Colorado Springs and the New Energy Market

Jim Riggins, Mark Robinson

The Path to Prosperity in Colorado Springs

Grasp current energy market realities:
Cheaper to build new wind, solar and storage facilities, than to operate, fuel and maintain existing coal plants

- Rates reduced
- Long term rates low, stable and predictable

"Total Cost" analysis has long favored renewables over coal: costs of health, environment and climate damage…

Today, the "Rates Only" argument also shifts to renewables

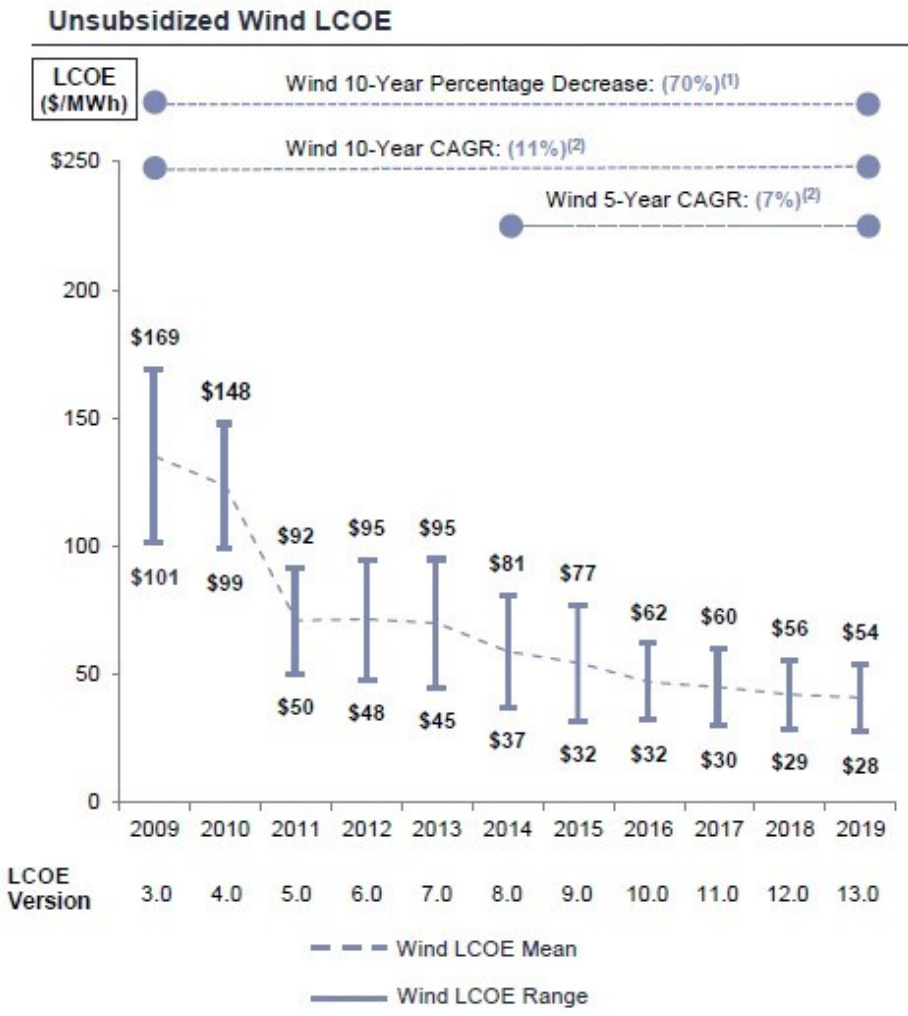
What has Changed

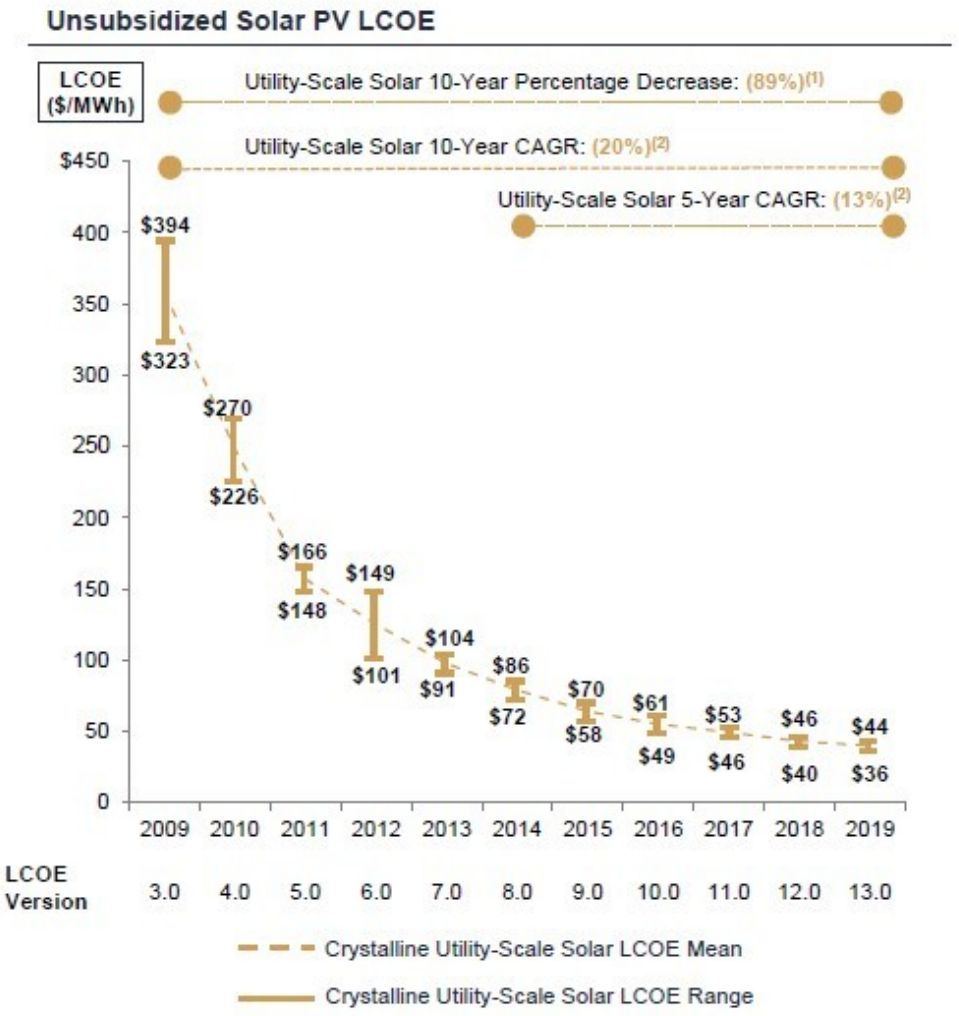
- Unsubsidized cost of wind energy has **dropped 70%** in ten years[1]
- Unsubsidized cost of utility scale solar energy has **dropped 89%** in ten years[1]

Bloomberg *New Energy Outlook 2017*: "Solar is already at least as cheap as coal in...the U.S….. The levelized cost of electricity from solar is set to drop another 66% by 2040."

[1] "Lazard's Levelized Cost of Energy Analysis - Version 12.0" November 2018

Declining Cost of Wind and Solar





CAGR = Compound Annual Growth Rate
LCOE = Levelized Cost of Energy

Source: “Lazard’s Levelized Cost of Energy Analysis- Version 13.0” November 2019

Xcel Profiting from New Energy Market

- Accelerating closure of coal-fired power plants
- Investing in wind, solar and battery storage
- 29% of electric energy from renewables today...55% by 2026
- 80% Carbon Free by 2030, 100% by 2050
- No rate increase

Xcel CEO, Ben Fowke:
"Because of the strong wind resources in our service territories, we have a unique opportunity to invest in renewable generation in which **the capital costs can be offset by fuel savings**."

Actual Utility Cost Comparison: Does Renewable Energy Make Electricity Unaffordable?

- Residential Case: 800 kWh per month
- Small Commercial Case: 1000 kWh per month
- Monthly calculation to account for seasonal rates
- Three Utilities: CSU, Xcel-Colorado, MidAmerican Energy (Iowa)

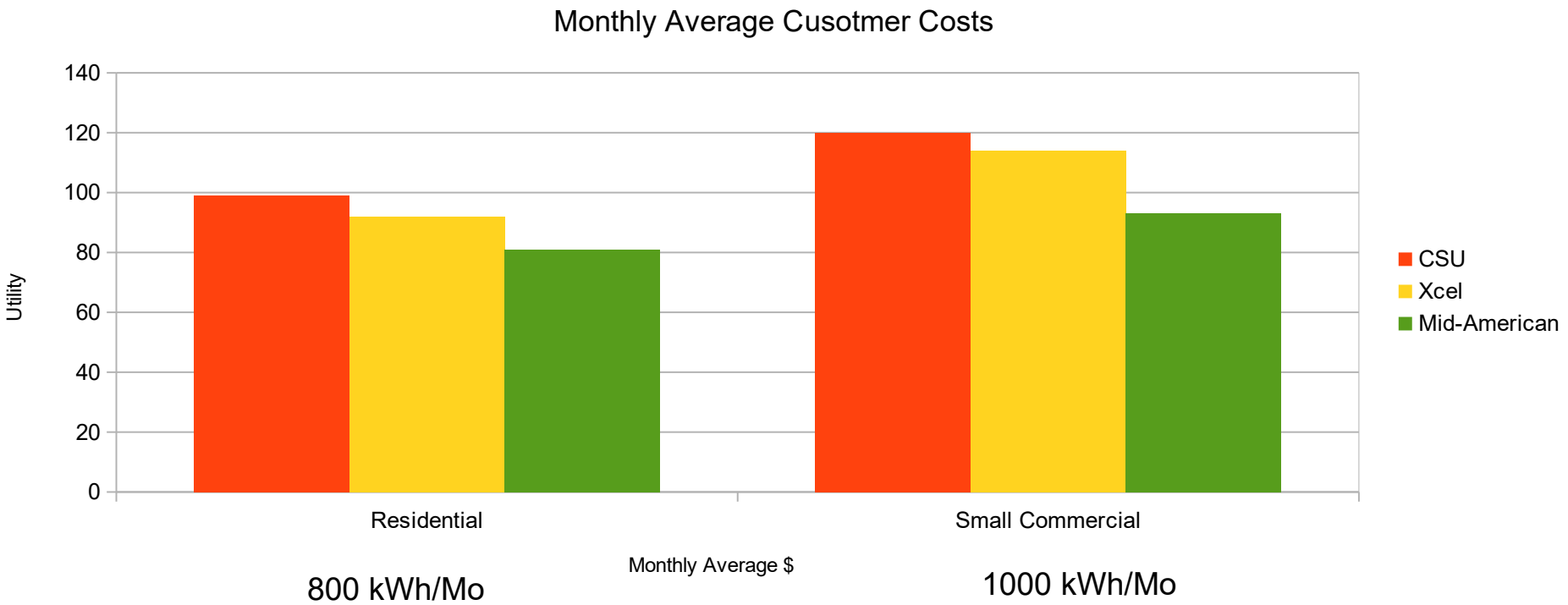
Rates and Tariffs

- Access Charge
- Energy Cost
- Demand Cost

Adjustments

- Elec Cost Adjustment
- Elec Capacity Charge
- Purchased Capacity Cost Adj
- Earnings Sharing Adj
- Demand Side Mngmt Cost Adj
- Transmission Cost Adj
- Clean Air Cost Adj
- Renewable Energy Standard Adjustment
- Energy Efficiency Cost Recovery

Myth: Replacing Coal with Renewables Makes Energy Unaffordable



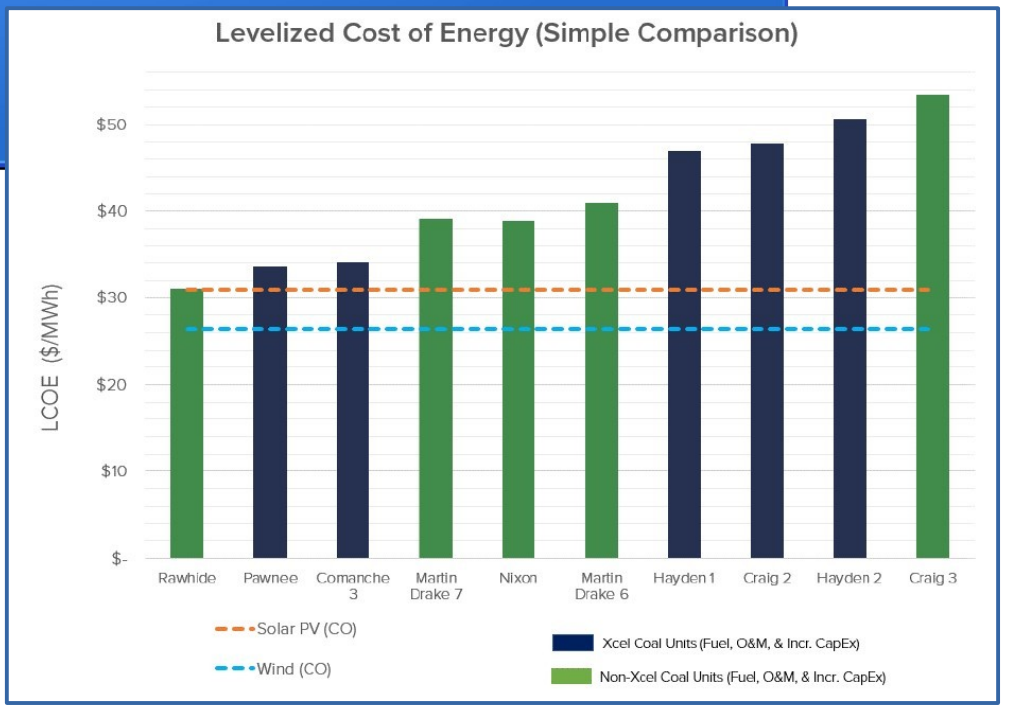
CSU: 11% Renewable Energy
Xcel: 29% Renewable Energy
MidAmerican (Iowa): 51% Renewable Energy (100% by 2020)

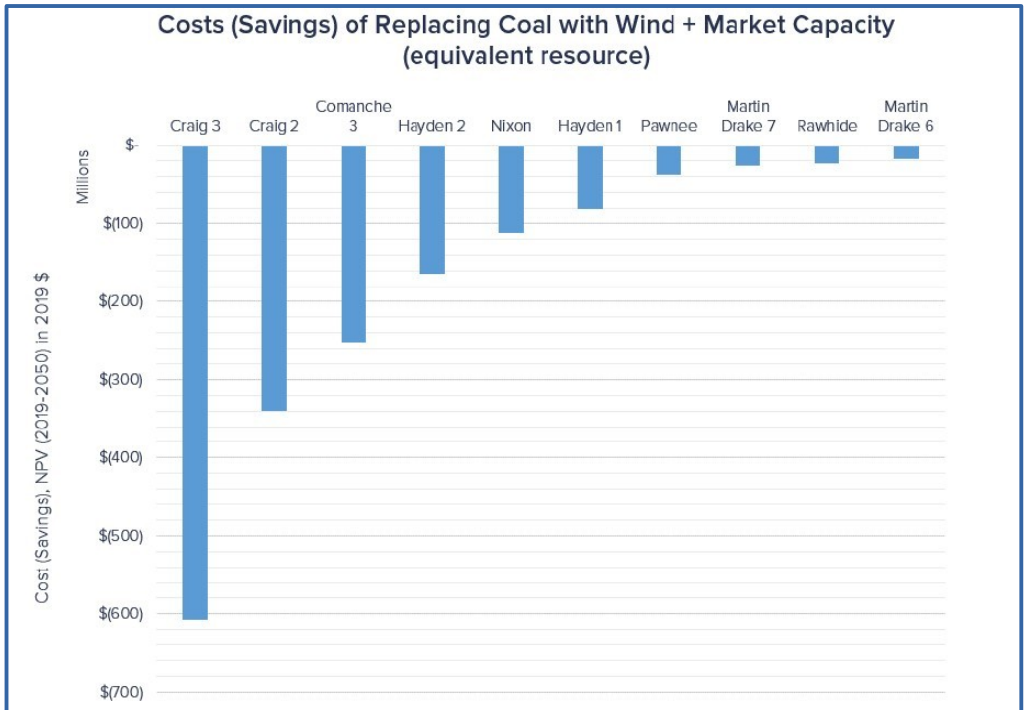
Greater Renewable Energy Creating Lower Electricity Costs

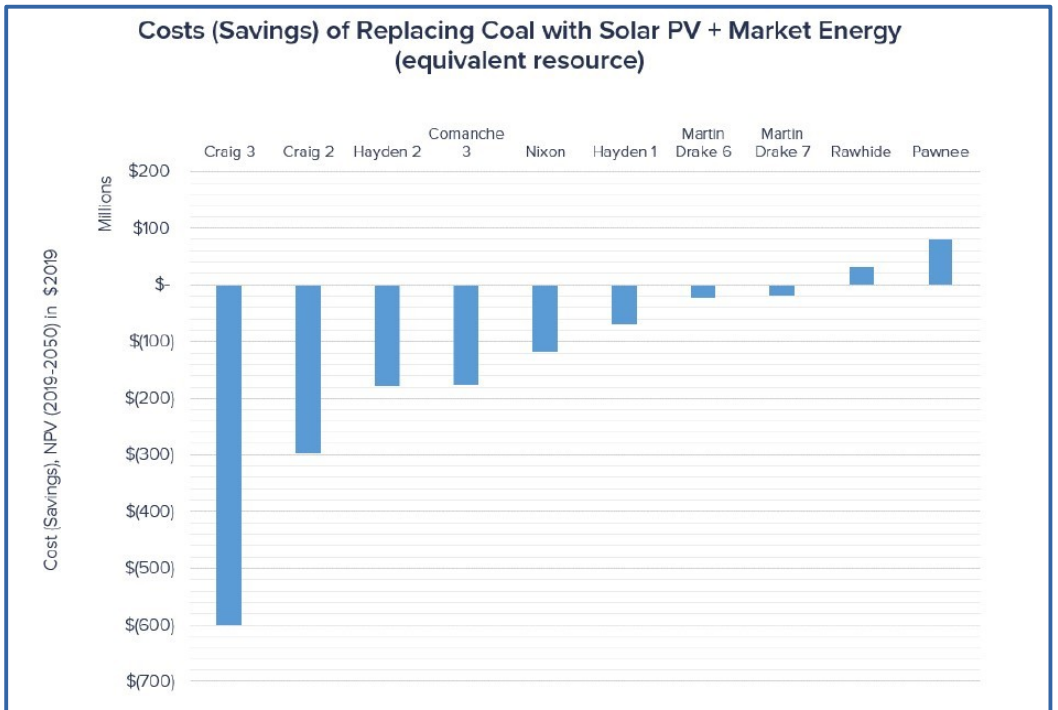
Source: Utility Rate and Tariff schedules as of 16 Jan 2019

Energy Cost Savings by Plant

Strategen Consulting, *"Colorado Coal Plant Valuation Study- Economic Assessment of Caol-Fired Power Plants in Colorado and Potential Replacement Options,"* June 2019

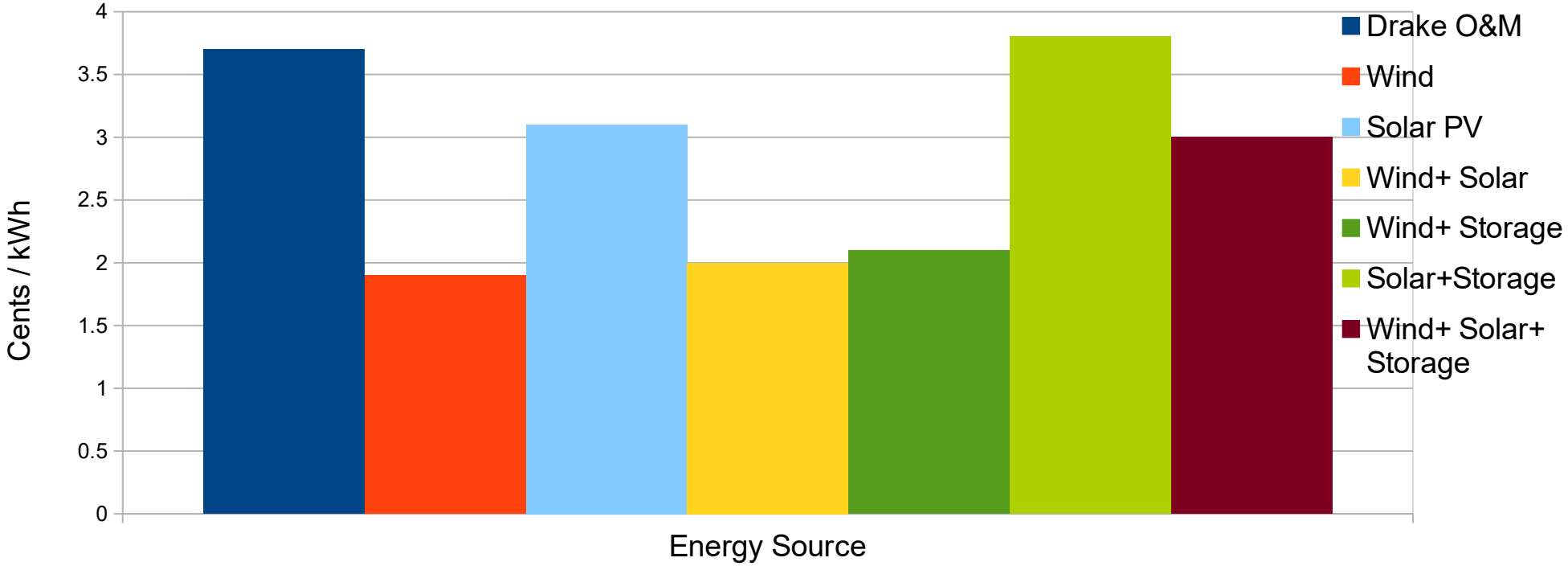






Today's Local Market Realities

- Xcel 2017 Solicitation: Cost of <u>new</u> wind and solar energy, with storage, is cheaper than just operating Martin Drake



Sources: - March 2018 Update to "*2016 Electric Resource Plan, 2017 All-Source Solicitation 30-Day Report (Public Version),"* Xcel Energy

- CSU reporting to US Energy Information Agency, and CS Utilities Board

Rate Stability Attracts Business

- After initial capital investment in wind and solar, fuel is free and maintenance is low

MidAmerican Energy: 51% Renewable Energy "Both Gov. Terry Branstad and Lt. Gov. Kim Reynolds have championed wind as an integral component of Iowa's energy future and a competitive advantage in attracting major tech companies, such as Google, Microsoft and Facebook, to build facilities in the state." *berkshirehathawayenergyco.com*

Georgetown, TX: 100% Renewable Energy Received "calls from businesses as far away as California and Maryland wanting to know: what does it cost to move over here?" *TexasMonthly.com*

Clean Energy is Creating Job Growth

- 57,591 clean energy jobs in Colorado
  - 17,254 jobs in renewable energy
- Colorado Springs metro area: 5,559 renewable energy & energy efficiency jobs

Source: E2 and Energy Efficiency Business Coalition “Clean Jobs- Colorado,” June 2018. www.e2.org/cleanjobsco/

Colorado Springs Utilities Update: June 26, 2020 Utilities Board Vote

- 400 MW of Coal Generation Retired by 2023 (Martin Drake) and 2030 (Ray Nixon)
- New Generation
  - 500 MW Wind
  - 150 MW Solar PV (+ 255 MW already existing)
  - 417 MW Battery Storage
  - 156 MW Aeroderivative Natural Gas Generators
  - 76 MW Demand Response Initiatives
  - 10 MW Geothermal
  - 10 MW Biomass

"Drake's closure will not trigger rate hikes because of the savings in operation and maintenance costs Utilities is expecting." Michael Avanzi, CSU Manager of Energy Planning and Innovation