



Colorado Springs Utilities  
*It's how we're all connected*

# Energy Efficiency and Resource Planning – A Municipal Perspective

Gabriel Caunt

Colorado Springs Utilities  
Demand Side Management and  
Renewable Energy Solutions

# Colorado Springs, Colorado



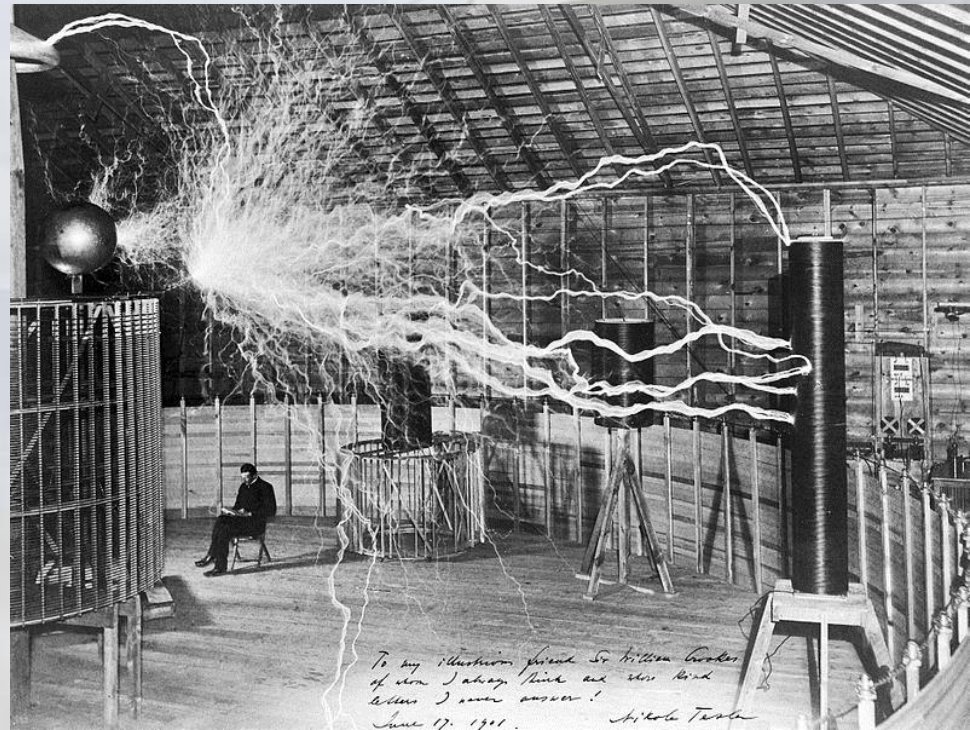
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# Colorado Springs Utilities



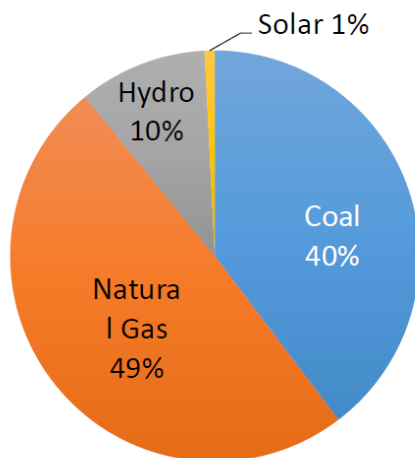
- *“It’s how we’re all connected”*
- Citizen owned four-service utility
  - Electricity
    - Street lights
  - Natural Gas
  - Water
  - Wastewater



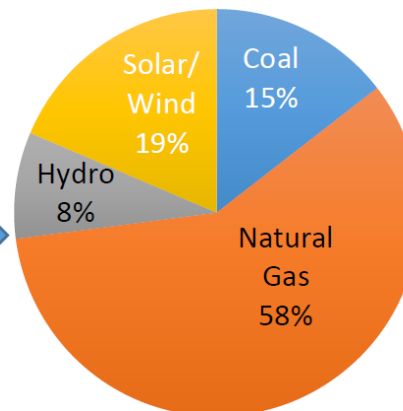
# Colorado Springs Utilities

- **Customers:** 223,000
- **Annual electric usage:** 5 million MWh
- **Peak demand:** 908 MW
- **Generating plants:** 8
- **Capacity:** 1128 MW
- **Active substations:** 52
- **Overhead wire:** 1,060 miles
- **Underground wire:** 2,689 miles
- **Operating revenue:** \$462.5 million (2017 Budget)
- **Reliability:** average of 44.06 minutes without power for the year – about half the national average.

2015 Installed Capacity  
Total: 1,128 MW



Projected 2035 Installed Capacity  
Total: 1,389 MW





## Colorado Springs Utilities' Energy Vision for 2020:

- Provide 20% of its total electric energy through renewable sources. Provide opportunities to achieve efficiencies with the goal of reducing average electric use by 10%. Maintain a 20% regional cost advantage.



# Electric Integrated Resource Plan

## August 2014:

1. Investigate different renewable and DSM goals
  - a) Include UPAC recommendation
  - b) Use 10% renewable and 6% DSM by 2020 as reference case
2. Investigate the impact of proposed CO2 regulation
3. Investigate possible timelines for decommissioning Drake Plant
4. Include societal impacts in the intangible component, but don't monetize

June 2015: Continue with decision to not monetize societal impacts



# Downtown Development



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# Electric Inte

## Portfolio D UPAC Energy Vision Drake 5 Natural Gas

# Source Plan

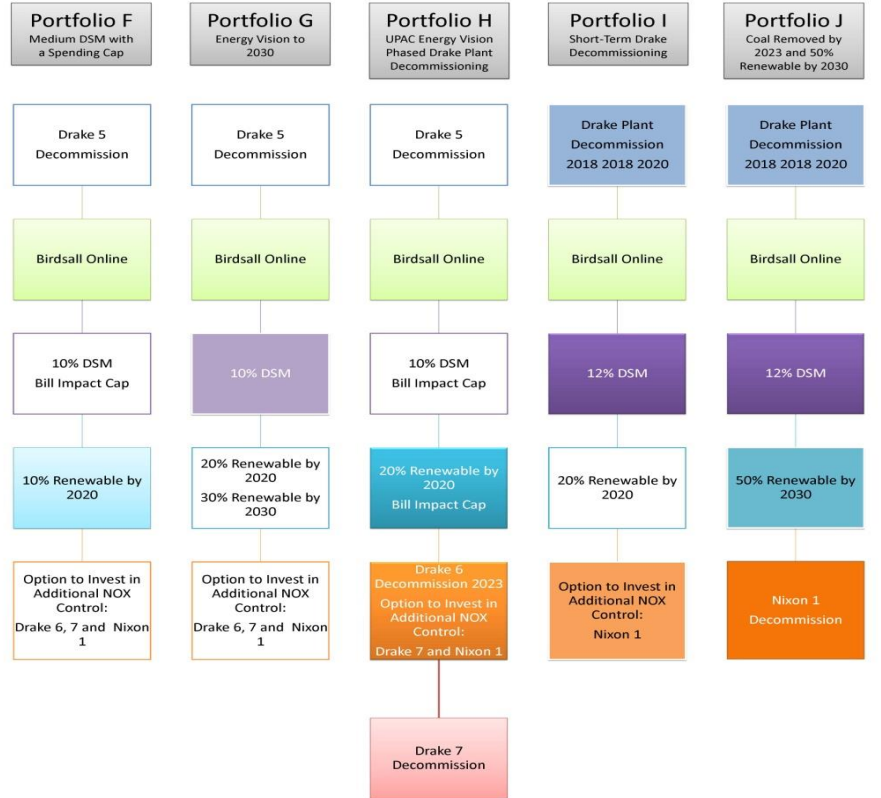
Drake 5  
Natural Gas  
Invest in NOx Control

Birdsall Online

~~10% DSM~~  
**12%**  
Bill Impact Cap

20% Renewable by  
2020  
Bill Impact Cap

Option to Invest in  
Additional NOX  
Control:  
Drake 6, 7 and Nixon  
1

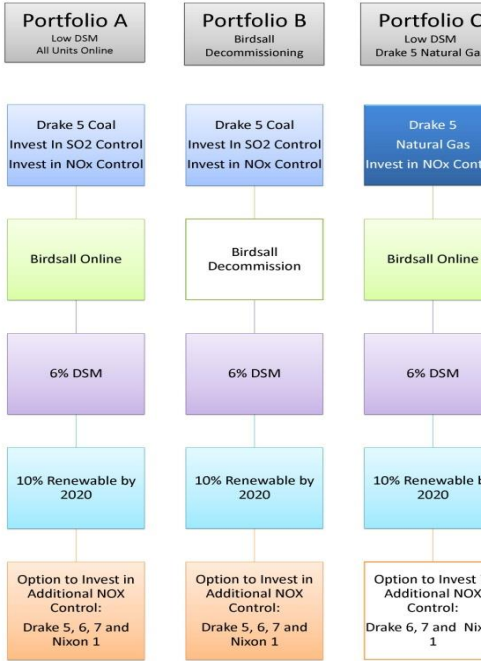


September 1, 2015  
For 4<sup>th</sup> EIRP Public Meeting

2018

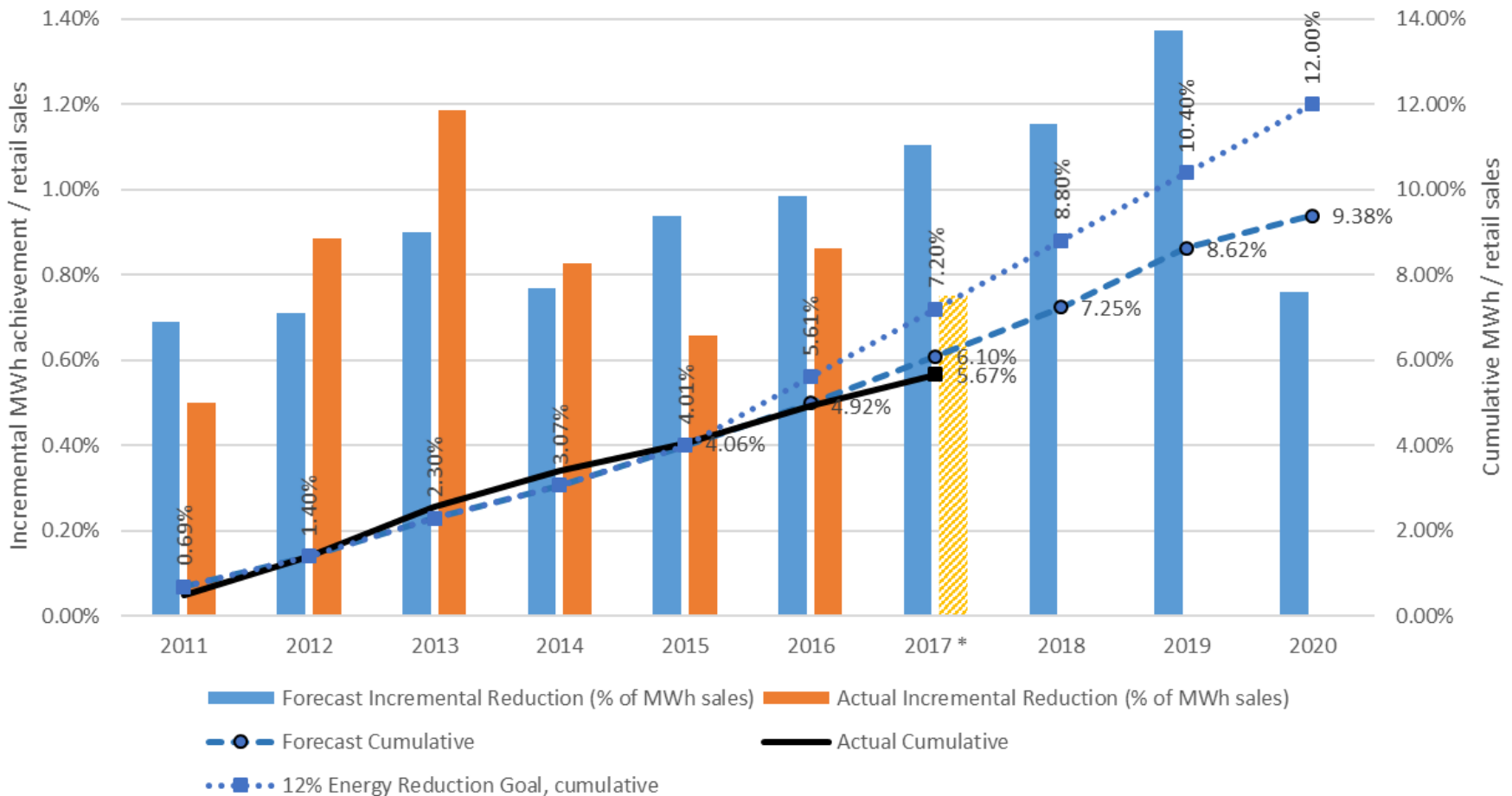
2020 - 2029

2029

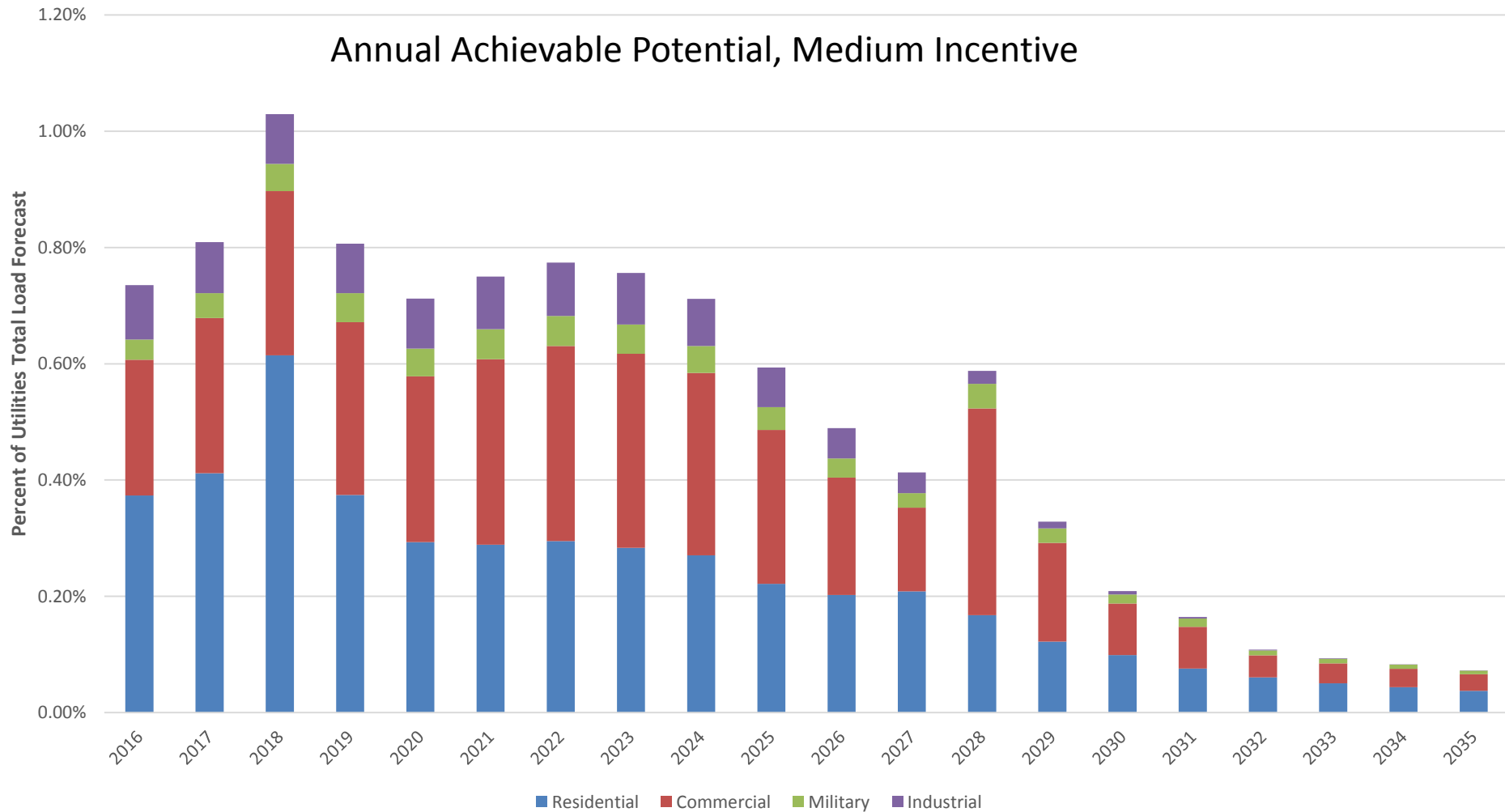


# Changing goals over time

## 12% Reduction in Electricity Use by 2020 (as of August 2017)



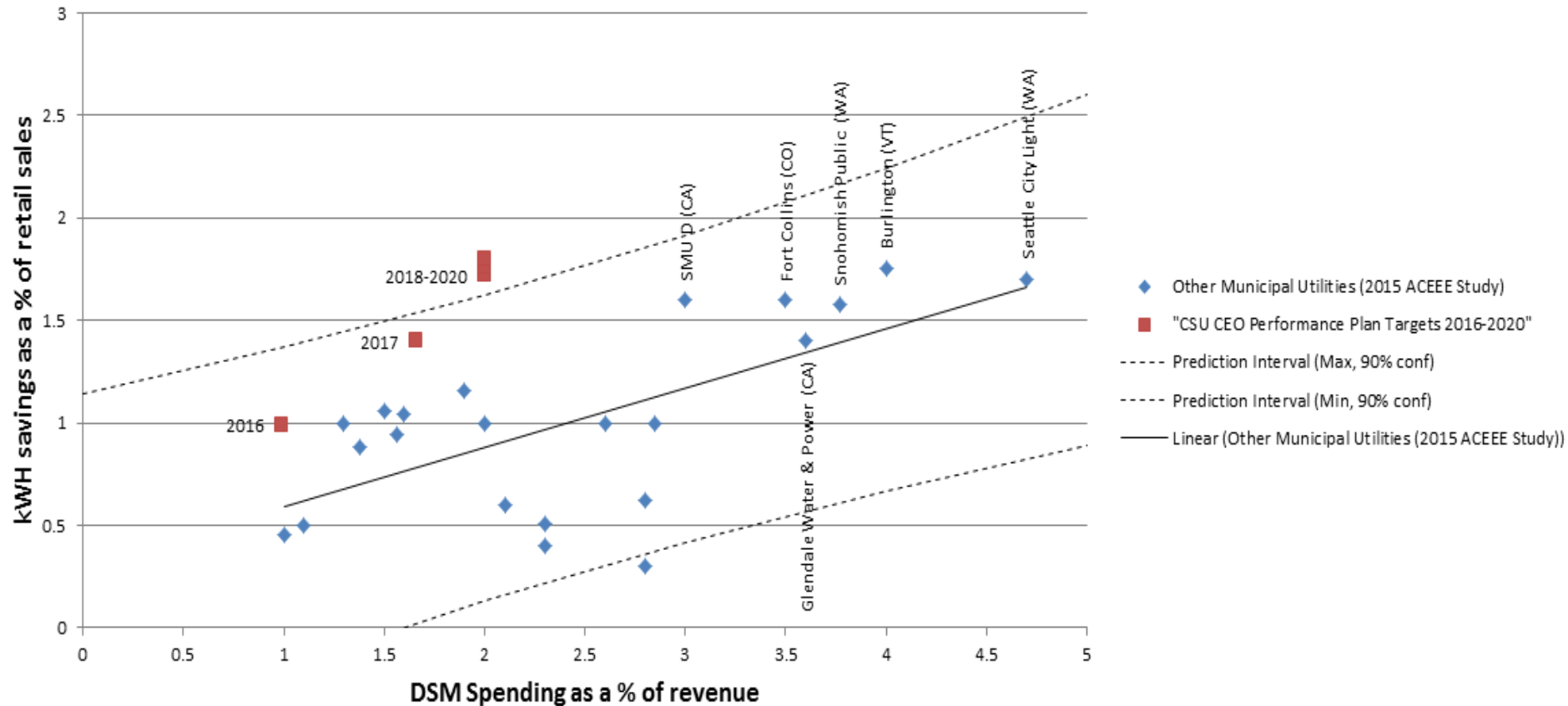
# DSM Potential Study



# Savings Goals in Context

## Municipal DSM Programs

### First Year kWh Savings vs Spending, as % of Sales and Revenue



# Changing Baseline Efficiency

## Largest Energy-Saving Standard in History

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Expected to save  
**U.S. businesses**  
**\$167 BILLION**  
on utility bills and **cut**  
**carbon pollution by**  
**885 MILLION**  
metric tons over 30 years



# Colorado Open Records Act Requests



All records concerning the study requested by Colorado Springs Utilities (CSU) in 2014, 2015 and/or 2016 concerning demand side management (DSM) and its potential for CSU operations (the DSM Study). Such records should include, but are not limited to, the requests for such DSM study by CSU including the parameters set by CSU for such requests, correspondence between CSU and the vendor selected for the DSM Study, and all DSM Study drafts provided to CSU by the vendor conducting the DSM Study, as well as information provided by CSU in response to such DSM Study drafts. Internal communications by CSU Management and/or CSU Board members concerning the DSM Study should also be included in response to this request.

# Good news doesn't sell papers

## Colorado Springs Utilities predicts failure on conservation goal

By: [Billie Stanton Anleu](#) · August 17, 2016 · Updated: August 24, 2016 at 2:34 pm



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Colorado Springs Utilities won't meet its five-year goal to slash energy demand by 12 percent, a conservation threshold that's critical for closure of the coal-fired Martin Drake Power Plant.

The bad news about "demand-side management" emerged after a rosy presentation Wednesday by Kenny Romero, Utilities' manager of demand side management and renewable energy solutions.

"Why are we not trying to meet the goal?" asked Utilities Board member Keith King, who had pushed through the 12 percent DSM goal in November, up from a 10 percent reduction originally sought

Advertisement



### Related:

⑤ 1 down, 2 to go: Drake power plant units' demise being planned

⑤ Lawsuit planned against Colorado Springs Utilities over scrubbing technology

⑤ Colorado Springs Utilities might form



# Public comment period

## Utilities Board agrees to add more solar after colorful public comment

POSTED BY NAT STEIN ON THU, SEP 21, 2017 AT 2:58 PM

[click to enlarge](#)



# Energy Vision – Renewable Energy



By 2020, Colorado Springs Utilities will provide 20 percent of its total electric energy through renewable sources with 1 percent from distributed generation sources. Renewable energy goals will be achieved with a maximum bill impact of 1 percent.

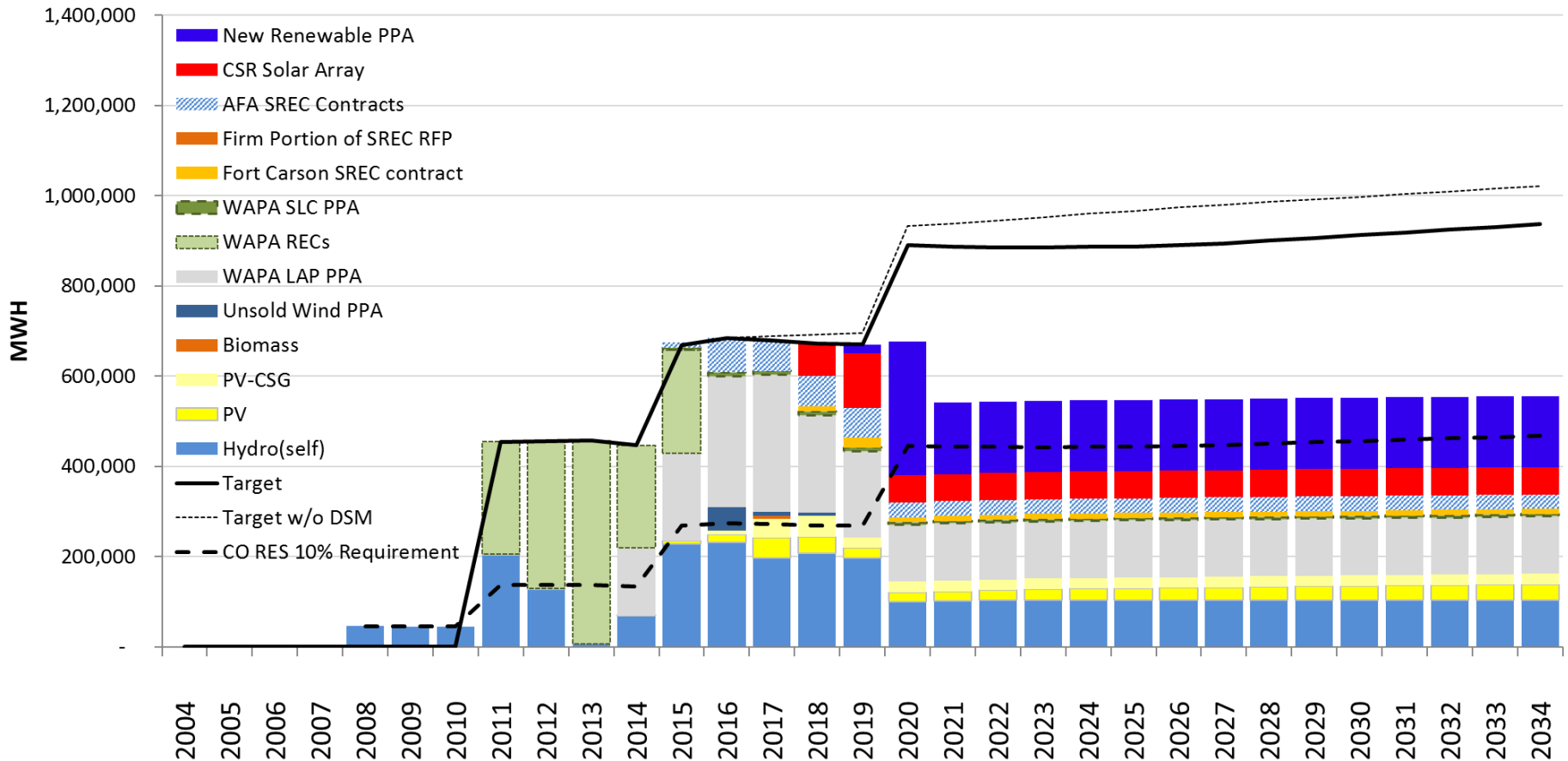


# Renewable Energy

REC optimization using  
Electric Planning Forecast 05112017  
Medium Achievable DSM EE and 8/9 CVR Estimate  
20% in 2020 Energy Vision

v1.2 run on Nov-01-2017 07:04

Baseline run with 2017 Sales Forecast



# Energy Vision – Energy Reduction

Colorado Springs Utilities will help customers reduce their electric energy use by 12 percent and reduce electric demand by 12 percent. Reduction goals will be achieved with a maximum bill impact of 2 percent.

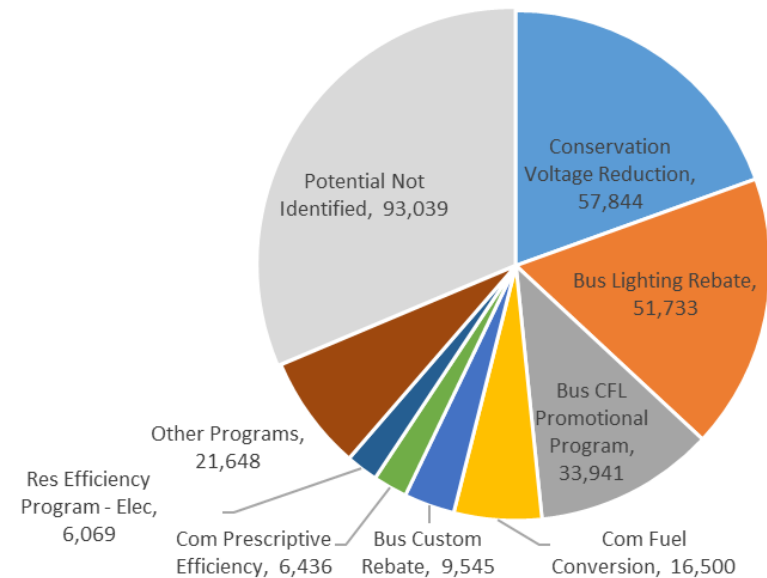


# Electric Demand Side Management Programs

## 16 Existing Electric DSM Programs, including:

- Conservation Voltage Reduction
- Business Lighting Rebate
- In-store LED lamp discounts
- Custom Electric Rebate
- Electric Dryers
- Builder Incentive Program
- High efficiency air conditioning
- ECO Smart Thermostat program

2017-2020 MWh Energy Reduction Goals by Program



# Energy Statement

Over the next 30 years, Colorado Springs Utilities (“Utilities”) will see a significant transformation of the electric utility industry as technology drives more cost-effective renewable energy resources, distributed generation, Demand-Side Management, energy storage and Smart Grid opportunities.

At the same time, energy efficiency standards are reducing projected electric sales and environmental regulations are expected to increase. These changes will drive the need to partner more closely with customers as we utilize both customer-owned and Utilities-owned resources to manage power supply and consumption.

# Energy Statement

This industry transformation requires us to think differently about how we engineer our electric systems, how we design our rates, how we train our employees and how we engage our customers in developing competitively-priced solutions for meeting our future electric demands.

We understand and embrace the discipline and creativity needed to meet our goals of providing our customers with sustainable, reliable, competitively-priced power while we move toward this vision of managing a diverse, distributed and environmentally-responsible power system.

# It's all about our customers



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Other Voices

## CSU 'partner for our community'

By **Contributing Writer** - June 16, 2017 957 0

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The rising cost of energy is a serious concern of manufacturing and other businesses in the Colorado Springs area. We at JPM Prototype & Mfg. Inc. are constantly looking for new ways to keep the lights on and the spindles turning.

Colorado Springs Utilities offered to help, but was the offer real? I suspected it was not.

After all, its revenues increase when I pay more for energy, right? Why would it partner with me to reduce its revenues?



- Advertisement -

"Military and civilian professionals looking to accelerate their careers should seriously consider this program."

**Rico Ocasio, MBA (2016)**  
Cybersecurity Specialist  
US Army Major, Retired

**MBA and MSA Programs**

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# CHANGE THE CURRENT

Small changes can make a big difference. Together we can create a bright future for Colorado Springs.



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# Questions?



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