

**Business Plus**

# Spotlight

*Boulder County Business, Magnified.*

## Utility of the Future is Here Today

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Last Halloween, it had been windy throughout the day in the state of Colorado. The strong wind continued into the night. Close to midnight, Xcel Energy set a new company record with wind producing over 61 percent of the electricity generated.

Renewable energy records like this are happening more often, and high levels of electricity generation from renewable sources on Xcel Energy's system in Colorado are becoming increasingly common.

Today, 19 percent of Xcel Energy's electricity

in Colorado is from wind energy – up from 10 percent five years ago. Shortly before the Halloween record, the company added 200 megawatts of wind energy when the Limon III Wind Farm began operations. By the end of this year, Xcel Energy will have more

than doubled the amount of wind on its system in Colorado since 2010.

This is possible because of a cutting-edge forecasting system developed in partnership with the National Center for Atmospheric Research in Boulder. The system improves the predictability of wind resources with high-resolution wind energy forecasts every 15 minutes across Xcel Energy's service territory for up to a 168-hour period.

"This precise wind-power forecasting service has reduced our forecast error by 40 percent," said Drake Bartlett, senior trading analyst with Xcel Energy.

The system has also saved Xcel Energy's customers in Colorado more than \$26 million in fuel costs. The project's success was honored last year with a Colorado Governor's Award.

Xcel Energy and

NCAR are collaborating further to enhance the sophistication of wind forecasting technology and explore forecasting that can better predict solar power generated behind customers' meters.

## Clean energy leadership

Xcel Energy is a recognized leader in renewable energy. The company has been the No. 1 provider of wind energy for 11 consecutive years (American Wind Energy Association), and is ranked No. 10 among U.S. utilities for solar power capacity (Solar Electric Power Association).

Xcel Energy supports renewable energy and the growing number of customers who are interested in it. For more than a decade, Xcel Energy has collaborated with regulators, legislators, community leaders, clean energy advocates and



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other stakeholders to steadily increase the use of renewable energy. Xcel Energy's clean energy strategy serves as a model for how utilities and government can work together to significantly reduce emissions at the lowest cost to customers.

Today, 22 percent of the electricity on Xcel Energy's system in Colorado comes from renewable resources—wind, solar, biomass and hydroelectric energy. Xcel Energy expects this to grow to over 28 percent by 2020 under current plans and forecasts.

Renewable energy protects the environment by saving fuel and reducing emissions from traditional power plants. Plus, when purchased under long-term contracts, it can protect customers from rising fuel and environmental compliance costs.

“Our company is focused on making smart investment choices that customers want and value and that benefit the environment,” said David Eves, president of Public Service Company of Colorado, an Xcel Energy company. “It is also important to recognize the role that reliability plays in the integration of even more wind and solar as energy sources. This takes thought, sophisticated planning and time to ensure reliable

service and affordable costs for our customers.”

Over 90 percent of the solar that exists in Colorado is on the Xcel Energy system. Since 2010, 62 MW of utility scale solar have been added with another 170 MW to come online next year. Nearly 17,500 rooftop systems have been added, bringing the total to over 24,500.

The company is midway through executing a major project for Colorado's Clean Air-Clean Jobs Act, passed in 2010. The project will reduce sulfur dioxide, nitrogen oxide and mercury emissions by more than 80 percent by 2020 after retiring, replacing and/or retrofitting more than half of its coal-fueled generation in Colorado.

The coal-burning unit at the company's Valmont plant in Boulder will be shut down in 2017 as part of the project.

This also contributes to the company's 35-percent planned reduction in carbon dioxide emissions by 2020 in Colorado (based on 2005 levels), while modernizing its power plants and energy delivery systems.

Xcel Energy is ahead of what the U.S. Environmental Protection Agency wants to achieve under its Clean Power Plan. The company is well positioned to meet the EPA's



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overall emission reduction goal of 32 percent by 2030.

All of these measures of Xcel Energy's clean energy strategy have been accomplished while keeping electricity rates affordable. In fact, Xcel Energy has increased rates less than 2 percent per year between 2010 and 2014. And the company forecasts even smaller rate increases through 2017.

#### Community benefits

Reducing greenhouse gases has long been important to Boulder, and a major focus of the

city's climate action efforts is increasing renewable sources in its electricity.

Xcel Energy has a track record of accomplishments in the goals that are important to Boulder, especially in the five years since Boulder chose to not renew a franchise agreement with the company.

Boulder is pursuing a city-owned electric utility to carry out its goals. But Xcel Energy's Boulder customers today enjoy the benefits of ever increasing emissions reductions and renewable energy sources with 99.9 percent reliability and smaller rate increases.

Xcel Energy also has a track record of clean energy collaboration with the communities it serves.

A recent example is the clean energy partnership with the city of Minneapolis. The city set greenhouse gas emission reduction targets of 15

percent by 2015, 30 percent by 2025, and 80 percent by 2050. Minneapolis, Xcel Energy and CenterPoint Energy have teamed up to help the city reach its climate action plan targets. The partnership will explore innovative approaches and enhanced outcomes in energy efficiency and the use of renewable energy.

As a result, the White House and the U.S. Department of Energy recognized Minneapolis as a Climate Action Champion for its commitment to clean energy, one of only 16 communities nationwide.

Xcel Energy officials hope to have the same opportunity to work with Boulder.

“We have always been willing to listen to Boulder and welcome a candid discussion about options that could work for the city,” Eves said.



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