414 Nicollet Mall
Minneapolis, Minnesota 55401

June 1, 2018

—Via Electronic Filing—

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: COMPLIANCE FILING
RESIDENTIAL ELECTRIC VEHICLE CHARGING TARIFF
DOCKET NO. E002/M-15-111

Dear Mr. Wolf:

Northern States Power Company, doing business as Xcel Energy, submits this filing in compliance with the Minnesota Public Utilities Commission's June 22, 2015 ORDER APPROVING TARIFFS AND REQUIRING FILINGS in Docket No. E002/M-15-111. As specified by Order point 8, Xcel Energy is to provide the following:

> 8. Annually, by June 1st, each utility must file an Electric Vehicle Tariff Report in its electric vehicle tariff docket. Each utility must include, on a per-quarter basis and in addition to the information required by Minn. Stat. § 216B.1614, subd. 3(1) and (2), the following information in its reports:
>
> a. The amount of energy sold in on- and off-peak periods, if applicable;
> b. A brief description of all development and promotional activities and their costs;
> c. The number of customers choosing the renewable-source option;
> d. The status of the communications costs tracker account, if applicable; and
> e. Copies of any EV promotional materials distributed to customers.

In addition, Order point 5 of the Commission's ORDER ACCEPTING 2017 ANNUAL REPORTS AND ESTABLISHING REQUIREMENTS FOR NEXT ANNUAL REPORTS issued

October 26, 2017 in the present docket required the Company to include in its next annual report an assessment of current and forecasted EV penetration in its service territory, including an analysis of current and forecasted tariffs in use and charging practices. We provide the requested assessment in the enclosed report.

We have electronically filed this document with the Commission, and copies have been served on the parties on the attached service list.

If you have any questions regarding this filing, please contact Carl Cronin at carl.cronin@xcelenergy.com or (612) 215-4669.

Sincerely,

/s/

AMY A. LIBERKOWSKI
DIRECTOR, REGULATORY PRICING & ANALYSIS

Enclosure
cc: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie J. Sieben	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON RESIDENTIAL ELECTRIC VEHICLE (EV) CHARGING TARIFF	DOCKET NO. E002/M-15-111 **ANNUAL REPORT**

INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Annual Report regarding our Residential Electric Vehicle (EV) Charging Tariff for the period ending April 30, 2018. We submit this Report pursuant to the Commission's Orders dated June 22, 2015 and October 26, 2017 in this Docket and we request the Commission accept our 2018 Annual Report.

Our Residential EV Charging Service (EV Rate or EV Charging Rate) was launched on August 1, 2015 as a voluntary option to provide residential customers an incentive to charge their electric vehicles during off-peak hours. This rate, along with the Company's recently approved Electric Vehicle Service pilot, is a key feature of the Company's broader activities related to electric transportation.

In its 2015 Order, the Commission required that each utility file an Annual EV Tariff Report, including the following information on a per quarter basis:

- the number of customers who have arranged to purchase electricity under the tariff;
- the total amount of electricity sold under the tariff;
- the amount of energy sold in on- and off-peak periods, if applicable;
- a brief description of all development and promotional activities and their costs;
- the number of customers choosing the renewable-source option;

- the status of the communications costs tracker account, if applicable; and
- copies of any EV promotional materials distributed to customers.

In addition, Order point 5 of the Commission's ORDER ACCEPTING 2017 ANNUAL REPORTS AND ESTABLISHING REQUIREMENTS FOR NEXT ANNUAL REPORTS required the Company to include in its next annual report an assessment of current and forecasted EV penetration in its service territory, including an analysis of current and forecasted tariffs in use and charging practices. We provide the requested assessment in Attachment A of this report.

ANNUAL REPORT

A. Customer Participation and Usage

Customers billed on the Residential EV Charging Rate and the corresponding energy usage history by month is summarized below in Table 1.[1]

Table 1: Total Customer Participation and Energy Usage

		Monthly KWH		
Date	Customers	On-Peak	Off-Peak	Total
Oct-2015	8	0	1,741	1,741
Nov-2015	7	77	1,967	2,044
Dec-2015	9	128	3,008	3,136
Jan-2016	14	404	5,883	6,287
Feb-2016	13	189	5,497	5,686
Mar-2016	17	314	6,959	7,273
Apr-2016	20	528	6,779	7,307
May-2016	31	896	9,230	10,126
Jun-2016	32	663	11,563	12,226
Jul-2016	34	987	12,219	13,206
Aug-2016	43	749	15,426	16,175
Sep-2016	44	708	14,406	15,114
Oct-2016	58	1,289	17,764	19,053
Nov-2016	54	1,605	17,963	19,568
Dec-2016	66	2,482	23,288	25,770
Jan-2017	78	2,697	33,871	36,568
Feb-2017	79	2,132	31,805	33,937
Mar-2017	102	3,144	36,046	39,190
Apr-2017	93	1,734	29,733	31,467

[1] The basis for the monthly categorization of customer billing information in Table 1 is the general billing month indicator from our billing system. This categorization is consistent with the information provided by the Company in our November 15, 2017 compliance filing.

Date	Customers	Monthly KWH On-Peak	Off-Peak	Total
May-2017	103	2,452	34,036	36,488
Jun-2017	111	2,231	38,674	40,905
Jul-2017	117	2,992	37,505	40,497
Aug-2017	137	2,705	39,750	42,455
Sep-2017	140	5,345	48,673	54,018
Oct-2017	161	3,761	51,198	54,959
Nov-2017	151	4,443	54,809	59,252
Dec-2017	193	5,804	66,058	71,862
Jan-2018	189	8,385	87,471	95,856
Feb-2018	164	6,821	70,404	77,225
Mar-2018	217	9,135	80,902	90,037
Apr-2018	206	4,771	68,931	73,702

Table 2 below provides the EV Tariff customer counts by quarter (and for the single month of April 2018).

Table 2: Total Customer Participation by Quarter

Date	Customers
Dec-2015	9
Mar-2016	17
Jun-2016	32
Sep-2016	46
Dec-2016	64
Mar-2017	94
Jun-2017	112
Sep-2017	139
Dec-2017	157
Mar-2018	201
Apr-2018	211

The average monthly share of Residential EV Charging Rate usage during the off-peak period (9:00 p.m. to 9:00 a.m., holidays and weekends) has ranged from 90 to 95 percent for the last two years, with an average monthly off-peak share of 92 percent. The increase in customer participation over the last year is approximately double the comparable customer increase in the whole-house Residential Time of Day Service rate option. Customers with EVs may also choose the default Residential Service flat energy rate.

B. Development and Promotional Activities

The Company expanded its educational campaigns about EVs in the last year. These activities align with the growing participation in the EV Rate, as well as customer adoption of EVs. The Company's activities focus on the foundational EV Rate resources, as well as broader messaging about EVs. The Company's EV-related educational efforts span multiple communication channels including sponsorship of public events, digital media, and dynamic communications. In compliance with the Commission's Order, copies of our EV promotional materials distributed to customers are provided in Attachment B.

Customers and the industry are very interested in EVs and look to Xcel Energy for information and advice. Our outreach strategies provide that information through a number of different channels that are convenient and understandable for these groups. Generally speaking, digital outreach creates awareness about Xcel Energy's offerings and the EV market, and public events enable education through an accessible format that addresses complex questions.

The Company has incorporated learnings drawn from customer feedback on early iterations of our EV-related print and web content and revised our materials to align with our service offerings. The EV Rate webpage on the Company's website provides information about the EV charging rate, equipment installation guidelines, and provides an online enrollment option at: www.xcelenergy.com/EVRates.

In addition to the online information, Xcel Energy has promoted its EV driver options directly to customers and the auto industry. Examples of our key customer education initiatives included promotions at public events, through digital media, and through dynamic communications. Industry outreach is also a key component of the Company's promotional strategy for EV resources. By engaging industry partners directly, the Company aims to enable a positive customer experience by coordinating communications with two key groups – auto dealers and electricians.

We describe these initiatives below.

1. Public Events

Xcel Energy promoted our EV service options at more than 10 public events this year. These included large-scale premier showcase events such as the Twin Cities Auto Show in Minneapolis in March 2018 and targeted sustainability events like the Energy Fair in St. Paul in September 2017. The Company also targeted direct customer outreach at local community events such as the Eden Prairie Green Fair.

Additionally, Xcel Energy participated in multiple membership meetings and workshops with local stakeholders such as Drive Electric Minnesota and the Midwest EVolve campaign with the Twin Cities Clean Cities Coalition. The Company selects events strategically to engage relevant audiences and to align with allies that also support the increased adoption of electric vehicles.

2. *Digital Media*

The Company spearheaded a significant new educational initiative this year, creating two short animated videos to introduce the benefits of clean transportation options. The 60 second videos can be found on YouTube[2]. We leveraged our digital media strategy to drive video views through search engine marketing and social media posts directing viewers to the video and the Company's online resources for EV information.

3. *Dynamic Communications*

Each month, Xcel Energy picked a timely topic to share real world experiences and lessons about driving and charging electric vehicles on the Xcel Energy ConnectBlog. The blog provides digestible information in a familiar tone on topics including home and business energy solutions, clean energy, and more. The ConnectBlog featured an Earth Day story in April 2018 highlighting the environmental benefits of EVs. In August 2017, the blog featured a story on summer travel plans that included information about EV charging away from home. The Company promotes EV content in the ConnectBlog through social media links and email notification opportunities. The Company also fields questions on EVs directly from customers through a dedicated email address, RepoweringTransportation@xcelenergy.com.

4. *Auto Dealer Outreach*

Sellers of electric vehicles are a key information resource for consumers to learn not only about electric vehicles models, but also other aspects of the electric vehicle experience, including charging options, rates, and renewable offerings. Despite being an important resource for buyers, auto dealers are not always knowledgeable about these topics. In 2017, Xcel Energy worked with a third party to develop and complete training events with auto dealers in Minnesota. Xcel Energy is committed to maintaining a strong relationship with the dealer community. Communication with

[2] https://www.youtube.com/watch?v=4F1IrBTRvlw

dealers is important to ensure that customers receive accurate information about charging options and electric costs. We are formalizing collaborations for sales team trainings, public education about charging and rate options, and other coordinated EV educational efforts.

5. Electrician Trade Allies and Trainings

Working in parallel with our auto dealer outreach strategy, we completed two trainings for electricians that were interested in installing EV equipment and associated components. The training included information about the EV market, Xcel Energy rate and renewable programs, and specific metering standards and considerations. We believe this was beneficial for all parties, as we incorporated feedback from the electricians into customer communications. Additionally, customers can now access the list of EV knowledgeable electricians at www.XcelEnergy.com/EVHome.

C. Renewable Program Participation

As of April 2018, 23 customers were enrolled in Windsource along with the EV Charging Rate. In addition, as of April 2018, one EV rate customer was enrolled in the Company's new Renewable*Connect program that opened for enrollment on April 24, 2017.

D. Electric Vehicle Program Cost Tracker

Costs associated with EV Rate education and outreach activities are recorded to a tracker account that was established in 2015, of which $132,325.01 was attributed to the EV Tracker account between May 1, 2017 and April 30, 2018. These costs support the strategies described in the Development and Promotional Activities section above including sponsorship and participation in community events, digital media and videos, print materials, and other customer and industry communications. Some of the costs recorded in the EV Program tracker were upfront payments for educational assets. This includes costs for the digital media planning and EV video that will be used and promoted throughout 2018 and potentially beyond.

As mentioned in the Company's previous annual report, and in alignment with the EV legislation[3] and customer interest in different types of information related to electric vehicles, the Company expanded the message of educational initiatives to include general EV information, as well as EV Rate specific information. Costs associated with this outreach were attributed to the EV Tracker. As EV adoption

[3] Minn. Stat. § 216B.1614, Subd. 2(2).

increases, the Company will continue to tailor the messaging and educational efforts to provide relevant information about EVs through appropriate channels.

CONCLUSION

We respectfully request the Commission accept this 2018 Annual Report in compliance with its June 22, 2015 and October 26, 2017 Orders in this Docket.

Dated: June 1, 2018

Northern States Power Company

Current and Forecasted Electric Vehicle Penetrations

At the beginning of 2018, there were 5,693 registered plug-in vehicles in our Minnesota service territory.[1] Approximately 55% were plug-in hybrids while 45% were full battery electric drive trains. The most popular vehicle has been the Chevy Volt followed by the Nissan Leaf. While the bulk of vehicles reside in Minneapolis, Saint Paul, and the surrounding suburbs – electric vehicles are registered in nearly every zip code we serve.

Over the next five years, we expect electric vehicle options to grow and driver economics to improve. However, the unsubsidized purchase price of electric vehicles will likely remain above the price of equivalent internal combustion engine options, limiting growth of the electric vehicles during this timeframe.

Our preliminary modeling suggests our Minnesota service territory may see adoption of more than 40,000 electric vehicles by 2023. Our modeling also suggests the possibility of significantly more or less adoption over this horizon as well. For this reason, we believe planning for transportation electrification must contemplate a variety of future state scenarios. We are currently preparing electric vehicle adoption scenarios in support of our 2019 Integrated Resource Plan.

Current and Forecasted Tariffs in Use

As we have introduced our electric vehicle rate solution and considered new models to pilot, we continue to benchmark our efforts against other utilities and their offerings. While each utility has unique rate options and customer demographics, the California investor owned-utilities provide a useful reference point given the significant resources dedicated to rates for electric vehicle and managing their usage, the higher penetration of electric vehicles, and the prevalence of opt-in single-meter, whole home time-of-use and separately metered time-of-use rate options for electric vehicles. The data points from California suggest the Company's separately-metered electric vehicle rate is exceeding the penetration of our California counterparts (see Table 1 below). Many caveats to this comparison are warranted, including the fact

[1] IHS Markit, Feb 2018. The IHS Markit data is provided at the zip code level, and utility jurisdictions do not correspond to zip codes, so there may be a small margin of error in this value.

that default tariffs in California create a larger incentive to consider alternatives than we have in Minnesota.

Table 1: Separately Metered Electric Vehicle Time-of-Use Rate Enrollment in California[2]

	Electric vehicles in service territory	Number of accounts on separately metered electric vehicle time-of-use rate	Percent of electric vehicles on separately metered electric vehicle time-of-use rate
PG&E[3]	142,732	~550	0.4%
SCE	108,135	807	0.7%
SDG&E	26,498	242	0.9%
Xcel Energy	5,693	211	3.7%

Forecasting future adoption of our current rate options is challenging, given the Company's pursuit of innovative pilot projects simultaneously.[4] The Company desires to embed learnings from those pilots into new program offerings, and we are eager to test customer responses to these innovations.

As more customers purchase or lease electric vehicles, we continue to believe that 1% of electric vehicle drivers is a reasonable near-term target for the separately metered electric vehicle time-of-use rate. That said, we are continuing to explore opportunities to drive additional adoption of these rate offerings, and we are looking forward to a more fulsome discussion on this topic in the Commission's Inquiry into Electric Vehicle Charging and Infrastructure E999/CI-17-879.

Charging Practices

Just as the future adoption of electric vehicles remains a topic of continued study, so does the future behavior of electric vehicle drivers with respect to their charging habits, including how customers charge with and without any time-of-use pricing signals.

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[2] Load Research Report Compliance Filing of San Diego Gas & Electric Company (U 902-M), Southern California Edison Company (U 338-E), and Pacific Gas and Electric Company (U 39E) Pursuant to Ordering Paragraph 2 of d.16-06-01. Joint IOU Electric Vehicle Load Research Report (6th Report). December 29, 2017.

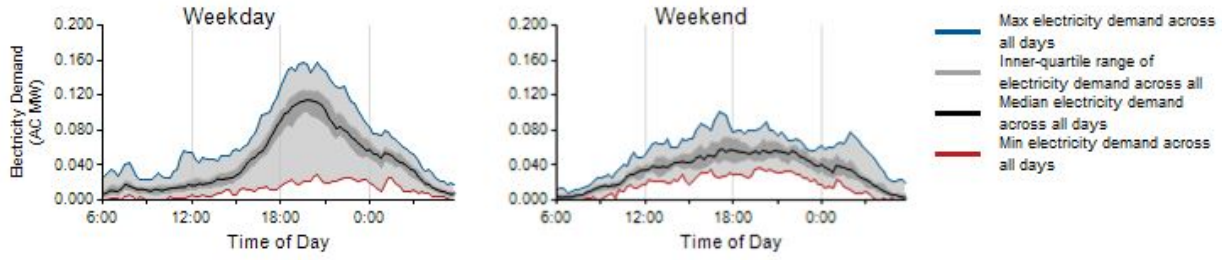
[3] Precise numbers for enrollees for PG&E's programs were not included in the Joint IOU Electric Vehicle Load Research Report so this value is extrapolated from a report graphic.

[4] See Company pilot proposals recently approved in Docket Nos. E002/M-17-775 and E002/M-17-817.

Our current assessment of charging practices is based on data available from Idaho National Labs EV Project, which has been used in other utilities' Integrated Resource Plans and in cost-benefit analyses for electric vehicles.[5] We will continue to monitor other data sources as they become available.

For charging without any time-of-use pricing signals, the EV Project's charging data for Chicago provides a load shape that approximates what charging may look like in our Minnesota service territory. Chicago may provide a relatively comparable case due to its geographic proximity to our service territory and the relatively similar climates and electric vehicle driving patters in metropolitan areas (where the majority of our electric vehicle driving customers are based). Figure 1 below highlights the EV Project's residential charging data from Chicago.

FIGURE 1: Assumed Load Shape for Residential Charging without Time-of-Use Pricing Signals



Source: EV Project

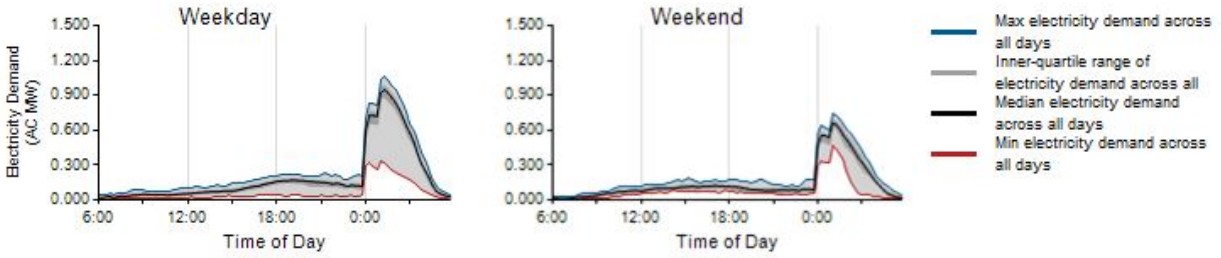
For charging practices where customers are receiving time-of-use pricing signals, we are able to leverage the experience from our separately-metered electric vehicle rate using 12-hour increments, where more than 92% of charging occurs during the off-peak window.

We have also looked at the charging practices of participants in other utility program offerings where more granular data is available. The EV Project data includes the electric vehicle load profile for SDG&E customers on their time-of-use rates, which we use as a reference point for how customers may charge when they are on a time-of use rate. Figure 2 below highlights the EV Project's residential charging data from San

[5] The EV Project (https://www.energy.gov/eere/vehicles/avta-ev-project) was a study partially funded by the Department of Energy, with partners from cities, regional and state governments, utilities, and other organization, which gathered and analyzed charging data in eighteen cities from 8,650 plug-in electric vehicles and about 12,500 public and residential charging stations. The data was collected between 2011-2013.

Diego, depicting what charging practices could look like with a time-of-use pricing signal.

FIGURE 2: Assumed Load Shape for Residential Charging with Pricing Signals



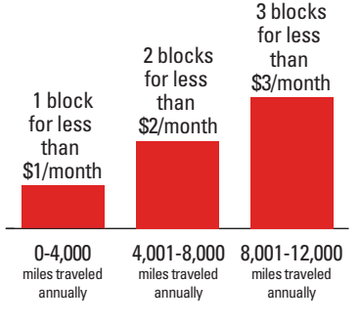
Source: EV Project

We look forward to discussing the impact of these scenarios as this and other topics are developed more fully in our Integrated Resource Plan proceeding early next year.

Power your EV with renewable energy! Windsource® for EVs*

Take your environmentally-friendly vehicle to the next level and support renewable energy by purchasing Windsource to power it.

- When you do, you're supporting:
  - Lower vehicle fuel and operating costs
  - Air quality and environmental improvements because EVs produce lower greenhouse gas and tailpipe emissions
  - Affordable and domestic renewable energy production that promotes electricity price stability



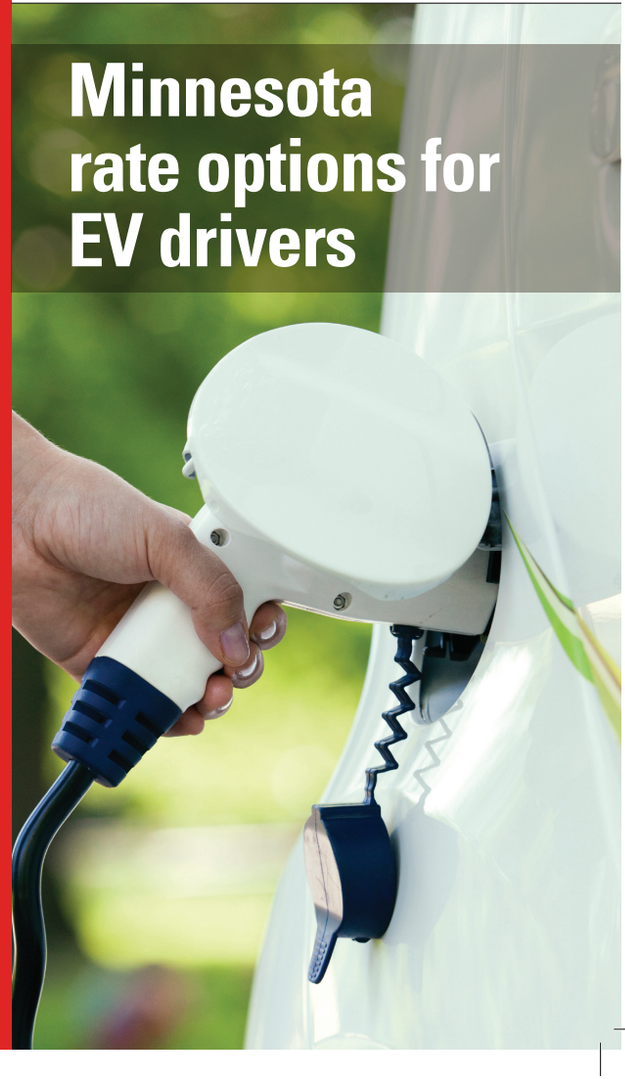
*Customers will be enrolled in Windsource at a subscription level of 100% Windsource for their EV charging (approximately three, one-hundred kilowatt-hour blocks per month) for a total estimated monthly cost of less than $2.60. The actual cost per 100 kWh block is $3.53/month, less a credit for fuel costs. In 2015, the average fuel cost credit for a residential customer was $2.68, making the net charge for Windsource $0.85 per block.

Savings will vary by customer, charging patterns, vehicle usage and other criteria, and are not guaranteed. Up-front installation costs and monthly metering fees will impact your savings potential, but many customers have the potential to save money over time with this rate.

Xcel Energy®
RESPONSIBLE BY NATURE®

Xcel Energy®

Minnesota rate options for EV drivers

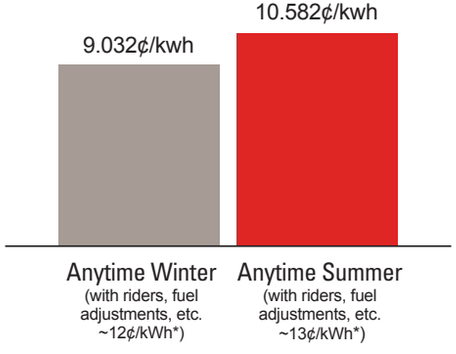


Xcel Energy's affordable electric rates provide a significant savings opportunity compared to gasoline for our electric vehicle (EV) customers. We offer three different rates, providing flexibility to charge at a time that's convenient at a rate that works for you.

Standard rates

Provides flexibility to charge anytime with the same price during the day and at night.

- One meter for home and vehicle electric use

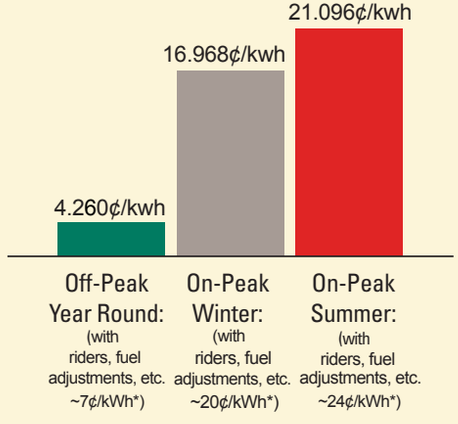


* Rates are subject to resource and/or fuel adjustments, city fees and taxes where applicable. Rates may change upon PUC approval.

Time of day rate

Your off-peak rate (between 9 p.m. and 9 a.m. daily, plus holidays and weekends) is less than half of the standard residential rates, which is great for charging at night.

- One meter for home and vehicle electric use
- Monthly charge: $2 premium over standard rates

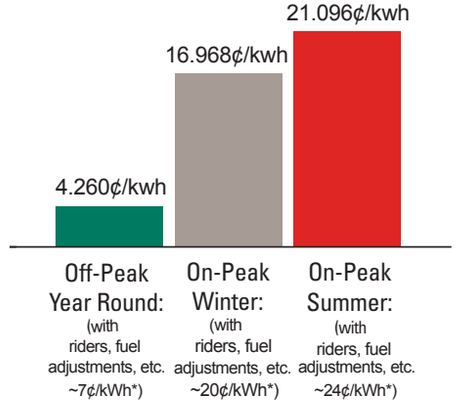


Trial period: 3 months – If you're not satisfied, we'll recalculate your bill at the standard rate. There is a $20 charge to remove the off-peak meter if you cancel.

Electric vehicle rate

If you can charge your vehicle after 9 p.m., but can't shift your home energy to the evening hours, this is a great rate for saving on your driving costs.

- Two meters: one for home and one for vehicle electric use
- Monthly charge: $4.95, plus the home service charges



Customer must hire licensed electrician to install a meter socket—and potentially an additional breaker—to connect appliances to the off-peak meter.

Xcel Energy®

Get plugged in

Enjoy a cutting-edge electric vehicle drive with a reliable power provider

Charging ahead with EV innovation

With increased access to renewable energy, the future of sustainable living is becoming a reality in your home, business and on the road. Xcel Energy wants to support your electric vehicle (EV) goals by offering electric rate choices and renewable power options to lower vehicle fuel and operating costs, and help the environment.

We are proactively investing in clean-energy technologies to reduce carbon dioxide emissions 30% by 2020, compared to 2005 levels. We're investing in advanced power grid technologies that will maintain power reliability while supporting the increased use of renewable energy sources. So, you can be assured our power grid will keep up to the electric needs of EVs—and that we're making it easy for you to convert from conventional to clean transportation.

You're in the driver's seat, and we want to empower you with the information you need to make the switch. We're here to guide you toward a sustainable EV future.

Drive environmental change

EVs address efficiencies

When an internal combustion engine burns gasoline, only 14-30% of the converted energy is used to power the car. In an EV, 74-94% of the electrical energy is utilized.[1] Alongside this increase in efficiency, EVs don't have emissions—in fact, a plug-in EV doesn't even have a tailpipe. Driving an EV will help reduce your carbon footprint because EVs charged on Xcel Energy's system, overall, have lower carbon emissions compared to conventional gasoline vehicles. We also offer choices for customers to select 100% carbon-free, renewable energy to charge EVs.

Green your power with renewable energy

Currently, the electric service you receive from us includes about 25% renewable energy. But some customers want even more. To further reduce your carbon footprint and take your environmental efforts to the next level, you can choose to power your EV with wind energy. Our Windsource® for EVs rate enables you to charge your vehicle with electricity generated through wind energy affordably—simply by subscribing. For an extra $1.50 per block, you can purchase enough wind power to charge your EV up to 4,000 miles (depending on your vehicle size and conditions).

[1] Source: U.S. Dept. of Energy
"Where the Energy Goes: Electric Cars" www.fueleconomy.gov.

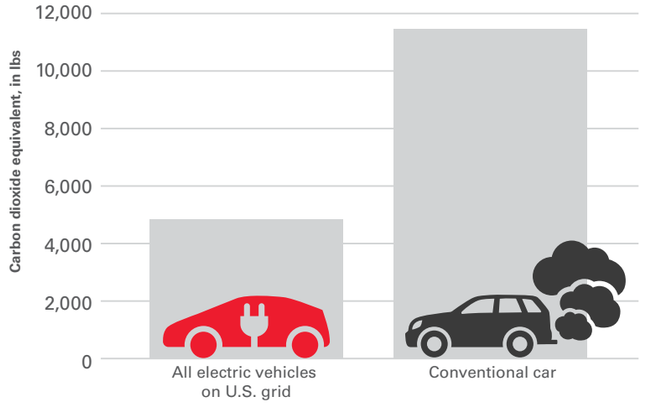
Top three reasons to drive electric

1 Local control, local rates

- Xcel Energy's competitive electric rates keep your travel costs down.
- The number of public charging locations is growing among businesses, towns and along the highways, communities and businesses.
- At home, charging saves you trips to the gas station.

2 Benefits the environment

- Fueling your car with electricity can lead to approximately one-third less emissions reductions compared to conventional vehicles.
- Additionally, many EV drivers enroll in one of Xcel Energy's voluntary renewable energy programs to offset driving with 100% renewable energy.



Source: Alternative Fuels Data Center, Department of Energy, Hybrid and electric carbon emissions calculator, accessed at www.afdc.energy.gov/afdc/vehicles/electric_emissions.php.

3 Cost savings

- Federal tax credits and local vehicle incentive offers help make purchasing an EV more affordable.
- Reduced maintenance cost for EVs saves you money on oil changes, tune-ups and maintenance on exhaust systems.
- Driving electric equates to spending about $1 per gallon of gasoline.
- Our low, off-peak rates for EVs help you save even more.
- EV owners tend to have higher satisfaction levels with their cars compared to non-EV owners.

Compare costs

regular gasoline 2.29

electric eGallon 1.16

Department of Energy www.energy.gov/eGallon
The eGallon price is calculated using the most recently available state by state residential electricity prices. The state gasoline price above is either the statewide average retail price or a multi-state regional average price reported by EIA.

Getting set up

Once you purchase an EV, there are a few steps to connectivity and we are here to guide you along the way.

- ✓**Select your rate plan**
- ✓**Determine your charging level**
- ✓**Install a charging station**

EV rates to suit your lifestyle

When you become an EV owner, you may pay more attention to electric rates (kWh) to get that extra savings over gasoline. Choose from the electric rate plans below to suit your lifestyle and charging needs. To help you make your choice, visit xcelenergy.com/RateAdvisor for a rates snapshot.

- **Standard Rate Pricing:** If you prefer to charge your vehicle and use energy in your home when you want, at the same price all day, the Standard rate is our base pricing.
- **Time of Day Rate Pricing:** If you charge your vehicle at night and on weekends, and can limit other electric use in your home to off-peak hours—9 p.m. to 9 a.m. weekdays, all-day weekends and holidays—explore our Time of Day Rate Plan.
- **EV Rate Pricing:** If you charge your vehicle at night and on weekends, but need to use a lot of electricity for other activities in your home during the day, explore our EV Rate Plan.

Getting charged up

For most EV charging at home, there are two levels offering various charging speeds to accommodate your lifestyle and EV type—all-electric or plug-in hybrid. Many EV drivers acquire a 120-volt Level I charging cable that can charge the battery from a common household socket. For charging up to four times faster, EV owners upgrade to a 240-volt Level 2 charging station, which may require help from a qualified electrician. Refer to our list of EV charging station electricians at **xcelenergy.com/EV**.

With more than 15,000 EV charging stations across the nation and growing, more EV drivers are charging away from home. Visit PlugShare.com or AFDC.energy.gov for interactive maps to find EV charging stations near you.

Turn to us to make the leap

Our energy advisors are available to simplify the transition, steer you to the rate that fits your needs, and be your resource for charging-station installations.

Visit **xcelenergy.com/EV** for more information where you'll find rate plans and applications to get started. Want to keep up on information about powering EVs or our renewable options? Join our EV network by completing the form found at **xcelenergy.com/EV**.

Xcel Energy®

Electric Vehicle Rate Plan

Contractor Set-Up Guide

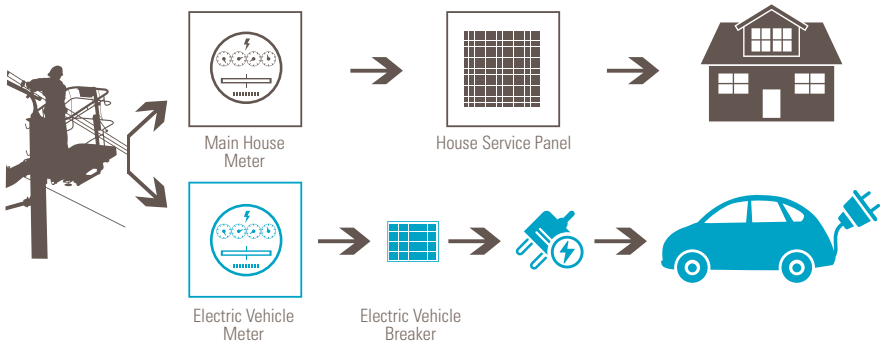
Contractor's Set-Up Guide: Overview

Pricing Plan Summary

Our special EV Rate plan makes it easy for owners of electric vehicles to save on charging costs. Customers who participate will get a reduced rate for the electricity they use to charge their vehicle during off-peak hours (between 9:00 p.m. and 9:00 a.m. on weekdays, or anytime on weekends and holidays).

	Metering Set-Up	Monthly Charge	Off-Peak (9 p.m.–9 a.m., holidays & weekends)	On-Peak (9:00:01 a.m.–8:59:59 p.m., weekdays)
EV Rate	Separate Meter for the EV Only	$4.95	$0.04260/kWh	$0.16968/kWh (other months) $0.21096/kWh (June–Sept.)

*Rates apply to single phase – secondary voltage use only. Rates are subject to resource and/or fuel adjustments, city fees and taxes where applicable. Rates may change upon PUC approval. Rates include the Variable Fuel Cost Charge. The average fuel cost for August 2014 through July 2015 was $0.02723.



Customer enrollment process for reference:

1. Customer calls Xcel Energy at **800.895.4999** so we can help determine which rate plan will work best.
2. If a fast charger is being installed, customer contacts builders.call.line@xcelenergy.com to check the load increase.
3. Customer contacts an electrician (you) for an estimate on the meter housing equipment installation.
4. When the meter housing is installed, inspected and energized, customer visits xcelenergy.com/EVRates and completes the application form.
5. Customer sends the completed inspection document to builders.call.line@xcelenergy.com.
6. We'll visit the customer's home and install an off-peak meter next to the existing meter.
7. Once the meter is installed the customer can start charging and saving.

Who provides what for the installation?

Xcel Energy provides:

- EV Billing Meter

Customer installs:

- Meter socket(s) (with a lever bypass)
- Conduit and wiring
- EV charger or dedicated wall outlet

Service Connection Options

Quick Reference Guide for Service Connection:

1. Choose a service connection option.
2. Contact the Builder's Call Line at **800.628.2121** to schedule a line drop and reconnect. If there is a large load increase, speak with a designer to determine if the service entrance conduit is still valid.
   a. Duplex meter sockets require a simple disconnect and reconnect.
   b. Overhead service requires a splice in the conductor past the weather head, which is made by Xcel Energy. Customers need to provide an adequate length of wire to make this connection.
   c. Underground service requires a connection in the wire below the meter sockets, in the same location that the conduit entered the meter socket. Customers need to supply the junction and route conductor from the point of delivery to the two individual meter sockets. The junction box requires a sealable hasp.
3. Customer visits xcelenergy.com/EVRates and completes the application form, and sends a completed inspection form to the Builder's Call Line, builders.call.line@xcelenergy.com.

Service Connection Option 1:
Duplex Meter Socket, Underground or Overhead Service

DRAWING EV-10

EV SERVICE METERING MN ONLY

Duplex Underground/Overhead

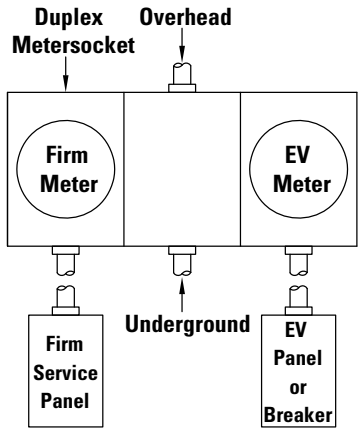


Table of Responsibility

Drawing EV-10

Item material or work description	Party to furnish, own and maintain	Party to install
Permits and Inspections	Customer	N/A
Service Entrance Conductor*	Customer	Customer
Underground Service Lateral	Xcel Energy	Xcel Energy
Service Entrance Conduit	Customer	Customer
Duplex Meter Socket	Customer	Customer
Billing Meter	Xcel Energy	Xcel Energy
Load Side Conduit/ Conductor/Panels	Customer	Customer

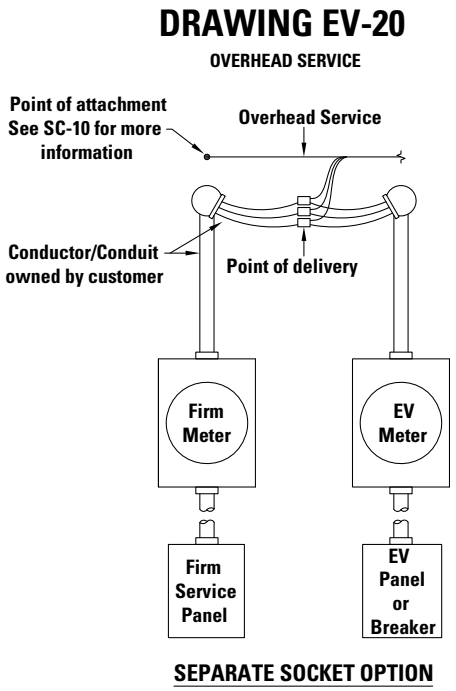
Point of Delivery:

- Point where Xcel Energy's facilities are first connected to the electric facilities of the customer.

*The service entrance conductor refers to the conductor going through the mast between the line side of the meter socket, through the weather head, and to the point of delivery.

Service Connection Options

Service Connection Option 2:
Separate Socket, Overhead Service



NOTES:
1. Riser conduit and conductor supplied and installed by customer/electrician.
2. Point of delivery in service loop.

Table of Responsibility

Drawing EV-20

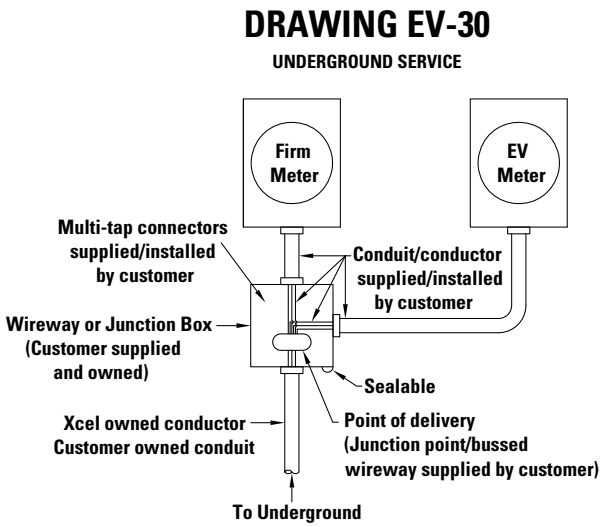
Item material or work description	Party to furnish, own and maintain	Party to install
Permits and Inspections	Customer	N/A
Service Entrance Conductor*	Customer	Customer
Junction in Drip Loop	Xcel Energy	Xcel Energy
Self-Contained Meter Socket	Customer	Customer
Billing Meter	Xcel Energy	Xcel Energy
Load Side Conduit/ Conductor/Panels	Customer	Customer

Point of Delivery:

- Overhead Service Residential – Point where Xcel Energy's facilities are first connected to the electric facilities of the customer.
- The junction is made in the drip loop between the conductor exiting the weather head and the overhead service drop. The connection will be made by Xcel Energy.

*The service entrance conductor refers to the conductor going through the mast between the line side of the meter socket, through the weather head, and to the point of delivery.

Service Connection Option 3:
Separate Socket, Underground Service



NOTES:
1. Need to coordinate disconnect/reconnect with Xcel builders line.
2. Point of delivery in wireway, conductors after that point supplied by customer.
3. Junction point or bussed wireway supplied by customer.

Table of Responsibility

Drawing EV-30

Item material or work description	Party to furnish, own and maintain	Party to install
Permits and Inspections	Customer	N/A
Underground Service Lateral	Xcel Energy	Xcel Energy
Junction Box/ Wire way	Customer	Customer
Point of Connection	Customer	Customer
Self-Contained Meter Socket	Customer	Customer
Billing Meter	Xcel Energy	Xcel Energy
Load Side Conduit/ Conductor/Panels	Customer	Customer

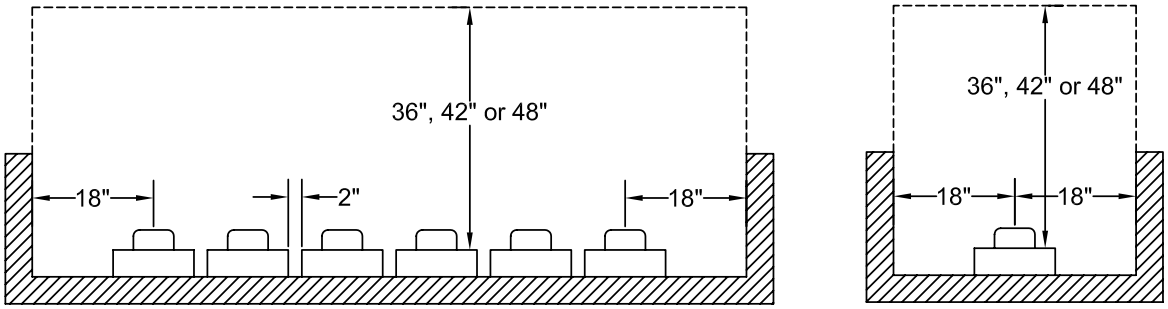
Point of Delivery:

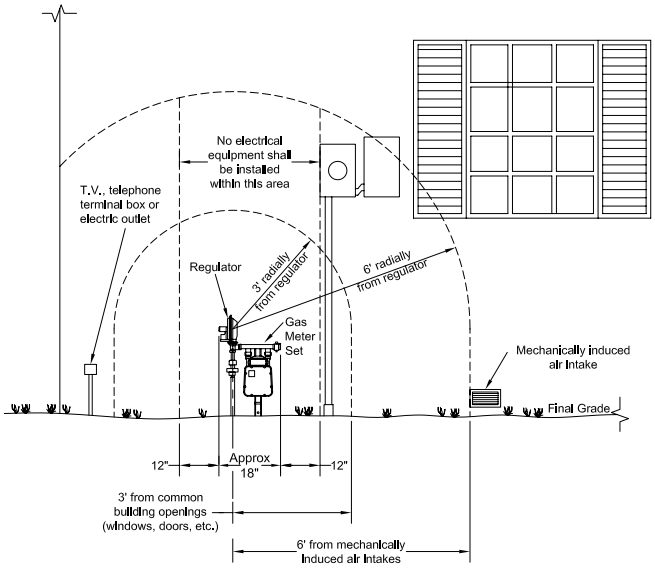
- Underground Service Residential – Point where Xcel Energy's facilities are first connected to the electric facilities of the customer.
- Occurs inside wireway or junction box. Connection is made via connectors supplied and installed by the customer.

Installation FAQs

Where do I install the meter socket and service box?

The second meter socket or duplex meter socket must be installed outside and grouped by the existing meter socket at a vertical height of 4'–6', measured from final grade to the center of the meter. The minimum horizontal dimensions of the platform shall meet the National Electrical Code® requirements for working space, as specified under "Meter Clearances" in the Standards for Electric Installation and Use manual. Additionally, clearances around the gas meter should be met. Refer to the following diagrams and Drawing CR-10, in that publication for reference.





1. Area within dashed lines shall be clear of all obstructions.
2. 18" clearance shall be maintained to either side of the center line of the meter socket per NEC.
3. 36", 42" or 48" clearance shall be maintained in front of meter socket per NEC.
4. Height of working clearance shall be per NEC.
5. The meter socket must be located within 2' of the existing meter.

Does it have to be a duplex meter socket?

No. For new construction, a duplex meter socket may be a good option. But, it is not required on an existing premises. If two separate sockets are being used, they should be next to each other with the two masts for an overhead service as close to each other as possible. The second meter socket should be vertically aligned, (from the center point) with the existing socket and within 24" horizontally, from the main house meter.

Installation FAQs

Can I install this as a sub-meter?

No. Industry best practice for safety is a dedicated service.

Is a lever bypass meter socket required?

Yes. The meter socket for the EV must be a lever bypass from a manufacturer on our approved list. It must also conform to all other standards as depicted in section 4.13 from our Standard for Electrical Installation and Use.

What voltage charging equipment can I install for the EV rate?

EV chargers that use 120V, 240V or 208V (network) are all allowed. Available voltage will be dependent on existing distribution facilities in the area.

Can I install the meter socket on a detached garage?

There are two options for customers wishing to charge their vehicle in a detached garage:

1. The customer may participate in the EV rate by installing the EV meter within 2' of the existing meter. If the main house meter is not on the garage, a line can be run to the detached garage.
2. The customer may participate in the Time of Day rate instead of the EV rate, and install a Time of Day meter on the detached garage. In this case, the panel can be used for additional charges besides an electric vehicle. A second service would need to be requested and started at an extra cost to the customer.

Can I install a fast charger?

Yes. Prior to installing a DC fast charger or an AC Level 2 charger, please call the Builder's Call Line at 800.628.2121 to check if a significant load increase will necessitate a service upgrade. With prior notification, we can make the necessary system modifications to continue to reliably serve the EV customer and surrounding community.

Who do I call at Xcel Energy to confirm the meter specifications?

- **Technical metering questions? Call 800.422.0782.**
- **General questions?** We're available 24 hours a day at **800.895.4999.**

Need more guidance? Consult the Standard for Electric Installation and Use manual.

Key sections related to the EV rate including (but are not limited to):

- 4.10.3 Meter installation & Ownership
- 4.13 Meter Sockets
- 4.14.2 Meter Installation
- 4.15.5 Meter Socket Identification Requirements
- 4.15 Meter Mounting Heights

Get the latest details and information. Visit **xcelenergy.com/EVRates**.

Xcel Energy®
RESPONSIBLE BY NATURE®

CERTIFICATE OF SERVICE

I, Carl Cronin, hereby certify that I have this day served copies or summaries of the foregoing documents on the attached list(s) of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States Mail at Minneapolis, Minnesota

or

xx electronic filing

Docket No. E002/M-15-111

Dated this 1st day of June 2018

/s/

_____

Carl Cronin
Regulatory Administrator

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