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May 1, 2013

Docket Control
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

RE: Arizona Public Service Company EV-READY Study Annual Report
Docket No. E-01345A-10-0123

Pursuant to Decision No. 72582 dated September 15, 2011:

IT IS THEREFORE ORDERED that Arizona Public Service Company shall file annual reports, beginning in May 2012, detailing the development of the EV market within Arizona Public Service Company's service territory.

Attached please find the initial APS ev-READY Study Annual Report.

If you have any questions regarding this information, please contact me at (602)250-2661.

Sincerely,

Jeffrey W. Johnson

JJ/cd

cc: Brian Bozzo

Arizona Corporation Commission

DOCKETED

MAY 1 2013

DOCKETED BY

Arizona Public Service Company

ev-READY Study

Electric Vehicle Readiness Demonstration Study

ANNUAL REPORT

May 1, 2013

Docket No. E-01345A-10-0123

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Executive Summary

On August 8, 2011, Arizona Public Service Company (APS or the Company) filed its Electric Vehicle Readiness Demonstration Study (the ev-READY Study or the Study) with the Arizona Corporation Commission (Commission). As discussed in the Company's application, the ev-READY Study is designed to assist the Company and its customers in preparing for an increasing penetration of electric vehicles and plug-in hybrid electric vehicles (collectively referred to as EVs in this report) in the APS service territory in the next three years. APS developed the Study to provide tools to early adopters of EVs which will allow for the effective management and integration of an EV into both the customer's lifestyle and the APS distribution system.

In Decision No. 72582 (September 15, 2011), the Commission declined to approve the ev-READY Study as proposed by the Company, citing the uncertainty surrounding market penetration and customer adoption of EVs and the availability of federally-funded EV incentive programs such as the Department of Energy's *The EV Project*.¹ APS was instead directed to closely monitor EV market penetration in collaboration with industry stakeholders and report annually on the status of EV adoption within the APS service territory. This report is the second ev-READY Study annual report.

Though 2012 saw a record number of EV sales, the market has developed more slowly than expected. Contributing factors to the current weak market include high upfront cost, "range anxiety", and battery concerns. In the Company's ev-READY Study application, APS estimated that approximately 540 EVs would be deployed in the Company's service territory by the end of 2012. As of March 31, 2013, 342 EVs are known to have been acquired by APS customers. Likewise, the deployment of EV charging infrastructure has lagged in comparison to industry expectations.

Despite the uncertainty surrounding EV market penetration, the Commission recognized the importance of addressing expected impacts of residential EV charging behavior on the Company's distribution system as early as possible during development of the EV market by approving the ev-READY Study Experimental Rate Schedule ET-EV. Rate ET-EV is a "whole house"² time-of-use (TOU) rate which incorporates a "super off-peak" time period designed to

¹ *The EV Project* is testing deployment and utilization of charging equipment in several major cities, including Phoenix. The Project was launched in October of 2009 with the intermediate goal of installing 14,000 EV charging stations (both residential and public) in 18 major U.S. cities. The lessons learned from the initial deployment of EVs and supporting charging station infrastructure are then expected to enable the Project's ultimate goal of streamlined deployment of the next 5 million EVs.

² A "whole house" rate measures all energy consumption at a residence, including energy necessary to charge an EV, through a single meter. All household usage is therefore subject to pricing signals contained in the rate.

encourage off-peak EV charging, and has provided and will continue to provide APS with valuable data related to delivery system performance and customer charging behavior. The rate became available to customers in November of 2012.

As required by the Commission in Decision No. 72582, an analysis of Rate ET-EV is included in this report. The analysis compares load characteristics, as well as charging behavior, of EV owners and compares those characteristics to customers being served under Rate Schedule E-12. Rate ET-EV has shown to be an effective tool to encourage EV charging during the super-off-peak time period when demand on the system is lowest. Therefore, at this time, the Company recommends maintaining the current rates and pricing periods in Rate ET-EV through a second summer season.

APS will continue to monitor EV market penetration, engage industry stakeholders and other interested parties, streamline processes for data measurement and system operations, and evaluate Rate ET-EV throughout the following months.

I. Development of the Electric Vehicle Market

The ev-READY study is designed to assist the Company and its customers in preparing for the expected increase in market penetration of EVs in the near term. In the Company's ev-READY Study application, APS noted that uncertainty existed as to the percentage of vehicle sales that would be comprised of EVs over the next decade. However, the Company also noted that the DOE-funded *The EV Project*, which is supporting the development of the EV market by installing EV charging stations in eighteen major cities across the United States, has included the Phoenix and Tucson areas within the project. APS expected that, as a result of *The EV Project*, a relatively higher percentage of APS customers would be among the early adopters of EVs. In turn, expected early adoption of EVs in the APS service territory increases the importance of developing and implementing a plan to seamlessly integrate EVs into the Company's distribution system.

The EV Project targeted the deployment of approximately 900 EVs in the Phoenix and Tucson areas by the end of 2012, of which 350 to 500 were expected to be located in the Company's service territory. As of March 31 of this year, only 342 EVs are known to have been purchased by customers living in the APS service territory. While deployment of vehicles and charging stations through the project has not yet met expectations, the market is showing a year-over-year deployment rate that is double the prior year, and public charging stations continue being installed at an increasing rate.

There is no doubt that the EV market has developed more slowly than expected; therefore, the high degree of uncertainty surrounding market penetration and customer adoption of EVs continues today. Additionally, consumer concerns regarding the availability of EV charging stations in areas outside the home remain, as vehicle and infrastructure manufacturers have not yet been able to adequately address the consumer's fear of being stranded away from home while driving an EV, with no options to recharge the battery and return home.

Despite these trends, a large number of auto manufacturers are introducing EV models (see Table 1). Battery research continues in an attempt to address limited vehicle range. Federal tax credits are still available for up to \$7,500 toward the purchase of an EV, dependent upon the battery capacity and gross total weight of the vehicle.³ This continuing support, along with other advances in technology, keeps industry observer expectations of increased deployment of EVs high.

³ Internal Revenue Code (IRC) 30 (Plug-in Electric Vehicles) and IRC 30D (Qualified Plug-in Electric Drive Motor Vehicles).

Table 1. Planned Electric Vehicle Models through 2015

Vehicle Brand	Year Released		Planned Release Year		
	2010/2011	2012	2013	2014	2015
BMW		Active E - BEV	i3 MCV - BEV	i8 - PHEV	
BYD				e6 - BEV F3DM - PHEV	
Cadillac			ELR - PHEV		
Coda		All Electric Car - BEV			
Fisker	Karma S - PHEV		Atlantic - PHEV		
Ford		C-Max Energi - PHEV Focus E - BEV	Fusion Energi - PHEV		
GM	Chevy Volt - PHEV		Minivan - PHEV		
Honda		Fit - BEV	Accord - PHEV		
Hyundai				Sonata - PHEV	
Mercedes				B Series - BEV	
Mitsubishi	iMiev - BEV			Outlander - PHEV	
Nissan	Leaf - BEV				
Scion		iQ - BEV			
Smart		ForTwo Electric - BEV			
Toyota		Prius - PHEV RAV4 - BEV			
Tesla	Roadster - BEV (2008)	Model S - BEV		Model X - BEV	Gen 3 Sedan - BEV

BEV = Battery Electric Vehicle
PHEV = Plug-in Hybrid Electric Vehicle

APS is working with EV infrastructure contractors to monitor the EV market, both in Arizona as a whole and specifically in the Company's service territory.⁴ The Company participates in the EVAZ Stakeholder Group, a group of EV infrastructure manufacturers, auto dealerships, government organizations, utilities, and other industry observers based in Arizona. Meetings of the group are held regularly and participants share information on EV-related programs, successes and challenges. The group is also developing policies that are intended to advance the adoption of EVs within the state.

Company personnel also regularly attend EV industry conferences to network with other utilities, infrastructure developers, and auto manufacturers to maintain a high level of awareness of industry trends and to build a network of information specialists. In addition, the Company has completed the deployment of a pilot program working with Ecotality, the program manager and installation partner for *The EV Project*, that integrates electric vehicle charging infrastructure with photovoltaic systems.

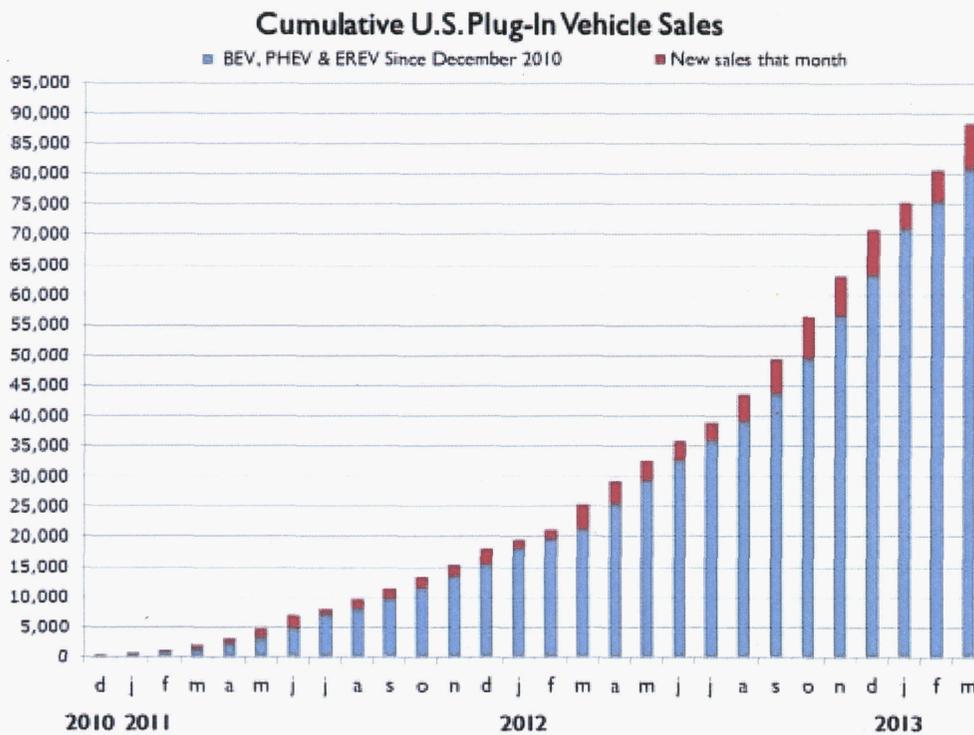
⁴ "IT IS FURTHER ORDERED that Arizona Public Service Company shall work cooperatively with the federally-funded EV infrastructure contractors for the first year of the proposed Study." Decision No 72582, page 15 lines 5-6.

A. Availability of Electric Vehicles

The first widely available EVs were deployed in the United States in the latter part of 2010 and into 2011. Adoption of these vehicles by consumers during this period was lower than expected amid delays in vehicle availability, the largest of which was the impact of the Tohoku earthquake and tsunami in Japan in March of 2011 on the ability of Japanese car manufacturers to ship product to the United States. Other delays in EV availability included technical difficulties such as software glitches and vehicle component breakdowns, including battery fires.

However, 2012 saw an uptick in the market with the best sales ever for plug in electric vehicles. Overall there were 52,800 plug in vehicles sold in the US in 2012, more than 5 times the cumulative total at the start of the year. Figure 1 below shows the cumulative plug-in vehicle sales in the United States.

Figure 1. Cumulative US Plug-In Vehicle Sales⁵



⁵ Source: Electric Drive Transportation Association

1. Market Participants

In 2012, consumers were able to purchase their choice of three main brands of EVs, each with differing attributes and price points.

The Nissan LEAF (Leading Environmentally-friendly Affordable Family car) is an all-electric vehicle with an estimated range of 100 miles. Deliveries to United States consumers that had pre-ordered vehicles began in December of 2010. In 2012, Nissan sold approximately 9,800 cars in the United States, a 1.5% increase over 2011. With the new 2013 LEAF, Nissan has dropped the price from \$35,000 for the 2011 model to \$28,800 for its basic model. With the federal tax rebate of \$7,500, that puts the price of a new Nissan Leaf at \$21,300.

In contrast, the Chevrolet Volt is advertised as an extended-range EV with an initial range on an electric charge of approximately 40 miles. Once the car battery is depleted, a gasoline engine powers an electric generator to extend the car's range. The Volt became widely available in the United States by June of 2010, and by the end of 2012 Chevy had sold approximately 23,461 more than triple the 2011 number of 7,671 vehicles. The 2013 Volt is currently priced at an MSRP starting at \$39,145. With the federal tax rebate of \$7,500, that puts the price of a new Chevy Volt at \$31,645.

The high-end Tesla Roadster was also available until the end of 2011. The Roadster is an all-electric vehicle using a lithium-ion battery, which has an advertised range of approximately 200 miles. It was the first highway-capable EV in production and available in the United States, although with a price of over \$110,000, the Roadster was not planned as a mass-produced vehicle. Tesla sold approximately 2,100 vehicles through the end of 2011, but its production has since been halted in favor of Tesla's next generation EVs.

The Tesla Model S is an all-electric vehicle using a lithium-ion battery, with ranges of 208 and 265 miles depending on the size of the battery. The cost of the Model S starts at \$69,900 for the 208-mile battery and \$79,900 for the 265-mile battery. Tesla delivered 2,650 Model S EV's in 2012 and plans to ramp up production for 2013.

Figure 2. Nissan LEAF



Figure 3. Chevy Volt



Figure 4. Tesla Model S



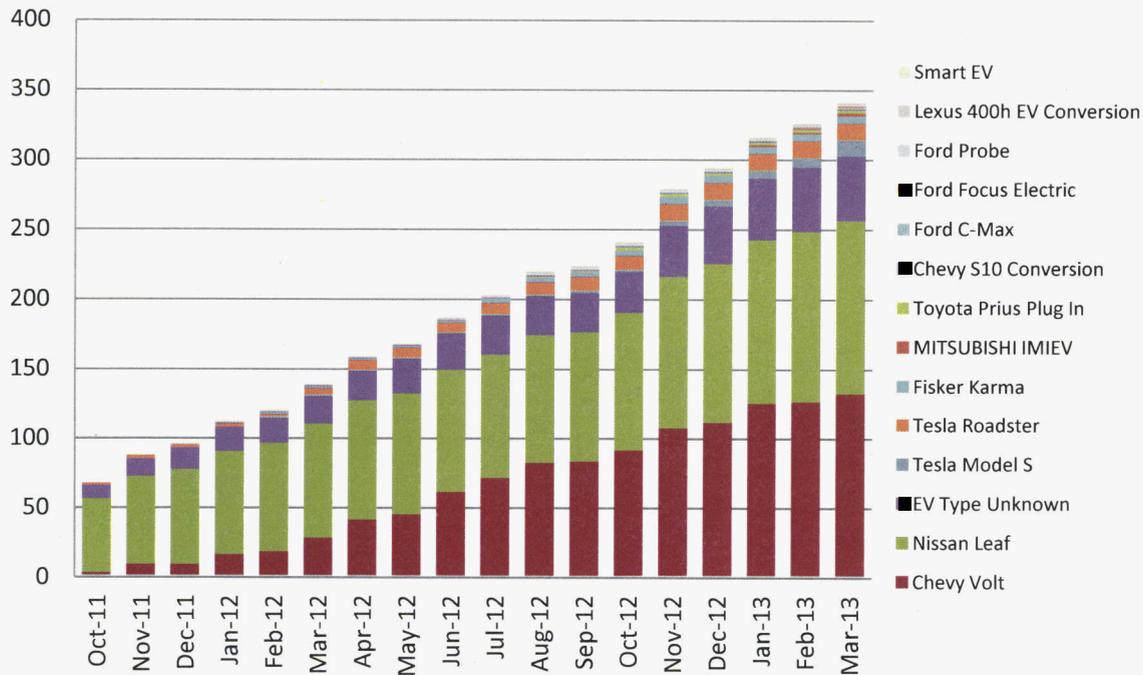
By the end of 2012, several other EV models were available for purchase, including the Ford Focus Electric, Toyota Prius Plug-In, Ford C-Max Energi, Daimler Smart Electric Drive (Smart ED), the Mini-E, Coda Electric, Scion iQ, BMW Active-e, and the Fisker Karma. None of these EVs were widely available yet in Arizona. However, the EV models and production numbers planned for the coming years have grown significantly, creating higher expectations of EV market penetration growth in the upcoming years.

2. Electric Vehicles in the APS Service Territory

As of March 31, 2013, APS has identified 342 electric vehicles that are being charged regularly throughout the Company's service territory. The vast majority of these EVs are either Chevy Volts or Nissan LEAFs; however, APS is aware of 13 Tesla Model S's, 12 Tesla Roadsters, five Fisker Karma, two Toyota Prius Plug-Ins, two Mitsubishi iMievs, one Ford Focus Electric, one Ford C-Max Plug-In Hybrid, one Smart ED, and three EV conversions that have been purchased by APS customers (see figure 5).

Figure 5. Known EVs in APS Service Territory by Model

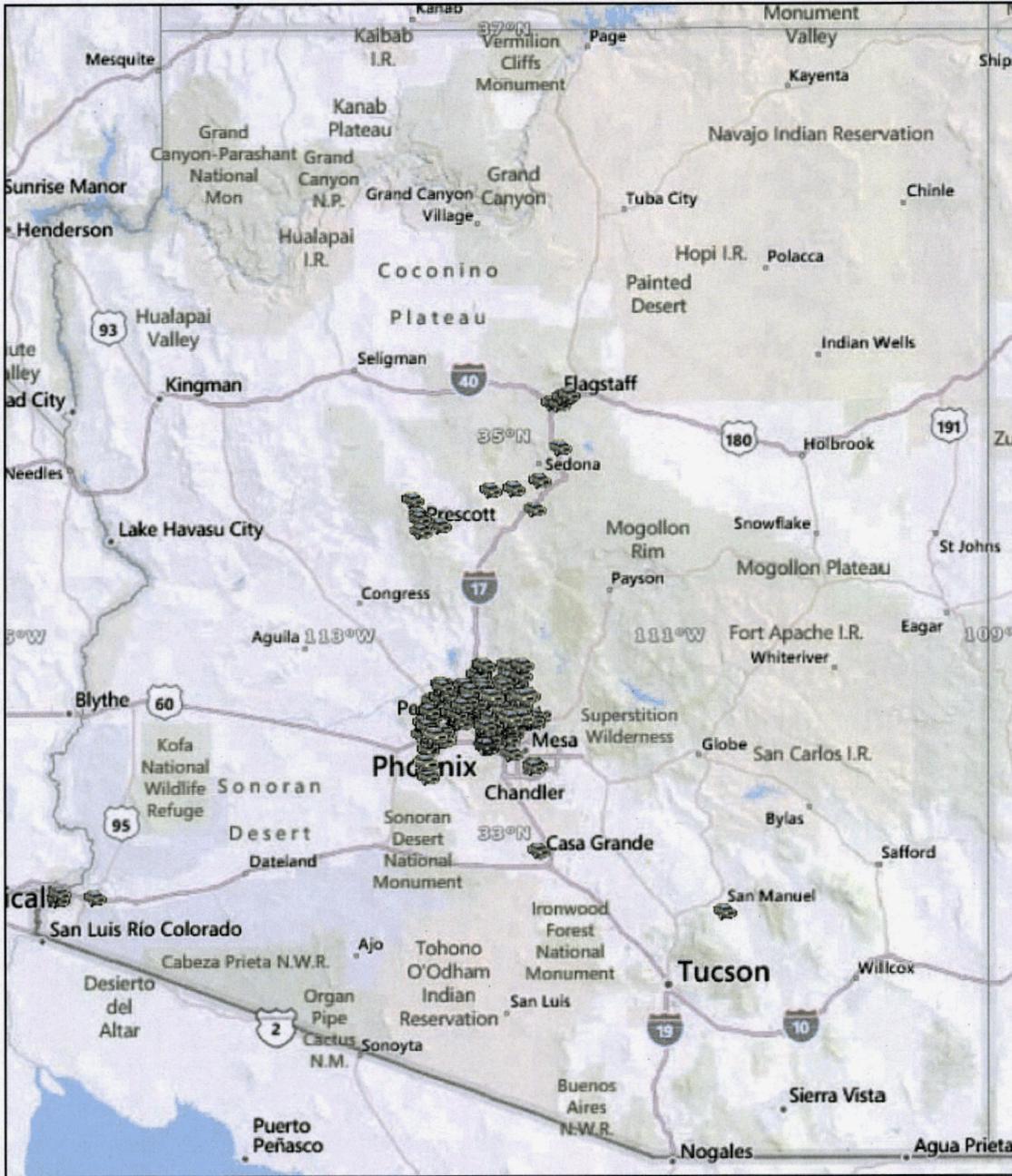
Known Electric Vehicles in APS Territory (Cumulative)



APS customers self-identify as EV purchasers. The Company learns of the individual EV purchaser either through customer phone calls to learn about services or other rate options available to EV owners, or from EV manufacturers and dealerships who are tracking EV deployment (such as through *The EV Project*). At the time of purchase, an individual is told that purchase information will be shared with the electric utility serving the customer unless that customer chooses not to provide the data. Purchase statistics based on dealership records show that only about 10% of EV purchasers choose not to share information with their Arizona electric utility.

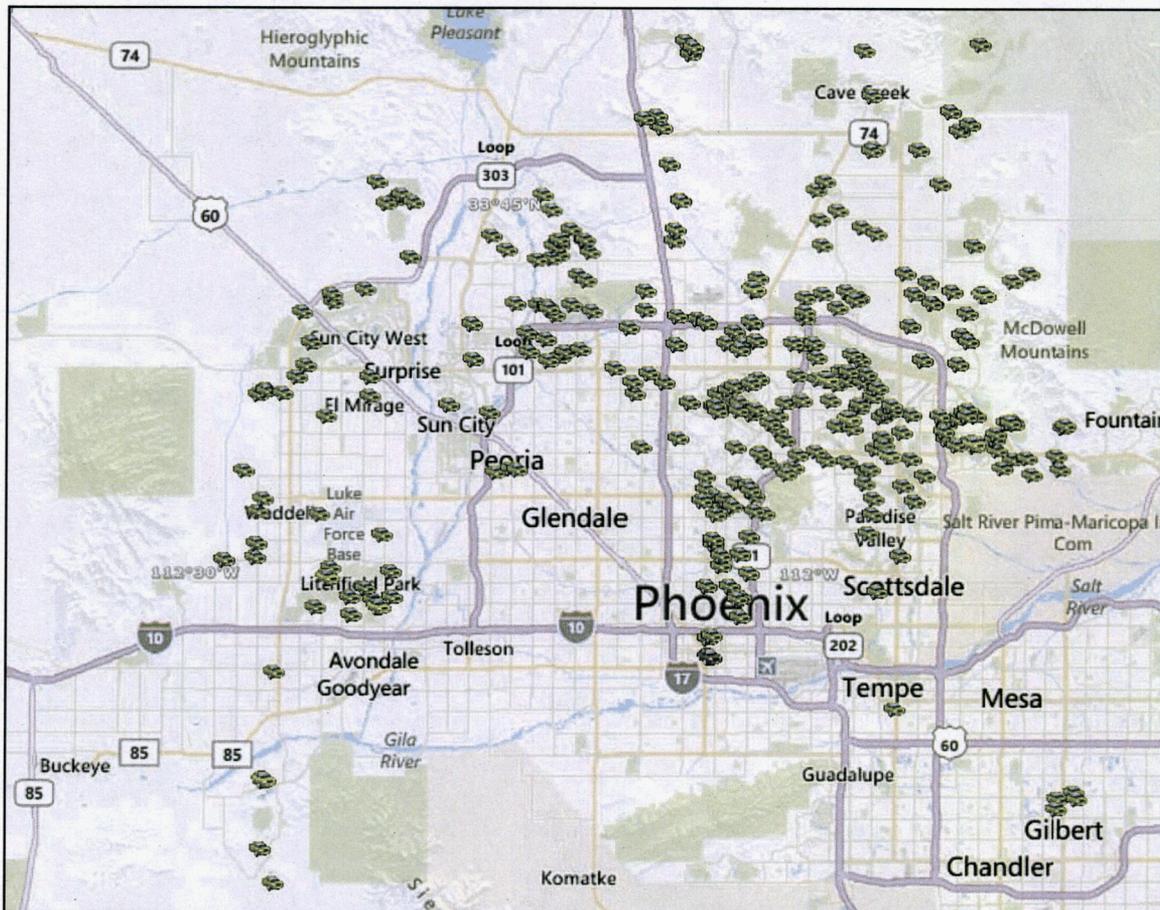
As discussed in the Company's ev-READY Study, APS utilizes this information on EV purchases to determine the ability of existing transformers to absorb the additional electric load of EVs being charged within a specific neighborhood. As part of the ev-READY Study, the Company has developed processes and procedures to ensure safe and reliable integration of EVs into the local distribution system, including the mapping of known EVs. Please see figures 6 and 7 for locations of EVs in the APS service territory.

Figure 6. Known EVs in APS Service Territory throughout Arizona



Note: Green = 1 electric vehicle per transformer
Yellow = 2 electric vehicles per transformer
Red = 3 or more electric vehicles per transformer

Figure 7. Distribution of Known EVs in Metro Phoenix APS Service Territory



Note: Green = 1 electric vehicle per transformer
 Yellow = 2 electric vehicles per transformer
 Red = 3 or more electric vehicles per transformer

As explained in the Company's ev-READY Study, it is unlikely that a single vehicle charging during peak demand hours will create reliability issues on the distribution system.⁶ However, in a situation in which several EVs are clustered within a neighborhood, the probability of reliability issues increases.

Clustering refers to the adoption of EVs by additional homeowners in areas where one or more than one household has already adopted an EV, resulting in the potential for overload and failure of transformers. This phenomenon is also referred to as geographic clustering, which can occur long before EV market penetration matures. There is evidence to suggest that EVs will experience the same geographic clustering experienced with the adoption of hybrid vehicles.

⁶ The timing of EV charging is a key determining factor of possible grid impacts in neighborhoods. For residential customers, it is likely that an EV will begin charging as soon as it reaches home absent an incentive to charge at a later time.

To date, APS has encountered limited clustering of EVs. The Company is aware of only ten neighborhood transformers that are carrying electric load for more than one EV – nine of these in cases where a single household has purchased two EVs. The one instance where the transformer is carrying the load of two different electric vehicle owners is at an apartment complex. In nine out of ten of those instances, existing transformers are able to absorb the additional load created by both EVs. The transformer that became overloaded due to EV charging has been proactively upgraded to a larger size. One transformer had 8 electric vehicles, but this was a commercial site that had the ability to handle the increased load. As the EV market matures, however, and more vehicle models are released, the Company expects to encounter greater concerns with geographical clustering.

B. Availability of Public EV Charging Stations

Just as deployment of EVs has lagged, the Arizona market has seen a slower than expected deployment of related public charging infrastructure as well. Through *The EV Project*, approximately 920 publicly available charging stations were estimated to be installed in the state as of the end of 2012; however, as of the end of 2012 only 381 public chargers had been deployed. These stations are being installed in the metropolitan areas of Phoenix and Tucson, Arizona and on the Interstate 10 corridor between the two cities.

Ecotality has installed 291 Level 2 chargers at residential and public sites in the APS service territory as of December 31, 2012.⁷ This network of charging stations, known as the Blink Network, is the largest deployment of EV infrastructure in the state.

Table 2. Blink Chargers Deployed in Arizona as of 12/31/2012

	Residential Level 2	Public Level 2	DC Fast Chargers	Total
APS Service Territory	120	163	8	291
Metro Phoenix (other than APS)	153	129	4	286
Tucson	66	72	0	138
I-10 Corridor	0	3	2	5
Total Arizona Deployment	339	367	14	720

To date, in the Metro Phoenix area, Blink public charging stations have been installed largely at government or business properties. For example, several

⁷ Level 2 chargers are the primary EV chargers for residential applications and the majority of commercial applications, as this infrastructure is typically capable of fully charging an EV in approximately four to six hours.

Blink Network stations are available in downtown Phoenix at the Burton Barr Library, the Phoenix City Hall garage, the downtown campus of Rio Salado College, the Two Renaissance office building, and the Arizona Department of Environmental Quality office.⁸

Additional public EV infrastructure has been installed in the state by Coulomb Technologies. Coulomb is the sponsor of the national EV infrastructure program *ChargePoint America*, which provides host families and businesses with charging stations at no cost and is funded through the American Recovery and Reinvestment Act (ARRA). However, the charging stations installed in Arizona by Coulomb are not part of either *ChargePoint America* or *The EV Project*.

Table 3. Coulomb Chargers Deployed in Arizona

	Public Level 2
Metro Phoenix	8
Tucson	5
Rural AZ	3
Total Arizona Deployment	17

GoE3 is an Arizona based company that has begun deployment of electric vehicle infrastructure. To date they have installed 2 level 2 chargers and 1 DC fast charger on the I-10 corridor between Tucson and Phoenix. Their goal is to have a national network of DC fast chargers connecting the largest US cities.

Other national electric vehicle infrastructure networks that have installed EV charging stations include the Better Place network (currently deployed in Hawaii) and the eVgo network (a subsidiary of NRG Energy, with charging stations deployed in metropolitan areas in Texas). The eVgo program provides residential and business EV owners with a choice of monthly payment plans for purchase, installation, and maintenance of charging infrastructure.⁹ To date, APS is not aware of an Arizona presence for either of these networks.

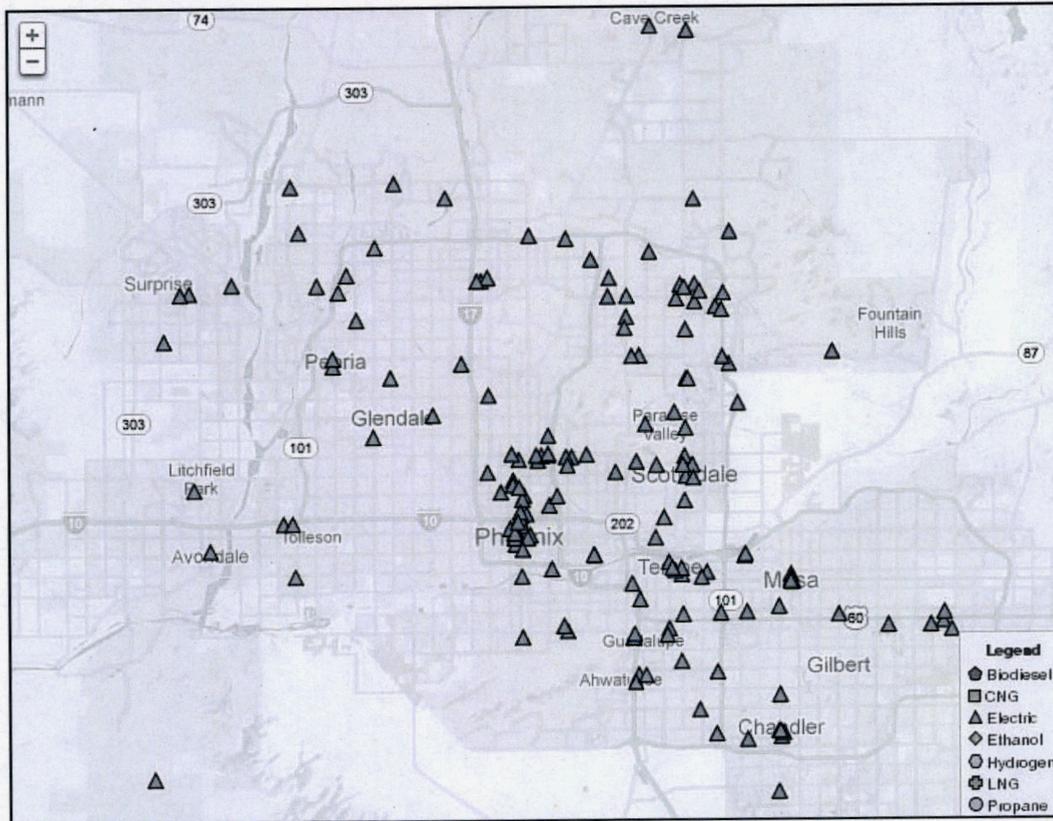
A map of EV charging stations in the Metro Phoenix area as produced by the Department of Energy's Alternative Fuels and Advanced Vehicles Data Center

⁸ A map of existing Blink Network public charging stations throughout the United States can be found at www.blinknetwork.com/locator.html. The map is notable because the number of stations at each installation site is provided, along with real-time usage information to allow consumers to both find a station and know in advance if that station is available for immediate use.

⁹ In California, a landmark settlement agreement was approved by the Public Utilities Commission in March of 2012 in which NRG Energy has agreed to install more than 10,000 publicly available EV charging stations across California to settle claims relating to market manipulation during the 2001 California energy crisis. Installation of these stations is expected to be complete by the end of 2015.

is provided in Figure 8. Public EV charging infrastructure continues to be deployed almost exclusively near highly traveled roadways and freeways or near government buildings.

Figure 8. Metro Phoenix Area EV Charging Station Deployment as mapped by the Department of Energy¹⁰



The Company's original ev-READY Study included a proposal to deploy APS-owned public EV charging stations throughout the APS service territory. This portion of the Study was designed to complement The EV Project by placing charging stations in locations where the project did not have plans to install EV infrastructure (to fill in gaps within cities and more evenly distribute availability of charging stations, and to place in APS service territory outside of the metropolitan Phoenix area). The proposed public charging station acquisition and deployment timeline was based on a forecast of EV sales in the Company's service territory. The Commission declined to approve this portion of the ev-READY Study, citing the uncertainty surrounding market penetration and customer adoption of EVs.

APS continues to believe utility-owned public charging stations may be appropriate in future years to complement *The EV Project* infrastructure

¹⁰ For this and similar maps, please see www.afdc.energy.gov/afdc/locator/stations.

deployment; however, at this time the Company does not intend to install Company-owned public charging stations nor request approval of a point-of-sale pricing methodology for energy usage at these stations.¹¹ The Company will continue to monitor deployment of electric vehicle chargers and the number of EV sales in the APS service territory and may request a similar charging station deployment program in the future.

C. Customer Education and Outreach

APS has developed several methods of communication in order to reach and inform customers regarding the availability of EVs and their contribution to a cleaner environment, the various types of charging stations and under what circumstances a residential customer may wish to install a station at home, and the impacts EV ownership may have on individual electricity usage and neighborhood distribution systems.

APS maintains a robust website (www.aps.com/ev) which provides information about EVs, EV charging, and other basic information regarding EV ownership including customer rate options appropriate for the EV owner. A dedicated e-mail account, electricvehicles@aps.com, is available for EV owners to ask specific questions regarding their EV and their APS account. The Company has also partnered with leading automobile makers, other utilities, and battery and charging station manufacturers to establish a website to educate consumers, policymakers, and key industry sectors on the benefits of EVs. This website (www.GoElectricDrive.com) contains comprehensive information about owning and operating an EV, including available federal and state incentives and other EV benefits.

Additionally, APS has developed a brochure to help explain Rate ET-EV. This brochure is available at public events, electric vehicle dealerships, and upon demand. A copy of the brochure is provided in Appendix A.

APS personnel also attend public events with Company-owned EVs to broaden public awareness of available vehicles, answer questions, and demonstrate the benefits of EVs.

¹¹ "Should APS identify a gap in charging infrastructure deployment, or other deficiency in the federally-funded EV infrastructure efforts, APS may request approval of a public point-of-sale rate in APS' first annual report of Study findings to the Commission." *Decision No. 72582, page 15, lines 7-9.*

II. Rate ET-EV Analysis

The ev-READY study is designed to assist the Company and its customers in preparing for the expected increase in market penetration of EVs. Deployed as part of the ev-READY study, Rate Schedule ET-EV is designed to encourage EV owners to move electric vehicle charging to super-off peak demand periods through the use of financial incentives included in the rate schedule.

Rate ET-EV time-of-use rate has an on-peak time period (Noon-7PM), a super-off peak time period (11PM – 5AM), and an off-peak time period (all other times). This rate is a whole home time-of-use rate that applies to all electricity used in the home. Currently, there are 36 APS customers on Rate ET-EV; however, the Company is planning to employ a targeted mailing campaign to increase awareness of Rate ET-EV. To date, only one Rate ET-EV bill has been estimated due to a meter that did not communicate to the Company as expected.¹² This meter was exchanged.

Table 2. Rate ET-EV Time Periods

TIME-OF-USE	MON. - FRI. ¹	WEEKENDS ²
5 a.m. to Noon	Off-peak	Off-peak
Noon to 7 p.m.	On-peak	
7 p.m. to 11 p.m.	Off-peak	
11 p.m. to 5 a.m.	Super Off-peak	

¹ Excludes qualifying holidays ² Includes qualifying holidays

A comparison between customer usage patterns for the standard rate and Rate ET-EV TOU is shown in Figure 9 below. This graph shows the average load of all customers on the Rate Schedule E-12 and the average load of all customers on Rate ET-EV from January 1, 2012 to December 31, 2012.

The graph shows that customers on Rate ET-EV have higher peak energy demand, on average (3.73 kW), than customers on Rate Schedule E-12 (1.23 kW). This load diversity is consistent with expectations of early adopting electric vehicle customers as they are more likely to live in larger usage single family dwellings.

The observed peak for Rate ET-EV occurs around 1 AM for both the weekday and weekend, as opposed to 5:30 PM for Rate Schedule E-12. This is particularly interesting for Rate ET-EV, because the super-off peak period

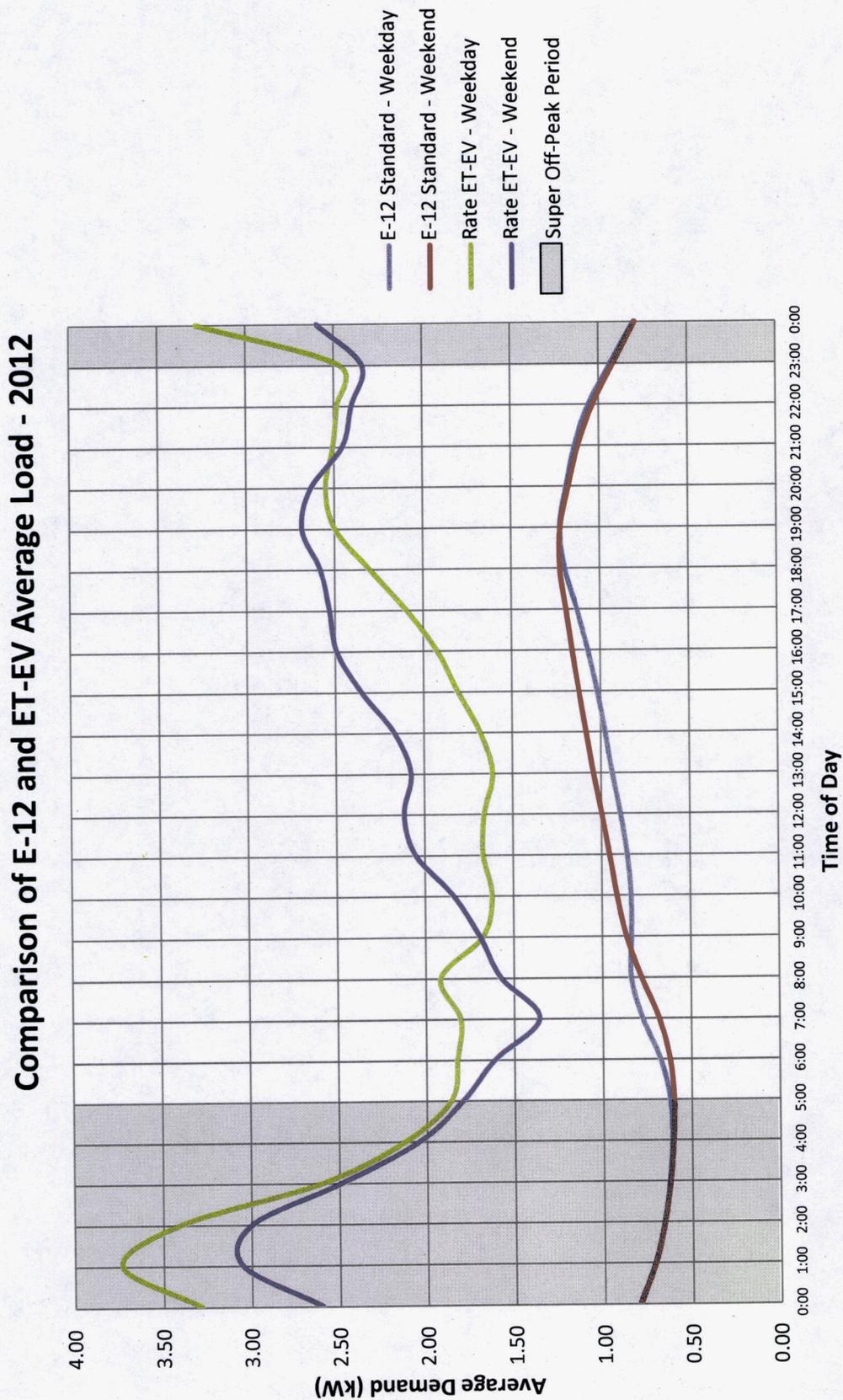
¹² "IT IS FURTHER ORDERED that Arizona Public Service Company include information regarding bill estimation experience with the ET-EV rate schedule in the annual reports required by the Commission in Decision No. 72582." *Decision No. 73223, page 5, lines 1-3.*

only occurs on week days. APS believes that customers are simply programming their vehicles to charge during the time frame of the super-off peak pricing period, and continuing to charge the EV at that time regardless of the day of the week.

Customers on Rate Schedule E-12 use an average of 21.6 kWh per day on the weekdays and 22.09 kWh per day on the weekends. This compares with 53.1 kWh per day on the weekdays and 53.9 kWh on the weekends for customers on Rate ET-EV.

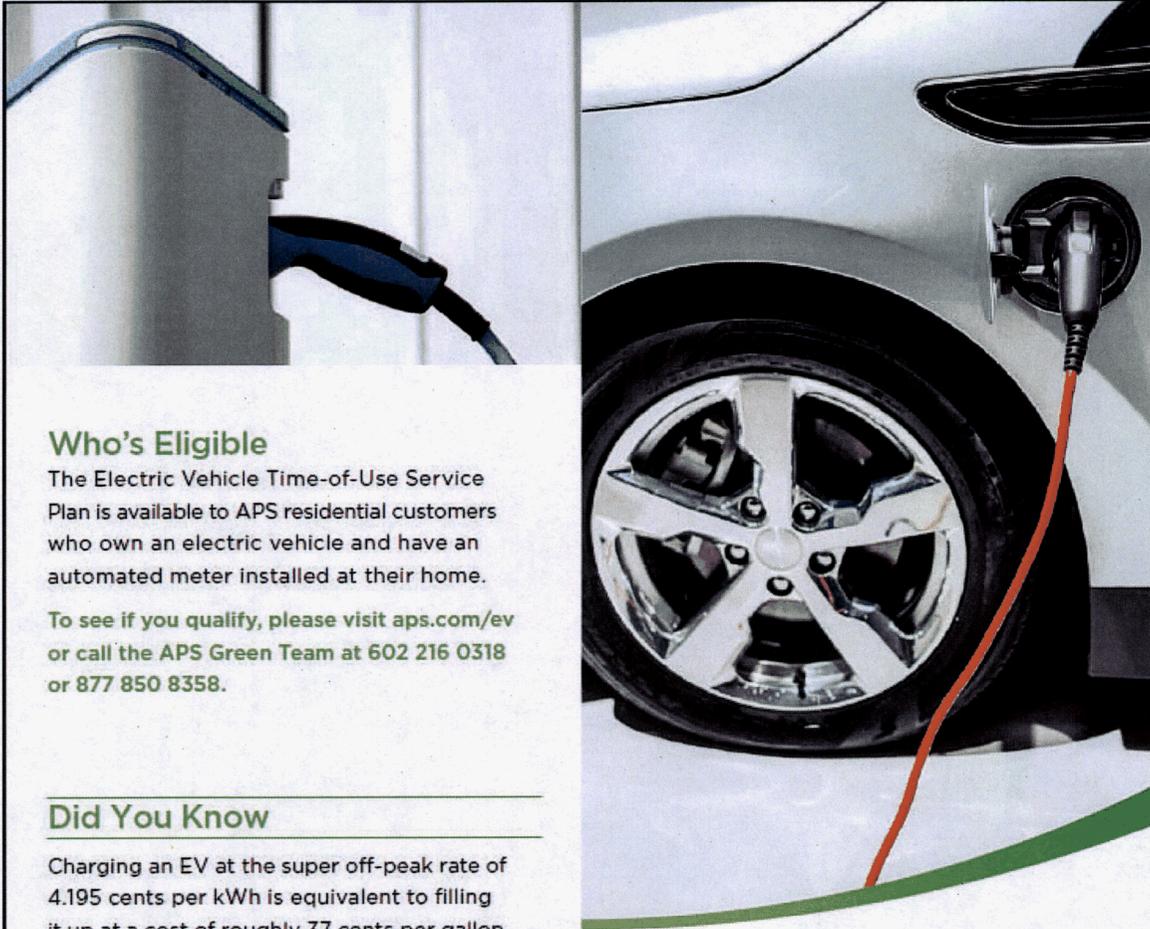
Rate ET-EV has been an effective means of driving customers to use energy in the super-off peak period where demand on the system as a whole is at its least. It appears that the current design of Rate ET-EV (i.e. a super off-peak/off-peak differential of 2.265 cents/kWh) is adequate to achieve the Company's goal of encouraging EV charging to coincide with the time of lowest demand on the system. Therefore, at this time, the Company recommends maintaining the current rates and pricing periods in Rate ET-EV through a second summer season. APS will provide another analysis of Rate ET-EV in the next annual report.

Figure 9. Comparison of E-12 and ET-1 Loads



III. Appendices

A. Rate ET-EV Brochure



Who's Eligible

The Electric Vehicle Time-of-Use Service Plan is available to APS residential customers who own an electric vehicle and have an automated meter installed at their home.

To see if you qualify, please visit aps.com/ev or call the APS Green Team at 602 216 0318 or 877 850 8358.

Did You Know

Charging an EV at the super off-peak rate of 4.195 cents per kWh is equivalent to filling it up at a cost of roughly 37 cents per gallon.

Source from EPRI 2007

The Electric Vehicle Time-of-Use Service Plan is a trial plan available through December 31, 2014. APS reserves the right to discontinue this service plan prior to the end of the trial period. Although the EV TOU service plan is designed to lower costs by offering a lower rate from 11:00 p.m. to 5:00 a.m. for EV charging and other purposes, APS is unable to guarantee that switching to this service plan will lower your actual energy cost. Neighborhood Electric Vehicles (golf carts) as described in A.R.S. §28-101(36) do not qualify for this rate schedule.

Plug in for Less
ELECTRIC VEHICLE TIME-OF-USE
SERVICE PLAN



CS#1209019

Maximize your savings with the APS Electric Vehicle Time-of-Use Service Plan

You may already be saving on fuel. Now you can also save on electricity, too. The Electric Vehicle Time-of-Use (TOU) Service Plan is designed to help you reduce the cost of charging your electric vehicle. Not only does the service plan apply to the energy used to charge your vehicle—it also applies to your home’s total energy usage, which means the savings can be significant.

How it Works

APS residential customers who own an electric vehicle and have an automated meter can sign up for the Electric Vehicle Time-of-Use Service Plan. Customers who sign up for this trial plan are billed at rates which vary depending on the time of day when electricity is used. So, those who charge their electric vehicle during super off-peak hours will reduce the cost of charging the electric vehicle. Check the owner’s manual or ask your dealer to determine if your electric vehicle can be programmed to automatically charge during super off-peak hours.

TIME-OF-USE	MON. - FRI. ¹	WEEKENDS ²
5 a.m. to Noon	Off-peak	Off-peak
Noon to 7 p.m.	On-peak	
7 p.m. to 11 p.m.	Off-peak	
11 p.m. to 5 a.m.	Super Off-peak	

¹ Excludes qualifying holidays ² Includes qualifying holidays

Additional Savings

This plan can save you the most money on your household energy use, if you can:

- Keep your home’s energy use to a minimum during on-peak hours.
- Set your programmable thermostat to a warmer temperature during summer on-peak hours and a cooler temperature during winter on-peak hours.
- Set times for major electric-powered equipment such as pool pumps, spa heaters and electric water heaters with timers set to run only during off-peak hours and super off-peak hours.
- Use major appliances (oven, range, dishwasher, clothes washer and dryer) mostly during off-peak hours.

Please visit aps.com/ev for more information regarding electric vehicles and the Electric Vehicle Time-of-Use Service Plan.