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NEW APPLICATION



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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission

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AZ CORP COMMISSION
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IN THE MATTER OF THE APPLICATION OF)
TUCSON ELECTRIC POWER COMPANY FOR)
APPROVAL OF ITS 2013 RENEWABLE)
ENERGY STANDARD IMPLEMENTATION)
PLAN AND DISTRIBUTED ENERGY)
ADMINISTRATIVE PLAN AND REQUEST FOR)
RESET OF ITS RENEWABLE ENERGY)
ADJUSTOR.)

DOCKET NO. E-01933A-12-0296

APPLICATION

Tucson Electric Power Company ("TEP" or "Company"), through undersigned counsel, hereby submits its 2013 Renewable Energy Standard and Tariff ("REST") Implementation Plan ("Plan") for Arizona Corporation Commission ("Commission") approval, in compliance with Arizona Administrative Code ("A.A.C.") R14-2-1801, *et seq.*

TEP's Plan is designed to achieve 2013 REST compliance as cost-effectively as possible. The 2013 Plan incorporates the renewable energy resources the Company intends to add through 2017, the programs it plans to implement, including previously Commission-approved programs, the budgets for each program, and the customer funding required under the Plan. The estimated cost for 2013 related projects and programs is \$45.5 million. TEP proposes to recover \$41.1 million through the REST tariff; \$4.3 million less than the overall budget as a result of applying carryover funds from 2011 to the 2013 budget. In order to implement this Plan, TEP requests approval of a 2013 REST surcharge of \$0.008 per kWh.

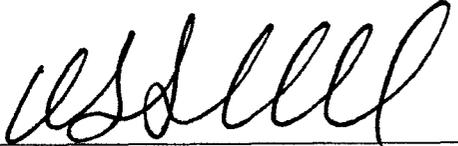
TEP remains solidly committed to the REST and its Plan provides for renewable generation to meet the 2013 compliance requirement of four (4) percent of retail sales (or 376,200 megawatt hours ("MWh")). The Company has entered into new agreements with developers for the construction of renewable generation and is moving forward with plans to construct its own renewable generation.

1 TEP believes that its Plan provides a cost-effective strategy for complying with the REST
2 requirements. Accordingly, TEP requests that the Commission;

- 3 1. Approve TEP's 2012 Renewable Energy Implementation Plan prior to December 31, 2012;
4 and
5 2. Approve the proposed REST surcharge of \$0.008 per kWh.

6 RESPECTFULLY SUBMITTED this 2nd day of July 2012.

7 TUCSON ELECTRIC POWER COMPANY

8
9 By 

10 Bradley S. Carroll
11 Tucson Electric Power Company
12 88 East Broadway Blvd., MS HQE910
13 P. O. Box 711
Tucson, Arizona 85702

14 and

15 Michael W. Patten
16 Roshka DeWulf & Patten, PLC
17 One Arizona Center
400 East Van Buren Street, Suite 800
18 Phoenix, Arizona 85004

19 Attorneys for Tucson Electric Power Company

20
21
22 Original and 13 copies of the foregoing
filed this 2nd day of July 2012, with:

23 Docket Control
24 Arizona Corporation Commission
1200 West Washington Street
25 Phoenix, Arizona 85007

26
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1 Copies of the foregoing hand-delivered/mailed
this 2nd day of July 2012, to:

2 Lyn Farmer, Chief Administrative Law Judge
3 Hearing Division
4 Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

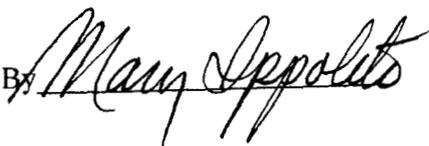
5 Janice M. Alward, Chief Counsel
6 Legal Division
7 Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

8 Steve Olea, Director
9 Utilities Division
10 Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

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By 

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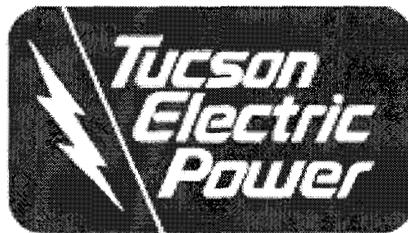
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A UniSource Energy Company

Tucson Electric Power Company

**2013 Renewable Energy Standard
Implementation Plan**

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ATTACHED EXHIBITS

- Exhibit 1 Energy, Capacity, and Cost Forecast
- Exhibit 2 Summary of Customer Survey
- Exhibit 3 Renewable Energy Credit Purchase Program
- Exhibit 4 Compliance Floor Visuals
- Exhibit 5 Definition of Market Cost of Comparable Conventional Generation
- Exhibit 6 Above Market Cost of Comparable Conventional Generation by Technology
(Confidential)
- Exhibit 7 REST Budget
- Exhibit 8 REST – TS1 Renewable Energy Standard Tariff
- Exhibit 9 REST – TS2 Renewable Energy Standard Tariff (Customer Self-Directed Renewable
Energy Option)
- Exhibit 10 Customer Load Percentage Analysis

I. EXECUTIVE SUMMARY

Tucson Electric Power Company (“TEP” or “Company”) hereby submits its 2013 Implementation Plan (“Plan”) in compliance with the Arizona Corporation Commission’s (“Commission”) Renewable Energy Standard (“REST”) Rules pursuant to Arizona Administrative Code (“A.A.C”) R14-2-1813. The cost-effective strategy set forth in the Plan demonstrates TEP’s commitment to fulfilling the REST Renewable Energy Requirements for 2013 and beyond. The key components of the Plan include: new renewable energy resources to be added through 2017; proposed and existing Company programs; the budgets for each of those programs; and the customer funding and related REST tariff. TEP requests the Commission approve the Plan, as well as the associated budget and tariff, prior to December 31, 2012 to be effective January 1, 2013.

Pursuant to A.A.C. R14-2-1804 and R14-2-1805, TEP must obtain four (4) percent of its 2013 annual retail sales from renewable resources - and thirty (30) percent of that four percent must come from Distributed Generation (“DG”). In order to meet this requirement, TEP proposes to utilize existing utility scale renewable generation and credits; Power Purchase Agreements (“PPA”) with renewable developers; new utility-owned renewable generation, and DG incentive programs.

The Plan utilizes the most cost-effective measures to achieve 2013 REST compliance. The estimated cost for 2013 REST related projects and programs is \$45.5 million. Under the proposed incentive levels (which have been modified from 2012 Plan levels) and the anticipated renewable generation requirements, the \$45.5 million is expected to remain relatively flat through 2017, adding up to a five year combined total of \$242 million. (See Exhibit 1 for estimated projected budgets thru 2017.) The REST funding is necessary to cover the cost of utility scale renewable generation, to make incentive payments for DG resources, to implement the programs, to create education and outreach programs, and to cover administration costs. For 2013, TEP proposes to recover approximately \$41.1 million through the REST tariff; this is \$4.3

million less than the overall budget because of the application of carryover funds from 2011 through 2013 budgets. This recovery also includes a residential budget of \$3.5 million for up-front incentives to meet the 2013 compliance target.

For the Plan, TEP conducted a comprehensive customer survey and hosted a series of stakeholder workshops to assist in developing a Plan consistent with the needs of the utility, and the interests of TEP's, customers and the stakeholder community. Exhibit 2 contains an executive summary of the customer survey.

TEP's Plan provides a realistic and cost-effective strategy for complying with the REST requirements. Therefore, TEP requests Commission approval of the Plan, and find that it is in the public interest.

II. TEP 2013 IMPLEMENTATION PLAN COMPONENTS

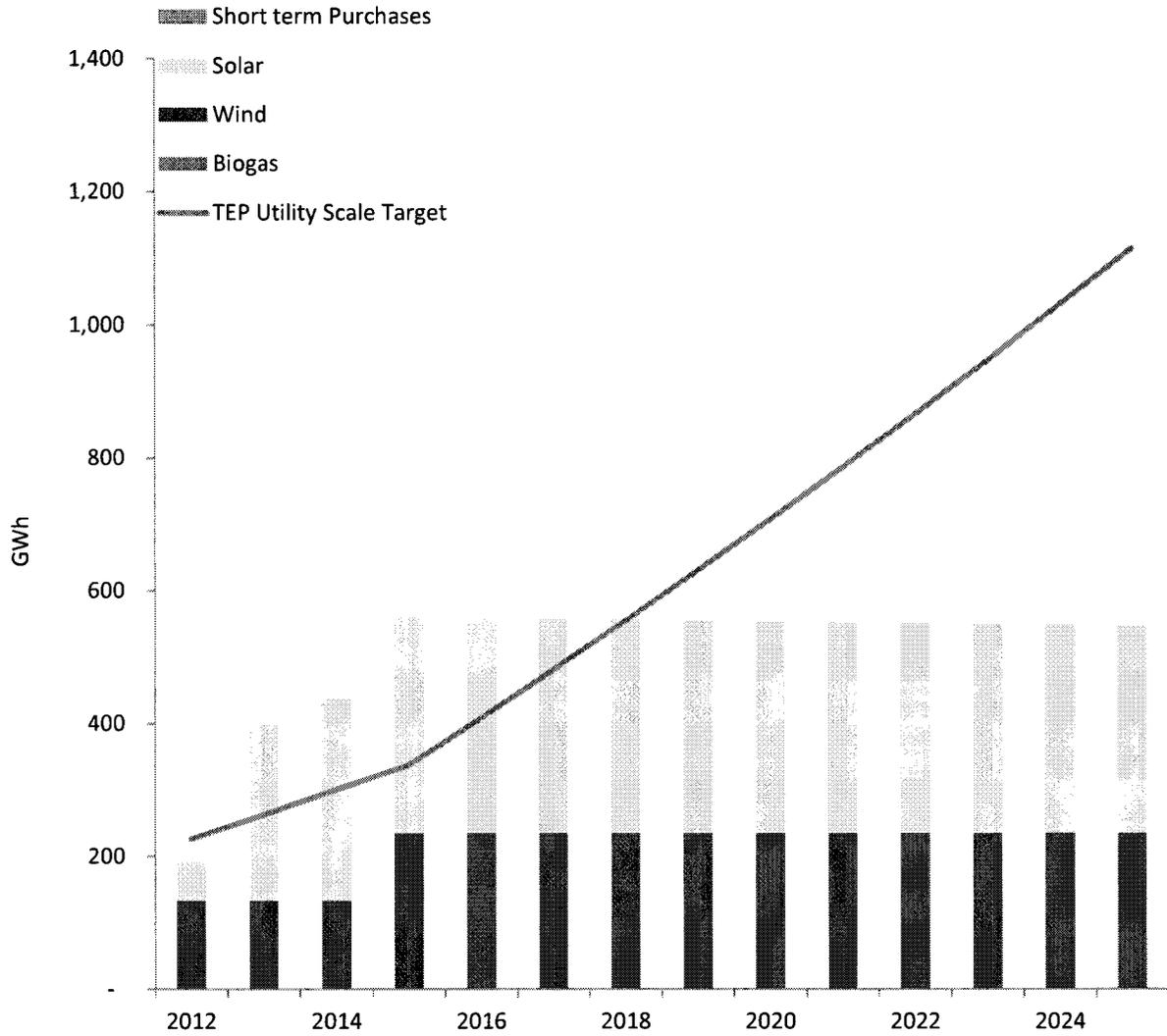
For 2013, TEP's total expected renewable generation requirement is four (4) percent of retail sales or 376,200 megawatt hours ("MWh"). The REST targets two resource categories: utility-scale generation and DG. TEP intends to expand its utility-scale generation portfolio and enhance its Bright Tucson programs.

A. Utility-Scale Renewable Generation

TEP will meet the 2013 utility-scale requirement by having renewable generation capacity of 217 megawatts ("MW") direct current ("DC") in place by the end of 2013. Of the 217 MW, 185 MW will come from renewable PPAs currently in effect or with anticipated completion dates in early 2013. The remaining 32 MW will come from TEP-owned renewable facilities.

The combination of TEP-owned generation facilities and PPAs should allow the Company to continue to meet and exceed its renewable energy requirements for the next five years. Chart 1 below depicts TEP's utility-scale target and how TEP will meet that requirement through 2017 with the current expected generation portfolio.

Chart 1. Renewable Energy Standard Targets



Note: Chart 1 does not include carryover credits

Table 1, below depicts TEP’s utility-scale projects. The projects are separated by those in existence and those planned for the future.

Table 1. Utility Scale Generation

Project	Capacity MW (DC)	Annual MWh	Technology	Expected In-Service Date	TEP Owned
Existing Renewable Generation					
Sundt –Los Reales	4	19,375	Biogas	Operational	Yes
SGS	6.4	11,800	Fixed PV	Operational	Yes
UASTP I - Solon	1.6	3,500	SAT PV	Operational	Yes
UASTP II - Amonix	2	3,500	CPV	Operational	No
UASTP III - Solon	5	8,750	Fixed PV	Operational	Yes
UASTP IV - AstroSol	6.1	11,500	Fixed PV	AUG 1 2012	No
SunPower	0.5	875	Fixed PV	Operational	Yes
Macho Springs	50.4	133,300	Wind	Operational	No
Total Existing	76	192,600			
Bright Tucson Solar Buildout Plan					
Prairie Fire	5	8,750	Fixed PV	Nov-12	Yes
SunPower & Areva	10	21,900	PV/Thermal	Apr-13	Yes
TBD	6.4	14,016	TBD	2014	Yes
TBD	6.4	14,016	TBD	2015	Yes
Total Future - BTSBP	27.8	58,682			
Future Renewable Generation					
Amonix Solar	12	21,020	CPV	Dec-12	No
NRG Solar	32	56,000	Fixed PV	Oct-12	No
SunEdison	25	43,800	SAT PV	Dec-12	No
EMCORE Solar	2	3,500	CPV	Dec-12	No
Foresight Solar	6	7,010	SAT PV	Dec-12	No
Foresight Solar	14	21,020	SAT PV	Dec-12	No
Avalon Solar	35	61,320	Fixed PV	Jun-13	No
Expected Procurement	25	TBD	TBD	2014	No
Expected Procurement	40	TBD	TBD	2015	No
Total Future – Pending (Contracts)	126	213,670			
Total Planned Generation (Contracts)	229.8	464,952			
Total Planned Generation thru 2013	217	436,920			

B. Bright Tucson Solar Buildout Plan

TEP's solar ownership plan (the "Bright Tucson Solar Buildout Plan") represents a small portion of the utility-scale requirement that will be met through a utility-owned program. TEP's 2011 proposed investment of \$28 million in its Bright Tucson Solar Buildout Plan was approved by the Commission in Decision No. 72033 and subsequently affirmed in Decision No. 72736. Decision No. 72736 authorized \$7.6 million to be spent in 2013 on solar thermal steam augmentation for the existing Sundt Generation Station located in Tucson, Arizona. The expected commercial operation date of that project is spring of 2013.

In addition to the previously approved \$7.6 million, TEP's Plan is requesting approval to invest an additional \$20.4 million in the Bright Tucson Solar Buildout Plan. The Bright Tucson Solar Buildout Plan remains an essential component of the Company's renewable strategy, providing balance to TEP's renewable portfolio, as well as creating a level of certainty for the continued development of renewable energy. Through the Bright Tucson Solar Buildout Plan and previously built Company owned projects, TEP expects to own approximately 13 percent of its renewable energy portfolio by the end of 2013.

The annual revenue requirements for the requested investment are detailed in Table 2, below. Revenue requirement encompasses recurring costs related to the capital investment, including return on investment, depreciation, property taxes, and operations and maintenance ("O&M") expenses. TEP is proposing to continue to recover these costs through the REST adjustor approved by the Commission, until the investment can be included in rate base in a subsequent TEP rate case. Each column shown in Table 2 represents the expected revenue requirement for TEP's capital investment from the prior year. For example, the 2013 revenue requirement relates to the capital invested in the Bright Tucson Solar Buildout Plan in 2012. It should be noted that the property tax revenue requirement for each investment is recovered in year two (2) for each project (*i.e.*, property tax collected in 2014 is from 2012 capital investment). Please refer to Table 3 for expected cumulative annual revenue requirements.

Table 2. Revenue Requirement for the Bright Tucson Solar Buildout Plan

Revenue Requirement	2013	2014	2015	2016
Carrying Costs	\$ 2,865,111	\$ 3,422,679	\$ 5,063,382	\$ 4,441,875
Book depreciation	\$ 2,726,337	\$ 2,669,313	\$ 4,199,513	\$ 3,819,808
Property tax expense	\$ 125,683	\$ 118,394	\$ 277,742	\$ 283,767
O & M	\$ 146,742	\$ 146,650	\$ 221,050	\$ 198,454
Lease expense	\$ 65,723	\$ -	\$ -	\$ -
Gross Revenue Requirement	\$ 5,929,596	\$ 6,357,036	\$ 9,761,687	\$ 8,743,904

Table 3. Estimated Annual REST Budget for the Bright Tucson Solar Buildout Plan

Utility Owned Solar Projects by Year	2013	2014	2015	2016
2011 - Springerville/TechPark I 3.4 MW	\$ 1,050,462			
2012 - TechPark II 5 MW	\$ 1,483,324			
2012 - TO / Rooftop 2.5 MW	\$ 898,797	\$ 1,163,542	\$ 1,132,400	\$ 752,894
2013 - Prairie Fire 5 MW	\$ 1,411,939			
2013 - TO 3 MW	\$ 984,655	\$ 1,273,980	\$ 1,240,039	\$ 824,522
2014 - 7 MW built in 2013	\$ 100,419	\$ 3,919,514	\$ 3,761,542	\$ 2,388,517
2015 - 7 MW built in 2014			\$ 3,627,706	\$ 2,359,502
2016 - 7 MW built in 2015				\$ 2,418,469
Annual Revenue Requirement	\$ 5,929,596	\$6,357,036	\$ 9,761,687	\$ 8,743,904

C. Distributed Generation Incentive Program.

The Plan proposes \$13 million to fund the incentive programs. The DG program requirements and incentive levels are outlined in the Renewable Energy Credit Purchase Program (“RECPP”), included as Exhibit 3, attached hereto. There are no additions to the 2013 RECPP; however, programs have been streamlined and incentive levels modified to be consistent with current market demand.

1. Renewable Energy Credit Purchase Program.

The RECPP portion of TEP's Plan targets three areas: (1) residential up-front incentives ("UFI"); (2) non-residential UFIs; and (3) non-residential performance based incentives ("PBI"). To meet the 2013 compliance requirements, the Company is requesting \$3.5 million for the residential program, with a ten percent, or \$0.6 million upfront incentive carve-out for solar hot water.

The remainder of the RECPP budget consists of \$3.0 million for the continuation of the previously approved "Legacy Cost" line item for non-residential DG projects, and \$6.5 million for previously awarded PBI projects.

Non-residential incentives will be paid at the following levels:

UFI PV - \$0.50 per watt on a first come, first serve basis (max 70 kW DC)

PBI PV - \$0.072 per kWh for > 70-200 kW systems

\$0.068 per kWh for 201-400 kW systems

\$0.064 per kWh for > 400 kW systems

UFI SHW - \$0.50 per kWh of annual kWh savings

PBI SHW - \$0.057 per kWh

PBI reservations will be accepted using the reverse auction process through a bi-monthly allocation with a cap of \$250,000. As part of TEP's 2012 REST Implementation Plan, the Commission authorized TEP to recover lost non-fuel revenue for the kWhs produced by non-residential systems installed utilizing the PBI Legacy cost budget that begin generating electricity in 2012. The recovery rate approved by the Commission is \$0.07810 per kWh, which equals TEP's fixed cost of revenue requirement for its small commercial customers. On July 2, 2012 TEP filed a general rate case that included a proposal to implement a lost fixed cost recovery mechanism designed to recover the non-fuel revenues lost as a result of complying with the Commission's REST and Energy Efficiency Standard. As a result, and consistent with

Decision No. 72736, TEP is only requesting lost fixed cost revenue recovery related to the projects reserved during the first six months of 2012 because the Company believes that only these projects will be operational prior to the conclusion of TEP's 2012 rate case. In the event that TEP does not receive approval to implement a lost fixed cost recovery mechanism as part of its current rate proceeding, the Company will seek recovery of lost fixed cost revenues for those 2013 projects above compliance in its 2014 REST Plan, not otherwise recovered.

The residential UFI and existing PBI allocations shown in Table 4 are necessary in order for TEP to fully satisfy the REST's DG requirement through the RECPP. The proposed \$3 million legacy cost budget shown in Table 5 outlines the 2013 requested incentive budget for each customer segment, including the MWh and MW achieved.

Table 4. UFI/PBI Budget and Forecast

Customer Segment	2013 Budget	Annual MWh	Annual MW
Residential UFI	\$3,472,369	11,305	6.4
Large Commercial PBI Existing Projects	\$6,453,375	51,000	29.1

Table 5. Legacy Costs

Customer Segment	2013 Budget	Annual MWh	Annual MW
Small Commercial UFI	\$1,500,000	5,400	3.0
Large Commercial PBI*	\$1,500,000	20,833-23,438	11.6-13.0

(* The range is due to the decreasing rate paid per watt based on the size of the approved project. Residual funds will be used to reduce future legacy costs.)

Residential incentives in 2013 will be paid at the following levels:

UFI PV - \$0.50 per DC Watt (max 30 kW DC)

UFI SHW - \$0.50 per annual estimated kWh saved (max \$1,750)

Although the Company has utilized a trigger mechanism over the past few years to lower the incentive rate consistent with market signals, the Company is not proposing the continuance of a trigger mechanism in 2013. Because of current incentive levels - and in light of the uncertainty in the market with regards to product availability, pricing, tax equity, and federal legislation - the Company (based upon input from the solar stakeholder community) requests a fixed incentive level of \$0.50 per installed DC Watt, and flexibility to adjust the incentive levels as appropriate based on real-time market signals. Neither the Company, nor the solar stakeholder community, has enough information at this time to accurately predict the continuation of lower installed costs. Therefore TEP does not recommend, nor is it proposing, the use of a trigger mechanism in 2013.

TEP is also requesting that a residential DG compliance floor be set in order to facilitate market stability and provide the solar stakeholder community with a steady percentage increase between 2013 and 2018. As shown in Exhibit 1, attached hereto, the current percentage increase in the REST mandate from 2013 to 2015 is 0.5 percent, followed by a 1.0 percent increase in following years. This results in a significant decrease in the number of systems through 2015, followed by a marked increase in 2016, thereby creating unnecessary market instability and the potential for the market to be unable to meet compliance requirement in 2016 and beyond.

TEP is proposing that the residential DG percentage increase at a rate of 0.75 percent for 2013 through 2018 followed by the existing 1 percent increase currently mandated by the REST Rules. As shown on the graphs in Exhibit 4, attached hereto, this will result in the same number of cumulative residential systems installed by the year 2018.

D. Market Cost of Comparable Conventional Generation.

Consistent with the REST Rules, TEP calculates program expenses using the Market Cost of Comparable Conventional Generation (“MCCCG”). Details on the methodology for the MCCCG calculation are included in Exhibit 5 attached hereto. The annual MCCCG rates are

calculated in advance and stated as a single dollar per MWh value by technology type. The expenses are based on the PPA pricing after subtracting the corresponding MCCCCG based on projected hourly energy profiles and are included in Exhibit 6 (confidential).¹ The profiles are determined by TEP's production cost model. The MCCCCG will be included for wind, PV systems, concentrated solar with storage, and bio-fueled renewable resources.

III. THE PLAN BUDGET

As stated previously, the cost to implement TEP's 2013 Plan will be \$47.6 million. The Plan's detailed budget is attached as Exhibit 7, which includes a breakdown of the costs for utility-scale energy, residential and non-residential DG programs, research and development, outside services support and reporting, technology, and education and outreach. Table 6 includes a high level Plan budget.

Table 6. Plan Budget by Category

Utility Scale	\$ 30,225,596
Residential UFI	\$ 3,472,369
Legacy Costs	\$ 3,000,000
Commercial PBI	\$ 6,453,375
Associated Costs (Metering, I.T., Reporting & Labor, Technical Training, Education/Outreach, and R&D)	\$ 2,340,435
2013 Program Cost	\$ 45,491,775
Carryover Funds	\$ 4,343,494
Total	\$ 41,148,281

¹ Exhibit 6 will be provided to Commission Staff upon execution of a Protective Agreement.

IV. THE 2013 REST TARIFF

The Plan's tariff is contained in the attached Exhibit 8.² TEP's 2013 Plan will require a tariff charge to be set at \$0.008/kWh, with customer caps by class. The caps were developed using the proportional cap allocation method, previously approved by the Commission. Under this methodology, the caps for all customer classes are increased proportionately. Table 7 details 1) the Company's approved budget for 2012 and proposed budget for 2013 delineated by rate class and 2) the currently approved customer class caps and the caps proposed for the 2013 Plan.

Table 7. 2012/2013 REST Budget by Rate Class

Rate Class	2012 Approved REST Budget	2013 Proposed REST Budget
Residential	\$11,393,721	\$18,468,678
Small Commercial	\$9,532,947	\$11,891,330
Large Commercial	\$4,758,361	\$6,531,310
Industrial & Mining	\$2,311,308	\$3,183,532
Public Authority	\$626,566	\$820,800
Lighting (PSHL)	\$233,554	\$259,780
Total	\$28,856,457	\$41,155,429

Rate Class	Current Rates Caps	Proposed Rates Caps
Residential	\$3.15	\$4.75
Small Commercial	\$130.00	\$195.00
Large Commercial	\$810.00	\$1,225.00
Industrial & Mining	\$5,500.00	\$8,300.00
Public Authority	\$140.00	\$195.00
Lighting (PSHL)	\$130.00	\$195.00
Per kWh to all Classes	\$0.007182	\$0.008000

² Additionally, the Customer Self-Directed Tariff is set forth in the attached Exhibit 9 and the Customer Load Percentage Analysis is set forth in the attached Exhibit 10.

V. RESEARCH AND DEVELOPMENT

TEP dedicates portions of its REST funding towards research and development in support of the adoption of renewable energy. Table 8 outlines TEP's proposed budget for research and development for 2013. TEP plans to continue its commitment to furthering renewable energy research by participating in the following projects.

Table 8. TEP's Research and Development Budget by Project

Research and Development Initiatives	Budget
AzRISE Research	\$ 250,000
TEP Test Site and Energy Storage Development	\$ 300,000
T & D Intermittency & Penetration Studies	\$ 50,000
UWIG, SEPA & AWEA	\$ 15,000
Total	\$615,000

A. **AzRISE**

The AzRISE Global Institute ("AzRISE") at the University of Arizona ("U of A") conducts fundamental interdisciplinary solar energy research. This research is backed by accurate and realistic economic analyses for the deployment and practical implementation of solar energy solutions. TEP believes these findings are vital to supporting the REST's goals. TEP's REST dollars spent with AzRISE help to further the renewable energy market and help TEP meet its renewable goals. AzRISE will be responsible for ongoing data management for the TEP Solar Test Sites, energy storage data evaluation, and ongoing distributed generation production analysis specific to Arizona. These projects represent significant contributions to the local knowledge base in the efforts to make solar energy more effective.

Specifically, AzRISE research funded by TEP has provided the Company with important information as it relates to solar deployment and development. This information includes specific panel degradation rates over time, degradation effects of moisture accumulation, degradation effects of soiling affects, production variances from east to west panel positioning to obtain optimal output, significant advances in local and regional solar forecasting, and other solar integration related information.

The collaborative effort between TEP and AzRISE has been well-documented and recognized nationally through organizations such as Solar Electric Power Association (“SEPA”). The relationship has resulted in a number of requests for partnership with other nationally recognized organizations including IBM, National Oceanic and Atmospheric Administration, National Renewable Energy Laboratory, as well as a number of other nationally recognized Tier I research universities. The proposed budget for this important project is \$250,000.

B. Irvington/Sundt Test Site Plan.

TEP continues to provide training and testing for new solar products at the Irvington/Sundt test site, where several manufacturers of PV products are represented. TEP is working with the U of A in tracking and assessing PV product data to determine product longevity, reliability, and applicability to various residential and commercial locations in Tucson. TEP also plans to continue its research on energy storage applications that will provide benefit to balancing authority and regulation policies in addressing variable generation integration of PV into TEP’s service territory. This test site development plan and energy storage research is estimated to cost \$300,000.

C. Transmission and Distribution Integration Modeling

TEP is planning to continue evaluation of the impacts of high penetration solar PV and other renewable technologies, as well as integration impacts with variable generation intermittency and operational practices necessary to forecast and dispatch TEP's generation portfolio efficiently and economically. Also, annual dues of \$15,000 for Utility Wind Integration Group ("UWIG"), SEPA and American Wind Energy Association ("AWEA") are requested in 2013. As members of these groups TEP has access to valuable independent research and the availability for discussion and problem solving with other members of the groups.

VI. ADDITIONAL COMPLIANCE ISSUES AND INFORMATION

A. Compliance with Commission Decision No. 72033.

As part of Decision No. 72033, TEP was required to "include, as part of future annual REST plan filings, a list of any cases within the previous three calendar years where Tucson Electric Power has received damages or other considerations as a result of non-compliance related to REST contracts." As of the date of this filing, TEP has received no damages or other considerations as a result of non-compliance related to REST contracts in the previous three years.

TEP was also ordered, as part of Decision No. 72033, to "disclose, as part of future annual REST plan filings, whether its affiliates, its employees, or its directors have any direct financial or other interest in renewable energy projects that are owned or whose output is contracted for by Tucson Electric Power." As of the date of this filing, TEP has no affiliates, employees, or directors with any direct financial or other interest in renewable energy projects that are owned or whose output is contracted for by TEP.

Finally, Decision No. 72033 required “that Tucson Electric Power Company notify the Commission as part of all future REST Implementation Plans, whether the inclusion of the Davis-Monthan AFB project in the Company’s commercial DG program has precluded any other non-residential renewable DG systems from receiving utility incentives because Tucson Electric Power Company is already in compliance with its non-residential renewable DG requirements as a result of signing the contract with the Davis-Monthan AFB.” While TEP expects to be in compliance with its non-residential renewable DG requirements by the end of 2012 based on the number of applications received so far, there are no projects that have been denied specifically due to the DMAFB project as of the date of this filing.

B. Compliance with Commission Decision No. 72736.

Decision No. 72736 required TEP as part of its 2013 Plan to either recommend a residential PV “carve-out” for new homebuilders, or explain why the Company would not offer a carve-out. TEP is not offering a carve-out for homebuilders in its 2013 Plan because at the time of this filing, residential PV applications from homebuilders represent approximately 20% of all residential applications received. TEP does not feel that a separate carve-out is necessary for a group that already represents a significant portion of reserved projects.

C. Compliance with Decision No. 72736 requirement to impose REST surcharge on customers who take utility incentives.

On June 15, 2012, TEP filed a Request for an Extension of Time to Comply with a Requirement Set forth in Decision No. 72736 and to Defer the Matter to Another Docket (“Request); *i.e.* the 2013 Plan docket. TEP’s Request applied to the following requirement set forth in Decision No. 72736:

IT IS FURTHER ORDERED that residential, small commercial, large commercial and industrial customers who receive incentives, from the effective date of this Decision, under the REST rules will pay a monthly REST charge equal to the amount they would have paid without the renewable installation. This payment shall begin when TEP reprograms its billing system to accomplish this, or with the October 2012 billing cycle, whichever is sooner.³

As noted in the Request, the Commission recently adopted a similar requirement in the APS rate case that states:

We believe that customers who benefit by receiving incentives under the REST rules should provide an equitable contribution to future REST benefits for other customers. We will therefore require that residential, small commercial, large commercial and industrial customers who receive incentives under the REST rules pay a fixed cost, the monthly REST cap. This payment shall begin when APS reprograms its billing system to accomplish this, or with the March 2013 billing, whichever is sooner. The requirement shall only apply to renewable systems installed on and after July 1, 2012.⁴

Given the complexities associated with implementation of a new billing system to comply with the requirement set forth in Decision No. 72736, and in an effort to have consistency among the utilities, TEP is proposing as part of this Plan, that the following language be adopted in this case, which would expressly modify the requirement in Decision No. 72736:

We believe that customers who benefit by receiving incentives under the REST rules should provide an equitable contribution to future REST benefits for other customers. We will therefore require that residential, small commercial, large commercial and industrial customers, who receive incentives under the REST rules, or sign up for net metering in the absence of a utility incentive program, pay a fixed cost, the monthly REST cap. This payment shall begin when TEP reprograms its billing system to accomplish this, or with the June 2013 billing, whichever is sooner. The requirement shall only apply to renewable systems installed on and after January 1, 2012.

³ Decision No. 72736 (January 13, 2012) at page 42, lines 4-8.

⁴ Decision No. 73183 (May 24, 2012) at page 42, line 6.

The TEP language above differs slightly from the Commission approved APS language by including a provision that would allow for TEP to continue to collect the REST surcharge should utility incentives be discontinued in the next few years.⁵ If utility incentives are no longer utilized, customers will continue to enjoy the advantages of net-metering, even though net-metering will significantly reduce their respective portion of the REST surcharge.. The Company understands that that there may be reluctance to continue a surcharge based on a customer's use of net-metering. However, if the above proposed language – “or sign up for net metering in the absence of a utility incentive program” – is not included, the currently written requirement would apply to only a very small segment of TEP customers should utility incentives be reduced to zero.

The above proposed language requires customers to pay a fixed cost of the monthly REST cap; as an alternative, TEP is proposing for the Commission's considering, language requiring each customer class to pay the average REST surcharge per customer category. This alternative provides a potential solution to address the concern over the requirement of paying the cap precluding the small commercial customer class from participating. Accordingly, TEP is proposing the below alternative language for Commission consideration:

We believe that customers who benefit by receiving incentives under the REST rules should provide an equitable contribution to future REST benefits for other customers. We will therefore require that residential, small commercial, large commercial and industrial customers, who receive incentives under the REST rules, or sign up for net metering in the absence of a utility incentive program, pay a fixed cost, equal to the average monthly customer surcharge as provided by the Company in each annual REST plan. This payment shall begin

⁵ Should utility incentives be discontinued in the next few years, TEP will still maintain the annual budget necessary to pay for the utility scale and performance based projects over their contract life.

when TEP reprograms its billing system to accomplish this, or with the June 2013 billing, whichever is sooner. The requirement shall only apply to renewable systems installed on and after January 1, 2012.

D. Request for guidance on meeting the DG requirement in a post-incentive environment

In order to meet the REST requirement, specifically the residential and non-residential DG requirement, a utility is required to retire the associated Renewable Energy Credit (“REC”) for each kWh of renewable energy produced. In order to incentivize the customer to install a renewable energy system, utilities have historically offered an incentive program that purchased the REC’s from the customer. However, as utilities approach an “incentive free” environment they are faced with the problem of no longer being able to claim and retire the REC’s in order to meet the REST requirement, as they will no longer be able to buy the REC’s from their customers. While this problem currently exists in relatively small numbers, it has the potential of becoming a very large problem in the next few years. TEP believes it would be prudent to address the issue now. Accordingly, TEP is presenting for Commission consideration, the following potential solutions to address this issue:

1. Change or waive the existing Resource Portfolio Standard (“RPS”) to eliminate either the DG requirement, or the requirement to retire REC’s associated with the customer-sited distributed generation system and allow the utility to report metered production data in order to show the percentage of sales associated with renewable energy.
2. Allow utilities to modify their existing net-metering tariffs to require customers to surrender all credits and environmental attributes in exchange for net-metering.
3. Allow utilities to meet the RPS DG requirement by showing a percentage of their sales through metered data without the requirement of retiring REC’s (and without altering the existing rules).
4. In the absence of existing rule changes, allow the utilities to request waivers for meeting the DG requirement through the use of REC retirement and allow the utility to show compliance in an alternative manner.

While this is not meant to be a comprehensive list of potential solutions, it is intended to provide the Commission with options to address what the Company believes is a significant issue.

As of this filing, TEP has six (6) residential customers and one (1) commercial customer that have requested net-metering without a utility incentive. These customers represent an aggregate total of more than 4 MW of distributed generation that the utility will not be able to count towards meeting its standard, even though those sales have been met through the use of renewable energy. The Company is requesting the Commission allow the Company to include these net-metered customers for compliance purposes, as well as provide guidance on how the utilities should address this issue on a going-forward basis.

E. Request for clarification on AZ Goes Solar reporting requirements.

In Decision No. 71465 (January 26, 2010) the Commission approved a provision that utilities be required to report cost data from all systems that received a utility incentive. The Decision states:

IT IS FURTHER ORDERED that Tucson Electric Power Company shall make publicly available, twice monthly, via the new “Go Solar Arizona” website at least the following information: the reservation request review date; the incentive program under which the incentive being offered; the amount of the incentive offered; the size and nature of the systems (whether commercial or residential); the step in the reservation process each system is in at the time it is posted; total cost of the system; nameplate rating of the system; current incentive application status; and the name of the installer of the system.

However, the requirement to provide total cost of the system under the current lease model environment is unnecessary and in most cases, is not representative. The purpose was to

provide the customer with valuable information to assist in evaluating renewable energy system purchases. However, the total cost of the system as currently reported for leased systems is no longer valid. The Company hereby requests that the Arizona Goes Solar reporting requirements be modified to remove the requirement to report total cost of the system for leased systems.

VII. CONCLUSION

The proposed 2013 Renewable Implementation Plan filed by TEP has been developed through collaboration between the Company and the solar stakeholder community, with an emphasis on balancing the needs of the Company, the desires of the stakeholder community, and the wishes of our customers. TEP believes the Plan represents a balance between the parties while respecting the wishes of our customers and respectfully request the Commission adopt Tucson Electric Power's 2013 REST Implementation Plan as submitted.

EXHIBIT

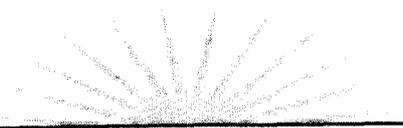
“1”

Tucson Electric Power Company – Exhibit 1

Energy, Capacity, and Cost Forecast						
	2013	2014	2015	2016	2017	
Forecast Retail Sales MWH	9,405,022	9,565,143	9,658,045	9,739,655	9,813,955	
% Renewable Energy Required	4.0%	4.5%	5.0%	6.0%	7.0%	
Overall Renewable Requirement MWH	376,201	430,431	482,902	584,379	686,977	
Utility Scale Requirement MWH	263,341	301,302	338,032	409,066	480,884	
Utility Scale Cumulative MW	150	172	193	234	275	
DG Requirement MWH	112,860	129,129	144,871	175,314	206,093	
RES DG Requirement MWH	56,430	64,565	72,435	87,657	103,047	
RES DG Cumulative MW	32	37	41	50	59	
Non-Res DG Requirement MWH	56,430	64,565	72,435	87,657	103,047	
Non-Res Cumulative MW	32	37	41	50	59	
Total Cumulative Required MW	215	246	276	334	393	
Total Program Cost	\$45,491,775	\$46,954,137	\$51,245,316	\$49,683,262	\$49,098,782	

EXHIBIT

“2”



BRIGHT SOLUTIONS™

from Tucson Electric Power

Eller MBA

THE UNIVERSITY OF ARIZONA.

May 10, 2012

By

Lia Sansom

Ethan Fabrikant

Deepak Kher

Cesar Diaz-Brown

Executive Summary

Tucson Electric Power (TEP) collaborated with the University of Arizona's Eller MBA program (Team) to develop, distribute, and analyze an unbiased survey regarding the Tucson community's awareness and willingness to support renewable energy programs. Out of 53,923 surveys sent via e-mail to TEP customers, 6,399 people responded to the survey, for an overall response rate of approximately 12%. The methodology and survey results are discussed below. Refer to Appendices A through D for detailed data.

Survey Development

To ensure that the survey results are representative of the views of the TEP customer base throughout the Greater Tucson area, the Team used TEP's customer e-mail opt-in list to distribute the survey. TEP customers may elect to join this e-mail list when they initiate service with the company. The e-mail list is representative of the Tucson population according to the 2010 Census list and contains approximately 54,000 active e-mail accounts. Furthermore the Team created a Spanish version of the survey to obtain a better representation of the Tucson population. To view the representative distribution of respondents based on age, sex and zip code (individual zip codes and by region), see Appendix A.

TEP and the Team designed each survey question to minimize biasing respondents' answers. Dr. Patricia Sias, Senior Lecturer in Leadership and Organizational Communication, and a small group of individuals vetted the survey via a pilot test. The survey included combination of question types, such as ranking and a five-point rating scale, to evaluate the following topics:

- Awareness and opinion of the REST surcharge and the amount customers are willing to support
- Support for some of the programs and types of renewable resources receiving REST surcharge funds
- Customer ranking of TEP conservation initiatives

Survey questions may be found Appendix C for English and Appendix D for Spanish.

TEP distributed the survey via two e-mails containing the links to both English and Spanish versions. The first e-mail was sent on February 28 with a reminder e-mail sent on March 9. Customers could take the survey between February 28 and March 19. To ensure no "ballot-stuffing" occurred, each corresponding e-mail address could only respond once to the survey. Out of approximately 54,000 e-mail addresses that received the survey, 6,399 people responded to at least a portion of the survey. The 12% response rate far exceeded the Team's requirement of 5% to ensure the data was both statistically significant and a representative sample of the TEP customer base.

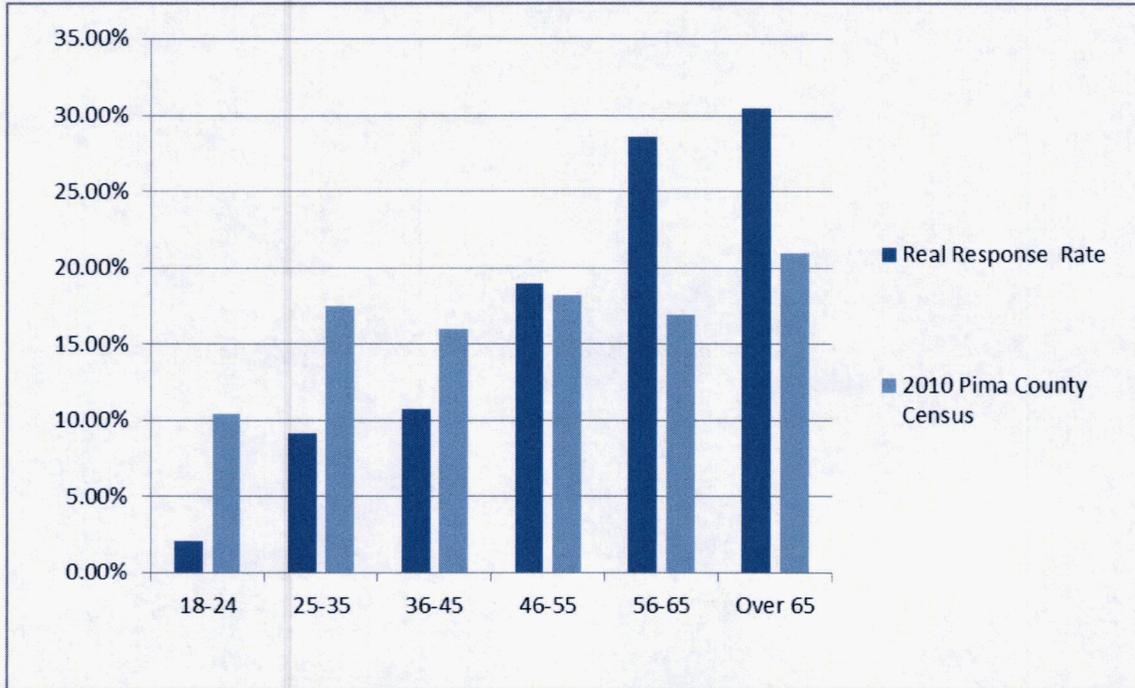
Key Results

This section highlights some of the key results directly related to the REST Surcharge. All figures listed below may be found in Appendix B.

- Seventy-three percent (73%) of respondents would pay no more than \$5.00 per month for the REST surcharge (Figure 1).
- Respondents were generally unfamiliar with both the Renewable Energy Standard (RES) and the RES Implementation Plan process (Figure 2).
- Approximately half (47%) of the respondents were unaware of the REST surcharge on their bill (Figure 3).
- Respondents are divided in their attitude towards the surcharge with the category of “Neutral” receiving the most support (Figure 4).
- Over half of the respondents supported the use of surcharge funds for incentivizing the installation of residential roof-top photovoltaic systems (Figure 5).
- Over half of the respondents supported the surcharge funds’ use for renewable energy education and job training programs and 80% agreed that using at least 1% of the funds for this purpose was appropriate (Figure 6).
- Respondents were less supportive of allocating surcharge funds to marketing programs, yet 70% agreed to allocating at least 1% for this purpose (Figure 7).
- Respondents supported a mix of renewable resources with solar energy as the primary resource (Figure 8).
- Respondents preferred their renewable energy to be inexpensive and sourced within Arizona (Figure 9).
- Respondents considered addressing carbon emissions a much lower priority for TEP than providing reliable service and keeping rates low (Figure 10).

Appendix A

Age



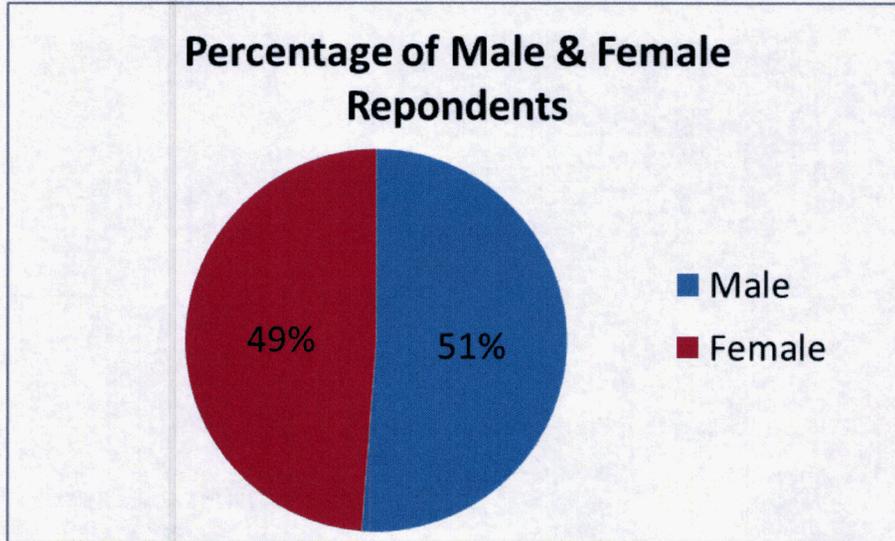
	Actual Response Rate	Real Response Rate	Real Response Percentage	2010 Pima County Census*
18-24	135	135	2.12%	10.43%
25-35	583	583	9.16%	17.46%
36-45	682	682	10.71%	16.03%
46-55	1207	1207	18.96%	18.20%
56-65	1820	1820	28.59%	16.94%
Over 65	1938	1938	30.45%	20.94%
Did Not Answer	34			
Total	6399	6365	100.00%	100.00%

Notes:

This data represents all individuals in Pima County, whereas the distribution of the respondents' ages presumably represents heads-of-household. The percentages for the Census data are calculated as a percent of the total within the age range of 20 and over.

The categorical age ranges from the 2010 Census vary from our survey. From left-to-right, these categories for each age level represented in the above chart are: 20-24, 25-34, 35-44, 45-54, 55-64, and 65+

Sex



	Actual Response Rate	Real Response Rate	Real Response Percentage
Male	3250	3250	51.19%
Female	3099	3099	48.81%
Did Not Answer	50		
Total	6399	6349	100.00%

Zip code

(Approximate Geographic Distribution)

A note about the zip code distribution data that is found on the following page:

"Non-List Zip Codes" are zip codes of respondents that are not included in TEP's opt-in email list. These zip codes generally lie outside of TEP's service area, including some outside of Arizona. In some cases, a zip code was not entered. The data from these surveys is used in the content analysis; this accounts for the difference in total responses for each content question and total responses for Zip Codes, calculated here.

Zip Code	Real Responses, Non List-Emails Removed	% Real Responses of Total, Non-list emails removed	% of Population per 2010 Census	% of Total Emails on TEP Opt-In List	Difference of Opt-In List from Population	Difference of Real Response from Opt-In List
85614	376	6.344%	2.22%	3.19%	0.97%	3.153%
85622	114	1.923%	0.64%	0.96%	0.32%	0.960%
85629	132	2.227%	2.39%	2.30%	-0.09%	-0.073%
85637	1	0.017%	0.13%	0.01%	-0.12%	0.008%
85740	0	0.000%	0.04%	0.00%	-0.04%	-0.004%
85641	110	1.856%	2.21%	1.49%	-0.72%	0.368%
85645	10	0.169%	0.23%	0.17%	-0.06%	0.003%
85650	1	0.017%	1.55%	0.00%	-1.55%	0.015%
85653	31	0.523%	1.53%	0.60%	-0.93%	-0.078%
85654	0	0.000%	0.01%	0.01%	0.00%	-0.009%
85701	39	0.658%	0.51%	0.67%	0.16%	-0.012%
85704	263	4.437%	3.21%	3.53%	0.32%	0.907%
85705	230	3.881%	5.83%	5.65%	-0.18%	-1.771%
85706	143	2.413%	5.81%	4.43%	-1.38%	-2.016%
85710	396	6.681%	5.78%	6.97%	1.18%	-0.286%
85711	256	4.319%	4.34%	4.38%	0.04%	-0.061%
85712	219	3.695%	3.23%	4.32%	1.09%	-0.627%
85713	195	3.290%	4.83%	3.94%	-0.90%	-0.646%
85714	34	0.574%	1.50%	1.08%	-0.43%	-0.502%
85715	154	2.598%	1.82%	2.33%	0.50%	0.273%
85716	236	3.982%	3.31%	4.25%	0.93%	-0.264%
85718	223	3.762%	2.99%	3.27%	0.28%	0.497%
85719	206	3.476%	3.75%	5.49%	1.74%	-2.018%
85730	250	4.218%	3.93%	4.75%	0.82%	-0.532%
85735	29	0.489%	1.11%	0.48%	-0.63%	0.007%
85736	2	0.034%	0.35%	0.00%	-0.35%	0.034%
85737	184	3.104%	2.22%	4.31%	2.09%	-1.201%
85739	60	1.012%	1.88%	0.72%	-1.16%	0.292%
85741	180	3.037%	3.28%	4.09%	0.82%	-1.057%
85742	182	3.071%	2.90%	2.74%	-0.16%	0.326%
85743	201	3.391%	3.02%	1.90%	-1.12%	1.489%
85745	243	4.100%	3.80%	4.65%	0.84%	-0.549%
85746	149	2.514%	4.27%	4.25%	-0.01%	-1.739%
85747	189	3.189%	2.44%	2.67%	0.23%	0.515%
85748	146	2.463%	1.89%	1.93%	0.03%	0.538%
85749	189	3.189%	1.95%	1.85%	-0.10%	1.335%
85750	235	3.965%	2.62%	3.18%	0.56%	0.790%
85755	192	3.239%	1.68%	0.10%	-1.57%	3.135%
85756	120	2.025%	2.95%	3.34%	0.39%	-1.314%
85757	7	0.118%	1.84%	0.00%	-1.84%	0.116%
TOTAL # of Individuals	5927		986,473	56,249		

Below the zip code data is grouped by regions as defined by Imagine Greater Tucson:

	% of Survey Responses	% Emails on TEP Opt-in List	% of Population per 2010 Census
Downtown, Midtown, Flowing Wells	20.0%	24.8%	21.0%
South Tucson	10.8%	17.0%	19.4%
Catalina Foothills	10.9%	8.3%	7.6%
Tucson Foothills	4.1%	4.6%	3.8%
Tucson East, Houghton, Rincon, Vail	21.0%	20.1%	18.1%
Oracle Corridor, Oro Valley	11.8%	8.7%	9.0%
I-10 Corridor, Marana	10.0%	9.3%	10.7%
Upper Santa Cruz Valley, Green Valley	10.7%	6.6%	5.5%
Southwest	0.6%	0.5%	3.3%

Appendix B

Figure 1: Willingness to Pay by Population Percentages

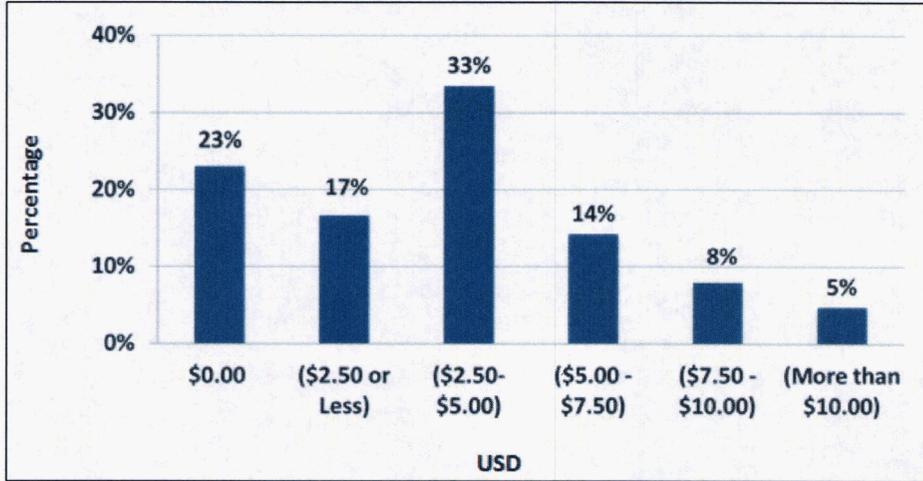


Figure 2: Awareness of Renewable Energy Standard and Implementation Plan Process to the ACC

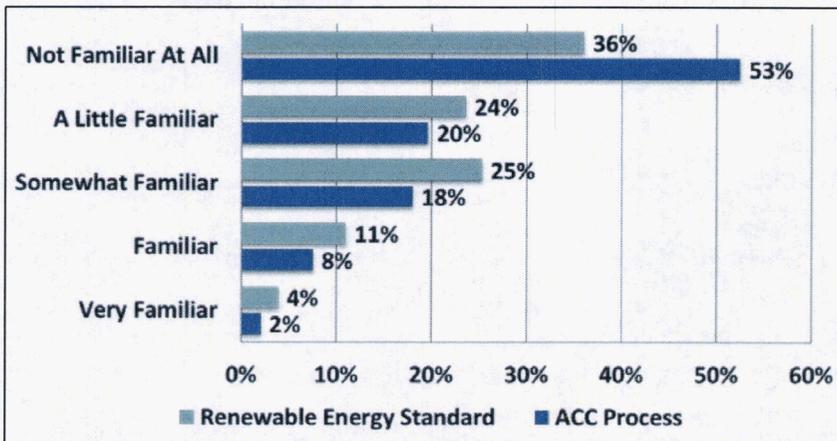


Figure 3: Awareness of REST surcharge on bill

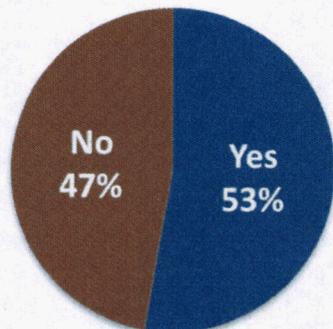


Figure 4: Sentiment towards REST Surcharge

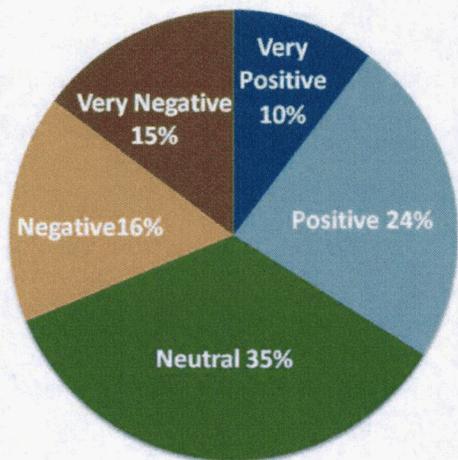


Figure 5: Use of surcharge funds for incentivizing residential photovoltaic systems

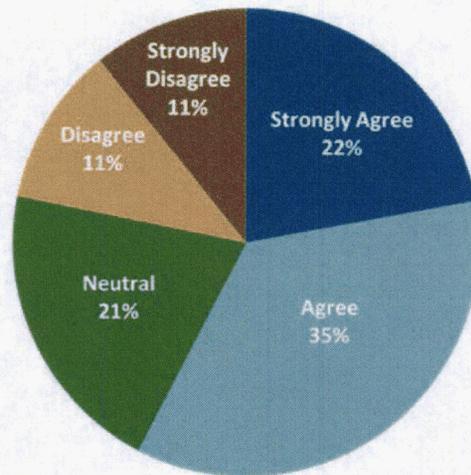


Figure 6: Use of Surcharge funds for renewable energy education and job training

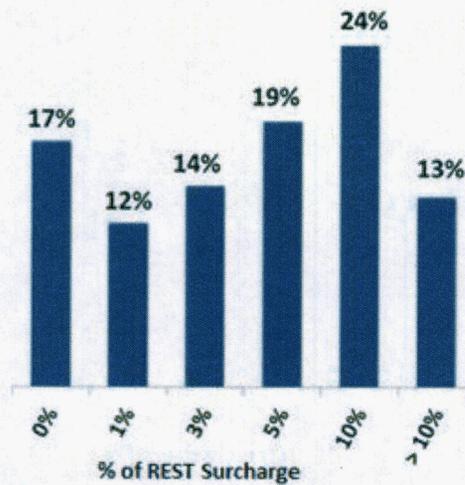
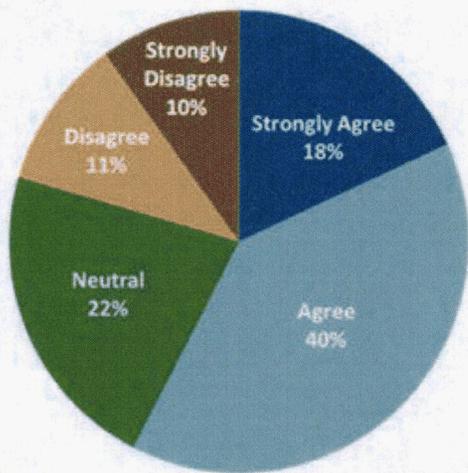


Figure 7: Use of Surcharge funds for marketing

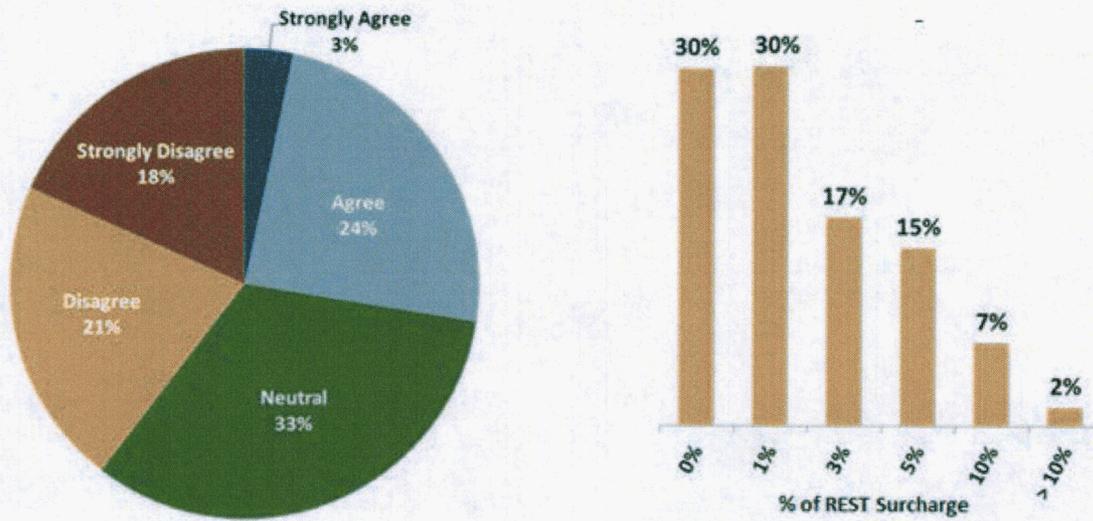


Figure 8: Support for renewable energy resource mix, primarily solar

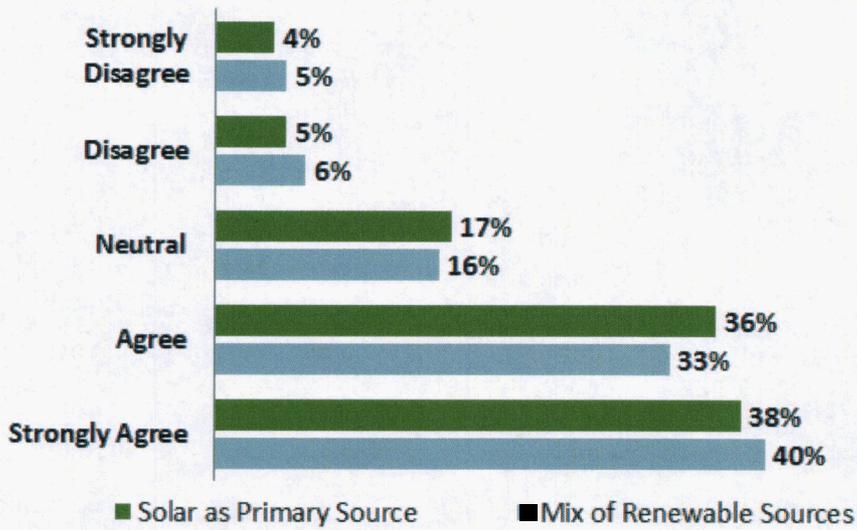


Figure 9: Renewable energy sources

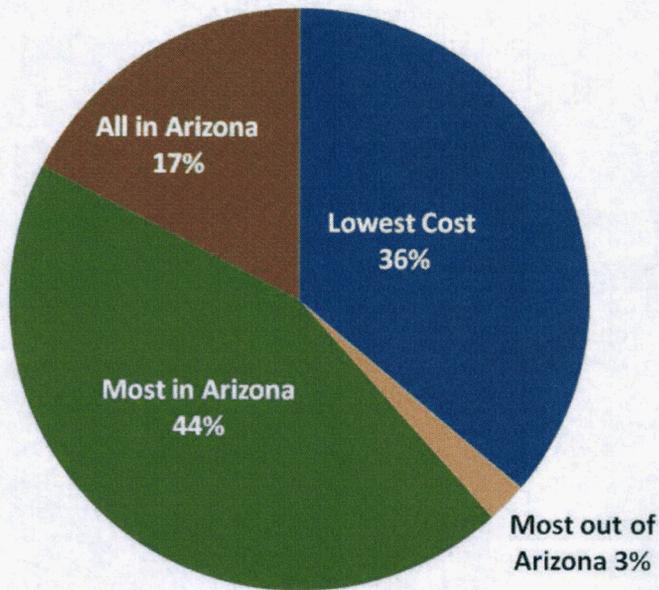
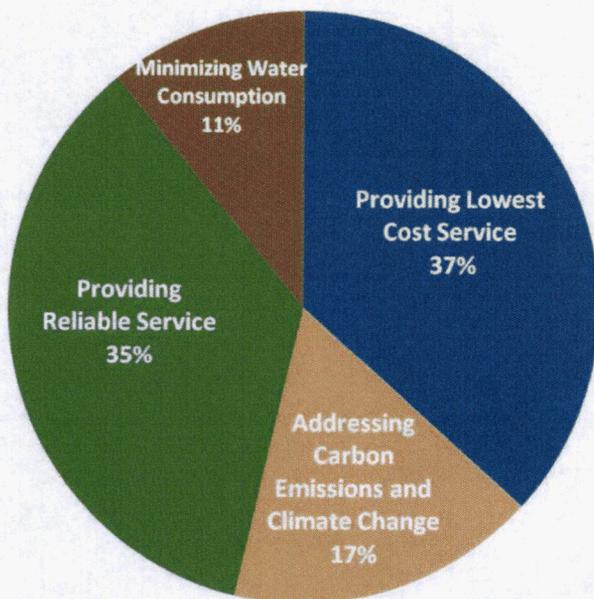


Figure 10: Top rank for TEP priorities



Appendix C English Survey

**Note: This is a Word Document Version of the Survey. The content and order is the same as what respondents viewed in Qualtrics, however the format of how to answer is different*

1. What is your zip code

2. Are you

Male?

Female?

3. What is your age range?

18-24

25-35

36-45

46-55

56-65

Over 65

4. How familiar are you with Arizona's Renewable Energy Standard and the steps TEP is taking to meet the standard?

Very Familiar

Familiar

Somewhat Familiar

A Little Familiar

Not Familiar At All

5. Every year, TEP must submit a renewable energy plan to the Arizona Corporation Commission for approval. How familiar are you with this process?

Very Familiar

Familiar

Somewhat Familiar

A Little Familiar

Not Familiar At All

6. Renewable energy sources are more expensive than traditional energy sources. Currently, TEP places a monthly surcharge on your electric bill called the Renewable Energy Standard Tariff (REST), which is applied toward covering the additional cost of renewable energy. Were you aware of this REST surcharge on your bill?

Yes

No

7. How do you feel about the REST surcharge?

Very Positive

Positive

Neutral

Negative

Very Negative

8. The average TEP customer's REST surcharge for 2012 is about \$3 per month (check your bill under "Green Energy Resources" to find out how much you pay.) By 2025, the ACC will require TEP to use almost five times more renewable energy than in 2012. While TEP cannot predict future surcharge rates, it is likely that they will increase. What do you believe is an appropriate amount to pay per month for renewable energy?

\$0

\$2.50 or less

\$2.50 to \$5.00

\$5.00 to \$7.50

\$7.50 to \$10.00

More than \$10.00

9. At present, TEP is primarily focused on solar for its renewable energy programs. To what extent do you agree that it is important TEP uses all types of renewable resources including solar, wind, geothermal, hydroelectric, biomass and biogas, to provide energy to their customers?

Strongly Agree

Agree

Neutral

Disagree

Strongly Disagree

10. To what extent do you agree that it is important TEP uses solar power as the primary renewable resource to meet its renewable energy requirement?

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

11. Renewable energy in Arizona is primarily from solar power, which provides jobs and other economic benefits for the state of Arizona, but costs more than renewable energy from other states that have wind and hydroelectric resources. Which of the following do you think is the best option to fulfill TEP's Renewable Energy requirement?

- I want TEP to purchase the lowest-cost renewable energy, even if it comes from outside of Arizona
- I want TEP to purchase most of its renewable energy from resources outside of Arizona
- I want TEP to purchase most of its renewable energy from resources within Arizona
- I want TEP to purchase all of its renewable energy from resources in Arizona.

12. The ACC requires regulated utilities to incorporate residential solar panel systems as a part of its overall renewable energy plan. The primary method by which TEP meets this requirement is to use a portion of the money collected from the REST surcharge to pay an incentive to customers who install solar panel systems. To what extent do agree with this use of the REST surcharge money?

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. To what extent do you think the following issues should be an important focus for TEP?

- Providing lowest cost of service
- Addressing carbon emissions and climate change
- Providing reliable service
- Minimizing water consumption

14. Rank the following issues from most (1) to least important (4):

- Providing lowest cost of service
- Addressing carbon emissions and climate change
- Providing reliable service
- Minimizing water consumption

15. TEP uses a portion of the money from the REST surcharge for local educational and job-training programs that teach people how to install and operate renewable energy systems. To what extent do you agree with this use of the surcharge money?

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

16. How much of the money collected from the REST surcharge do you think should be used for these educational and job-training programs?

- 0%
- 1%
- 3%
- 5%
- 10%
- More than 10%

17. TEP uses a portion of the money from the REST surcharge for renewable energy program marketing, such as radio ads, billboards, print ads. To what extent do you agree with this use of the surcharge money?

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

18. How much of the money collected from the REST surcharge do you think should be used for these marketing programs?

- 0%
- 1%
- 3%
- 5%
- 10%
- More than 10%

Appendix D Spanish Survey

- Cuál es su Código Postal?
 - Cuál es su intervalo de edad?
 - Su género
 - Masculino
 - Femenino
-
1. 1. Qué tan enterado está Usted sobre el Estándar de Energía Renovable impuesto por el Estado de Arizona, y los pasos que Tucson Electric Power Company (TEP) está llevando a cabo para cumplir con dicho estándar?
 - a. Muy Enterado
 - b. Enterado
 - c. Poco Enterado
 - d. Muy Poco Enterado
 - e. No Enterado

 2. Cada año, TEP debe presentar un plan de energía renovable ante la Comisión de Corporaciones de Arizona (ACC) para su aprobación. Qué tan enterado está Usted de este proceso?
 - a. Muy Enterado
 - b. Enterado
 - c. Poco Enterado
 - d. Muy Poco Enterado
 - e. No Enterado

 3. Las fuentes de energía renovable son más costosas que las fuentes tradicionales de energía. Actualmente, TEP le impone a Usted un cargo adicional (surcharge) en su estado de cuenta mensual, al cuál le llama Tarifa Estándar de Energía Renovable (REST), el cuál está destinado a cubrir el costo adicional por concepto de energía renovable. Estaba Usted ya enterado de este cargo adicional en su estado de cuenta mensual?
 - a. Si
 - b. No

 4. Qué opina Usted de este cargo adicional?
 - a. Muy en Desacuerdo
 - b. En Desacuerdo
 - c. No Opinión
 - d. De Acuerdo
 - e. Muy de Acuerdo

5. La cantidad adicional promedio mensual que TEP cobra a cada cliente es \$3.00 (Revise su estado de cuenta bajo el nombre de "Recursos de Energía Verde" para saber exactamente lo que Usted paga). Para el año 2025, ACC requerirá que TEP utilice casi cinco veces más energía renovable que en 2012. Aunque TEP no puede predecir si habrá incrementos en el cargo adicional (surcharge) que se le cobra a Usted, lo más probable es que dicho cargo va a incrementarse en el futuro. Cuál cree Usted que sería la cantidad apropiada a pagar mensualmente por el concepto de energía renovable? \$0
- \$2.50 ó menos
 - \$2.50 - \$5.00
 - \$5.00 - \$7.50
 - \$7.50 - \$10.00
 - Más de \$10.00
6. A la fecha, TEP ha enfocado su programa de energía renovable únicamente hacia el aspecto solar. Hasta qué punto considera Usted importante que TEP utilice todo tipo de recursos de energía renovable, incluyendo el sol, el aire, geotérmica, hidroeléctrica, biomasa y biogas, para surtir de energía a sus clientes?
- Muy de Acuerdo
 - De Acuerdo
 - No Opinión
 - En Desacuerdo
 - Muy en Desacuerdo
 - No Sé
7. Hasta qué punto está Usted de acuerdo en que TEP utilice energía solar como su recurso renovable primario para cumplir con los requerimientos de energía renovable?
- Muy de Acuerdo
 - De Acuerdo
 - No Opinión
 - En Desacuerdo
 - Muy en Desacuerdo
 - No Sé

8. La energía renovable primaria en Arizona es la energía solar, la cuál provee empleos y otros beneficios económicos al estado de Arizona, pero esta energía es más costosa que la energía renovable en otros estados que cuentan con recursos de viento e hidroeléctricos. Cuál considera Usted que es la mejor opción para que TEP cumpla con sus requerimientos de producción de Energía Renovable?
- Prefiero que TEP compre la energía renovable de menos costo, aún si se adquiere fuera de Arizona.
 - Prefiero que TEP compre la mayor parte de su energía renovable de fuentes localizadas fuera de Arizona.
 - Prefiero que TEP compre la mayor parte de su energía renovable de fuentes localizadas dentro de Arizona.
 - Prefiero que TEP compre TODA su energía renovable de fuentes localizadas dentro de Arizona.
9. ACC requiere que las empresas que venden energía eléctrica incorporen en concepto de paneles solares en su plan general de energía renovable. El método primario por medio del cuál TEP cumple con este requerimiento es el utilizar una porción del dinero cobrado bajo el concepto REST en su estado de cuenta mensual para pagar un incentivo a los clientes de TEP que instalen sistemas de paneles solares. Hasta qué punto está Usted de acuerdo con este uso que se le da al dinero que se le cobra bajo este concepto (surcharge)?
- Muy de Acuerdo
 - De Acuerdo
 - No Opinión
 - En Desacuerdo
 - Muy en Desacuerdo
 - No Sé
10. Hasta qué punto piensa Usted que las siguientes consideraciones deberían ser importantes para TEP?
- Proveer el servicio al costo más bajo posible.
 - Tomar en consideración asuntos de emisión de carbonos y cambios climáticos.
 - Prestar un servicio confiable.
 - Minimizar el consumo de agua.
 - Muy Importante
 - Importante
 - No opinion
 - No Muy Importante
 - Sin importancia

11. Califique de más importante (1) a menos importante (4) los siguientes enunciados:
- Proveer el servicio al costo más bajo posible.
 - Tomar en consideración asuntos de emisión de carbonos y cambios climáticos.
 - Prestar un servicio confiable.
 - Minimizar el consumo de agua.
12. TEP utiliza una parte del dinero proveniente del cobro adicional (surcharge) para establecer programas de tipo educativo y de entrenamiento dentro de la comunidad, los cuáles entrenan al público en general en la instalación y operación de sistemas de energía renovable. Hasta qué punto está Usted de acuerdo en la utilización de este cobro adicional (surcharge) en estos programas?
- Muy de Acuerdo
 - De Acuerdo
 - No Opinión
 - En Desacuerdo
 - Muy en Desacuerdo
 - No Sé
13. Qué porción del dinero cobrado bajo este concepto (surcharge) considera Usted que debería ser utilizado para estos programas de educación y entrenamiento?
- 0%
 - 1%
 - 3%
 - 5%
 - 10%
 - Más de 10%
14. TEP tiene la opción de utilizar una parte de este dinero para programas de educación y entrenamiento en empleos dedicados a la energía renovable. Hasta qué punto está Usted de acuerdo con este uso que se le da a este dinero (surcharge)?
- Muy de Acuerdo
 - De Acuerdo
 - No Opinión
 - En Desacuerdo
 - Muy en Desacuerdo
 - No Sé

15. Qué porción del dinero cobrado por este cobro adicional (surcharge) considera Usted que debería ser utilizado en programas de Investigación y Desarrollo?
- a. 0%
 - b. 1%
 - c. 3%
 - d. 5%
 - e. 10%
 - f. Más de 10%
16. TEP tiene además la opción de utilizar una parte del dinero cobrado bajo este concepto en programas de mercadotecnia, como son anuncios en la radio, billboards, mensajes impresos, etc. Hasta qué punto está Usted de acuerdo en que se le dé este uso al dinero cobrado?
- a. Muy de Acuerdo
 - b. De Acuerdo
 - c. No Opinión
 - d. En Desacuerdo
 - e. Muy en Desacuerdo
 - f. No Sé
17. Qué porción del dinero reunido por este cobro adicional (surcharge) considera Usted que debería ser utilizado en programas de mercadotecnia?
- a. 0%
 - b. 1%
 - c. 3%
 - d. 5%
 - e. 10%
 - f. Más de 10%

EXHIBIT

“3”

Exhibit 3

Tucson Electric Power Company

Renewable Energy Credit Purchase Program

2013

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I. Frequently Asked Questions

What is Distributed Generation?

Distributed Generation (DG) is defined as electric generation sited at a customer premise, providing electric energy to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility from the Arizona Corporation Commission (ACC).

What are Distributed Renewable Energy Resources?

Distributed Renewable Energy Resources are applications of appropriate technologies that are located at a customer's premise that displace conventional energy resources that would otherwise be used to provide electricity to Arizona customers.

Tucson Electric Power Company (TEP or Company) provides programs consistent with these definitions and generally refers to these programs as DG programs. For more information on these and other definitions, please visit the ACC's Renewable Energy Standard and Tariff webpage at <http://www.cc.state.az.us/divisions/utilities/electric/environmental.asp>.

What is Net Metering?

Net Metering refers to the production of electricity from a qualifying renewable energy electric generator, such as photovoltaic (PV) panels, used to offset electricity provided by TEP. Customers deemed eligible for participation in TEP's Net Metering Tariff will be required to install a bi-directional meter capable of measuring the flow of electricity to and from the customer's premises. Net Metering customers may buy and sell electricity to and from TEP under the applicable terms and tariff rate. In the event that a Net Metering customer carries a negative balance due to the over-production of electricity for the time period specified in the Net Metering Tariff, the customer's remaining credits will be transitioned to a payment at the applicable wholesale rate. This will occur once per year, in October. The customer's balance will then be reset to zero.

No system may exceed 125% of connected load for that meter, where connected load is defined as the maximum demand divided by 0.6. For more information on Net Metering, please visit www.tep.com/Customer/Rates/Pricing/.

Why is TEP involved with DG?

The ACC, which regulates TEP and utilities like it in Arizona, enacted the Renewable Energy Standard and Tariff (REST) Rules in 2008. These rules require TEP to replace a substantial portion of its retail sales with renewable energy by investing in a variety of projects, including both utility-scale and DG projects. In order to comply with a portion of the REST Rules governing DG projects, TEP may purchase Renewable Energy Credits (REC) from eligible customers through their incentive programs. Under these programs, TEP does not own or build the systems that generate these credits, but rather incents them by purchasing the resulting RECs. Pursuant to the REST Rules, one REC is equivalent to 1 kilowatt hour (kWh). For more information on the ACC's REST Rules, please visit the ACC's REST Rules webpage at <http://www.cc.state.az.us/divisions/utilities/electric/environmental.asp>.

How does TEP get involved with DG?

One way in which TEP supports DG projects is by providing residential and non-residential programs for customers with qualifying renewable energy generators to participate in. These programs include a variety of

ACC approved up-front and performance-based incentive payments by technology. These incentives are the method by which TEP actually purchases a REC. For details, terms, and conditions regarding for each qualifying technology, please see the appropriate sections of this document. Please note that TEP issues incentive payments for RECs; these payments are NOT REBATES. It should also be noted that not every renewable technology system is eligible to receive an incentive. TEP will only incent technologies specifically outlined herein.

Who is eligible for the incentive and how do I apply?

Any residential or non-residential customer currently connected to TEP's electric service system that installs a qualifying renewable facility, in compliance with the terms and conditions described herein, may apply to participate in one of TEP's DG programs. Alternatively, any TEP-qualified installer may submit the required DG program application on behalf of a qualifying TEP customer.

What is a TEP-qualified installer?

A TEP-qualified installer is an installer that has been evaluated by TEP personnel and deemed to have met the prerequisites for qualification. In order to become TEP-qualified, each installer must meet certain TEP requirements, including but not limited to annual submittal of the necessary paperwork contained within the "Installer's Packet". Each submittal must include, but is not limited to the following: an Installer's Agreement, a current and valid Registrar of Contractor's (ROC) license appropriate for the solar technology being installed, Arizona business license in good standing, and similar information regarding any sub-contractor(s), if applicable. TEP will not, under any circumstances, issue or assign incentive payment(s) to an installer who is not TEP-qualified.

Where can I find more information?

For the terms and conditions of participation in any of TEP's DG programs, please consult TEP's Renewable Energy Credit Purchase Program (RECPP), which can be found online at www.tep.com/Renewable/. Questions may be directed to (520) 917-3673.

What else do I need to know?

Each of the programs described herein, including incentive amounts and all terms and conditions, are subject to change as dictated by program need and any and all regulatory authorities. Nothing included in TEP's RECPP is intended as a guarantee of funds or qualification for purposes of program participation.

TEP's RECPP does not accommodate non-customer sited projects for any reason. "Solar Farms" or other utility-scale generation projects do not qualify under TEP's RECPP. These projects may participate in TEP's next request for proposals (RFP) for renewable energy. Information regarding TEP's upcoming RFP may be found at www.tep.com.

TEP's RECPP does not allow for any aggregated or virtual net metering of a customer's loads under any circumstance. The incentives described herein must meet the definitions of DG and Renewable Energy Resource as defined by the ACC and contained within the Frequently Asked Questions portion of this document.

II. Project Funding

TEP will allocate funds to all qualifying technologies applying for residential and non-residential incentives. Non-PV categories may be protected from over-spending in PV at the discretion of TEP Program Managers. This may result in a 10% carve out for technologies other than PV for both classes of projects. No more than 25% of a single budget may be reserved for any single project.

Funding for the following is detailed below:

- 1. Up-Front Incentive Levels for Solar Electric Residential Projects 30 kW DC or Less and Non-Residential Projects 70 kW DC or Less;**
- 2. Residential and Small Non-Residential Solar Water Heating and Space Heating Smaller than 400,000 kWh Equivalent Annual Production per Year, Non-Residential Solar Pool Heating;**
- 3. Ground Source Heat Pumps - Residential and Non-Residential Applications; and**
- 4. Wind Systems Smaller Than 20 kW.**

Funds will be made available for reservations on a first-come, first-reserved basis, until annual funding is exhausted. If the incentive level has changed from the date of the original reservation to the date when the reservation is approved, the new incentive level shall be applied.

Funding for the following is detailed below:

- 1. Non-Residential Solar Daylighting ;**
- 2. Performance Based Incentive Levels for Non-Residential Solar Electric Projects Greater than 70 kW DC; and**
- 3. Large Non-Residential Solar Water Heating Systems and Space Heating Systems with Annual Production Output Larger Than 400,000 kWh Equivalent**

Funds will be allocated on a quarterly basis. . Funds will be made available to projects based on a ranking generated by lowest expected life cycle credit purchase cost, as provided in the application and verified by TEP, as well as likelihood of construction. Projects submitted to the utility for reservation will be ranked based on a calculated index value for purposes of allocating non-residential funds as proposed in the application and verified by TEP. Lowest lifecycle cost projects will be funded first. Indexing of the non-residential projects will be performed based on the verified incentive values and duration of the proposed agreement in the application for that project. In addition, the bid evaluator assesses the likelihood that the project will be completed. Projects with higher incentive payments result in a higher expected life cycle credit purchase cost and projects that produce more kWh result in a lower expected life cycle credit purchase cost. In the event of a tie in the ranking, when the program would be fully subscribed if both projects were given reservation status, funds will be awarded based on the date of receipt of the completed reservation request.

Reservation requests will reviewed by the utility bi-monthly. Once reservation requests are fully ranked, notification of reservation approvals and rejections will be made in conformance with the rankings and available funding.

Funds unused in one period will not be rolled over into subsequent months. Funds allocated to non-residential projects will not roll forward from one year to the next. Reservations which are rejected as a result of insufficient program funds may elect to carry forward into the next period and retain the original reservation date. The election must be made at the time of the original application.

Funding for the following is detailed below:

- 1. Non-Residential Biomass/Biogas or Geothermal Space Heating, Process Heating, or Space Cooling;**
- 2. Biomass/Biogas, Hydro or Geothermal Electric; and**
- 3. Solar Space Cooling**

Funds will be allocated on a quarterly basis. Funds will be made available to projects based on a ranking generated by lowest expected life cycle credit purchase cost as provided in the application and verified by TEP, as well as likelihood of construction. Projects submitted to the utility for reservation will be ranked based on a calculated index value for purposes of allocating non-residential funds as proposed in the application and verified by TEP. Lowest lifecycle cost projects will be funded first. Indexing of the non-residential projects will be performed based on the verified incentive values and duration of the proposed agreement in the application for that project. In addition, the bid evaluator assesses the likelihood that the project will be completed. Projects with higher incentive payments result in a higher expected life cycle credit purchase cost and projects that produce more kWh result in a lower expected life cycle credit purchase cost. In the event of a tie in the ranking, when the program would be fully subscribed if both projects were given reservation status, funds will be awarded based on the date of receipt of the completed reservation request.

- Reservation requests will reviewed by the utility on a monthly basis. Once reservation requests are fully ranked each month, notification of reservation approvals and rejections will be made in conformance with the rankings and available funding.
- Funds unused in one period will not be rolled over into subsequent months. Funds allocated to non-residential projects will not roll forward from one year to the next. Reservations which are rejected as a result of insufficient program funds may elect to carry forward into the next period and retain the original reservation date. The election must be made at the time of the original application.

III. Installer Qualifications

All systems receiving incentives under the RECPP must be installed by an installer properly licensed by the state of Arizona and qualified to install solar projects. TEP will verify that the installer meets the following minimum qualifications prior to confirming a reservation request:

1. The installer must possess a valid license on file with the Arizona Registrar of Contractors (AZROC) with a license classification appropriate for the solar technology being installed. Alternatively, the installer must identify use of any sub-contractor(s) and ensure the subcontractor(s) maintain an appropriate license(s) on file with the AZROC for the solar technology being installed. Installers may not sub contract outside their scope of work per the AZROC rules; and
2. The installer must possess an Arizona business license that is active and in good standing.

Installers must have completed the TEP Installer's Packet and have provided the above information to be retained on file with TEP. The installer must certify that the information on file remains current with the submission of each reservation request. Information on file must be renewed by the end of the calendar year and resubmitted for participation in the upcoming program year.

IV. Net Metering

RECPP incentives can be applied to systems designed to serve only the typical load of the customer with whom the incentive agreement has been established. The assessment of that typical load does not preclude the periodic production of electricity in excess of the customer's demand. All projects must comply with ACC Net Metering rules.

V. Prohibition of System Removal

Neither the Qualifying System nor any component thereof may be removed by any party, including but not limited to the applicant or future owners or occupants of the property until expiration of the Renewable Energy Credit Agreement or the last day of the final month of the final full calendar year of the applicable incentive payment term. If the Qualifying System or any component thereof is removed by any party in violation of this provision, the customer party to the Renewable Energy Credit Agreement shall immediately reimburse TEP for all incentive amounts paid by TEP to customer or on behalf of customer to an authorized third party.

In addition, if a Qualified System is removed, TEP shall monitor that specific customer site to ensure that an additional incentive is not provided for any new distributed renewable energy resource system on that site until the original Renewable Energy Credit Agreement's contracted operational life of the original system has expired.

TEP shall attempt to monitor the number of missing or non-working distributed generation systems and shall summarize its observations in its annual Compliance Report.

VI. Community Solar

For customers who do not wish to operate a DG system, TEP offers the Bright Tucson Community Solar Program. The Bright Tucson Community Solar Program offers an easy and affordable way for TEP customers to meet their electric needs with locally generated solar power by purchasing solar power in "blocks" of 150 kWh per month. A customer may buy some or all of their power through the program. For more information, please see TEP's Green Energy webpage at www.tep.com/Renewable/Home/Bright/.

VII. Up-Front Incentives

Up-Front Incentive (UFI) programs are limited to Residential and Small Non-Residential Projects only.

a. Qualifications

Qualifying Technology	Size Limit
Residential Solar Photovoltaics (PV)	Less than 30 Kilowatts (kW) Direct Current (DC)
Residential Hot Water & Space Heating	
Residential and Non-Residential Ground Source Heat Pumps	Up to 200 Tons
Wind Systems	Less than 20 kW Alternating Current (AC)
Small Non-Residential Solar PV	Less than 70 kW DC
Small Non-Residential Hot Water & Space Heating	Less than 400,000 Kilowatt Hours (kWh) of Estimated Annual Savings
Non-Residential Pool Heating	

b. Application Process

TEP's UFI application process appears below. TEP requires strict adherence to this process. Any deviation from the requirements below may result in your application being denied. If you are working with an installer or contractor, please ensure that they follow the required processes explained below. TEP will assign payment under its UFI application process to the party that appears on the assignment of payment form or as designated by the UFI REC Purchase Agreement. Please work with your installer or contractor prior to beginning the process below to determine who payment should go to. **Once assignment of payment is decided and submitted to TEP, modifications will not be allowed.**

1st Step: Submittal of the Properly Completed Reservation Packet* to TEP.

The RECPP Reservation Packet includes the following items:

1. RECPP Reservation Packet Cover Sheet
2. Assignment of Payment Form (AOP) if applicable
3. IRS Form W-9, required from the TEP main customer
4. Current UFI Renewable Energy Credit Purchase Agreement, signed by the TEP main customer.
5. For Solar Water Heating Applications:
 - A recent copy of the Solar Rating and Certification Corporation (SRCC) OG300 schematic obtained from the SRCC website that includes in the printed view the annual kWh savings estimated.
 - In the event of a collector substitution both collectors must be SRCC OG100 rated. A recent copy of the SRCC OG100 Certification and Rating is required for both the collector named on the OG300 system and the substituting collector.
6. For Solar Space Heating Incentives:
 - A copy of an Energy-Modeling and Performance Simulation Report that estimates the energy savings that can be expected from the system. Report should include a system schematic/diagram.
 - A recent copy of the SRCC OG100 Certification and Rating obtained from the SRCC website.

* Please visit www.tep.com/renewable to find out which programs are eligible for online application submission.

All other program applications, including new construction and solar leasing, require paper applications.

2nd Step: Required program documents & other associated paperwork can be forwarded as follows:

Mail may be forwarded to the following address regardless of program:

Tucson Electric Power
Mail Stop HQE502
P.O. Box 711
Tucson, AZ 85702-0711

Emails and Faxes may be sent to the following based on program:

Residential PV: sunshare@tep.com or faxed to (520) 545-1576
Residential Hot Water/Space Heating: finalinspections@tep.com or faxed to (520) 545-1577
Non Residential Projects: commrenewables@tep.com or faxed to (520) 770-6719

Paperwork sent directly to any specific employee Company email address may not be processed.

3rd Step: Confirmation or Denial of Reservation.

- Once received, TEP will match the online or paper application with the submitted Reservation Packet. It is the customer's and/or installer's responsibility to ensure that all forms are filled out completely and correctly. Outdated forms or forms with missing and/or incorrect information are subject to rejection by TEP.
- TEP will evaluate each application for completeness and confirm whether or not reservation funds are available. **All applications are subject to the availability of program funds.** TEP will also verify, where an installer is used, that the installer is a TEP-qualified installer. Provided that the application meets TEP's requirements, and that the installer, if any, is TEP-qualified, and that program funds sufficient to fund the application are available, TEP will issue the customer and installer a reservation confirmation letter and provisionally approve the application. **If no funds are available at the time TEP processes the reservation, TEP will notify the installer and customer and the application will be denied.**

4th Step: Submittal of Jurisdictional Final Inspection.

1. Residential Programs:

Within 120 days from the date of the reservation confirmation letter, customer or installer must submit an application to the appropriate jurisdictional entity (e.g., City of Tucson or Pima County) for a final inspection of the qualifying system. Failure to obtain a jurisdictional final inspection within 180 days of the date of the reservation confirmation letter will result in the revocation of a customer's incentive reservation. If this occurs, the customer or installer must reapply to participate in the program subject to available funding and incentive levels in effect at time of reapplication.

2. Non-Residential Programs:

Within 150 days from the date of the reservation confirmation letter, customer or installer must submit an application to the appropriate jurisdictional entity (e.g., City of Tucson or Pima County) for a final inspection of the qualifying system. Failure to obtain a jurisdictional final inspection within 210 days of the date of the reservation confirmation letter will result in the revocation of a customer's incentive reservation. If this occurs, the customer or installer must reapply to participate in the program subject to available funding and incentive levels in effect at time of reapplication.

3. In the event that a jurisdictional final inspection is not completed within the required timelines and the customer or installer provides proof to TEP that a correctly completed application for a jurisdictional final inspection was made within the timeline required. TEP will neither process nor revoke the customer's reservation for 30 days to allow customer time to confirm with the inspecting jurisdiction when the inspection will occur. Provided that the customer provides TEP with an inspection date within those 30 days, the customer's reservation will be honored. If 30 days elapses with no information from the customer, the reservation will be revoked and customer must reapply to participate in the program subject to available funding and incentive levels in effect at time of reapplication.

4. For all PV systems, the inspecting jurisdiction will electronically provide TEP with proof of a passed inspection. **It is the responsibility of the installer to monitor that the jurisdiction has transmitted the approved final inspection to TEP.** For solar water heating systems and other non-PV systems, the installer or customer must submit proof of a passed final inspection directly to TEP that includes the installation address, scope of work, and inspection status.

5th Step: Submittal of Certificate of Completion (COC) Form.

For all program applications: once the jurisdictional final inspection has been approved, the installer or customer must submit the COC. For PV systems, please submit this form electronically to sunshare@tep.com. For solar Water Heating – Space Heating systems, please submit the COC to finalinspections@tep.com along with the copy of the corresponding approved jurisdictional final. For non residential programs please submit the COC to commrenewables@tep.com.

6th Step: TEP will inspect the system and set the appropriate meters if required (such as for PV).

7th Step: TEP process of incentive payment.

TEP will process the incentive payment upon successful inspection and mail the check to the party indicated on the Assignment of Payment form or as designated by the UFI REC Purchase Agreement. In the case of solar leases where only the Lessor can be paid, see section 6.3 of the UFI REC Purchase Agreement. Assignment of Payment forms may only be submitted once as part of the RECPP Reservation Packet. TEP will not accept changes to the AOP. TEP will not pay incentives without complete and accurate receipt of the required documents.

c. Restrictions/Important Notes:

1. TEP reserves the right to modify the business process to better serve customers or to increase efficiency. Please refer to www.tep.com/renewable for the most up-to-date information.
2. With the exception of minor system modifications during the procurement process (panel wattage changes of less than 10 watts, alternative inverter, et cetera), any material changes to a system made after the application is processed will result in cancellation of the existing application and will require a new online application to be submitted. The reservation request may be denied because the request is not in compliance with program requirements (see specific technical sections below).
3. Project extensions will not be granted except as outline herein.
4. Submission of the online application or receipt of the paper application is not valid until a properly completed RECPP Reservation Packet has been received by TEP. Once the Reservation Packet is received and deemed complete, the online reservation and or paper application is validated and the reservation retained at the incentive level in place at time of validation. Any reservation packets submitted incorrectly will be cancelled as will their corresponding online application. Reapplication may result in a reduction of incentive or unavailable funding.
5. In 2013, TEP will not purchase RECs from retroactive systems. "Retroactive" is defined as a renewable solar system installed before an application for incentive was received and approved by TEP. TEP must receive the required program documents; RECPP Reservation Packet and approve the application, and reserve the funds prior to the system being installed to receive the incentive ("installed" is defined as the date of the final clearance from the appropriate jurisdiction).
6. Incentives are not guaranteed.
7. No more than 25% of a single budget may be reserved for any single project.
8. In order to participate in the RECPP, installers must have on file with TEP a completed Installer's Packet and Agreement Form. This document is available in the Installer's Corner at www.tep.com/renewable.

A. Solar Electric Residential Projects 30 kW DC or Less and Non-Residential Projects 70 kW DC or Less

The UFIs for eligible customers with residential projects 30 kW DC or less and non-residential projects 70 kW or less are paid in a one-time payment based on the system's designed capacity. Table 1 identifies the incentives available for eligible systems.

Table 1. Dollar per Watt Incentive for On-Grid Residential Systems Smaller than 30 kW DC and On-Grid Non-Residential Systems 70 kW DC or Less

YEAR	RESIDENTIAL	SMALL NON-RESIDENTIAL
2013	\$0.50	\$0.50

a. Terms & Restrictions

- On-Grid Residential customers will receive a UFI up to a **cap of 30 kW DC**. If a residential system is installed larger than 30 kW DC, TEP will only provide an incentive payment for the first 30 kW DC.
- Any residential project larger than 10 kW AC will be subject to Engineering review to determine if proposed project is on a shared transformer. Following TEP's Service Requirements, customers may potentially be subject to a reduction in system size or upgrading of existing facilities at the expense of the customer should it be determined necessary by TEP Engineering.
- On-Grid Small Non-Residential customers will receive a UFI up to a **cap of 70 kW DC**. Small Non-Residential systems larger than 70 kW DC must apply under the large non-residential program.
- The UFI may not exceed 50% of Total System Cost.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- As described later in this document, **these incentive levels may be decreased because of sub-optimal system positioning**.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the system reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- For consumer protection, and in order to minimize program manipulation affecting legitimate solar development, no incentive applications will be accepted where the installed price per watt exceeds \$6.00, or where labor charges are in excess of 200% of the system component costs.
- In return for TEP's payment of a UFI, TEP will be given complete and irrevocable ownership of the Renewable Energy Credits until December 31st of the 20th full calendar year after completion of installation of the system. Operational life during that time frame must be supported by system warranty or planned maintenance schedules. If a system size exceeds the incentive cap, TEP will still be given complete and irrevocable ownership of the Renewable Energy Credits, within this timeline, for the full system size.

Project Requirements after Installation

After completing the installation of a Residential Solar Electric project of 30 kW DC or less, or a Non-Residential Solar Electric project of 70 kW DC or less, the customer must continue to provide information to TEP about the system's performance.

All customer systems receiving UFIs are obligated to include a TEP-supplied production meter, which will report system production to TEP in accordance with the regular meter-reading schedule. TEP, at its option, may perform periodic inspections of the system for operation, metered production, and reporting purposes.

b. System Qualifications and Requirements

All solar electric generating Customer Systems must meet the following system and installation requirements to qualify for TEP's RECPP. Capitalized terms not defined herein shall have the meanings ascribed to them in the RECPP Agreement.

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive an RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive an RECPP incentive, as it does reflect both industry and TEP concurrence with those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement, which is in conflict with a site-specific governmental requirement, shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Required Equipment Standards

1. The Customer System components must be certified as meeting the requirements of IEEE-929 - Recommended Practice for Utility Interface of Photovoltaic Systems.¹
2. Photovoltaic components must be certified by a nationally recognized testing laboratory as meeting the requirements of UL-1703 - Standard for Flat Plate Photovoltaic Modules and Panels Systems and be covered by a non-prorated manufacturer's warranty of at least 20 years.
3. The inverter must be certified as meeting the requirements of IEEE-1547 - Recommended Practice for Utility Interface of Photovoltaic Systems and it must be UL-1741 certified. Inverters must be covered by a manufacturer's warranty of at least ten years.
4. The Customer System design and installation must meet all requirements of the latest edition of the National Electrical Code (NEC), including Article 690 and all grounding, conductor, raceway, over-current protection, disconnect, and labeling requirements.

¹ Some technology-specific criteria reference third party standards. The requirements of those standards are fully applicable when referenced as part of technology specific criteria. TEP recognizes that new standards are likely to develop in the near future for technologies included in the RECPP, and recommends that the new standards are examined for application in this program definition as they become available.

5. All other electrical components must be UL listed.
6. The Customer System and installation must meet the requirements of all federal, state, and local building codes and have been successfully inspected by the building official having jurisdiction. Accordingly, the installation must be completed in accordance with the requirements of the latest edition of NEC in effect in the jurisdiction where the installation is being completed , including, without limitation, Sections 200-6, 210-6, 230-70, 240-3, 250-26, 250-50, 250-122, all of Article 690 pertaining to Solar Photovoltaic Systems, thereof, all as amended and superseded.
7. The Customer System must meet Company and Arizona Corporation Commission interconnection requirements for self-generation equipment. See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.

Installation Requirements

1. A grid-connected Residential Customer System must have a total solar array nameplate rating of at least 1,200 watts DC and no more than 30,000 watts DC.
2. The Customer System installation must meet TEP's Electric Service Requirements 2011 Edition, Section 1.22, as follows:

“As required by TEP/UES's Interconnection Requirements for Distributed Generation, the customer shall provide and install a disconnect switch to isolate all ungrounded conductors of the generating facility from the TEP/UES system. The switch shall be a gang-operated, load-break device with a visible air-gap in the open position. It shall be rated for the current and voltage requirements of the generating facility and shall be lockable in the open position”.
3. The DG utility meter and utility disconnect will be installed within 10' of the main service panel and in a location readily accessible by TEP at all times.
4. Products must be installed according to manufacturers' recommendations.
5. The Customer System PV panels and modules must face within +/- 90 degrees of true south, and be substantially unshaded from 9 am to 3 pm. System arrays which are facing at an azimuth angle other than optimal as defined herein or shaded for more than one hour per day will be subject to a reduced incentive payment per Attachment B.
6. The Customer System PV panels and modules must be fitted at an angle of 0 degrees to 60 degrees from horizontal. System arrays which are fitted with an elevation angle other than optimal as defined herein will be subject to a reduced incentive payment per Attachment B.
7. For Residential Customer Systems, Company shall furnish a meter, DG meter socket, and AC disconnect switch in accordance with Section 1.22 of TEP's Electric Service Requirements. Company shall install the meter. For Non-Residential customer systems, Company shall furnish and install DG meter only. The meter socket and AC disconnect shall be installed in accordance with Section 1.22 of TEP's Electric Service Requirements. Installer must notify TEP of wiring configuration so that Company may provide the appropriate 3-phase meter.
8. Total voltage drop on the DC and AC wiring from the furthest PV module to the AC meter will not exceed 2%.

9. PV panels and DC to AC inverter will be installed with sufficient clearance to allow for proper ventilation and cooling. At a minimum, manufacturer clearance recommendations will be observed. PV modules may be mounted less than 4 inches above any surface and an additional inch of clearance for each foot of continuous array surface area beyond four feet in the direction parallel to the mounting support surface, only in cases when arrays are flush-mounted to roof pitch. Otherwise, the four-inch spacing and an additional inch of clearance for each foot of continuous array surface area minimum is required.
10. Storage Batteries are not allowed as part of the Customer System unless the inverter is a separate component and TEP can locate the DG utility meter at the inverter's output. If configured otherwise, battery losses will adversely reflect in the annual AC metered energy output. Customer's solar energy generation and energy storage system must meet the requirements of 2 and 3 of this Attachment A.
11. The DC to AC inverter used must provide maximum power point tracking for the full voltage and current range expected from the photovoltaic panels used and the temperature and solar insolation conditions expected in Tucson, Arizona.
12. The DC to AC inverter must be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electric production.
13. TEP reserves the right to modify standards as technology changes on a case-by-case basis, pending independent laboratory analysis, Professional Engineer (PE) stamp, or TEP engineering analysis.

General Requirements

1. All Customer System installations must be completed in a professional, workmanlike and safe manner.
2. The Customer must be connected to the Company's electric grid and be a net-metered customer.
3. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
4. The project must comply with applicable local, state, and federal regulations.
5. Products must be installed according to manufacturer's recommendations.
6. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
7. All major system components must be new and must not have been previously placed in service in any other location or for any other application.
8. All renewable electricity generation systems must include a dedicated performance meter (provided by TEP) which allows for measurement of system energy production. Certain other non-electric renewable energy production systems will require customer supplied metering for PBI payment calculation purposes.
9. PV system components shall be properly labeled, including AC & DC disconnects, DG meter, service panel (outside cover), and breakers inside the service panel.
10. The system will in all cases have a material and full labor warranty of at least five years.

SunShare Solar Electric off-Angle & Shading Annual Energy Derating Chart for Residential Systems of 30 kW DC or Less and Small Non-Residential Systems of 70 kW DC or Less

TEP Up-Front Incentive (UFI) Payment - PV Off-Angle/Azimuth & Shading Derating Chart

Array Azimuth Angle from Due South

Array Angle Above Horizontal	Array Azimuth Angle from Due South																		
	East	80	70	60	50	40	30	20	10	South	10	20	30	40	50	60	70	80	West
0	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
5	90%	90%	90%	90%	90%	90%	95%	95%	95%	95%	95%	95%	90%	90%	90%	90%	90%	90%	90%
10	90%	90%	90%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	90%	90%	90%	90%	85%
15	90%	90%	95%	95%	95%	95%	100%	100%	100%	100%	100%	100%	95%	95%	95%	95%	90%	90%	85%
20	85%	90%	95%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	95%	90%	85%	85%	85%
25	85%	90%	95%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	95%	90%	85%	85%	85%
30	85%	90%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	90%	90%	85%	80%	80%
35	85%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	90%	85%	85%	80%	80%
40	80%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	90%	90%	85%	80%	75%	75%
45	80%	85%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	95%	95%	90%	85%	85%	80%	75%
50	75%	80%	85%	90%	90%	95%	95%	100%	100%	100%	95%	95%	95%	90%	90%	85%	80%	75%	75%
55	75%	80%	85%	85%	90%	95%	95%	95%	95%	95%	95%	95%	90%	90%	85%	80%	80%	75%	70%
60	70%	75%	80%	85%	85%	90%	90%	90%	95%	90%	90%	90%	85%	85%	85%	80%	75%	70%	65%

0 degree kept at 85% to account for soiling
3/12 roof pitch to be kept at 5% derate for higher cell temps of flush mount

Array Shading

If both off-angle shading conditions apply, multiply the off angle de rating factor with the shading de rating factor to obtain the array de rating factor for the Up-Front Incentive (UFI) payment Calculation.

Maximum Morning Shaded Hours	0	1	0	1	0	2	1	2	2	0	3	1	3	3	2
Maximum Evening Shaded Hours	0	0	1	1	2	0	2	1	2	3	3	3	1	2	3
Percentage of annual energy	100%	100%	100%	95%	90%	90%	85%	85%	75%	75%	70%	70%	70%	80%	80%

Qualifying PV systems using Building Integrated Photovoltaic (BIPV) modules of total array capacity of 5 kW DC or less shall receive 90% of the UFI incentive value. Systems using BIPV modules of total array capacity of greater than 5 kW DC shall be derated based on heating unless the applicant can demonstrate optimal performance.

B. Residential and Small Non-Residential Solar Water Heating and Space Heating Smaller than 400,000 kWh Equivalent Annual Production per Year and Non-Residential Solar Pool Heating

Solar water heating and space heating in residential and small non-residential and non-residential solar pool heating applications are eligible for up-front incentives (UFI). UFIs are those incentives where the customer receives a one-time payment based on the system's designed capacity.

Table 2. UFIs for Residential and Small Non-Residential Solar Water Heating and Space Heating

Year	Residential Incentive Level**	Small Non-Residential Incentive Level**
2013	\$0.50/kWh (max \$1,750)	\$0.50/kWh (max \$200,000)

**Indicates estimated annual kWh production in first year.

a. Terms & Restrictions

- Energy savings rating is based on the Solar Rating and Certification Corporation (SRCC) OG-300 published rating or International Association of Plumbing and Mechanical Officials (IAPMO) rating to the OG-300 standard, Engineering Report or reputable Energy Modeling and Performance simulation Report. The rate applies to forecast/measured first year energy savings only.
- Small non-residential customers will receive a UFI up to the system size with output smaller than a 400,000 kWh equivalent. If a small non-residential system is installed beyond that threshold, it must apply under the large non-residential program.
- The UFI may not exceed 50% of total System Cost.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation has been approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a UFI, TEP will be given complete and irrevocable ownership of the Renewable Energy Credits until December 31st of the 20th full calendar year after completion of installation of the system. Operational life during that time frame must be supported by system warranty or planned maintenance schedules.

i. Non-Residential Solar Pool Heating Equipment Specifications

- Determine whether or not the collector used in the Solar Pool Heating system has an OG-100 rating. If it does not, it is not eligible for the program. The OG100 Certification and Rating must be submitted along with the system schematic/diagram as part of the Reservation Packet.
- Annual energy savings will be determined by submitting an engineering report stamped by a registered third-party professional engineer or a reputable Energy Modeling and Performance Simulation Report.
- TEP will retain the right to meter the system.

ii. Qualifications for Residential and Small Non-Residential Solar Water Heating and Space Heating

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement which is in conflict with a site-specific governmental requirement shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Specifications

1. Domestic Solar Water Heating systems will be rated by the Solar Rating Certification Corporation (SRCC) and or the International Association of Plumbing and Mechanical Officials (IAPMO) and meet the OG-300 system standard. Systems that include OG-100 collectors, but are not certified under OG-300, will need to be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a registered third-party professional engineer or a reputable Energy Modeling and Performance Simulation Report detailing annual energy savings.
2. Solar Space Heating systems will utilize OG-100 collectors and systems will be sized appropriately in conformance with the building design review. Annual energy savings will be determined by submitting an engineering report stamped by a registered third-party professional engineer or a reputable Energy Modeling and Performance Simulation Report.
3. Active, open-loop systems are not eligible for RECPP incentives except for active, open-loop systems that have a proven technology or design that limits scaling and internal corrosion of system piping, and includes appropriate automatic methods for freeze protection and prevents stagnation temperatures that exceed 250 degrees Fahrenheit (F) under all conditions at the location of installation. Details disclosing conformance with this exception shall be submitted as part of the manufacturer's verification documentation.

4. The 'high' limit on all Domestic Water Heating controllers shall be set no higher than 160 degrees F.
5. Active thermal storage for solar space heating systems shall use water as the storage element.
6. Contractors must provide a minimum of a five year equipment warranty as provided by the system manufacturer, including a minimum warranty period of five years for repair/replacement service to the customer.
7. Domestic Water Heating systems that are installed as an addition to an existing system or are submitted as a customer designed system or not certified to OG-300 must be specifically reviewed and approved by the utility.
8. The solar collector, heat exchangers, and storage elements shall have an equipment warranty of at least 5 years to qualify either for a UFI or PBI.

Installation Guidance

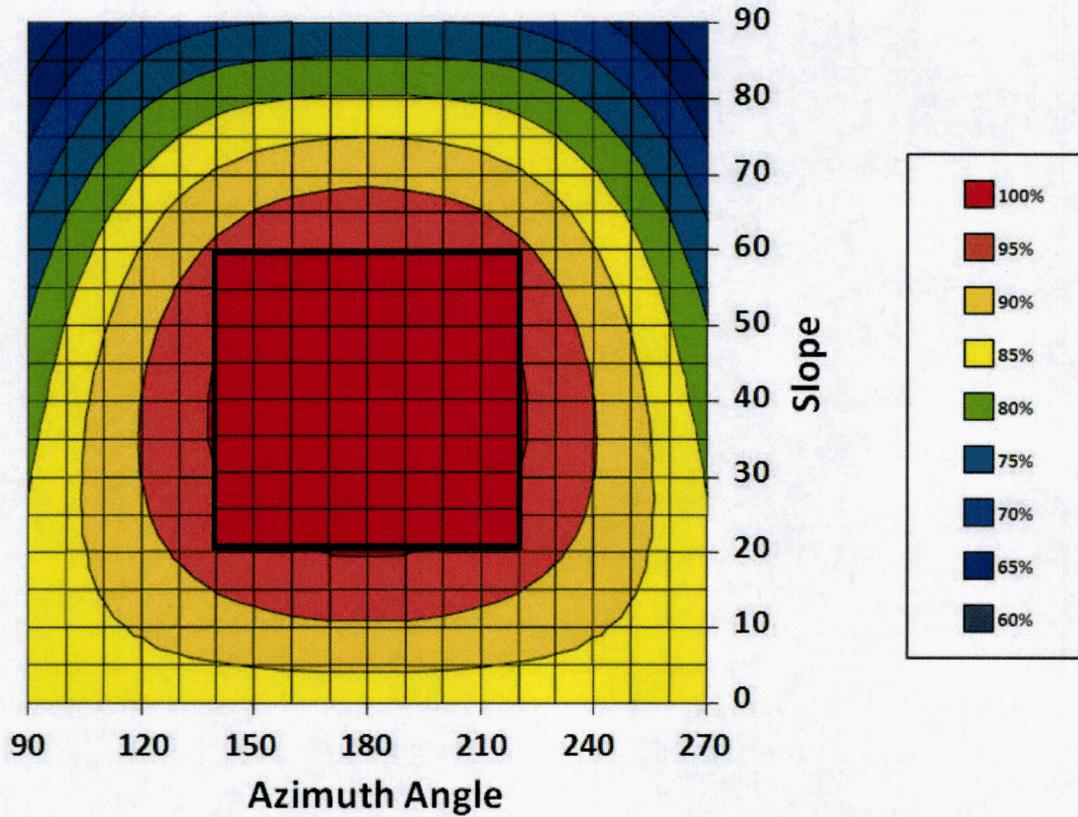
1. The system shall be installed with a horizontal tilt angle between 20 degrees and 60 degrees (40 and 60 degrees for space heating applications), and an azimuth angle of +/- 60 degrees of due south (+/- 20 degrees for space heating applications). It is recommended that collectors be positioned for optimum winter heating conditions at a minimum tilt angle of 45 degrees above horizontal, or as recommended by the manufacturer for the specific collector type and geographic location of installation. Azimuth or tilt angles outside these parameters may be reviewed and approved by the utility, at their discretion. Solar Hot Water de-rating chart, located on page 30, may be used to adjust incentive level based upon affected output.
2. All systems should be installed such that the energy collection system is substantially unshaded and should have substantially unobstructed exposure to direct sunlight between the hours of 9:00 a.m. and 3:00 p.m. Solar Hot Water derating chart may be used to adjust incentive level based upon affected output due to shading.
3. Heat exchange fluid in glycol systems should be tested, flushed and refilled with new fluid as necessary or at a minimum every five years or sooner per manufacturer's recommendations.
4. The anode rod should be checked and replaced per manufacturer's recommendations, but no less frequently than every five years.
5. For optimal system performance; a timer, switch, and a temperature sensor on the backup element of the storage tank is recommended.
6. The collectors and storage tank should be in close proximity to the backup system and house distribution system to avoid excessive pressure or temperature losses.
7. It is recommended that in areas where water quality problems are reported to have reduced the expected life of a solar water heater, that a water quality test is performed for each residence to screen for materials that through interaction with the materials of the proposed solar water heating system may reduce the expected operational life of the system components.
8. In areas subject to snow accumulation, sufficient clearance will be provided to allow a 12" snowfall to be shed from a solar collector without shadowing any part of the collector.
9. Ball valves shall be used throughout the system. Gate valves shall not be used in any new installation systems.

10. Pipes carrying heated fluids shall be insulated for thermal energy conservation as well as personal protection when exposed to ambient conditions, although this is highly recommended in either situation.
11. TEP reserves the right to modify standards as technology changes on a case-by-case basis, pending independent laboratory analysis, Professional Engineer (PE) stamp, or TEP engineering analysis.

General Requirements

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale on new installations.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.

iii. Solar Hot Water Off-Angle and Shading Annual Energy Derating Chart



If the SHW system falls outside of the 95-100% performance band, then the UFI for the system will be derated. The incentive will be derated based on the decrease in annual energy output anticipated by this chart.

C. Large Non-Residential Solar Water Heating Systems and Space Heating Systems with Annual Production Output Larger Than 400,000 kWh Equivalent

Solar water heating and space heating in large non-residential applications are eligible for performance-based incentives (PBI). In the case of solar water heating and space heating, the PBI allows the customer to collect incentive payments in relation to the actual system production. In all cases, incentive values listed in Table 3 are maximum values. PBIs are awarded through a bid process, which is discussed later in this section. Applicants are encouraged to submit bids requesting incentive amounts less than the maximums listed. Bids requesting a lower level of incentive payment than the maximum will have an increased chance of acceptance in the allocation ranking process.

Table 3. Maximum Incentives for Large Non-Residential Solar Water Heating and Space Heating for REC Agreements of the Specified Duration**

Year	10-year REC Agreement	15-year REC Agreement	20-year REC Agreement
2013	\$0.057/kWh	\$0.057/kWh	\$0.057/kWh

**Incentive level is based on the \$/kWh equivalent output.

a. Terms & Restrictions

- There is no incentive cap for non-residential systems other than annual program funding considerations.
- A PBI cannot exceed 50% of the real project costs, defined as the undiscounted total system cost plus acceptable financing charges. Acceptable finance charges are finance charges used for the PBI incentive cap calculation and cannot exceed the current prime interest rate plus 5%. Financing charges must be disclosed as part of the commissioning package, if not disclosed before.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- TEP will require and perform specific design analysis and review on project design estimates.
- The bid evaluator reserves the right to award incentives to solar thermal projects other than those that meet the specifications outlined in Attachment A. Incentives in these cases will be determined by the bid evaluator.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a PBI, TEP will receive complete and irrevocable ownership of the Renewable Energy Credits for the full duration of the PBI Agreement. The agreement duration must fully coincide with the PBI payment schedule and the system must be supported by system warranty or planned maintenance schedules for the term of the agreement.

b. Qualifications

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement which is in conflict with a site-specific governmental requirement shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. Solar collector panels used will have a SRCC OG-100 certification or publicly-funded laboratory documentation showing the panel energy output under controlled and replicable test conditions.
2. If annual energy production is expected to exceed 10,000 kWh or equivalent, the system must include a dedicated performance customer-supplied meter to allow for monitoring of the amount of useful heat produced. Otherwise, compliance reporting production will be based on the design energy savings submitted at time of application.
3. Energy savings and designed output for the system will be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a registered professional engineer. The engineering report shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications.
4. The solar collector, heat exchangers and storage elements shall have an equipment warranty of at least five years to qualify for a PBI.
5. The system will in all cases have a material and full labor warranty of at least five years.

Installation Guidance

1. The horizontal tilt angle of the collector panels should be between 20 and 60 degrees (30 and 60 degrees for space heating applications) and an azimuth angle +/- 45 degrees of south. Azimuth or tilt angles outside these parameters may be reviewed and approved by the utility, at their discretion
2. All systems should be installed such that the energy collection system is substantially unshaded and should have substantially unobstructed exposure to direct sunlight between the hours of 9:00 a.m. and 3:00 p.m. Solar Hot Water de-rating chart may be used to adjust incentive level based upon affected output due to shading.
3. The system installation should comply with the design manual.

4. Heat exchange fluid in glycol systems should be tested, flushed and refilled with new fluid as necessary or at a minimum every five years or sooner per manufacturer's recommendations.
5. It is recommended that the anode rod be checked and replaced per manufacturer's recommendations, but no less frequently than every five years.
6. It is recommended that the system design include a timer, switch, and a temperature sensor on the backup element of the storage tank.
7. It is recommended that in areas where water quality problems are reported to have reduced the expected life of a solar water heater, that a water quality test is performed for each residence to screen for materials that through interaction with the materials of the proposed solar water heating system may reduce the expected operational life of the system components. The customer should consider contacting the manufacturer to determine if warranty or operational life will be affected.
8. In areas subject to snow accumulation, sufficient clearance will be provided to allow a 12" snowfall to be shed from a solar collector without shadowing any part of the collector.
9. Each system shall have a comprehensive operation and maintenance manual at the customer's site, which includes a spare parts list, data sheets and flow diagrams indicating operating temperatures and pressures, maintenance schedules and description of testing methods and each customer must complete an initial start up and operation training review with the contractor at the time of system start up
10. TEP reserves the right to modify standards as technology changes on a case by case basis, pending independent laboratory analysis, PE stamp, or TEP engineering analysis

General Requirements

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.

D. Ground Source Heat Pumps: Residential & Non-Residential Applications

Residential and small non-residential ground source heat pump (GSHP) systems are eligible for up-front incentives (UFI). UFIs are those incentives where the customer receives a one-time payment based on the system's designed capacity. Table 4 identifies the incentives available for GSHP systems.

Table 4. UFIs for Residential and Non-Residential Ground Source Heat Pump Systems

Year	Incentive Level
2013	\$500/ton
*Indicates that the incentive has not yet been approved by the Arizona Corporation Commission and may change pending ACC approval.	

a. Terms & Restrictions

- Customers will receive a UFI up to a cap of 200 tons.
- The UFI may not exceed 50% of total System Cost.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a UFI, TEP will be given complete and irrevocable ownership of the Renewable Energy Credits until December 31st of the 20th full calendar year after completion of installation of the system. Operational life during that time frame must be supported by system warranty or planned maintenance schedules.

Project Requirements after Installation

After completing the installation of a small distributed energy system, the customer must continue to provide information to TEP about the system's performance.

All customers receiving renewable energy self-generation incentives are obligated to report system production to TEP in accordance with the reporting schedule established in the program agreement between TEP and the customer. TEP, at its option, may perform periodic inspection of the system for operation, metered production, and reporting purposes.

b. Qualifications

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement which is in conflict with a site-specific governmental requirement shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. Geothermal system installations involving a regulated boiler or pressure vessel are required to comply with all Arizona state boiler regulations; provide a qualifying boiler inspection identification number; and keep all applicable permits in good standing.
2. Energy savings and designed output for the system will be verified by submitting either a testing certification for a substantially similar system prepared by a publicly-funded laboratory or by submitting an engineering report stamped by a registered third-party professional engineer. The engineering report shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications.
3. Energy production for space heating, space cooling and process heating will be calculated as one kWh of energy per 3,415 BTU of useful heat delivered by the system as measured by a dedicated heat delivery measuring meter and used by the building space or process.
4. The system will have a material and labor warranty of at least five years.
5. The system must meet Arizona DEQ environmental standards.
6. The most current Energy Star Standards must be achieved. These can be found at <http://www.energystar.gov/index.cfm?c=geoheat.prcritgeoheatpumps>.

Installation Guidance

Because of the individual nature of geothermal systems, care should be taken to make sure the system complies with all applicable permitting and regulatory requirements including, but not limited to, air emission standards and air permit regulations.

General Requirements

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.

E. Wind Systems Smaller Than 20 kW

Wind systems smaller than 20 kW are eligible for up-front incentives (UFI). UFIs are those incentives where the customer receives a one-time payment based on the system's designed capacity. Table 5 identifies the incentives available for wind systems smaller than 20 kW.

Table 5. UFIs for Small Wind Systems

YEAR	ON-GRID INCENTIVE LEVEL
2013	\$0.50/W AC

a. Terms & Restrictions

- TEP customers will receive a UFI up to a cap of 20 kW. If a system is installed larger than 20 kW, it must apply under the utility-scale program.
- The UFI may not exceed 50% of total System Cost.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered.
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a UFI, TEP will be given complete and irrevocable ownership of the Renewable Energy Credits until December 31st of the 20th full calendar year after completion of installation of the system. Operational life during that time frame must be supported by system warranty or planned maintenance schedules.

Project Requirements after Installation

After completing the installation of a small wind project, the customer must continue to provide information to TEP about the system's performance.

All customer systems receiving renewable energy self-generation incentives are obligated to include a TEP-supplied production meter, which will report system production to TEP in accordance with the regular meter-reading schedule. TEP, at its option, may perform periodic inspection of the system for operation, metered production, and reporting purposes.

b. Qualifications

A small wind generator is a system with a nameplate capacity rating of 20 kW or less. The technology criteria described below are intended for small wind generators with a nameplate rating of 20 kW or less. The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's

designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement which is in conflict with a site-specific governmental requirement shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. Eligible small wind systems must be certified and nameplate rated by the Consumer Energy Center (CEC)². See www.consumerenergycenter.org/erprebate/equipment.html for a list of certified generators. For grid tied or off-grid wind generators where an inverter is used, the CEC listed nameplate rating of the wind generator will be multiplied by the CEC approved weighted efficiency percentage listed for the inverter in the “List of Eligible Inverters” at www.consumerenergycenter.org/cgi-bin/eligible_inverters.cgi to calculate the wind turbine nameplate rating for use in determining the UFI payment.³
2. Grid connected inverters used as part of the system shall carry the Underwriter’s Laboratory (UL) listing certifying full compliance (UL-1741).
3. A system must include a dedicated performance meter (provided by TEP) installed to allow for measurement of the amount of electricity produced.
4. The performance meter and utility disconnect for grid tied systems will be installed in a location readily accessible by TEP during normal business hours.
5. The tower used in the installation must be designed by an Arizona registered engineer and must be suitable for use with the wind generator. Tower installation must be designed and supervised by individuals familiar with local geotechnical conditions.
6. To receive a UFI, the wind generator and system must be covered by a manufacturer’s warranty of at least 5 years. In all cases, the wind system will have a material and labor warranty of at least five years.

Installation Guidance

1. Location: a wind turbine hub should be at least 20 feet above any surrounding object and at least 28 feet above the ground within a 250-foot radius. Wind generators should be installed in locations with an elevation at or above the general elevation of the surrounding terrain.
2. Lot Size: should be one-half acre at minimum. Municipalities and public facilities such as schools and libraries are exempt from the minimum lot size requirements.

² TEP recommends review of the SWCC standards for rating small wind generators once they become available for purposes of supplanting the CEC requirement in this Technology Criterion.

³ Inverter outputs are rated in dc Watts and must be converted to ac Watts for incentive calculation purposes.

General Requirements

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.
6. All renewable electricity generation systems must include a dedicated performance meter (provided by TEP) which allows for measurement of system energy production. Certain other non-electric renewable energy production systems, noted below, will require customer supplied metering for PBI payment calculation purposes.
7. Wind system components shall be properly labeled, including AC & DC disconnects (if present), wind generation meter, service panel (outside cover), and breakers inside the service panel.
8. If the qualifying system is grid-tied, the system must meet Arizona Corporation Commission Interconnection Requirements for Self-Generation Equipment.

See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.

F. Non-Residential Solar Daylighting

Non-residential solar daylighting systems are eligible for up-front incentives (UFI). The UFI allows the customer to collect incentive payments in direct relation to the actual system production. Table 6 identifies the incentives available for non-residential daylighting systems.

Table 6. UFIs for Non-Residential Daylighting Systems

Year	Incentive Level
2013	\$0.18/kWh savings during first five years

a. Terms & Restrictions

- The per-kWh incentive applies only to estimated energy savings during the first five years of project operation.
- The UFI may not exceed 50% of total System Cost.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- As described later in this document, these incentive levels may be decreased because of sub-optimal system positioning.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a UFI, TEP will be given complete and irrevocable ownership of the Renewable Energy Credits until December 31st of the 20th full calendar year after completion of installation of the system. Operational life during that time frame must be supported by system warranty or planned maintenance schedules.

b. Qualifications

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement, which is in

conflict with a site-specific governmental requirement, shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

All systems shall include the following components as part of the day lighting system:

1. Skylights must adhere to the 2009 International Energy Conservation Code with regard to the U-factor and solar heat gain coefficient and must have a minimum visible transmittance based on the CPUC Savings by Design program (Note: U-value and SHGC ratings should be based on a 20 degree ratings, now standard through the NFRC):
 - Maximum U-factor of 0.75
 - Maximum solar heat gain coefficient of 0.35
 - Minimum visible transmittance of 0.45
2. Skylight can be in a toplighting configuration only.
3. Skylight area may not exceed 3% of the gross roof area.
4. Skylights must be certified by the National Fenestration Rating Council (“NFRC”).
5. If artificial lighting systems remain a part of the installation, the system shall include automated lighting control(s) which are programmed to keep electric lights off/dimmed during daylight hours of sufficient solar insulation to provide minimum design illumination levels.
6. The system will have a material and labor warranty of at least five years.

Installation Guidance

All systems should be installed such that the skylight dome is substantially unshaded and have substantially unobstructed exposure to direct sunlight between the hours of 9:00 a.m. and 3:00 p.m.

General Qualifications

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers’ recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer’s locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.

VIII. Performance Based Incentives

TEP's Performance Based Incentive (PBI) programs are limited to Large Non-Residential Projects only.

a. Qualifications

Non-Residential Qualifying Technology	Size Limit
Solar PV	Greater than 70 Kilowatts (kW) Direct Current (DC)
Biomass/Biogas (Electric)	N/A
Biomass/Biogas – Combined Heat and Power (CHP) (Electric)	N/A
Biomass/Biogas – CHP (Thermal)	N/A
Biomass/Biogas (Thermal)	N/A
Biomass/Biogas (Cooling)	N/A
Geothermal – (Electric)	N/A
Geothermal – (Thermal)	N/A
Small Hydro	N/A
Solar Space Cooling	N/A

b. Application Process

TEP's PBI application process appears below. TEP requires strict adherence to this process. Any deviation from the requirements below may result in your application being denied. If you are working with an installer or contractor, please ensure that they follow the required processes explained below. TEP will assign payment under its PBI application process to the party that appears on the assignment of payment form. Please work with your installer or contractor prior to beginning the process below to determine who payment should go to.

1st Step: Submittal of the Completed Performance Based Incentive Application to TEP.

The submitted application must include a proposed renewable energy credit (REC) term, price, and payout term in years.

2nd Step: Holding of the Completed Application and REC Proposal until Auction Time.

TEP will hold all applications until the next applicable auction time (revolving quarterly awards). Once the auction process begins, TEP will open 1/4 of its approved budget for the year and funds will be awarded to the most competitive projects based on the following criteria:

- Actual REC Price Requested
- Annual Incentive Amount Requested
- Terms of Payment and REC Transfer
- Overall REC Price

3rd Step: Process for Project Selection.

If a project is selected, the customer will be notified and an acceptance packet will be mailed to them. The acceptance packet will include the following:

- REC Agreement
- New Supplier Fact Sheet (provides information on entity receiving incentive payment)
- IRS Form W-9
- Interconnection Application
- Assignment of Payment Form
- Information Regarding Demand-Based Rates (if applicable)

4th Step: Submittal of Acceptance Paperwork.

- Within 45 days from the date the acceptance packet is mailed to the customer, customer must return the interconnection application.
- Within 180 days from the date the acceptance packet is mailed to the customer, customer must return all remaining paperwork included as part of the acceptance packet to TEP as proof of advancement of project.

5th Step: Project Completion.

All accepted projects must be complete within 365 days from the date the acceptance packet is mailed to the customer. A project is not considered complete until an approved final inspection from the appropriate local jurisdiction (e.g., City of Tucson or Pima County) is submitted to TEP. It is the installer's responsibility to ensure the approved final is submitted to TEP. The installer must also submit a Certificate of Completion to TEP. Once TEP receives both the approved jurisdictional final inspection and the Certificate of Completion, it will perform a commissioning of the completed system. Incentive payments will not issue until *after* the first full quarter after completion; incentive payments will continue thereafter on a quarterly basis.

c. Restrictions/Important Notes

1. TEP does not provide any meter sockets, disconnects, et cetera for non-residential installations.
2. If a project is not accepted, it will remain in the queue for the next award period. If no award period remains in that year, the customer will be notified and asked to resubmit in the next calendar year.
3. Request for reservation extensions, with proof of project status, must be submitted in writing and include the customer's signature. Reservation extensions requests will only be granted where warranted. TEP reserves the right to evaluate each reservation extension request on a case-by-case basis, for project hardships encountered that are not due to customer fault.
4. TEP requires an Interconnection Inspection for all Grid-Tied Renewable Electrical Systems greater than 70 kW DC.
 - Non-residential grid-tied qualifying systems of electrical generating capacity must submit to and pass an interconnection inspection before the system can be commissioned. TEP conducts the interconnection inspection and will notify the applicant of the results of the inspection. If the system passes the interconnection inspection, the application retains the reservation. An applicant may retain its reservation even if the system fails the initial interconnection inspection so long as the deficiency is remedied within 30 days from the date of the interconnection inspection.

A. Non-Residential Solar Electric Projects Greater than 70kW DC

Non-residential Solar Electric systems greater than 70 kW DC are eligible for performance-based incentives (PBI). The PBI allows the customer to collect incentive payments in direct relation to the actual system production. Table 7 identifies the incentives available for non-residential Solar Electric systems larger than 70 kW DC.

In all cases, incentive values listed in Table 7 are maximum values. PBIs are awarded through a bid process, which is discussed later in this section. Applicants are encouraged to submit bids requesting incentive amounts less than the maximums listed. Bids requesting a lower level of incentive payment than the maximum will have an increased chance of acceptance in the allocation ranking process. Projects will be reviewed bi-monthly.

Table 7. Maximum PBIs for Non-Residential Projects Greater Than 70 kW DC

70 – 200 kW DC			
YEAR	10-YEAR	15-YEAR	20-YEAR
2013	\$0.072	\$0.072	\$0.072
201 – 400 kW DC			
YEAR	10-YEAR	15-YEAR	20-YEAR
2013	\$0.068	\$0.068	\$0.068
401 kW DC and Greater			
YEAR	10-YEAR	15-YEAR	20-YEAR
2013	\$0.064	\$0.064	\$0.064

a. Terms & Restrictions

- There is no incentive cap for non-residential systems other than program funding considerations.
- A PBI cannot exceed 50% of the real project costs, defined as the undiscounted total system cost plus acceptable financing charges. Acceptable finance charges are finance charges used for the PBI incentive cap calculation and cannot exceed the current prime interest rate plus 5%. Financing charges must be disclosed as part of the commissioning package, if not disclosed before.
- The customer must pay at least 15% of the project cost (as defined above), after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change during the period of time after the reservation approval, the incentive amount reserved will not be changed as long as the reservation is not cancelled.
- In return for TEP's payment of a PBI, TEP will receive complete and irrevocable ownership of the Renewable Energy Credits for the full duration of the PBI Agreement. The agreement duration must fully coincide with the PBI payment schedule and the system must be supported by system warranty or planned maintenance schedules for the term of the agreement.

Project Requirements after Installation

All customer systems receiving incentives are obligated to include a TEP-supplied production meter, which will report system production to TEP in accordance with the regular meter-reading schedule. TEP, at its option, may perform periodic inspections of the system for operation, metered production, and reporting purposes.

Installer Qualifications

All systems receiving incentives under the RECPP must be installed by a qualified installer. The following requirements must be submitted by the applicant as part of the reservation request. TEP will verify that the installer meets the following minimum qualifications prior to confirming a reservation request:

1. The installer must possess a valid license on file with the Arizona Registrar of Contractors (AZROC) with a license classification appropriate for the technology being installed. Alternatively, the installer must identify use of a contractor holding an appropriate license on file with the AZROC for the technology being installed. A copy of the AZROC license must be provided as part of the reservation request.
2. The installer must possess an Arizona business license that is active and in good standing.
3. Installers may request that the above information be retained on file with TEP; however, under this option the installer must certify that the information on file remains current with the submission of each reservation request. Information on file must be renewed yearly.

System Qualifications and Requirements

All solar electric generating Customer Systems must meet the following system and installation requirements at the time of project commissioning to qualify for TEP's RECPP Capitalized terms not defined herein shall have the meanings ascribed to them in the RECPP Agreement.

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement which is in conflict with a site-specific governmental requirement shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Standards

1. The Customer System components must be certified as meeting the requirements of IEEE-929 - Recommended Practice for Utility Interface of Photovoltaic Systems.⁴
2. Photovoltaic components must be certified by a nationally-recognized testing laboratory as meeting the requirements of UL-1703 - Standard for Flat Plate Photovoltaic Modules and Panels Systems; they must also be covered by a non-prorated manufacturer's warranty of at least 20 years.
3. The Customer System design and installation must meet all requirements of the latest edition of the National Electrical Code, including Article 690 and all grounding, conductor, raceway, over-current protection, disconnect and labeling requirements.
4. The inverter must be certified as meeting the requirements of IEEE-1547 - Recommended Practice for Utility Interface of Photovoltaic Systems and it must be UL-1741 certified. Inverters must be covered by a manufacturer's warranty of at least ten years.
5. All other electrical components must be UL listed.
6. The Customer System and installation must meet the requirements of all federal, state and local building codes and have been successfully inspected by the building official having jurisdiction. Accordingly, the installation must be completed in accordance with the requirements of the latest edition of National Electrical Code in effect in the jurisdiction where the installation is being completed (NEC), including, without limitation, Sections 200-6, 210-6, 230-70, 240-3, 250-26, 250-50, 250-122, all of Article 690 pertaining to Solar Photovoltaic Systems, thereof, all as amended and superseded.
7. The Customer System must meet Company and Arizona Corporation Commission interconnection requirements for self-generation equipment.

See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.

Installation Requirements

1. Any Non-Residential Customer System must have a total solar array nameplate rating of more than 70,000 watts DC.
2. The Customer System installation must meet TEP's Electric Service Requirements 2011 Edition, Section 1.22, as follows:

“As required by TEP/UES's Interconnection Requirements for Distributed Generation, the customer shall provide and install a disconnect switch to isolate all ungrounded conductors of the generating facility from the TEP/UES system. The switch shall be a gang-operated, load-break device with a visible air-gap in the open position. It shall be rated for the current and voltage requirements of the generating facility and shall be lockable in the open position”.

⁴ Some technology-specific criteria reference third party standards. The requirements of those standards are fully applicable when referenced as part of technology specific criteria. TEP recognizes that new standards are likely to develop in the near future for technologies included in the RECPP and recommends that the new standards are examined for application in this program definition as they become available.

3. The DG utility meter and utility disconnect will be installed within 10' of the main service panel and in a location readily accessible by TEP at all times.
4. Products must be installed according to manufacturer's recommendations.
5. For Non-Residential Customer Systems, Company shall provide the meter only, to be installed in a Customer supplied meter socket in a readily accessible outdoor location by the Customer between the DC to AC inverter and the connection to the over-current device in/or adjacent to the Customer's electric service panel.
6. Total voltage drop on the DC and AC wiring from the furthest PV module to the AC meter will not exceed 2%.
7. PV panels and DC to AC inverter will be installed with sufficient clearance to allow for proper ventilation and cooling. At a minimum, manufacturer clearance recommendations will be observed. PV modules may be mounted less than 4 inches above any surface and an additional inch of clearance for each foot of continuous array surface area beyond four feet in the direction parallel to the mounting support surface only in cases when arrays are flush-mounted to roof pitch. Otherwise, the four-inch spacing and an additional inch of clearance for each foot of continuous array surface area minimum is required.
8. Storage Batteries are not allowed as part of the Customer System unless the inverter is a separate component and TEP can locate the DG utility meter at the inverter's output. If configured otherwise, battery losses will adversely reflect in the annual AC metered energy output.
9. The DC to AC inverter used must provide maximum power point tracking for the full voltage and current range expected from the photovoltaic panels used and the temperature and solar insolation conditions expected in Tucson, Arizona.
10. The DC to AC inverter must be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electric production.

General Requirements

1. All Customer System installations must be completed in a professional, workmanlike and safe manner.
2. The Customer must be connected to the Company's electric grid.
3. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
4. All major system components must be new and must not have been previously placed in service in any other location or for any other application.
5. The project must comply with applicable local, state, and federal regulations.
6. Products must be installed according to manufacturers' recommendations.
7. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
8. All renewable electricity generation systems must include a dedicated performance meter (provided by TEP) which allows for measurement of system energy production. Certain other non-electric renewable energy production systems, noted below, will require customer supplied metering for PBI payment calculation purposes.

9. PV system components shall be properly labeled, including AC & DC disconnects, solar generation meter, service panel (outside cover), and breakers inside the service panel.
10. If the qualifying system is grid-tied, the system must meet Arizona Corporation Commission Interconnection Requirements for Self-Generation Equipment. See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.
11. For systems above 300 kW AC, transfer-trip protection requirements will be enforced. The customer will be responsible for the costs associated with implementing these requirements.
12. The system will in all cases have a material and full labor warranty of at least five years.

Requirements Specific to Non-Residential PV Systems Greater Than 70 kW DC

1. The Non-Residential Customer System shall be operating, substantially complete and have produced an AC output at least 70% of the total array nameplate DC rating at PTC.⁵
2. Operation, Maintenance and Repair. The Customer shall be solely responsible for the operation, maintenance and repair of the Non-Residential Customer System and any and all costs and expenses associated therewith. Company will notify Customer of all Non-Residential Customer System repairs the Company determines are reasonably necessary to support proper continued electrical production of the Non-Residential Customer System. The Customer will notify the Company within five (5) business days of its receipt of any such Company repair notice if the repair requires the installation of a new inverter and/or PV module. The Customer shall complete any such repair that affects the Non-Residential Customer System performance and does not require the purchase of a new inverter or PV module(s) within five (5) business days of the Company's notice of the need for such repair. For any such repair that does require the purchase and installation of a new inverter and/or PV module, the Customer shall promptly commence and diligently pursue such repair to completion, provided, in no event shall such repair take more than thirty (30) days to complete. At all times while Company is receiving the environmental credits from the Non-Residential Customer System, Customer shall clean all PV modules in the Non-Residential Customer System as necessary to keep them free from foreign material that would visibly obscure the modules, including any dirt and/or oils.
3. Non-Residential Customer System Security. At all times during and after installation of the Non-Residential Customer System, the Customer shall use commercially reasonable efforts to provide adequate security to prevent damage or vandalism to the Non-Residential Customer System.
4. Company shall provide Customer with a revenue grade AC meter to be installed between the Non-Residential Customer System and the grid interconnection. This meter will not be used for billing, but shall be used for any official Non-Residential Customer System production output data. Company will retain ownership of the meter and be responsible for its repair if needed.
5. Customer shall provide Company with all documentation reasonably requested by Company to demonstrate to the Commission that any environmental credits transferred under the Agreement were derived from an eligible technology, that the kWh generated are accurately reported and that the environmental credits have not expired or been used by any other entity for any purpose.

⁵ PTC stands for "PVUSA Test Conditions." These standards are also referenced by the California Energy Commission. PTC conditions are based upon 1,000 W/m² solar irradiance, 20 degrees Celsius ambient temperature, and 1 m/s wind speed.

6. If certified proof cannot be provided of complete galvanic isolation of any and all DC from the AC output of the inverter(s) used in the Non-Residential Customer System through IEEE-1547 certification of the inverter, the Non-Residential Customer System shall include an isolation transformer installed between the inverter(s) and the grid interconnection. The transformer will be rated at full load continuous operation at 50 degrees C. at 125% of nameplate DC array rating and have an efficiency rating at nameplate DC array rating power of at least 98% as tested. The transformer will have at least one tap each of 2.5% and 5% both above and below the nominal voltage tap.

B. Additional Technologies with Prescriptive Incentives:
(i) Non-Residential Biomass/Biogas or Geothermal Space Heating, Process Heating, or Space Cooling,
(ii) Biomass/Biogas, Hydro or Geothermal Electric, and
(iii) Solar Space Cooling

Additional technologies are eligible to receive performance-based incentives (PBI). The PBI allows the customer to collect incentive payments in direct relation to the actual system production. These incentive levels are specific to each of the groups of technologies. Table 8 summarizes the incentive levels for these technologies for REC agreements signed in 2013.

In all cases, incentive values listed in Table 8 are awarded through a bid process, which is discussed later in this section. Applicants are encouraged to submit bids requesting incentive amounts less than the maximums listed. Bids requesting a lower level of incentive payment than the maximum will have an increased chance of acceptance in the allocation ranking process.

Table 8. Maximum Incentives for Additional Technologies for 2013

TECHNOLOGY/APPLICATION	10-YEAR REC AGREEMENT SIGNED IN 2013 (\$/KWH)*	15-YEAR REC AGREEMENT SIGNED IN 2013 (\$/KWH)*	20-YEAR REC AGREEMENT SIGNED IN 2013 (\$/KWH)*
Biomass/Biogas (Electric)	\$0.060	\$0.056	\$0.054
Biomass/Biogas – CHP (Electric)	\$0.035	\$0.032	\$0.031
Biomass/Biogas – CHP (Thermal)	\$0.018	\$0.017	\$0.016
Biomass/Biogas (thermal)	\$0.015	\$0.014	\$0.013
Biomass/Biogas (cooling)	\$0.032	\$0.030	\$0.029
Geothermal – (electric)	\$0.024	\$0.022	\$0.022
Geothermal – (thermal)	\$0.048	\$0.045	\$0.043
Small Hydro	\$0.060	\$0.056	\$0.054
Solar Space Cooling	\$0.090	\$0.085	\$0.080

*Indicates in first year savings.

a. Terms & Restrictions

- There is no incentive cap for non-residential systems other than annual program funding considerations.
- A PBI cannot exceed 50% of the real project costs, defined as the undiscounted total system cost plus acceptable financing charges. Acceptable finance charges are finance charges used for the PBI incentive cap calculation and cannot exceed the current prime interest rate plus 5%. Financing charges must be disclosed as part of the commissioning package, if not disclosed before.
- The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)
- The CHP incentives may be used in combination for the appropriate components of one system.

- The solar space heating and cooling incentives may be used in combination for the appropriate components of the system.
- Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.
- System Cost for a solar space heating system will not include the cost of any passive thermal storage or the cost of the building heating system itself. It will include the cost of new materials and installation of active thermal storage, expansion tanks, controls, tempering valves, piping, vents, drains, safety valves and all freeze protection.
- The incentive amount will be calculated at the time the application is approved for reservation. If federal or state incentives change after the reservation is approved, the incentive amount reserved will not change as long as the reservation is not cancelled.
- In return for TEP's payment of a PBI, TEP will receive complete and irrevocable ownership of the Renewable Energy Credits for the full duration of the PBI Agreement. The agreement duration must fully coincide with the PBI payment schedule and the system must be supported by system warranty or planned maintenance schedules for the term of the agreement.

i. Non-Residential Biomass/Biogas or Geothermal Space Heating

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement, which is in conflict with a site-specific governmental requirement, shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. Biomass/Biogas or geothermal system installations involving a regulated boiler or pressure vessel are required to comply with all Arizona state boiler regulations; provide a qualifying boiler inspection identification number; and keep all applicable permits in good standing.
2. Energy savings and designed output for the system will be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a registered professional engineer. The engineering report shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications.

3. Energy production for space heating, space cooling and process heating will be calculated as one kWh of energy per 3,415 BTU of useful heat delivered by the system as measured by a dedicated heat delivery measuring meter and used by the building space or process.
4. The system will have a material and labor warranty of at least five years.
5. The system must meet Arizona DEQ environmental standards.

Installation Guidance

Because of the individual nature of biomass/biogas or geothermal systems, care should be taken to make sure the system complies with all applicable permitting and regulatory requirements including, but not limited to, air emission standards and air permit regulations.

General Qualifications

1. The project must comply with applicable local, state, and federal regulations.
 2. Products must be installed according to manufacturers' recommendations.
 3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
 4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
 5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.
 6. All renewable electricity generation systems must include a dedicated performance meter (provided by TEP) which allows for measurement of system energy production. Certain other non-electric renewable energy production systems, noted below, will require customer supplied metering for PBI payment calculation purposes.
 7. If the qualifying system is grid-tied, the system must meet Arizona Corporation Commission Interconnection Requirements for Self-Generation Equipment.
- See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.

ii. Biomass/Biogas, Hydro, or Geothermal Electric

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement, which is in conflict with a site-specific governmental requirement, shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. Biomass/Biogas, Hydro or Geothermal system installations involving a regulated boiler or pressure vessel are required to comply with all Arizona state boiler regulations; provide a qualifying boiler inspection identification number; and keep all applicable permits in good standing.
2. System must include a dedicated performance meter to allow for monitoring of the amount of electricity produced.
3. Pre-operational/or pre-commissioning energy savings and design output for the system will be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a qualified registered professional engineer. The engineering report shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications.
4. The system will have a material and labor warranty of at least five years.
5. The system must meet Arizona DEQ environmental standards.

Installation Guidance

Because of the individual nature of biomass/biogas hydro or geothermal systems, care should be taken to make sure the system complies with all applicable permitting and regulatory requirements including, but not limited to, air emission standards and air permit regulations.

General Qualifications

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.
6. All renewable electricity generation systems must include a dedicated performance meter (provided by TEP) which allows for measurement of system energy production. Certain other non-electric renewable energy production systems, noted below, will require customer supplied metering for PBI payment calculation purposes.
7. If the qualifying system is grid-tied, the system must meet Arizona Corporation Commission Interconnection Requirements for Self-Generation Equipment.

See <http://images.edocket.azcc.gov/docketpdf/0000074361.pdf> for these requirements.

iii. Solar Space Cooling

The following equipment qualifications listed are mandatory requirements which must be met at the time of project commissioning to receive a RECPP incentive. The installation guidance is intended to provide consumers with information on installation and operation practices which are most likely to support achieving the system's designed output. Installation guidance is mandated in order for a project to receive a RECPP incentive, as it does reflect both industry and TEP concurrence on those practices which are important for a technology to best achieve the designed output. In the future, additional installation guidance items may be considered for inclusion as part of the equipment qualifications.

TEP acknowledges that many regulations and site-specific requirements may apply to the installation of renewable energy technologies. TEP agrees that no requirement imposed by these technology criteria shall be imposed in conflict with any other governmental requirements. Any RECPP-based requirement, which is in conflict with a site-specific governmental requirement, shall be detailed in the reservation request. All qualifying systems must adhere to the following requirements in addition to the RECPP program requirements:

Equipment Qualifications

1. The minimum cooling capacity of the system will be 120,000 BTU (10 tons) per hour.
2. Solar collector panels used will have a Solar Rating and Certification Corporation (SRCC) OG-100 rating or laboratory documentation showing the panel energy output under controlled and replicable test conditions.
3. Energy savings and designed output for the system will be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a registered professional engineer. The engineering report shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications.
4. System must include a dedicated performance meter to allow for monitoring of the amount of heat input to the thermal cooling device or system. Energy production will be calculated at one kWh per 3,415 BTU of metered heat delivered to the thermal cooling device or system.
5. The system will have a material and labor warranty of at least five years.
6. TEP reserves the right to modify standards as technology changes on a case by case basis, pending independent laboratory analysis, Professional Engineer (PE) stamp, or TEP engineering analysis

Installation Guidance

1. The horizontal tilt angle of the collector panels should be between 20 and 60 degrees and an azimuth angle should be between +/- 45 degrees of south.
2. All systems should be installed such that the energy collection system is substantially unshaded and should have substantially unobstructed exposure to direct sunlight between the hours of 9:00 a.m. and 3:00 p.m.
3. The system installation should comply with the design manual.

General Qualifications

1. The project must comply with applicable local, state, and federal regulations.
2. Products must be installed according to manufacturers' recommendations.
3. Installations must meet applicable governmental statutes, codes, ordinances, and accepted engineering and installation practices.
4. Systems must be permitted and inspected by the jurisdiction having authority over construction projects in the customer's locale.
5. All major system components must be new and must not have been previously placed in service in any other location or for any other application.

IX. Other Incentives

A. Technologies without Technology Specific Criteria

Technology specific criteria have not yet been developed for the following qualifying technologies:

- Fuel Cells
- Other

For applicants requesting incentives for these technologies or for applicants requesting installation of a technology with specific project technology criteria, but where some criteria cannot be met, the applicant will need to submit design and output documentation.

Applicants installing these systems will, at a minimum, need to provide an energy savings and designed output report for the system. The report must include either a testing certification for a substantially similar system prepared by a publicly funded laboratory or an engineering report stamped by a qualified registered professional engineer. The engineering report and/or testing certification shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications. Additional information may be required as part of the RECPP requirements.

B. Non-Conforming Projects

Non-conforming projects will be identified as the Program evolves. Incentive levels for such projects will be calculated based on TEP engineering analysis, independent laboratory analysis, and/or professional engineering (PE) stamps. Non-conforming projects that prove combined economic and renewable energy value will be allowed appropriately calculated incentives within the RECPP.

C. Guidelines for Projects Electing to Not Receive Incentives

If a customer chooses not to receive incentives from TEP in exchange for the RECs, the customer shall still notify TEP that a renewable energy generator is being connected to TEP's grid and complete any associated interconnection processes. The process for non-incentive utility interconnection will be available at www.tep.com/renewable.

Appendix 1: Incentive Summary Tables

RECPP – CONFORMING PROJECT INCENTIVE MATRIX

2013 Program Year

Technology/Application	UP FRONT INCENTIVE ¹ 20-Year REC Agreement	10-Year REC Agreement ² 10-Year Payment (\$/kWh)	15-Year REC Agreement ² 15-Year Payment (\$/kWh)	20-Year REC Agreement ² 20-Year Payment (\$/kWh)
BIOMASS/BIOGAS (Electric)	NA	0.060	0.056	0.054
BIOMASS/BIOGAS – CHP (Electric) ³	NA	0.035	0.032	0.031
BIOMASS/BIOGAS – CHP (Thermal) ³	NA	0.018	0.017	0.016
BIOMASS/BIOGAS (thermal)	NA	0.015	0.014	0.013
BIOMASS/BIOGAS (cooling)	NA	0.032	0.030	0.029
DAYLIGHTING (Non-Residential)	\$0.18/kWh ⁷ See this note for clarification	NA	NA	NA
GEOHERMAL – (electric)	NA	0.024	0.022	0.022
GEOHERMAL – (thermal)	NA	0.048	0.045	0.043
GROUND SOURCE HEAT PUMP – (cooling)	\$500/ton	NA	NA	NA
SMALL HYDRO	NA	0.060	0.056	0.054
SMALL WIND (grid-tied) ⁴	\$0.50/Watt AC	NA	NA	NA
SOLAR ELECTRIC:				
RESIDENTIAL (GRID-TIED)	\$0.50/Watt DC ⁸	NA	NA	NA
NON-RESIDENTIAL (GRID-TIED) 70 kW DC or less	\$0.50/Watt DC ⁸	NA	NA	NA
NON-RESIDENTIAL (GRID-TIED) 71 - 200 kW DC ¹¹	NA	0.072	0.072	0.072
NON-RESIDENTIAL (GRID-TIED) 201- 400 kW DC ¹¹	NA	0.068	0.068	0.068
NON-RESIDENTIAL (GRID-TIED) 401 kW DC and Greater	NA	0.064	0.064	0.064
SOLAR SPACE COOLING ⁵	NA	0.090	0.085	0.080
NON-RESIDENTIAL SOLAR WATER HEATING/SPACE HEATING ^{5,9,10} (400,000 annual kWh output production equivalent or less)	\$0.50/kWh	NA	NA	NA
RESIDENTIAL SOLAR WATER/SPACE HEATING ^{6,9,10}	\$0.50/kWh	NA	NA	NA
NON-RESIDENTIAL POOL HEATING ¹⁰	\$0.50/kWh	NA	NA	NA

Notes:

- 1) Residential projects are eligible for an up front incentive (UFI). UFI payments cannot exceed 50% of the cost of renewable energy equipment.
- 2) Non-residential systems 70 kW AC or less are UFI only. Non-residential greater than 70 kW AC are PBI only. The total of payments under a production based incentive cannot exceed 50% of the project costs for any project.
- 3) The CHP incentives may be used in combination for the appropriate components of one system.
- 4) This UFI applies to a maximum system size of 20 kW.
- 5) The solar space heating and cooling incentives may be used in combination for the appropriate components of one system.
- 6) This category includes both traditional water heating and those systems combined with residential solar water heating used for space heating. Space heating applications require a report detailing energy saving for the complete system.
- 7) Rate applies to measured first five years of energy savings only. Payment is made up-front at beginning of 1st year.
- 8) Some UFI based installations will require an adjustment of the incentive as detailed in the PV Incentive Adjustment Chart.
- 9) Energy savings rating is based on the SRCC OG-300 published rating or the TEP-RECPP Space Heating Calculator. The customer contribution must be a minimum of 15% of the project cost after accounting for and applying all available Federal and State incentives.
- 10) Rate applies to forecast/estimated first year energy savings only.
- 11) REC terms may be negotiated in excess of printed maximums to accommodate for higher initial payments.

Appendix 2: Glossary of Terms

ACC – Arizona Corporation Commission.

AZROC – Arizona Registrar of Contractors.

Applicant – Utility customer of record for the Utility Revenue Meter located at the installation site; a builder of the structure (residential or non-residential) who will reserve and install the Qualifying system; or for an off-grid Qualifying System, the property owner for the installation site located within a Utility's service territory.

Arizona Business License – A business license issued by the ACC.

Cancelled – Reservation Status indicating that a Reservation has been terminated, funding is no longer allocated, and the utility has removed the reservation from the funding queue.

Cancellation – The termination of the Reservation.

Commissioned – Qualifying System certified to be in operation.

Commissioning Package – Written verification signed by the installer and the customer confirming that the system has been installed in conformance with the approved reservation and that the system is ready for operation.

Conforming Project – Any project utilizing a renewable technology listed in Attachment D.

Conformance Inspection – Inspection performed by the utility to verify that the system has been installed and operates in conformance with the Reservation application.

Customer – Utility customer of record for the Utility Revenue Meter located at the installation site or a builder of the structure (residential or non-residential) who will reserve and install the Qualifying System.

Extension – The extension of the Reservation Timeframe.

Installer – The entity or individual responsible for the installation of a qualifying system.

Installed – The date of the final clearance from the appropriate jurisdiction

Interconnection Inspection – Inspection performed by the utility to confirm that the system can be safely interconnected to the power grid.

Non-Conforming Project – Non-conforming projects include, but are not limited to, projects with staged completion dates, multi-customer or multi-system projects, projects involving more than one technology, projects requiring new or unique agreement terms, projects with technologies for which qualification standards have not been developed or projects requiring non-standard timeframes.

Performance Based Incentive (“PBI”) – Incentive based on a rate per actual kWh output or on equivalent kWh of energy savings.

Project Costs – System Costs plus financing costs.

Proof of Project Advancement – Documentation demonstrating that a project is progressing on schedule and is staged for Commissioning on or before the end of the Reservation Timeframe.

Qualifying System – Distributed renewable energy systems meeting the qualifications for production of qualified Renewable Energy Credits in Arizona acceptable to the Arizona Corporation Commission as they may be defined for affected utilities to meet any renewable energy standards.

Renewable Energy Credit (“REC”) – One Renewable Energy Credit is created for each kWh, or kWh equivalent for non-generating resources, derived from an eligible renewable energy resource. RECs shall include all environmental attributes associated with the production of the eligible renewable energy resource.

Reservation – A dollar amount committed by the utility to fund a project if all program requirements are met.

Reservation Status – Indicator relating to approval or denial of a Reservation request. If a Reservation is approved, the Reservation Status is Reserved. If a Reservation request is denied, the Reservation Status is either Cancelled or Wait Listed.

Reserved – Status indicating the acceptance of a Reservation request.

Reservation Timeframe – The duration of the utility’s funding commitment for a Reservation.

Retroactive System – A Renewable solar system installed before an application for incentive was received and approved by TEP.

System Costs – Costs associated with the Qualifying System components, direct energy distribution, system control/metering, and standard installation costs directly related to the installation of the Qualifying System.

Up Front Incentive (“UFI”) – One time incentive payment based on system capacity or estimated energy kWh production rather than on measured system output.

Wait List – Status indicating Applicant has met program requirements, but the Utility has insufficient funding to commit to funding the project.

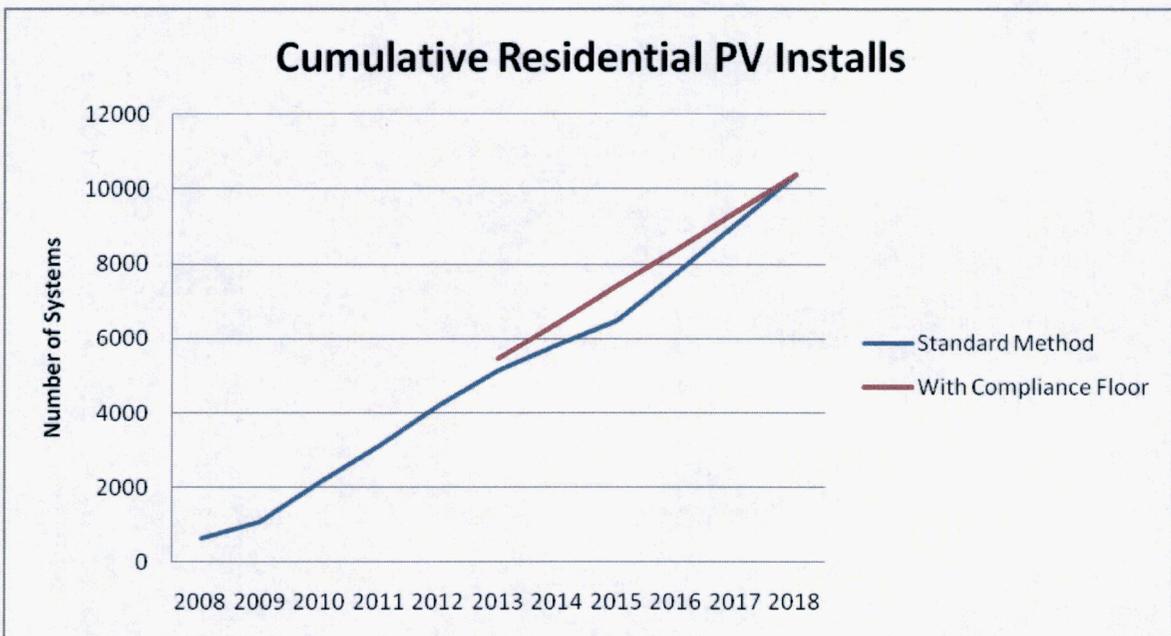
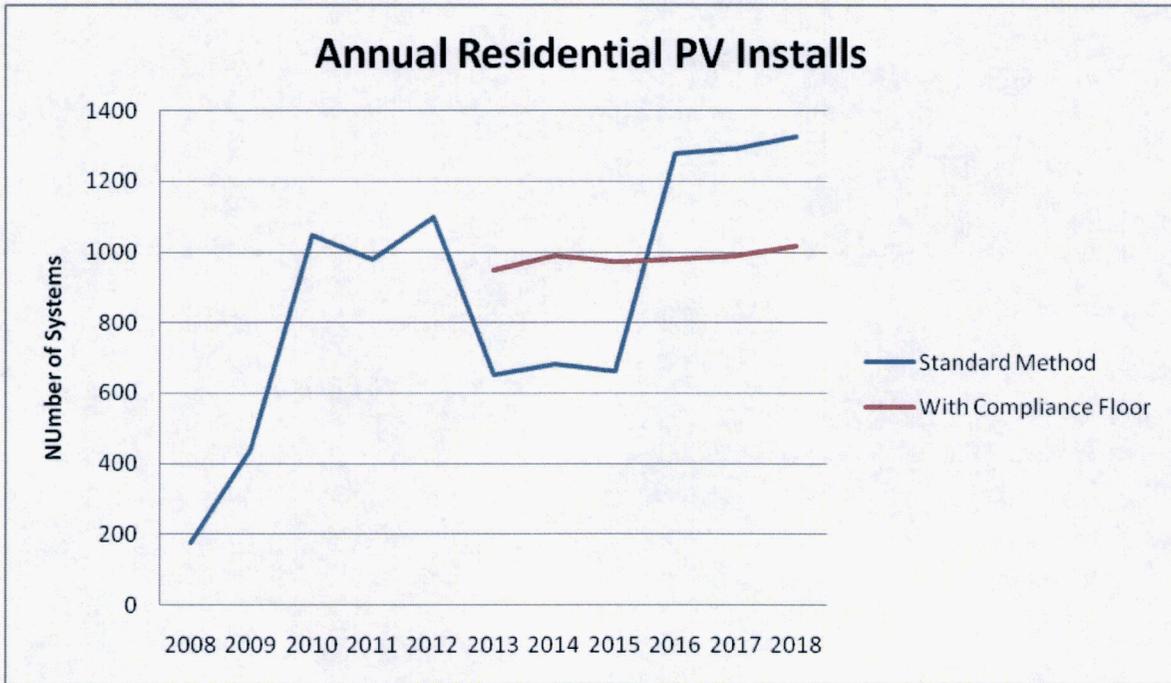
EXHIBIT

“4”

Exhibit 4

Tucson Electric Power Company

Graphical View of Residential DG Compliance Floor



EXHIBIT

“5”

Exhibit 5

Tucson Electric Power Company

Market Cost of Comparable Conventional Generation

2013 Renewable Energy Standard and Tariff

OVERVIEW

Consistent with the Renewable Energy Standard Tariff (“REST”) Rules passed by the Arizona Corporation Commission (“Commission”), Tucson Electric Power Company’s (“TEP”) Renewable Energy Standard and Tariff Implementation Plan contemplates recovery of expenses in excess of the Market Cost of Comparable Conventional Generation (“MCCCG”).” The Commission provided guidance on defining MCCCG in the context of its REST Rules and identified the MCCCG as “the Affected Utility’s energy and capacity cost of producing or procuring the incremental electricity that would be avoided by the resources used to meet the Annual Renewable Energy Requirement, taking into account hourly supply and demand circumstances. Avoided costs should include any avoided transmission, distribution, and environmental compliance costs.” This exhibit defines the methodology for developing the MCCCG rate for the Company.

METHODOLOGY

Annual MCCCG rates shall be calculated in advance and stated as a single \$/MWh value by renewable technology type. The renewable technology types will be based on projected hourly energy profiles for each type of renewable resource. Annual MCCCG rates will include renewable resources such as wind resources, fixed photovoltaic systems, concentrated solar with storage, single-axis tracking photovoltaic systems, and bio-fueled resources. Specific MCCCG rates would be developed as needed when new renewable technologies or new purchase power agreements are added to the Company’s renewable portfolio. Annual MCCCG rates will capture the value of the seasonality and time of day delivery by deriving an average of on and off peak dispatch costs weighted by on and off peak renewable generation. MCCCG rates shall be calculated each year using the companies production cost simulation software ‘Planning & Risk’. The hourly MCCCG rate determination criteria are shown in Table 1 below by comparing the types of renewable generation with the resource dispatch type. All projected MCCCG

hourly rates are based on a 'Planning & Risk' production cost simulation that forecasts adequate generation and transmission capacity to meet all firm load obligations including system reserve requirements. Finally, the cost of renewable generation above the annual MCCCCG rates will be recovered through the REST Adjustor Mechanism and REST Tariff.

Table 1 - MCCCCG Hourly Rate Determination Matrix

		Types of Renewable Generation Resources			
		Dispatchable Renewable Generation	Firm Renewable Generation	Non-Firm Renewable Generation	Curtable Non Firm Renewable Generation
Resource Dispatch Type	Wholesale sales transaction served from existing resource portfolio	The MCCCCG rate will be based on projected incremental production costs to serve firm load and wholesale sales opportunities for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			
	No market transactions. Generation available from thermal resource portfolio.				
	Day, week or month ahead purchase transaction to serve firm load requirements.	The MCCCCG rate will be based on the projected day, week or month-ahead firm purchase power transactions committed for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			
	Spot market transaction to serve firm load requirements.	The MCCCCG rate will be based on the projected Palo Verde spot market price for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			

CALCULATION

$$MCCCG_{on} = \text{Annual Average On Peak MCCCCG Rate} = \frac{\sum_{i=1}^{8760} PR_i * G_i * X_i}{\sum_{i=1}^{8760} G_i * X_i}$$

$$MCCCG_{off} = \text{Annual Average Off Peak MCCCCG Rate} = \frac{\sum_{i=1}^{8760} PR_i * G_i * (1 - X_i)}{\sum_{i=1}^{8760} G_i * (1 - X_i)}$$

$MCCCG_{Annual Rate}$ = Average of on and off peak MCCCCG rate weighted by projected on and off peak renewable generation.

It is assumed that there is a specific MCCCCG rate for each renewable technology type.

Where

PR_i = Projected Planning & Risk dispatch cost (\$/MWh) for hour $i=1,2,\dots,8760$.

G_i = Projected energy generation in renewable technology resource profile for hour $i=1,2,\dots,8760$.

$X_i = \begin{cases} 1 & \text{if hour } i \text{ is an on peak market hour} \\ 0 & \text{Otherwise} \end{cases}$ for $i = 1,2, \dots 8760$

Table 2 – TEP’s 2013 MCCCCG Annual Rates

Renewable Technology	MCCCCG Annual Rates	\$/MWh
	AZ Wind	
Biomass		\$47.36
NM Wind		\$45.13
Solar CSP		\$53.68
Solar PV		\$52.80

EXHIBIT

“6”

CONFIDENTIAL

EXHIBIT

“7”

Exhibit 7

TEP Renewable Energy Standard Tariff

Line Item Budget

	2012	2013
Total REST Budget & Tariff Collection:	\$ 29,976,305	\$ 41,148,281
Utility Scale Energy		
Above Market Cost of Conventional Generation calculated annually on hourly data per MCCCC Matrix	\$ 12,377,000	\$ 23,021,000
DMAFB SunEdison	\$ 1,045,500	\$ 1,275,000
TEP owned	\$ 4,228,918	\$ 5,929,596
Total	\$ 17,651,418	\$ 30,225,596
Customer Sited Distributed Renewable Energy:		
Up-front Incentive (UFI) (residential) PV	\$ 5,000,000	\$ 2,907,100
Up-front Incentive (UFI) (residential) H20 10% carve-out		\$ 565,269
Non-Res 2013 Legacy (UFI) / PBI 2013 Legacy 8 MW Cap	\$ -	\$ 3,000,000
Annual Performance-based Incentive (PBI)	\$ 5,753,375	\$ 6,453,375
Annual meter reading cost	\$ 19,531	\$ 29,832
Lost Revenue from 2012 \$3M Legacy Projects	\$ -	\$ 89,700
Consumer Education and Outreach	\$ 100,000	\$ 100,000
Total	\$ 10,872,906	\$ 13,145,276
Technical Training:		
Schools Vocational Training Program	\$ 350,000	\$ -
TEP internal and contractor training costs	\$ 75,000	\$ 75,000
Total	\$ 425,000	\$ 75,000
Information Systems Integration Costs	\$ 500,000	\$ 125,000
Metering: Direct material cost for DG production meters, lables, disconnects, meter panels, BTU meters	\$ 227,982	\$ 131,365
Program Labor and Administration		
Internal Labor	\$ 1,127,607	\$ 701,525
External Labor	\$ 446,031	\$ 409,013
Materials, Fees and Supplies	\$ 71,362	\$ 60,000
AZ Solar website	\$ 4,000	\$ 4,000
Total	\$ 1,649,000	\$ 1,174,538
Renewable Energy Balancing, Integration, and Field Testing		
Technology development projects – solar field test yard costs	\$ 275,000	\$ 300,000
AZRISE - forecasting model, test yard monitoring, production analysis, other	\$ 250,000	\$ 250,000
Transmission and Distrubtion Integration Modeling, Storage Equipment		\$ 50,000
UWIG, SEPA, AWEA	\$ -	\$ 15,000
Total	\$ 525,000	\$ 615,000
Legacy Costs		
PBI Legacy Costs & Commercial Upfront Payments	\$ 3,000,000	\$ -
2012 Program Cost (Total Budget)	\$ 34,851,305	\$ 45,491,775
Carryover of REST Funds from 2011	\$ 4,875,000	\$ 4,343,494
Grand Total (to be collected in 2012 tariff)	\$ 29,976,305	\$ 41,148,281

EXHIBIT

“8”

CLEAN



Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery

A UniSource Energy Company

APPLICABILITY

Mandatory, non-bypassable surcharge applied to all energy consumed by all customers throughout Company's entire electric service area.

RATES

For all energy billed which is supplied by the Company to the customer, the price shall be \$0.008000 per kWh of metered monthly energy consumption on all kWh consumed per meter that month up to and including a monthly cap of:

For Residential customers:	\$4.75 per month
For Small Commercial customers:	\$195.00 per month
For Large Commercial customers:	\$1,225.00 per month
For Industrial customers:	\$8,300.00 per month
For Public Authority	\$195.00 per month
For Lighting	\$195.00 per month

Notes:

1. A Large Commercial customer is one with monthly demand greater or equal to 200 kW but less than 3,000 kW.
2. An Industrial customer is one with monthly demand equal to or greater than 3,000 kW.
3. For non-metered services, the lesser of the load profile or otherwise estimated kWh required to provide the service in question, or the service's contract
4. kWh shall be used in the calculation of the surcharge.

This charge will be a line item on customer bills reading "Renewable Energy Standard Tariff."

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

TAX CLAUSE

To the charges computed under the above rate, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company and/or the price or revenue from the electric energy or service sold and/or the volume of energy generated or purchased for sale and/or sold hereunder.

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Tariff No.: REST-TS1
Effective: PENDING
Page No.: 1 of 1

REDLINED



Renewable Energy Standard and Tariff Surcharge
REST-TS1
Renewable Energy Program Expense Recovery

A UniSource Energy Company

APPLICABILITY

Mandatory, non-bypassable surcharge applied to all energy consumed by all customers throughout Company's entire electric service area.

RATES

For all energy billed which is supplied by the Company to the customer, the price shall be \$0.0080007482 per kWh of metered monthly energy consumption on all kWh consumed per meter that month up to and including a monthly cap of:

Table with 2 columns: Customer Type and Rate. Rows include Residential, Small Commercial, Large Commercial, Industrial, Public Authority, and Lighting.

Notes:

- 1. A Large Commercial customer is one with monthly demand greater or equal to 200 kW but less than 3,000 kW.
2. An Industrial customer is one with monthly demand equal to or greater than 3,000 kW.
3. For non-metered services, the lesser of the load profile or otherwise estimated kWh required to provide the service in question, or the service's contract
4. kWh shall be used in the calculation of the surcharge.

This charge will be a line item on customer bills reading "Renewable Energy Standard Tariff."

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

TAX CLAUSE

To the charges computed under the above rate, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company and/or the price or revenue from the electric energy or service sold and/or the volume of energy generated or purchased for sale and/or sold hereunder.

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Tariff No.: REST-TS1
Effective: January 16, 2012 PENDING
Page No.: 1 of 1

EXHIBIT

“9”

CLEAN



Customer Self-Directed Renewable Energy Option REST-TS2 Renewable Energy Standard Tariff

A UniSource Energy Company

AVAILABILITY

Open to all Eligible Customers as defined at A.A.C. R14-02-1801.H.

APPLICABILITY

Any Eligible Customer that applies to the Company under this program and receives approval shall participate at its option.

PARTICIPATION PROCESS

An Eligible Customer seeking to participate shall submit to the Company a written application that describes the Distributed Renewable Energy (DRE) resources or facilities that it proposes to install and the estimated costs of the project. The Company shall have sixty (60) calendar days to evaluate and respond in writing to the Eligible Customer, either accepting or declining the project. If accepted, the Customer shall be reimbursed up to the actual dollar amounts of customer surcharge paid under the REST-TS1 Tariff in any calendar year in which DRE facilities are installed as part of the accepted project. To qualify for such funds, the Customer shall provide at least half of the funding necessary to complete the project described in the accepted application, and shall provide the Company with sufficient and reasonable written documentation of the project's costs. Customer shall submit their application prior to May 1 of a given year to apply for funding in the following calendar year.

FACILITIES INSTALLED

The maintenance and repair of the facilities installed by a Customer under this program shall be the responsibility of the Customer following completion of the project. In order to be accepted by the Company for reimbursement purposes, the project shall, at a minimum, conform to the Company's System Qualification standards on file with the Commission. (REST Implementation Plan, Renewable Energy Credit Purchase Program – RECPP, Distributed Generation Interconnection Requirements, Net Metering Tariff, Company's Interconnection Manual)

PAYMENTS AND CREDITS

All funds reimbursed by the Company to the Customer for installation of approved DRE facilities shall be paid on an annual basis no later than March 30th of each calendar year. All Renewable Energy Credits derived from a project, including generation and Extra Credit Multipliers, shall become the property of the Company and shall be applied towards the Company's Annual Renewable Energy Requirement as defined in A.A.C. R14-2-1801.B.

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

RELATED SCHEDULES

- REST-TS1 - Renewable Energy Program Expense Recovery

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Tariff No.: REST-TS2
Effective: PENDING
Page No.: 1 of 1

REDLINED



Customer Self-Directed Renewable Energy Option REST-TS2 Renewable Energy Standard Tariff

A UniSource Energy Company

AVAILABILITY

Open to all Eligible Customers as defined at A.A.C. R14-02-1801.H.

APPLICABILITY

Any Eligible Customer that applies to the Company under this program and receives approval shall participate at its option.

PARTICIPATION PROCESS

An Eligible Customer seeking to participate shall submit to the Company a written application that describes the Distributed Renewable Energy (DRE) resources or facilities that it proposes to install and the estimated costs of the project. The Company shall have sixty (60) calendar days to evaluate and respond in writing to the Eligible Customer, either accepting or declining the project. If accepted, the Customer shall be reimbursed up to the actual dollar amounts of customer surcharge paid under the REST-TS1 Tariff in any calendar year in which DRE facilities are installed as part of the accepted project. To qualify for such funds, the Customer shall provide at least half of the funding necessary to complete the project described in the accepted application, and shall provide the Company with sufficient and reasonable written documentation of the project's costs. Customer shall submit their application prior to May 1 of a given year to apply for funding in the following calendar year.

FACILITIES INSTALLED

The maintenance and repair of the facilities installed by a Customer under this program shall be the responsibility of the Customer following completion of the project. In order to be accepted by the Company for reimbursement purposes, the project shall, at a minimum, conform to the Company's System Qualification standards on file with the Commission. (REST Implementation Plan, Renewable Energy Credit Purchase Program – RECPP, Distributed Generation Interconnection Requirements, Net Metering Tariff, Company's Interconnection Manual)

PAYMENTS AND CREDITS

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RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

RELATED SCHEDULES

- REST-TS1 - Renewable Energy Program Expense Recovery

Filed By: ~~Kentton C. Grant~~ Raymond S. Heyman
Title: ~~Vice President of Finance and Rates~~ Senior Vice President
District: Entire Electric Service Area

Tariff No.: REST-TS2
Effective: January 1, 2014 PENDING
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EXHIBIT

“10”

Exhibit 10

TUCSON ELECTRIC POWER COMPANY
2012 -2013 REST Customer Load Percentage Analysis

Company Proposed						
Customer Class	Total Revenue	Percent of Revenue	Average Bill	Montly Cap	Percent of Customers at Cap	Percentage to Total Load
Residential	\$18,468,678	44.9%	\$3.89	\$4.75	71.2%	42.3%
Small Commercial	\$11,891,330	28.9%	\$27.12	\$195.00	4.6%	20.6%
Large Commercial	\$6,531,310	15.9%	\$870.84	\$1,225.00	38.3%	13.0%
Industrial & Mining	\$3,183,532	7.7%	\$7,841	\$8,300.00	92.61%	21.56%
Public Authority	\$820,800	2.0%	\$57.42	\$195.00	15.0%	2.2%
Lighting (PSHL)	\$259,780	0.6%	\$12.10	\$195.00	0.03%	0.34%
Total	\$41,155,429	100.0%				