

Innovative Policies in Colorado

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COLORADO

Department of
Regulatory Agencies

Public Utilities Commission

Disclaimer

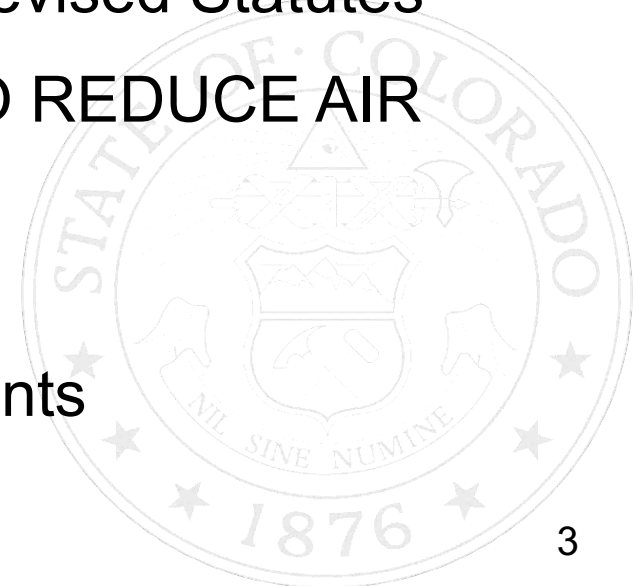


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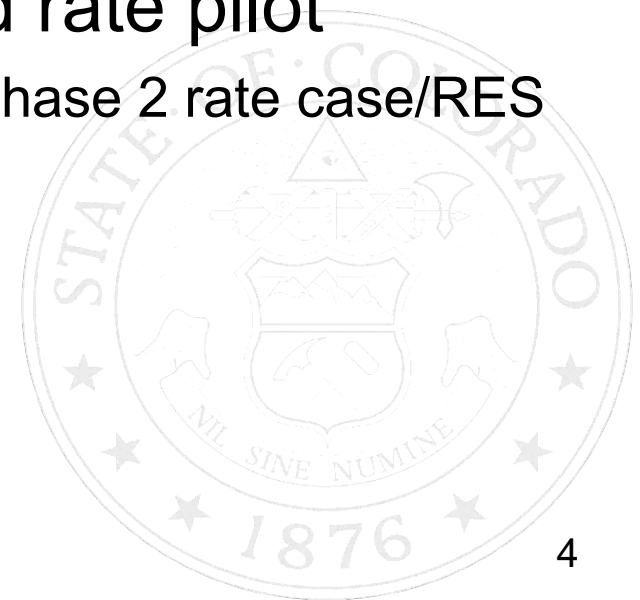
Historical Innovation

- Early **Renewable Portfolio Standard** (RPS)
 - 2004: First state to approve by ballot initiative
 - Subsequent legislation increased required percentages 3 times
 - For IOUs, the standard is now 30% by 2020 (for Coops it is 20%)
- 2010 **“Clean Air Clean Jobs”** Legislation (HB10-1365)
 - Amended Article 3.2 of title 40, Colorado Revised Statutes
 - Added “COORDINATED UTILITY PLAN TO REDUCE AIR EMISSIONS”
 - Proactive closure of coal plants
 - Anticipated future environmental requirements



Ongoing Policy Support for Innovation

- “Innovative Clean Technologies”
 - Began in 2009
 - Mechanism for approving special demonstration projects for Public Service Company of Colorado (PSCo)
 - Projects have included testing of advanced grid components (e.g., controlling behind-the-meter storage, microgrid with solar and batteries, using smart inverters for voltage control)
- 2016 approval of TOU trial and Demand rate pilot
 - “Grand settlement” of three PSCo proceedings (Phase 2 rate case/RES Plan/Renewables*Connect)
 - Parties supported in lieu of proposed grid charge
- 2017 approval of decoupling



Grid Modernization

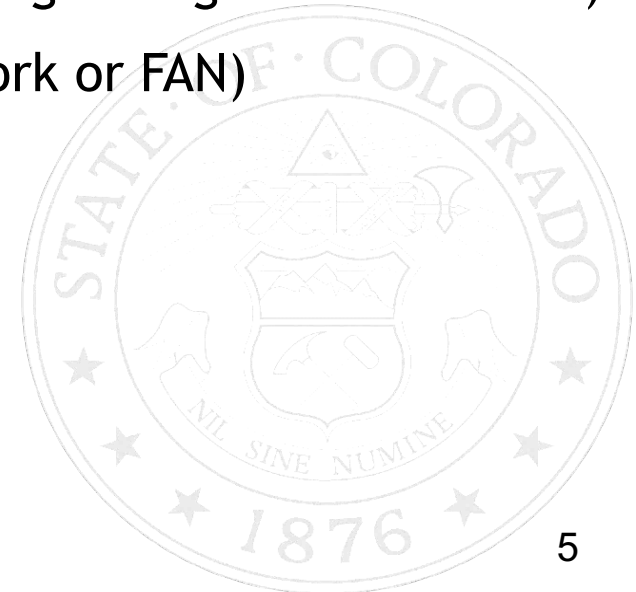
Proceeding 16A-0588E – Public Service Company of Colorado

“Advanced Grid Intelligence & Security (AGIS)”

7/25/17: Commission Approved Unopposed Comprehensive Settlement

- Full advanced metering infrastructure (AMI) roll-out beginning in 2020
- Integrated Volt-VAR Optimization (IVVO) program (using voltage info from AMI)
- Advanced communications network (Field Area Network or FAN)
- Green Button Connect My Data (CMD) web portal

Total Estimated Cost: \$612 million

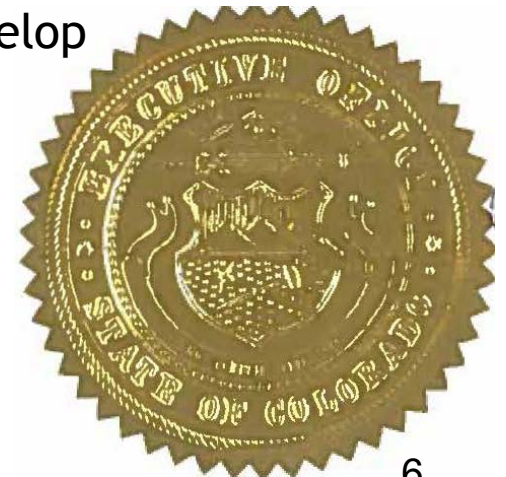


Executive Order Supporting Colorado's Clean Energy Transition

Goals Declared:

JULY 11, 2017

- Reduce GHGs statewide by >26% by 2025 (compared to 2005)
- **Reduce CO2 from the electricity sector** (compared to 2012)
 - **25% by 2025**
 - **35% by 2030**
- Achieve electricity savings of 2% of total electricity sales per year by 2020 through cost-effective energy efficiency.
- State agencies to develop a statewide Electric Vehicle plan by January 1, 2018 to build out key charging corridors
- Colorado Department of Public Health and Environment shall develop a state GHG emissions reporting rule
- State agencies to partner with local governments on climate and resilience
- CO Office of Economic Development and others to support communities impacted by changing energy landscape and provide annual update report



Mountain West Transmission Group

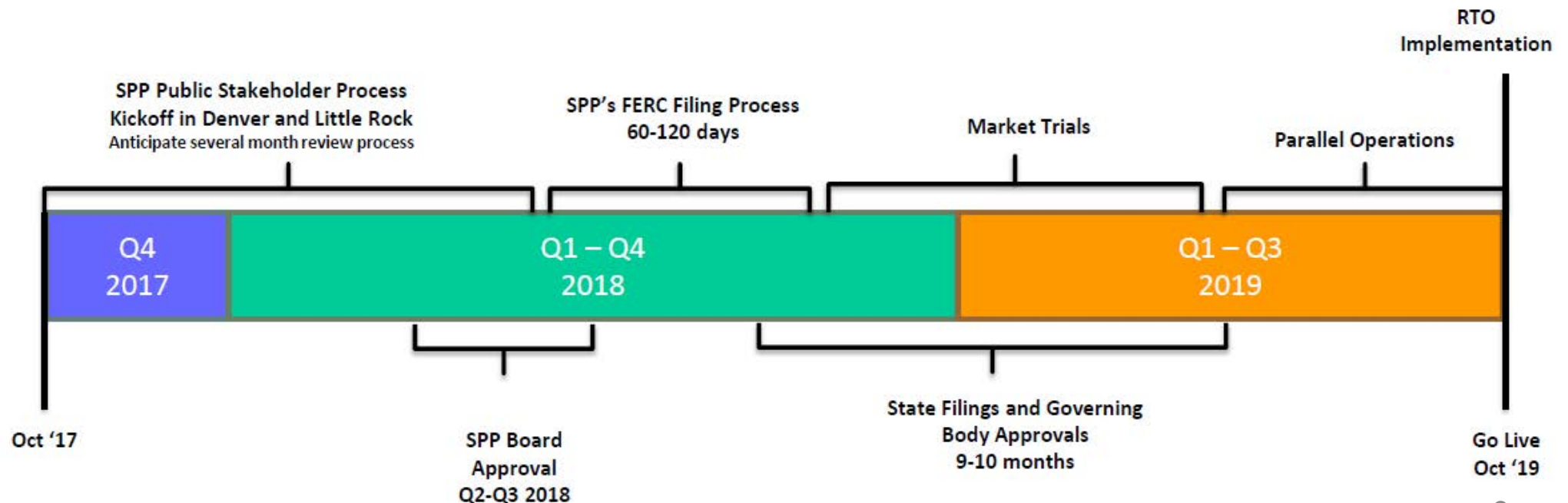
Coalition of 10 electricity service providers serving a population of about 6.4 million and owning 16,000 miles of transmission lines

- Basin Electric Power Cooperative
- Black Hills Energy
 - Black Hills Power
 - Black Hills Colorado Electric
 - Cheyenne Light, Fuel and Power
- Colorado Springs Utilities
- Platte River Power Authority
- Public Service Company of Colorado
- Tri-State Generation and Transmission Association
- Western Area Power Admin.
 - Loveland Area Projects-RMR (LAP)
 - Colorado River Storage Project (CRSP)




Timeline for Joining SPP


- Joint Tariff discussion started (2013)
- RFI Issued to RTOs (May 2016)
- Commenced detailed discussions with SPP (Jan 2017)
- MWTG finalized proposal (Sept 2017)
- SPP stakeholder kickoff (Oct 2017)



SPP & Mountain West Footprint

SPP Southwest Power Pool

 SPP

 Mountain West

	SPP	MWTG
Square miles	546,000	165,000
Miles of transmission	65,755	16,000
Population	17.5 mil	6.4 mil
Generating capacity	83,945 MW	21,000 MW

Miles City
200 MW

Rapid City
200 MW

Stegall
110 MW

Sidney
200 MW

Lamar
210 MW

Blackwater
200 MW

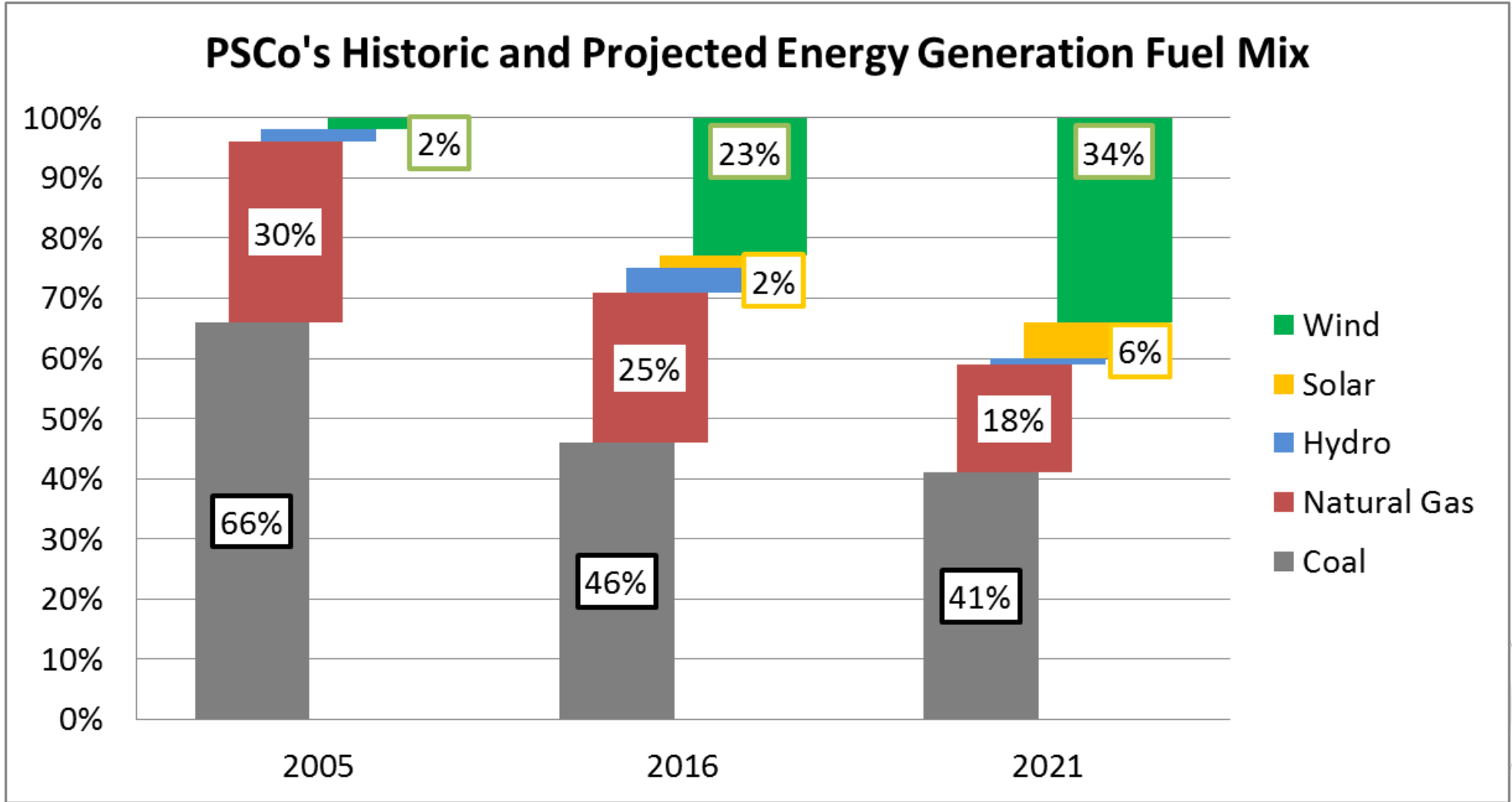
Oklunion
220 MW

Eddy Co
200 MW

Welsh
600 MW

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Date Exported 10/6/2017 1 inch equals 178 miles

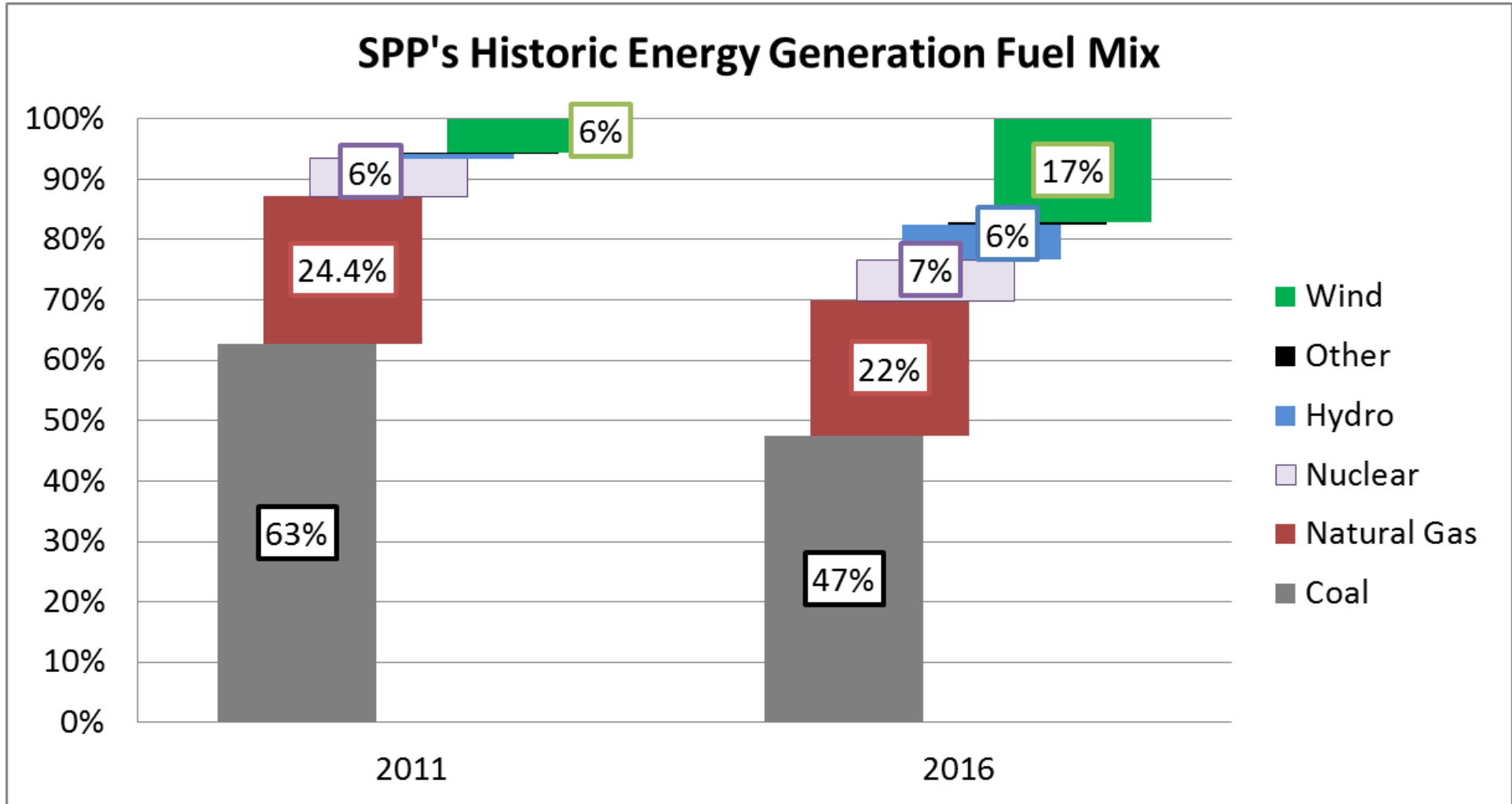
Public Service Company of Colorado



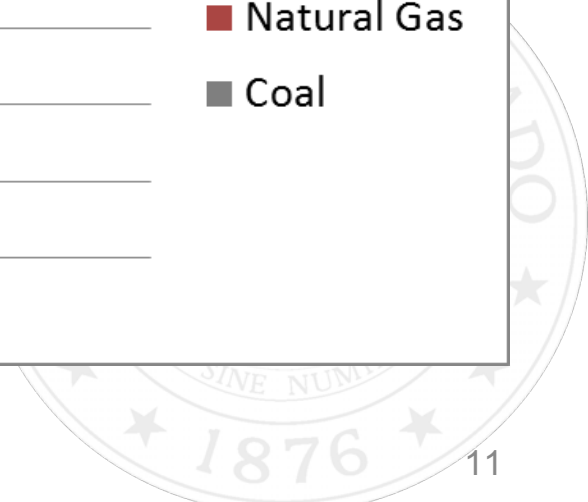
Source: PSCo's 2016 Corporate Responsibility Report



Southwest Power Pool

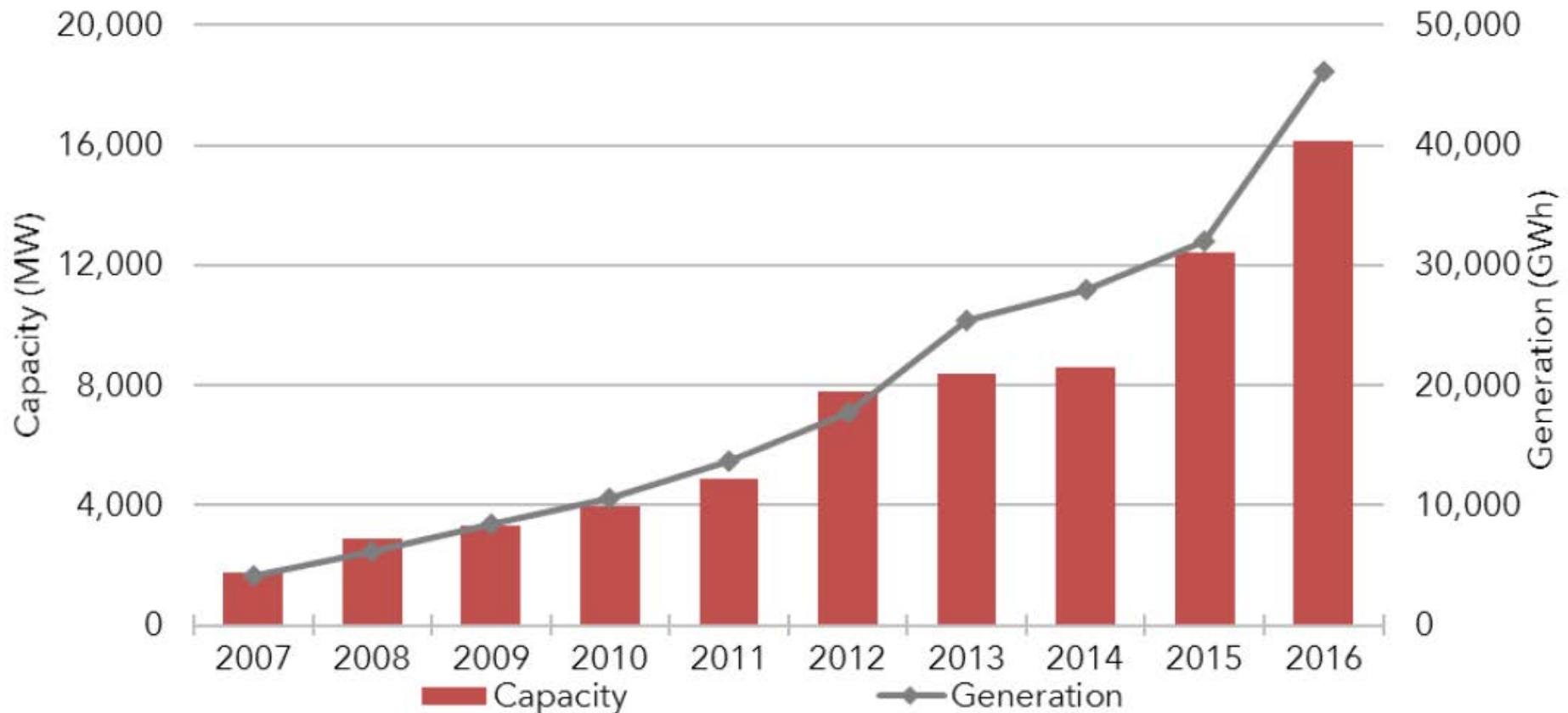


Source: <https://marketplace.spp.org/pages/generation-mix-historical>

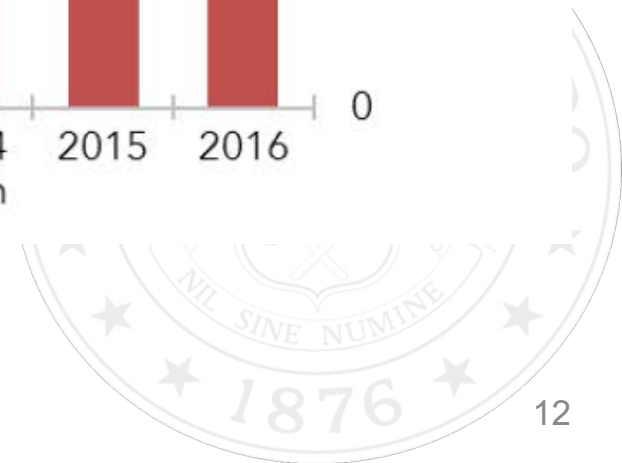


Southwest Power Pool

Figure 2–33 Wind capacity and generation



Source: SPP Market Monitoring Unit - 2016 State of the Market



QUESTIONS?



www.colorado.gov/dora/puc