

Electric Utility Portal

THE PARTNERSHIP

In collaboration with our capstone partners (CP) from the Colorado Energy Office (CEO), Jock Tuttle and Michael Turner, and our capstone advisor (CA) from CU, Nicole Wobus, Rebecca Billingsley, Robert Ford, and Eric Owens worked to develop the Colorado Electric Utility Portal. We want to thank them for their devotion to this project and our team. Their dedication helped this portal thrive and develop to what it is today.



University of Colorado
Boulder

THE CHALLENGE

Current electric utility information of interest for ratepayers and industry professionals is commonly difficult to obtain in one place. This information includes how electricity is generated and transported to consumers, utility-specific information such as utility sourcing and generation, how utilities are involved in the energy transition, and more. This information remains elusive for the general public and the complexity of technical language limits readers' understanding of the information.

In 2010, CEO created a report providing this essential information to the public in print form. In more recent years, CEO recognized the importance of sharing this knowledge with the public and began seeking ways to provide this information in a modernized and more digestible way. CEO, in partnership with the MENV team, set out to create a web-portal version of the report in which data can be updated regularly and information is more accessible to the general public.

THE SOLUTION

The goal of the Utility Portal is to provide information to Colorado residents and industry professionals to enable them to make more informed decisions with their energy, learn how the industry is structured, and learn what the State of Colorado is doing to address environmental issues. Our team has developed an interactive and updatable portal that provides both statewide and specific electric utility information to our targeted audiences. This portal strives to break down legalese and provide important policy and regulatory information for our audience by replacing technical terminology with more understandable terms. Here, commonly sought out utility information and data can be found in one place.



ELECTRIC UTILITY
DATA



INDUSTRY
SNAPSHOT



ENERGY POLICY



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THE EXECUTION

All research was verified through multiple quality checks with the Capstone Advisor and Partner. Below are the identified workstreams and their steps for execution:

THE UTILITY DATABASE

Data was aggregated using public surveys, EIA Form 861, and utility websites. All data was cross-referenced before importation into Tableau. The subsequently created Data Visualization Plan acts as a guide to all created artifacts.

THE UTILITY PORTAL

Research was conducted on the electric industry, Colorado energy policy, and utility specific incentive programs to populate the Utility Portal. The Utility Database provided the graphs and maps.

THE SOCIAL MEDIA PLAN (SMP)

Content planning, the post-production survey, and a portal implementation strategy was developed with CEO collaboration. Previous survey content and data from Google Analytics will enable CEO to analyze feedback and make improvements.

THE SELF GUIDED HELP DOCUMENT

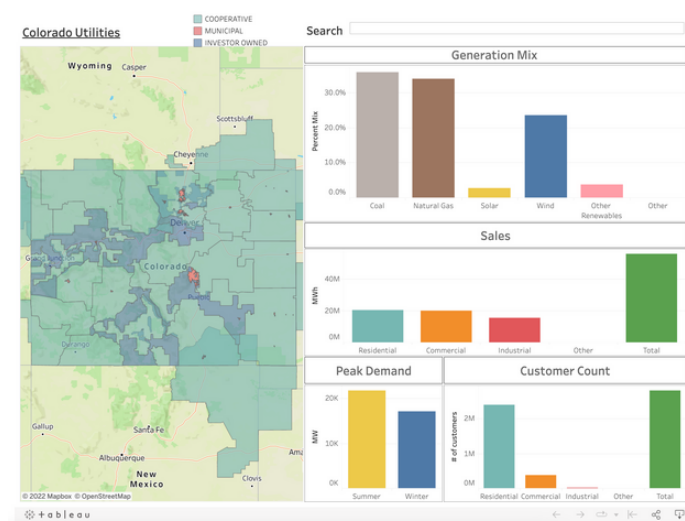
Steps were outlined for the creation of all data visualizations and how they were embedded into the Utility Portal site. This will be a record for future CEO employees to understand the process.

THE OUTCOME

We have successfully developed a portal to showcase Colorado electric utility data.

THE UTILITY DATABASE

The Utility Database is a collection of excel files used to create graphs, tables, and dashboards within Tableau. This database was integrated into the Utility Portal to display statewide data and utility-specific information. The homepage Dashboard, seen to the right, showcases a map of Colorado with every utility company service territory identified. Portal users have the opportunity to search for the utility of interest and its associated data. The utility-specific dashboards display the utility generation mix, electricity sales (MWh), peak demand (MW), customer count, and common rate structures.



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THE OUTCOME

THE UTILITY PORTAL

The Electric Utility Portal is a Google Sites website that is a repository of Colorado statewide and utility-specific information. The energy industry snapshot section discusses where Colorado gets its energy from, how the industry is structured, how much electricity is costing consumers, and how the state is addressing environmental performance in the energy sector. The energy policy section dives into Colorado policies that impact and shape the energy industry. Users will have access to detailed information regarding the State Renewable Energy Standard, utility Electric Resource Plans, the Colorado GHG Roadmap, Energy Justice and other relevant state policy summaries. Portal users can also learn about available incentive programs which can save customers money and hopefully enable them to participate in clean energy opportunities.

Home About ▾ Utility Industry Snapshot Energy Policy Find Your Utility

THE SOCIAL MEDIA PLAN (SMP)

The Social Media Plan will be utilized when CEO finalizes an approved version of the website and launches it to the public. It contains content approaches for future social media engagement, the post production survey that is currently accessible on the website to collect user feedback, and a strategic plan for evaluating that feedback for portal improvements.

THE SELF GUIDED HELP DOCUMENT

The Self-Guided Help Document walks through the process of creating the individual elements, combining them into dashboards, and embedding them onto the portal. The help document is for future CEO staff to utilize when making changes or updating the Tableau dashboards and graphs. With over 60 dashboards constructed for this project, this is a vital deliverable for the future success of this portal's implementation and renewal.

LESSONS LEARNED



Engage multiple avenues when addressing Tableau concerns



Conduct multiple quality checks when processing large datasets



Account for setbacks and scope changes in project schedule

