Creating a more affordable and sustainable energy future
For more than a decade, we have pursued a clean energy strategy that has steadily reduced carbon emissions while improving our operations — delivering a more sustainable energy future at a low cost to customers. Since 2005, we have reduced carbon emissions from the electricity that serves customers by 35 percent, and we plan to do more. We have set one of the most ambitious goals in our industry with plans to reduce carbon emissions 60 percent by 2030.

Your carbon footprint is shrinking
We are working together — because our electricity is cleaner today, as an Xcel Energy customer, your carbon emissions are lower too. And if you have saved energy or participate in one of our renewable energy choice programs, you are doing even better.

A comprehensive approach to clean energy
We are demanding more of ourselves, continuously working to innovate and do things better. That includes our all-inclusive clean energy strategy that focuses on reducing carbon emissions in three ways:

- Adding wind and solar to our energy mix and offering customers more renewable options
- Helping customers to manage their energy use and monthly bills through efficiency and rebate programs
- Transforming the energy grid by retiring aging coal plants, adding flexible natural gas, investing in advanced technologies and maintaining our carbon-free nuclear plants

Learn more about Xcel Energy’s environmental, social and economic contributions in our annual Corporate Responsibility Report published in June.

xcelenergy.com/CorporateResponsibility
For our Customers

How to calculate emissions associated with energy use

There are several ways customers can calculate their carbon emissions.

1. The basic calculation:

\[
lbs/kWh \times \text{annual kWh} = \text{lbs of carbon dioxide (CO}_2\text{)}
\]

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 CO\text{2} Intensity lbs/kWh</th>
<th>2017 CO\text{2} Intensity lbs/kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</td>
<td>0.889</td>
<td>0.894</td>
</tr>
<tr>
<td>Colorado</td>
<td>1.329</td>
<td>1.293</td>
</tr>
<tr>
<td>Southwest (Texas, New Mexico)</td>
<td>1.287</td>
<td>1.292</td>
</tr>
</tbody>
</table>

Carbon emissions intensity rates include carbon dioxide from biomass generation as well as from fossil fuels.

2. Customers reporting emissions under The Climate Registry, World Resources Institute or ISO protocols should use the following emissions intensities for Scope 2 market-based reporting.

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 CO\text{2} Intensity (mt/MWh)</th>
<th>2016 CO\text{2} Intensity lbs/MWh</th>
<th>2017 CO\text{2} Intensity (mt/MWh)</th>
<th>2017 CO\text{2} Intensity lbs/MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</td>
<td>0.371</td>
<td>817</td>
<td>0.372</td>
<td>820</td>
</tr>
<tr>
<td>Colorado</td>
<td>0.609</td>
<td>1,343</td>
<td>0.593</td>
<td>1,308</td>
</tr>
<tr>
<td>Southwest (Texas, New Mexico)</td>
<td>0.584</td>
<td>1,287</td>
<td>0.586</td>
<td>1,293</td>
</tr>
</tbody>
</table>

Per The Climate Registry's Electric Power Sector Protocol, emissions intensities provided here exclude carbon dioxide from biogenic fuels.

3. For some customers, their greenhouse gas accounting calls for “residual mix” carbon emissions intensities, which are provided below. These intensities use the same emissions reporting data as the intensities shown above, but they exclude electricity associated with Renewable Energy Credits or RECs that we sold to the market, purchased or retired on behalf of customers participating in Windsource® and Renewable*Connect® in 2017.

<table>
<thead>
<tr>
<th>Region</th>
<th>2017 CO\text{2} Intensity (mt/MWh)</th>
<th>2017 CO\text{2} Intensity lbs/MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</td>
<td>0.374</td>
<td>825</td>
</tr>
<tr>
<td>Colorado</td>
<td>0.612</td>
<td>1,349</td>
</tr>
<tr>
<td>Southwest (Texas, New Mexico)</td>
<td>0.592</td>
<td>1,305</td>
</tr>
</tbody>
</table>


Reporting for 2016 is third-party verified while 2017 is still preliminary and may change as it goes through verification by the end of 2018.

For cities and counties interested in tracking community energy and sustainability goals, we provide Community Energy Reports. The reports are updated annually in June and include energy usage and emissions data, as well as participation information across our renewable, demand response and energy efficiency programs. Find the report for your community, at xcelenergy.com/CommunityEnergyReports.
Leading the Clean Energy Transition

**We are reducing carbon emissions from the electricity that serves customers**

Through our clean energy strategy, we are serving customers with a cleaner mix of resources while investing in a modern and more advanced grid for the future. And, we are accomplishing this while keeping customer bills low.

**Our Changing Energy Mix and Progress Reducing Carbon Emissions**

**Xcel Energy**

- **2005**: 3% Wind, 6% Solar, 12% Nuclear, 23% Natural Gas, 56% Coal, 86% Million Tons Carbon Emissions
- **2017**: 21% Wind, 4% Solar, 4% Nuclear, 13% Natural Gas, 23% Coal, 37% Million Tons Carbon Emissions
- **2022**: 40% Wind, 4% Solar, 2% Nuclear, 13% Natural Gas, 12% Coal, 27% Million Tons Carbon Emissions

- **Projected 2022 energy mix and reductions in carbon emissions if our current plans can be achieved**

**Upper Midwest** (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)

- **2005**: 3% Wind, 13% Solar, 28% Nuclear, 5% Natural Gas, 51% Coal, 28% Million Tons Carbon Emissions
- **2017**: 18% Wind, 1% Solar, 10% Nuclear, 29% Natural Gas, 12% Coal, 30% Million Tons Carbon Emissions
- **2022**: 35% Wind, 2% Solar, 9% Nuclear, 30% Natural Gas, 5% Coal, 19% Million Tons Carbon Emissions

- **33% Reduction in Carbon Emissions 2005 to 2017**
- **50% Reduction***

**Colorado**

- **2005**: 2% Wind, 2% Solar, 30% Nuclear, 66% Natural Gas, 66% Million Tons Carbon Emissions
- **2017**: 23% Wind, 3% Solar, 2% Nuclear, 28% Natural Gas, 44% Million Tons Carbon Emissions
- **2022**: 42% Wind, 6% Solar, 1% Nuclear, 15% Natural Gas, 36% Million Tons Carbon Emissions

- **37% Reduction in Carbon Emissions 2005 to 2017**
- **50% Reduction***

**Southwest** (New Mexico, Texas)

- **2005**: 2% Wind, 1% Solar, 43% Nuclear, 54% Natural Gas, 54% Million Tons Carbon Emissions
- **2017**: 21% Wind, 2% Solar, 1% Nuclear, 36% Natural Gas, 40% Million Tons Carbon Emissions
- **2022**: 46% Wind, 2% Solar, 21% Nuclear, 31% Natural Gas, 31% Million Tons Carbon Emissions

- **34% Reduction in Carbon Emissions 2005 to 2017**
- **50% Reduction***

*Projected 2022 energy mix and reductions in carbon emissions if our current plans can be achieved*
Reducing emissions requires that we accurately measure and report performance

Counting greenhouse gas emissions is a complex business that continues to evolve. Xcel Energy joined The Climate Registry as a founding member in 2007 to help establish a consistent and transparent standard for calculating, verifying and reporting greenhouse gases. Today, our reporting is based on The Climate Registry and its Electric Power Sector Protocol, which aligns with the World Resources Institute and ISO 14000 series standards.

We publicly report greenhouse gases, primarily carbon dioxide, through a number of different programs that require a specific look at our emissions, and we continue to add more disclosures to ensure transparent, complete reporting in a way that meets our customers' needs for their own reporting and business decisions. All of the information we provide starts with the same foundational data that is third-party verified and registered with The Climate Registry. This includes verified emissions from 2005 through 2016, with work underway to verify our 2017 emissions by the end of 2018.

For our large customers and communities that do their own greenhouse gas reporting and require our emissions information, we provide carbon dioxide intensities that follow The Climate Registry's Electric Power Sector Protocol (page 2). Under this protocol, we report emissions from electricity produced at Xcel Energy power plants and purchased from others, as well as off-system sales — the electricity we sell into the market. These market sales are included in the protocol because the emissions come from our plants, but the energy doesn’t serve our customers. Companies that purchase this energy may also include the emissions in their reporting.

Find Xcel Energy’s full greenhouse gas reporting at xcelenergy.com/CorporateResponsibility. Send questions to CorporateResponsibility@xcelenergy.com.