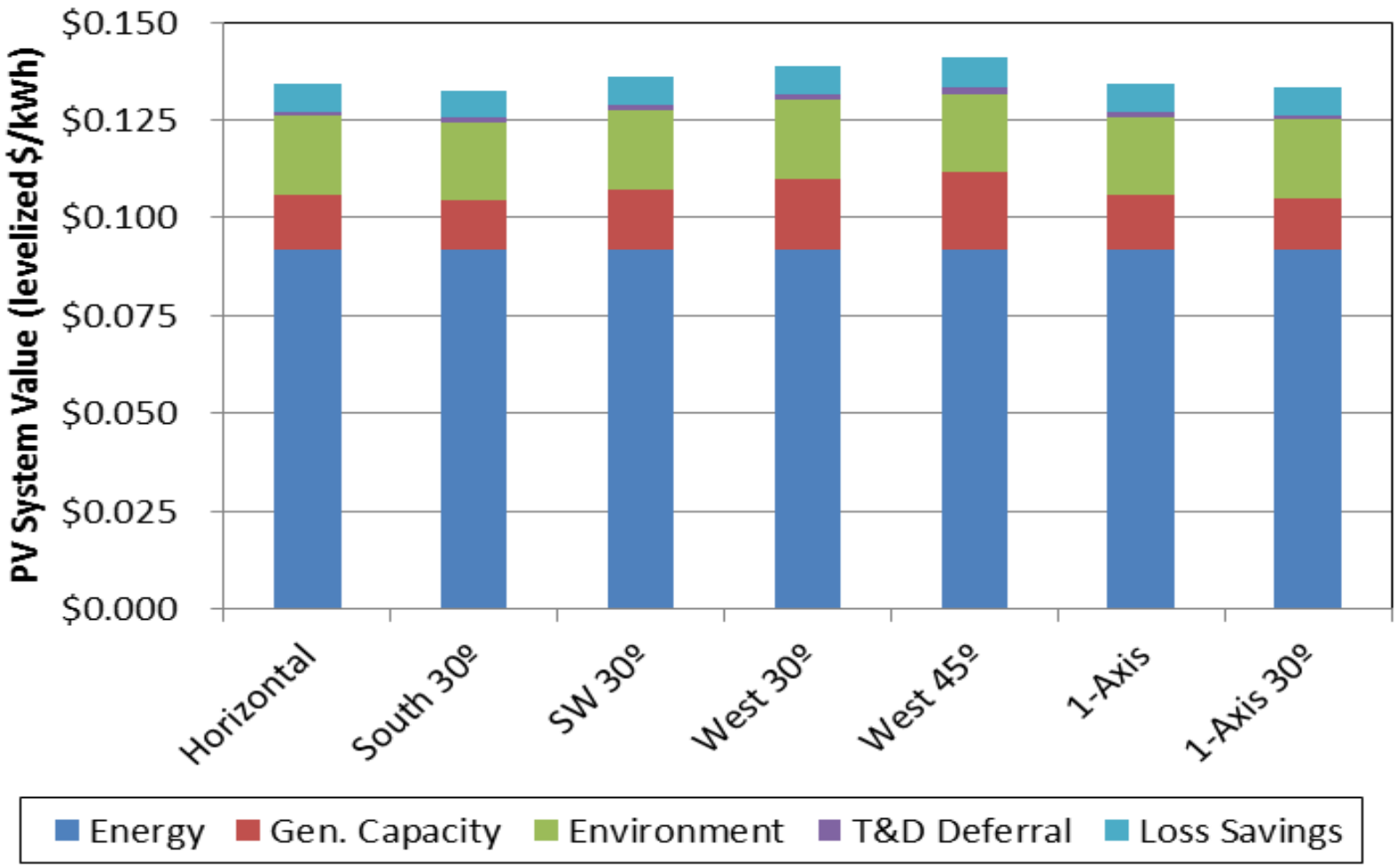
Application of the Residential Solar Rate

1. Customer pays for total consumption at applicable residential rate, plus applicable charges & adders as any other residential customer
2. Austin Energy credits customer for solar production at value calculated using “Value of Solar” (2012 VOS is $0.128/kWh)
3. Credits may be applied to all Austin Energy charges
4. Credits roll forward month to month until the end of the year at which time any carry over credit resets to zero
5. Value of Solar Algorithm is reassessed and applied to the Residential Solar Rate annually

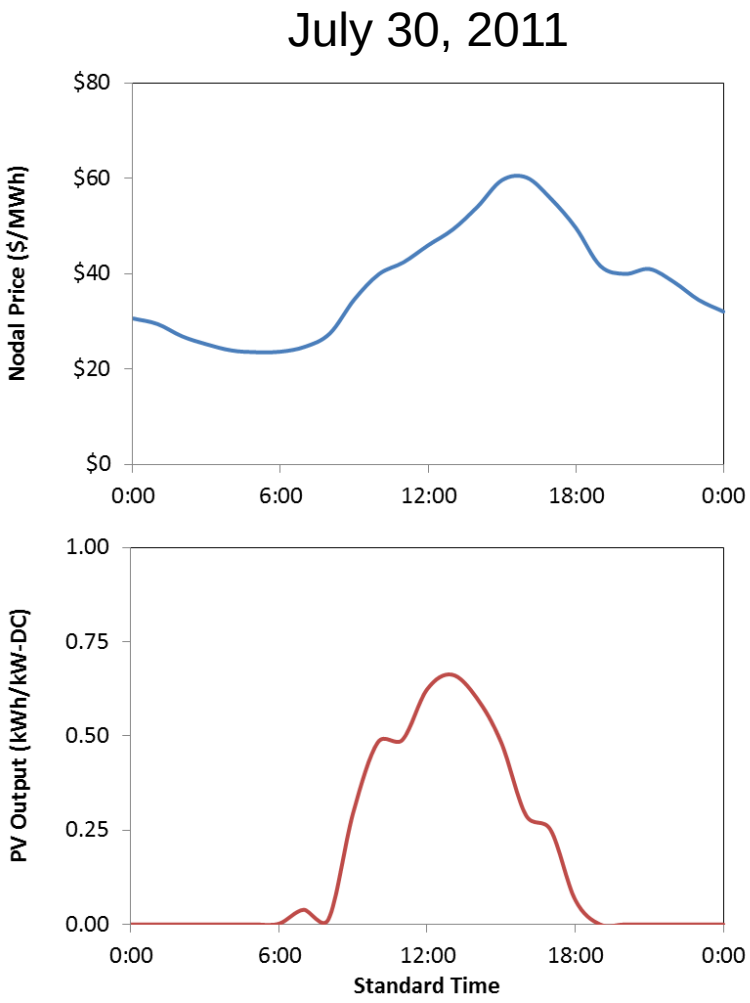
Residential Solar Credit SOLAR VALUES

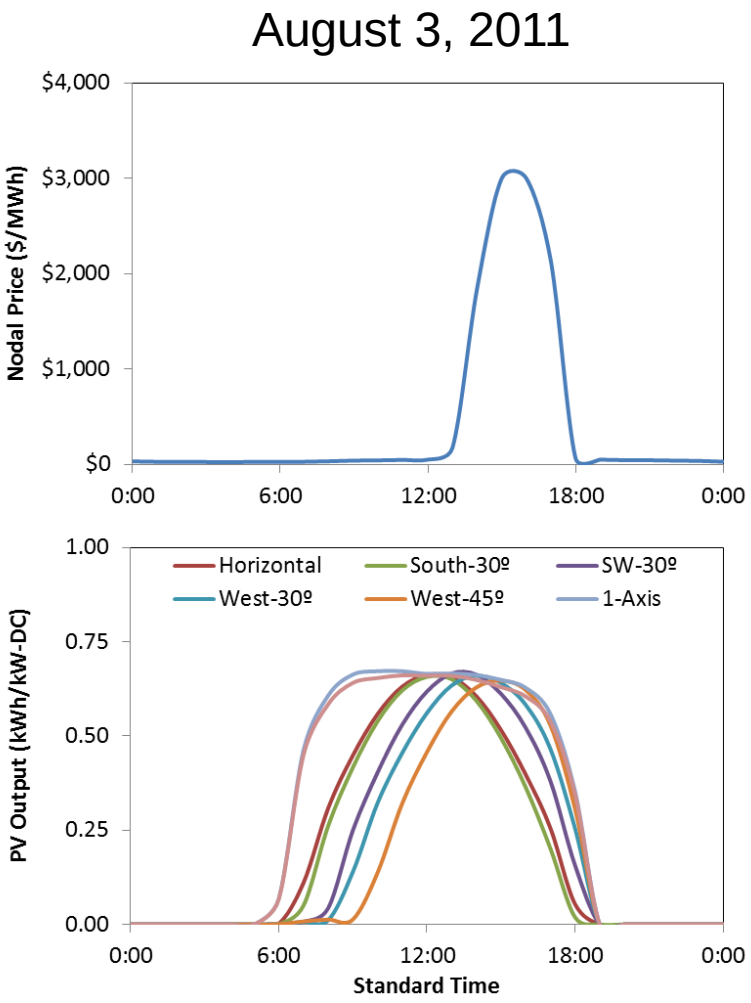
- **Energy:** PV replaces energy produced by marginal unit in real time; PV value is based on cost of energy it replaces
- **Capacity:** PV hourly kW contribution to system multiplied by the capital cost of installing a new gas turbine
- **T&D Deferral:** Expense savings due to adding distributed PV which can defer future T&D capital investments; T&D deferral benefit is location-specific
- **Loss Savings:** PV produces electricity at point of consumption eliminating need for supplemental energy to cover T&D losses
- **Environment:** Based on customer willingness to pay premium prices for green power in Texas

PV Value Results by Component and Configuration



Nodal Price and PV Output





Traditional Net Metering

- Pros
  - First step by utilities to recognize that the solar energy value is at least as much as a unit of energy delivered by the utility
  - Easily administered
- Cons
  - Assigns retail value to solar energy – not representative of the true value of solar
  - No provision to allow utilities to recover full cost of serving solar customers
  - Excess generation is commonly undervalued at the “avoided cost” rate
  - Tiered rate structures create variable solar values.

The VOS Approach

- Pros
  - Decouples solar value from consumption charges
  - Decouples solar value from incentives
  - Keeps utility whole on cost of service
  - Reduces or eliminates class subsidies
  - Allows for over production to be more fairly compensated
  - Enable rate structures that encourage energy efficiency and conservation
  - Annual adjustment prevents over- or under- payment as utility costs change
- Cons
  - Very complex stakeholder process to identify benefits and develop algorithms
  - Customers have difficulty understanding the VOS

Lessons Learned

- Take time to educate stakeholders including:
  - Customers
  - Solar Advocates
  - Local Solar Installers
- Make sure the billing system can handle ALL aspects of the tariff
  - Solar carry over credits were applied to other services such as water and resource recovery
    - Two bills are now sent to solar customers
    - We are considering converting $$ credits to kWh credits
- If accrued credits are wiped out annually, a better time is at the beginning of the Fiscal Year (October 1) rather than January 1.

Contact

Austin Energy– Solar Incentive Programs
811 Barton Spring Rd.
Austin, Texas 78704-1194
p. 512-482-5390
e. leslie.libby@austinenergy.com

Twitter

@austinenergy

Facebook

facebook.com/austinenergy

Questions?