September 11, 2014

Dear ,

I am writing to respond to your recent correspondence with Boulder City Council and with members of our staff team.

We are comfortable standing behind the statement on our website asserting that, "Boulder's energy supply is *one* of the most carbon-intensive in the nation." Thestatement does not claim Boulder has "the highest," rather that Boulder's energy supply is "one of" the most carbon intensive in the nation.

Conversely, you have stated that Boulder's Xcel Colorado energy supply is actually one of the least carbon-intensive in the nation. To support your assertion, you have cited EPA state emission rates listed on the Clean Power Plan website. That website lists Colorado's 2012 emission rate as 1,714 pounds/megawatt hours (lbs/MWh).

It's important to point out what this data represents and what it doesn't. The data you are using represent only the emissions rate for fossil fuel units (coal and natural gas) that would be impacted by the EPA's proposed Clean Power Plan. This includes the generation and emissions associated with 23 generating facilities in the state of Colorado. In contrast, Xcel's overall emissions intensity (from the company's Corporate Responsibility Report) of 1,544 lbs/MWh to which you are comparing the EPA state emission rates includes the impacts of renewable energy resources. The comparison is not apples-to-apples.

To understand how we account for carbon intensity, you first need to understand how it is measured. The carbon intensity of energy supply (CO_2/kWh or Btu) is reflective of the energy fuel mix within a region. Historically, we have used the Emissions & Generation Resource Integrated Database (eGRID) data) to calculate Boulder's carbon dioxide equivalent (CO_2e) of its total output emission rate (lb/MWh). eGRID is a comprehensive inventory of environmental attributes of electric power systems. eGRID is considered the preeminent source of air emissions data for the electric power sector and is based on available plant-specific data for all U.S. electricity generating plants that provide power to the electric grid and report data to the U.S. government.

eGRID integrates many different federal data sources on power plants and power companies, including, but not limited to: the EPA, the Energy Information Administration (EIA), the North American Electric Reliability Corporation (NERC), and the Federal Energy Regulatory Commission (FERC). Emissions data from EPA are carefully integrated with generation data from EIA to produce useful values like pounds per megawatt-hour (lbs/MWh) of emissions, which allows direct comparison of the environmental attributes of electricity generation. eGRID also provides aggregated data by state, U.S. total, company, and by three different sets of electric grid boundaries.

We have historically used eGRID data to calculate Xcel's carbon intensity for electricity because Xcel did not produce data at a useful level of detail, that is with sufficient consistency and clarity in how it was calculated, to be used in the city's carbon inventory. In contrast, eGRID data is based on verified data sets supplied directly by utilities to EIA and FERC and processed by those entities. Furthermore, Xcel's corporate responsibility reports only provide carbon intensity in

CO_2, while eGRID provides figures for CO_2, CO_2e (carbon dioxide equivalent emissions, which include CH_4 and N_2O), and baseload and non-baseload emissions rates. The city's carbon inventory, which is currently being updated, uses Xcel's corporate responsibility report emissions factor for CO_2 coupled with the eGRID data to calculate CO_2e emissions.

The WECC Rockies subregion's most recent CO_2 intensity is reported as 1,896.74 lbs/MWh and its CO_2e intensity is 1,906.27 lbs/MWh. Therefore our subregion's eGRID CO_2e factor is in fact the most carbon-intensive in the nation, which has been the case for years.

In addition, when determining carbon intensity, the city looks to U.S. Energy Information Administration State Energy Data System calculations, which place Colorado as the 11th most carbon-intensive state in terms of energy. The city also uses data provided by Xcel Energy and analyzed by other entities. Xcel's 2012 Corporate Responsibility Report shows that Public Service Company of Colorado is the most carbon-intensive of Xcel's subsidiaries, and that a significant amount of its carbon emissions come from owned electric generation. A recently released Ceres/National Resources Defense Council benchmarking report places Xcel in the top 40 of the 100 largest U.S. electric power producers by overall carbon intensity. In contrast, Sacramento Municipal Utility District and NextEra Energy (which has developed numerous Colorado wind farms) have less than half of Xcel's carbon intensity.

Finally, it is important to note that the city's modeling effort used the *actual total emissions and MWh provided by Xcel itself* in a response to discovery on its resource modeling as part of its 2011 Electric Resource Plan.

The city is, therefore, confident in its statement that Boulder's energy supply is one of the most carbon-intensive in the nation.

With regard to updated modeling, we are happy to examine our model and assumptions when new data become available. So far, however, the city's model has proven robust and is producing results consistent with our projections. There has been no need to repeat this assessment. If at some point inputs shift enough to warrant a reexamination, we will do so.

I am also pleased to let you know that our modeling included a detailed cash flow analysis for 20 years. We have not released this information in depth, nor do we plan to at this time, because we are in pending litigation with Xcel and our lawyers have instructed us this information would give the company an unfair advantage in court. It is inaccurate and misleading, however, to suggest that the city has not done its homework in this regard. This was an essential part of understanding the financial feasibility of proceeding with this initiative.

Regards,

Heather Bailey
Executive Director of Energy Strategy and Electric Utility Development