



# Austin's Solar Tool Box

Value of Solar, Community Solar and Solar Leasing

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# Value of Solar Tariff

- Value of solar (VoS) is available to residential customers for solar installations up to 20kW. This takes the place of net metering.
- Residential solar customers have 2 meters.
- Customers are billed for all of the energy they use at the normal tiered residential rates. This includes any energy they produced themselves and used.
- Customers receive bill credits for all of energy that they produce at the current value of solar rate. This includes any energy they produced themselves and used.
- Credits roll over and can be used to offset bills in future months, but customers don't receive checks for the balance.

# Value of Solar Tariff

## What are the values?

- **Energy savings** (avoided wholesale energy purchases)
- **Generation capacity savings** (ability of solar to provide power during peak demand)
- **Fuel price hedge value** (fixed price of solar due to no fuel cost vs. cost to eliminate fuel price uncertainty for natural gas generation through procurement of commodity futures)
- **Transmission & distribution capacity savings** (on site power production delays the need for capital investments in the T&D system)
- **Loss savings** (by producing power in the same location where it is used)
- **Environmental benefits** (equal to the value of purchasing renewable energy credits)

# Value of Solar Tariff

## Current Calculation

- Value of Solar rate is based on the 25-year levelized cost of energy
  - Guaranteed Fuel Value: 5.3¢/kWh
  - Plant Operations and Maintenance Value: 0.5¢/kWh
  - Generation Capacity Value: 1.6¢/kWh
  - Avoided Transmission Capacity Cost: 0.9¢/kWh
  - Avoided Distribution Capacity Cost: 0¢/kWh
  - Avoided Environmental Cost: 2¢/kWh
  - Avoided Losses: 0.4¢/kWh
  - **Total: 10.7¢/kWh**

# Value of Solar Policy Issues

- VoS rate is reassessed annually by Austin Energy.
  - Changes to the VoS formula changes can result in significantly different rates.
  - If VoS decreases significantly, customers feel cheated.
  - A VoS that fluctuates a lot makes it difficult for customers to decide whether or not to invest in a solar system.
- One of the main factors in the VoS calculation is the projected price of natural gas, which is very uncertain.
- At the end of 2013, all balances left in residential customer accounts from VoS credits were reset to zero.
  - Customers weren't happy and Austin Energy no supports changing this policy

# VoS Changes Underway

- The Affordable Energy resolution (Item #157 on 8/28 agenda) includes several VoS fixes:
  - Set VoS using a 5-year rolling average to smooth out yearly changes. (supported by Austin Energy)
  - Allow balances from VoS credits to roll over from year to year. (supported by Austin Energy)
  - Require City Council approval for any VoS formula changes.
  - Adjust methodology for calculating impact of projected natural gas prices.
  - Set floor to VoS, to improve certainty for customers.
  - Remove 20kW cap for VoS.
  - Allow leased solar systems to receive VoS credits.

# Distributed Solar Challenges in Austin

- 55% of Austinites rent their homes; many commercial spaces are rental properties
- Many rooftops are not properly oriented for solar
- Many single family rooftops are shaded
- A 2010 study estimated that only 17 percent of single family rooftop square footage is suitable for solar PV (not excluding rental properties).
- Many residents (and business owners) don't have up-front capital needed for a solar installation and some don't have access to attractive financing either.

# Community Solar to the Rescue

- Community solar increases local solar capacity and improves solar equity by expanding access to solar.
- Community solar is a solar installation that multiple customers own, lease or subscribe to in order to receive energy and/or financial benefits.
- Community solar is often, but not always, locally sited.
- Community solar installations come in a variety of sizes.

# Community Solar Models

- Community solar can be facilitated by for profit or non-profit companies, community groups or utilities.
- Sell portions of the installation (pay up front per kW)
- Lease portions of the installation (pay monthly per kW)
- Subscribe to energy output from the installation (pay monthly per kWh)
  - Could be output from fixed % of the installation
  - Could be fixed amount of energy (kWh)
  - Rate could be fixed, based on cost of single system
  - Rate could vary with overall cost of program

# Austin Community Solar

- Austin Energy doesn't currently allow outside companies or other groups to administer community solar programs – would require virtual net metering
- Austin Energy is developing a community solar program
  - East Austin site has been selected
  - Request for proposals (RFP) closed in May
  - Method for customer participation has not been determined

# Solar Leasing

- Customer leases solar system from company and energy produced from system reduces his or her electric bills.
- Austin Energy currently allows solar leasing for non-profit organizations.
- Residential and commercial solar leasing is popular in other places.

## Pros

- Expands distributed solar market, because people can get solar with no or low down payment
- Any repairs and maintenance are generally covered by the leasing company.

## Cons

- Customer doesn't get as much value as from owning a solar system.
- If customer sells his or her home, the new buyer must assume the lease obligation or else there will generally be a penalty for breaking the lease and removing the solar system.