

# SEPA Grid Evolution Summit: Rethinking Rate Design

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# Outline

A vertical line with five white circular nodes, each connected to a horizontal bar. The line starts at the top left and ends at the bottom left, with the nodes positioned at the top, middle, and bottom of each bar.

**Xcel Energy Overview**

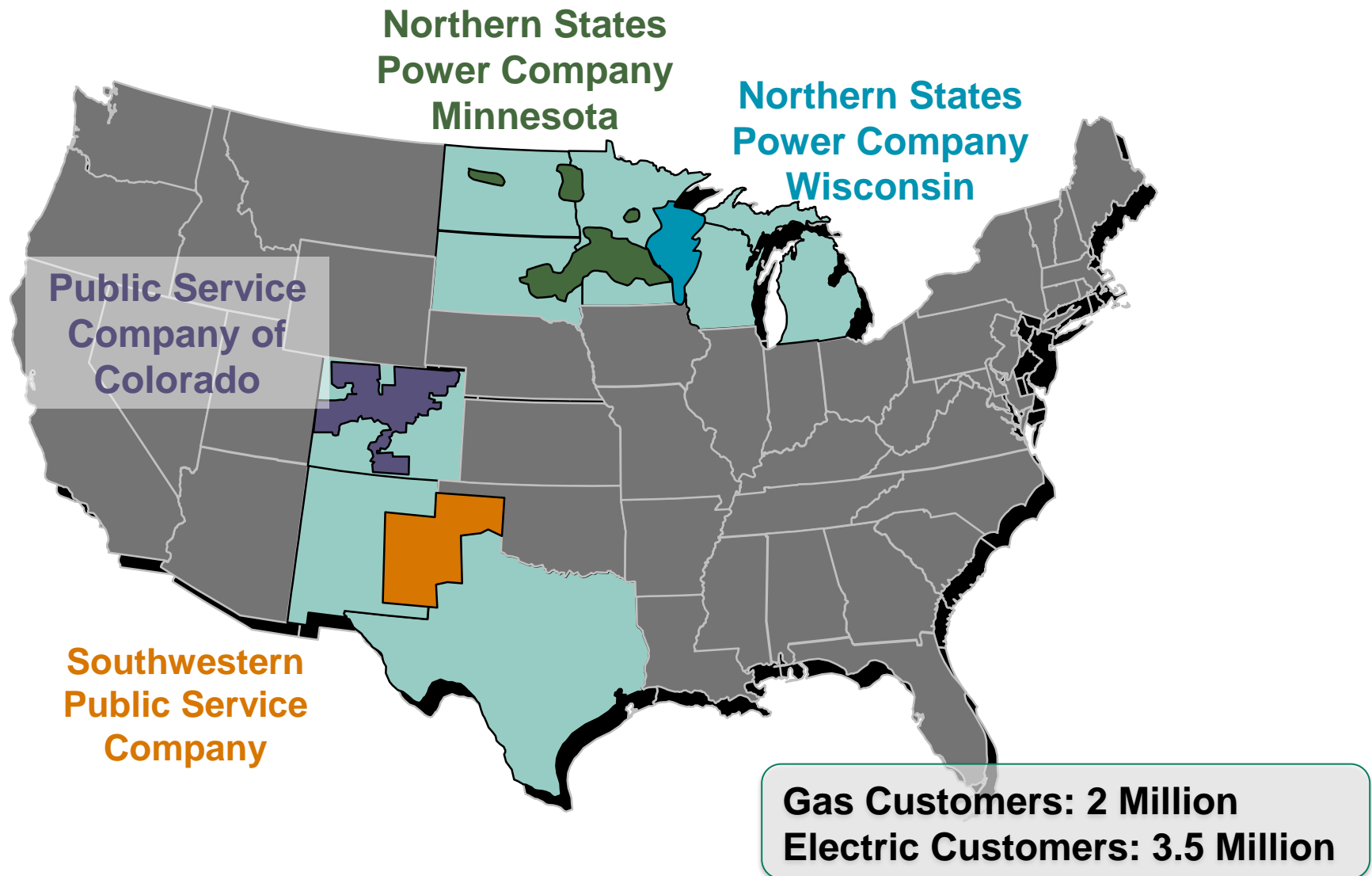
**Rate Design Principles and Goals**

**Rate Design Initiatives and Pilots**

**What We Are Trying to Learn**

**Closing Thoughts**

# About Xcel Energy



# Xcel Energy's Rate Design Goals



Align rates with true cost of service

Enable customer savings and customer choice



On-Peak		
3 p.m.	4 p.m.	5 p.m.
Summer = 19 cents/kWh		
Winter = 14 cents/kWh		

Provide time-differentiated pricing.

Reflect components of both energy and demand.



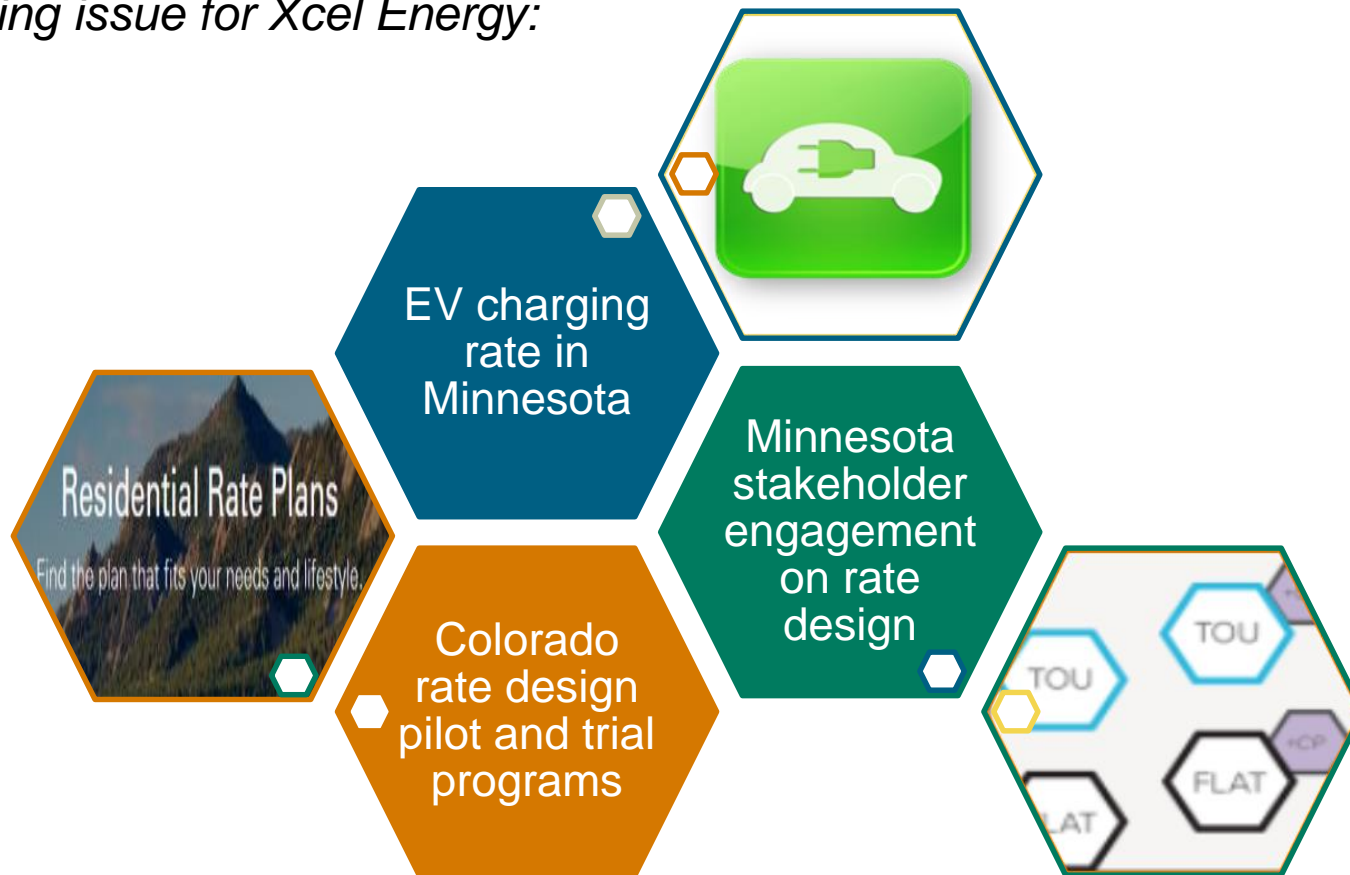
Give customers accurate price signals.

Avoid cross subsidization.



# Xcel Energy Rate Initiatives & Pilots

*Advanced rate designs are an emerging issue for Xcel Energy:*



# Colorado Settlement

- Public Service Company of Colorado (PSCo) is pursuing and implementing a package of proposals and reforms called “Our Energy Future”.
- In August 2016, PSCo reached a settlement agreement with 22 parties on a set of Our Energy Future filings that relate to customer options and renewable energy.
- PSCo agreed to conduct two voluntary programs to test future rate designs: an energy time-of-use trial (RE-TOU) and a pilot program for time-differentiated demand rates (RD-TDR).





# Colorado Rate Design Programs



**Objective:** To measure changes in customers' behavior and satisfaction after opting to enroll in time of use or peak demand pricing.

## RD – TDR Pilot: Energy & Demand Rates

Component	Rate*
Distribution Demand	\$3.65/kW
Peak Generation & Transmission Demand	\$12.43/kW (Summer) \$9.51/kW (Winter)
Energy	\$0.04/kWh (On-peak) \$0.03/kWh (Off-peak)

Peak G&T demand hours are from 2:00 PM to 6:00 PM on non-holiday weekdays. Distribution demand is measured at the highest point during the month regardless of peak hours.

## RE-TOU Trial: Energy Rates

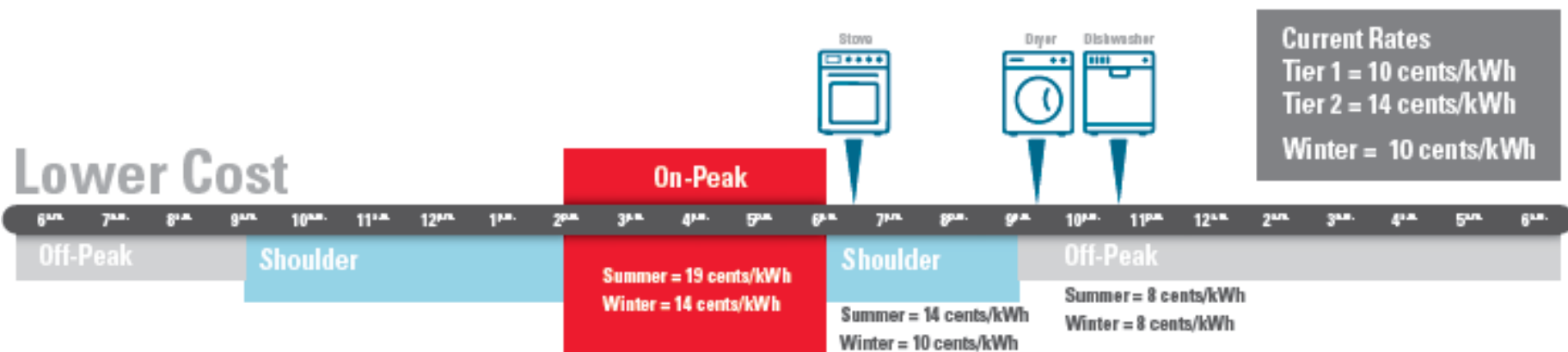
Time Period	Rate* (\$/kWh)
On-Peak (2 PM – 6 PM, non-holiday weekdays)	\$0.19 (Summer) \$0.14 (Winter)
Shoulder (All other hours)	\$0.13 (Summer) \$0.10 (Winter)
Off-Peak (9 PM – 9 AM)	\$0.08

Summer rates are in effect from 6/1 – 9/30 in both programs, which is the same as Xcel Energy Colorado's current summer rate tiers.

\* Rates are inclusive of all riders and adjustment clauses.

Xcel Energy's goal is to enroll 18,000 customers in each program by 2019. Participation is limited to 30,000 in the RE-TOU Trial and 18,000 in the RD-TDR Pilot.

# Residential Energy – Time of Use Rates





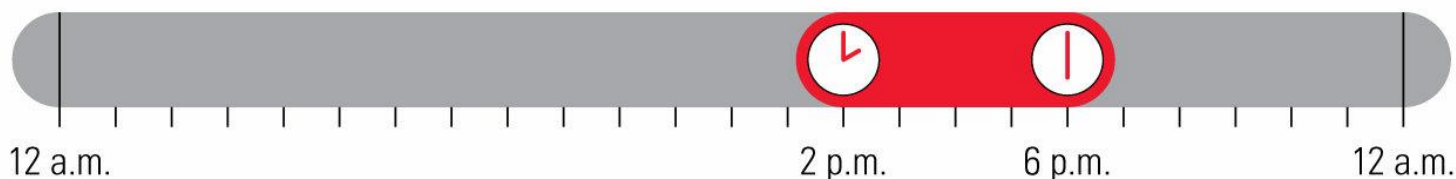
# Residential Demand – Time Differentiated Rates



## When is the demand period?

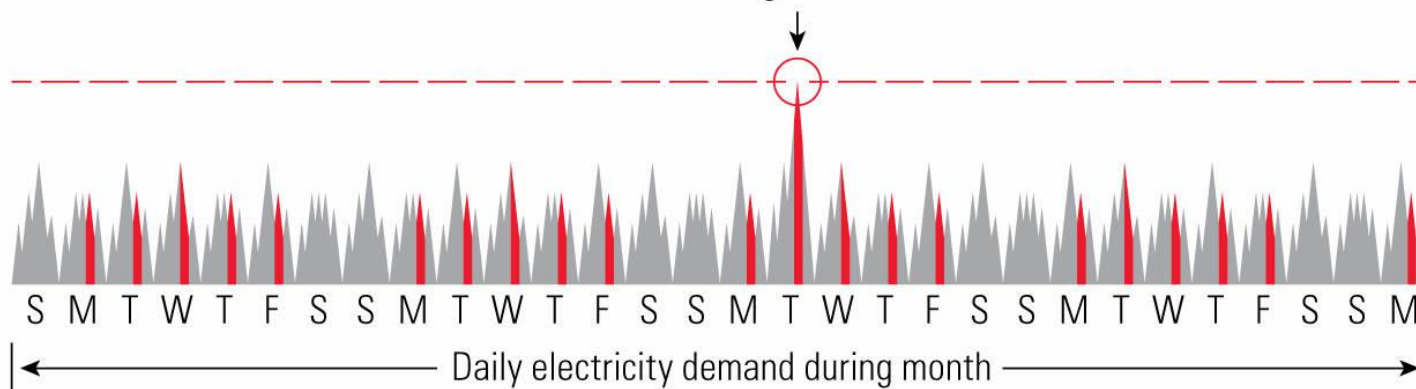
The demand period is in effect on weekdays from 2 – 6 p.m.

There is no demand period on weekends and holidays.



## How is the monthly demand charge calculated?

The highest level of electricity demand during the demand period in a monthly billing cycle determines a customer's demand charge for that month.

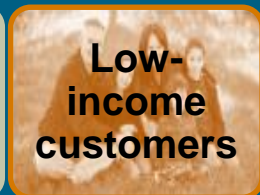
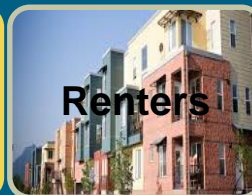


# What are we trying to learn?

In 2019, we will present the results of the RE-TOU trial to the Colorado Public Utilities Commission. If the analysis of the program shows that the program should be expanded, all residential customers will transition to time of use rates for energy beginning in 2020.

We believe that Time of Use and Demand rates will significantly change how our customers manage their energy use.

We have designed our programs to evaluate and understand how different groups of customers will react to these changes in price signals, including:



# Xcel Energy's Rate Design Principles

Recover as close to the total revenue requirement as possible;

Stabilize utility revenue and minimize revenue leakage;

Prevent DER customers from bypassing system costs not avoided by DER;

Avoid abrupt changes in rate design.

Make the rates as easy for customers to understand and interpret as possible; and,

Minimize administrative burdens, understanding that complexity may increase;

Fairly allocate costs among customer classes and between DER and non-DER customers based on cost causation principles;

# Closing Thoughts

Utilities, regulators, and other stakeholders should not wait to begin discussions on rate design reforms. Changes in rate design must keep up with changes in how energy is consumed and the grid is used.

There is no one-size-fits-all solution – differences in rate design reflect different priorities among utilities, regulators, and stakeholders.

Costs and benefits should be quantifiable and equitably allocated.

Rate design shouldn't act as a subsidy for any specific technology.

If policy makers decide to create a subsidy, it should be transparent, limited in time, and allow regulators to quickly respond to market changes.

Advanced metering and grid communication technologies are a basic requirement for implementing more complex rate designs.

