



Residential Solar Incentive Program Update

Resource Management Commission
February 20, 2018





Solar Incentive Program Directives

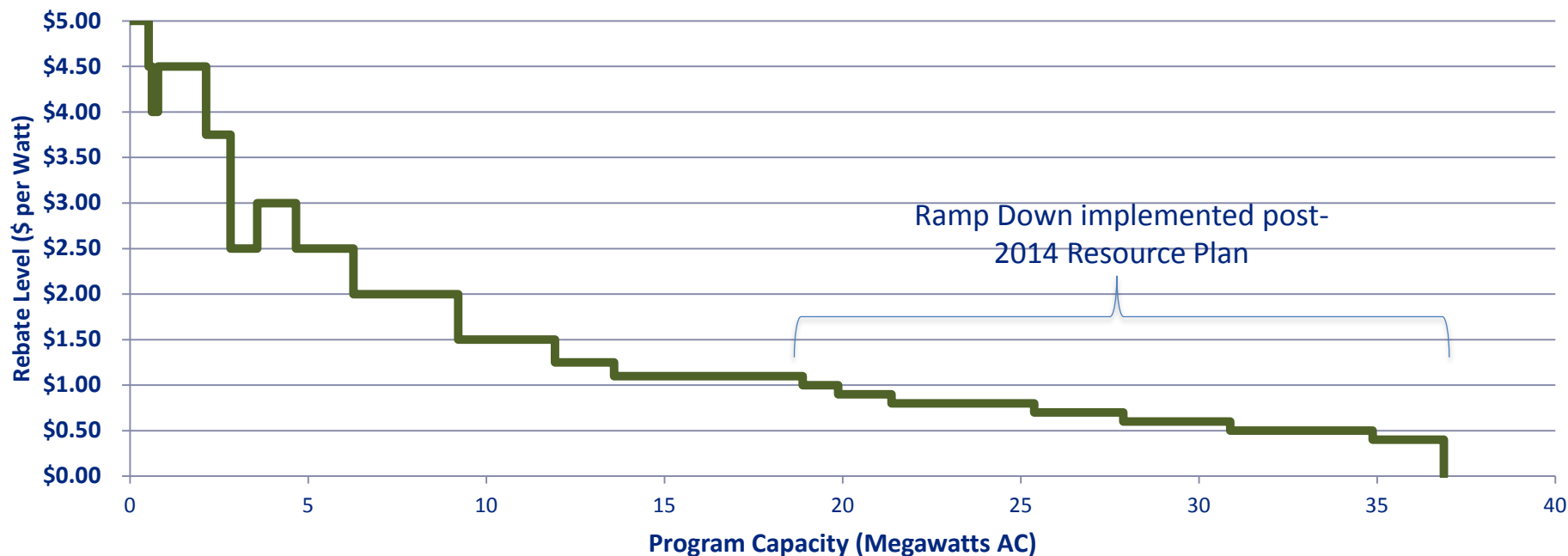
- 2014 Austin Energy Resource & Generation Plan
 - Set Local Solar goal of 200 MW by 2025, with at least 100 MW customer-sited
 - Interim goal of 110 MW by 2020, with 70 customer-sited
 - Called for a ramp down of solar incentives through 2020 or when 70 MW of customer-sited solar is achieved, whichever comes first
- AE Resource, Generation & Climate Protection Plan to 2027
 - Reiterated 2014 Plan's solar goals
 - Committed a local solar budget of \$7.5 million in FY18 and FY19 followed by \$5 million per year for FY2020 thru FY2027.
 - Committed to study and possibly pilot a utility-managed rooftop solar program.
 - Committed to enhanced incentives and/or programs for affordable housing projects by FY 2018.
- Austin City Council Resolution 20171005-033
 - Set a goal of \$500,000 in FY18 budget towards incentives and solar programming to increase solar energy adoption and access for underserved markets including multifamily affordable housing, low-income residents, renters, and non-profits.



Residential Solar Rebate Ramp Down

- In 2015, Austin Energy implemented a capacity-based ramp down that would provide transparent tracking of incentive levels and progress toward the capacity goal as called for in the 2014 Resource & Generation Plan.
- The residential program is currently in the last tier (\$0.40/W), with 0.4 MW of capacity remaining. (Tracker: www.austinenenergy.com/go/currentsolar)

AE Residential Solar Rebate Ramp Down (2004-2018)





AE Solar Incentive Budget and MW

	Program	Incentive Rate	Budget Spent (\$MM)	Future Budget Commitments (\$MM)	MW-ac	# of projects
2004 to end FY17	Residential Solar	Varies	\$57.8		29.1	6254
	Commercial Solar	Varies	\$12.0	\$14.0	15.6	335
	Municipal, Schools and Non-Rebated Solar	n/a			5.9	204
	Total through end FY17		\$69.8	\$14.0	50.5	6793
Remaining Ramp Down*	Residential Paid or Reserved	Varies		\$2.7	5.5	912
	Residential Ramp Down Remaining	\$0.40/W		\$0.5	1	200
	Commercial PBIs Reserved	4-6 cents/kWh		\$1.2	1.6	15
	Commercial PBIs Remaining	2-6 cents/kWh		\$9.7	14.2	100
	Total Capacity and Budget		\$69.8	\$28.0	74	8020

*As of beginning FY18



Stakeholder Meetings & Feedback

- Austin Energy has hosted stakeholder meetings since August to gather input on the next phase of the residential solar program:
 - August 17, 2017 Solar Contractor Meeting break out discussions
 - Aug 30, 2017 Residential Solar Rebate Contractor Round Table
 - Dec 12, 2017 RMC meeting
 - Dec 14, 2017 Solar Contractor Stakeholder meeting
 - Jan 9, 2018 Residential Solar Stakeholder meeting





Solar Education Program

- Customers will take an online or in-person class to learn about solar, system design basics, incentives and financing options, comparing bids and selecting a contractor
- Upon passing a short quiz, they are able to start an application for the solar incentive
- Incentive will be a flat amount per install
 - Minimum size and production factor required
 - Must be installed by a Participating Contractor
 - Reduced paperwork and review time
 - Faster installation completion timeline
 - All customers receive the same incentive amount, regardless of home size, improving equity





Solar Curriculum & Resources

- The training is now under 30 minutes
 - Stakeholder input has been integrated
 - Printable/offline versions will be available
- Additional resources will be provided, including checklists to assist customers with contractor, equipment and site selection, documentation gathering, and post installation concerns, incl:
 - Questions to ask contractors
 - Bid comparison worksheet
 - Glossary of solar terms and vocabulary
 - List of documents to request and keep on file





What Topics Are Covered in the Solar Ed Course?

- How Solar Works
 - Technology basics, vocabulary, kW vs. kWh, consumption vs. production
- Right Sizing and Value of Solar
 - How to determine how much solar you need
 - Efficiency first!
 - How solar affects your electric bill
- Solar Access
 - Properly siting solar, avoiding shade
- Solar Equipment Decisions
 - What equipment is right for you
- Incentives and Financing
 - What is available, how it works
- Receiving and Comparing Proposals
 - What to consider
 - How to compare apples to apples
 - Questions to ask contractors
- Documentation & Maintenance
 - What documents to keep and why





Contractor Participation Requirements

- AE will maintain Participating Contractors List, participation requirements, and mandatory contractor meeting attendance.
 - Applications will be randomly selected for deeper review for compliance with program requirements.
 - Non-conformance with Contractor Handbook or Program Guidelines will result in warning, suspension, then removal from program.
- NABCEP requirements
 - NABCEP certified installers will still be required to endorse designs.
 - Each company will not be required to employ a NABCEP certified installer full time
 - Systems must be designed to produce at least 1,200 kWh/kW/year





Consumer Protection

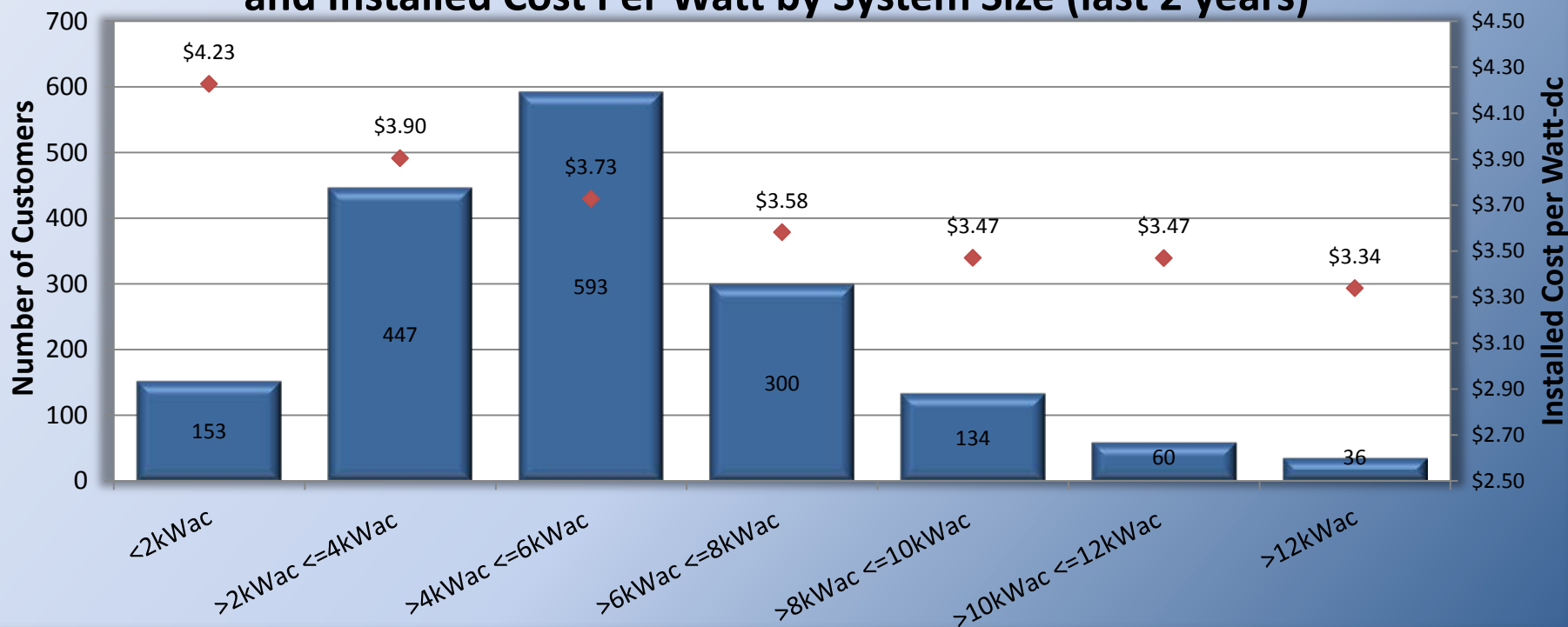
- Participating Contractors must allow customers out of signed contracts without penalties until AE training is taken by the customer and they provide contractor with link to their rebate enrollment.
- Austin Energy will capture make, model and quantity information on each enrollment, which will be verified at the final inspection.
 - Customer will be given the equipment details through automated communications, and advised on documents to maintain for warranty claims or future maintenance.
- Austin Energy will continue to require a 10 year workmanship warranty.
- Austin Energy will publish the recent installed costs per Watt as a range on the website.



System Size and Installed Capacity

- Average system installed since 2017 is 5.7 kW-ac (6.9 kW-dc)
- Program will require at least 3 kW per installation moving forward
- Only 5% of systems are over 10 kW; driving factor is not incentive, it is electric use and available roof space. Economies of scale reduce cost per watt for larger systems, making additional incentives unnecessary.

**Number of Customers per Capacity Bin since January 2017
and Installed Cost Per Watt by System Size (last 2 years)**





City of Austin - Austin Energy Customer Energy Solutions

Danielle Murray

Manager, Solar Energy Services

p. 512.322.6055

e. danielle.murray@austinenenergy.com

Twitter

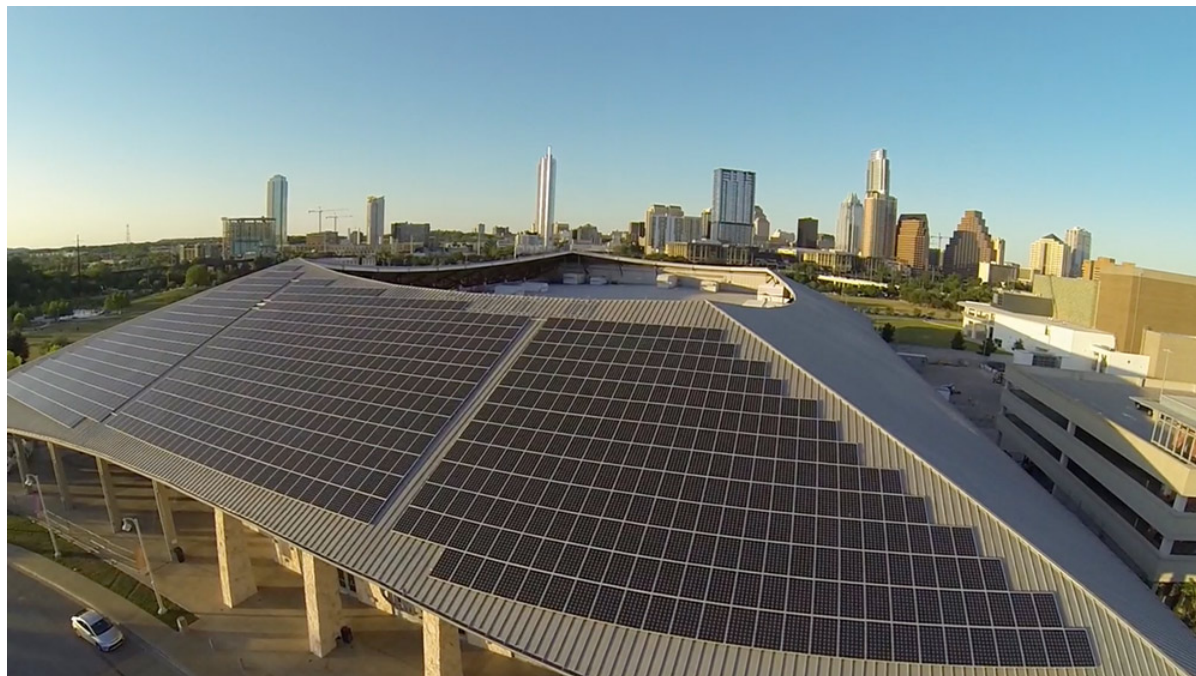


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Questions?



How AE's Solar Ed Program Works

- Interested solar customers will get general information from our website informing them that upon completion of the Solar Ed course they will receive a flat incentive.
- The website will present a link to the Solar Education program.
- The program will consist of a short series of webinars aimed at introducing the customer to basic concepts they need to know to make informed solar purchasing decisions.
- The last module will link the customer to the enrollment page of our web-based application processing tool.
- There the customer will provide basic information to initiate an application and will be given a short test.
- Upon passing the test the customer will be provided a link. This link can be given to the Participating Contractor of their choice who will take over the incentive application on the customers behalf.
- Once the system passes inspection the customer is mailed the incentive check



Increase in Non-Rebated Solar

Solar Installations in Austin Energy Territory (2017)

Total installed	1390
Total through incentive program	1027
Total outside incentive program	363
Percent installed without incentive	26%

Must balance program requirements and timelines with incentive level to maintain participation & consumer protections.



Current vs Future Process

Workflow Step	Current Process		Proposed Process	
	Required Workflow Step	Typical number of days in step	Required Workflow Step	Typical number of days in step
Application - New	x		x	
Application - In Review	x	14		
Pre-Inspection	x	7	x	7
Installation	x	60	x	60
Document Review	x	14	x	7
Post-Inspection	x	14	x	14
QA-Review	x	7		
QA-Correction	x	7		
Initiate Payment	x	7	x	7
Total	9	130	6	95



Current vs Future Required Documents

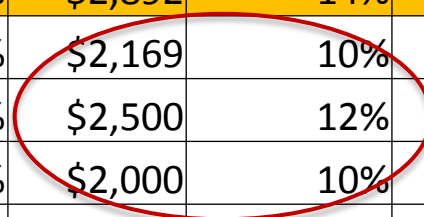
Required Documents	Current Process	Proposed Process		
	In EECF	In EECF	With Permit	Customer Retains
Proposal	x			x
Customer Agreement	x	x		
Layout	x		x	x
Photos	x			x
Serial Numbers	x			x
String Sizing Calculations	x		x	
Microgen Listing Form	x	x		
Wiring Diagram	x		x	
Warranty	x	(required per Contractor Handbook - spot check)		x
Invoice	x	x		x
Number of Required Documents	10	3	3	



Comparison of Incentive Levels and Percent of Installation Cost Offset

Residential PV Install		Small		Average		Large	
System Size (ac)		3 kW-ac		6 kW-ac		10 kW-ac	
System Size (dc)		3.6 kW-dc		7.2 kW-dc		12.0 kW-dc	
Avg Installed price		\$10,500		\$21,000		\$35,000	
Incentive rate		Rebate	% of Installed Cost	Rebate	% of Installed Cost	Rebate	% of Installed Cost
\$0.60	per Watt-dc	\$2,169	21%	\$4,337	21%	\$7,229	21%
\$0.50	per Watt-dc	\$1,807	17%	\$3,614	17%	\$6,024	17%
\$0.40	per Watt-dc	\$1,446	14%	\$2,892	14%	\$4,819	14%
\$0.30	per Watt-dc	\$1,084	10%	\$2,169	10%	\$3,614	10%
\$2,500	per install	\$2,500	24%	\$2,500	12%	\$2,500	7%
\$2,000	per install	\$2,000	19%	\$2,000	10%	\$2,000	6%
\$1,500	per install	\$1,500	14%	\$1,500	7%	\$1,500	4%
\$1,000	per install	\$1,000	10%	\$1,000	5%	\$1,000	3%

Current incentive





Solar Ed Program Benefits

- **Strengthens the relationship between the Customer and the Utility**
 - As customers' trusted go-to solar advisor, AE solar staff can be relied on to provide accurate and useful information, absent financial motivators
- **Informed solar shoppers that will...**
 - Be better prepared to speak with contractors and compare bids
 - Be more likely to install a system that meets their needs and desires
 - Be more likely to get a better pricing, potentially saving thousands of dollars
 - Have realistic expectations of benefits, bill impacts, and project timelines
- **The local solar industry will benefit by**
 - Incentive that attracts customers, lowers cost barriers
 - Better informed customers and less time educating customers
 - Significantly reduced paperwork, installation and incentive processing timelines
 - Greater customer retention thanks to faster project completion
 - Higher customer satisfaction leading to increased market participation
- **Austin Energy will benefit by**
 - Better informed and more satisfied customers
 - Less time reviewing files and processing paperwork
 - More staff time to dedicate to new programs to expand access to solar



Residential Capacity Based Incentive Program

- From 2004 to November of 2017 the Residential Solar Incentive Program has distributed over \$58M and spurred the development of 30 MW of installations at over 6,300 homes.
- In 2015, Austin Energy implemented a capacity-based ramp down as called for in the 2014 Resource & Generation Plan, gradually phasing out incentives.
- The residential program is currently in the last tier (\$0.40/W), and has 1.5 MW of capacity remaining. (Tracker: www.austinenenergy.com/go/currentsolar)
- Upon the closing of the residential capacity based incentive, Austin Energy is planning to open a new residential Solar Education Program.

