



Clean Power Plan: Development of Colorado's 111(d) State Plan

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COLORADO
Department of Public
Health & Environment

EPA's Clean Power Plan Suite of Rules

- Existing Source Performance Standards
- New Source Performance Standards
- Federal Plan and Model Trading Rules (proposed)
- ESPS goal: Nationwide 32% reduction in CO₂ from 2005 levels by 2030



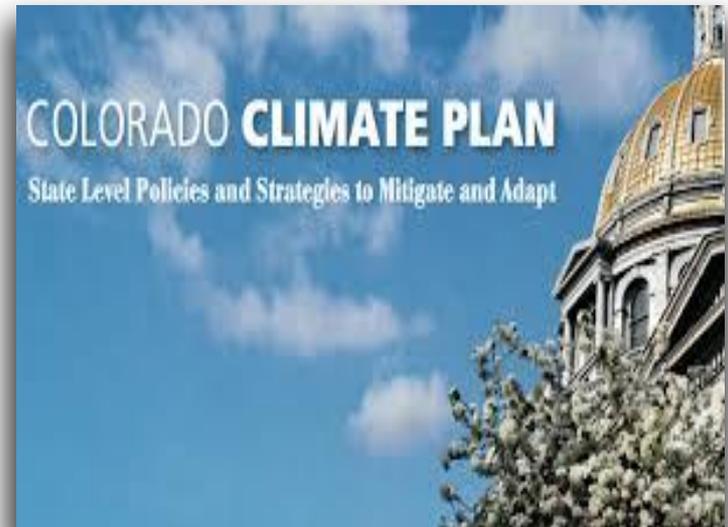
What Colorado Must Do



- Reduce CO₂ emissions by 2030 (from 2012 baseline)
 - by 38% on a rate basis, or
 - by 31% on a mass basis
 - Meet interim “step” goals (2-3 yr periods between 2022-2029)
- Adopt an approvable state plan or be subject to federal plan
- Provide initial submittal by 9/6/2016 and final plan by 9/6/2018

Colorado's Initiatives

- Forward-thinking policies have lowered emissions and resulted in a reliable, diverse and affordable energy mix
 - Clean Air Clean Jobs
 - Renewable Energy Standard
 - Demand Side Management
 - Methane rules
 - Local and private action
 - 2015 Climate Plan
- Colorado is up to the challenge of 111(d)



COLORADO'S PRINCIPLES

- Chart own course
- Maintain reliable, affordable electricity
- Satisfy demand growth
- Provide inclusive stakeholder process
- Collaborate among state agencies

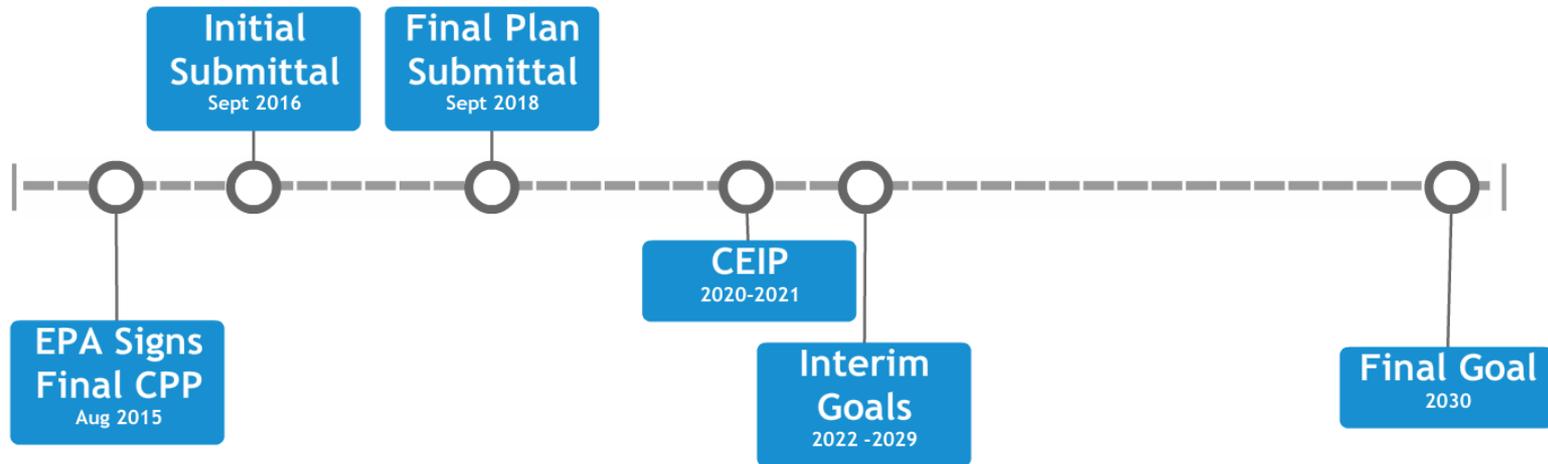
EPA'S CLEAN POWER PLAN

RES/RECS thermopower&electric design FtStVrain Colorado
 BrushGeneration INVEST Power
 BlackHills PUC RckyMtnEnergyCtr CDPHE
 affordable ENERGY Zuni Cherokee
 COAL together redispatch PRPA Comanche
 lead naturalgas carbon CO₂reliable
 boiler JMSchafer Pawnee Value capital Nixon
 CSU Xcel FrontRangePower CACJA electricity
 TriState Nucla economy DATA change collaboraion
 TIME Drake solar PAGS CEO NEW
 climate Craig Renewable Valmont
 turbine technology HYDRO
 Hayden Arapahoe engage WIND
 Rawhide Business FUTURE
 RISK Efficiency RifleGeneratingStation

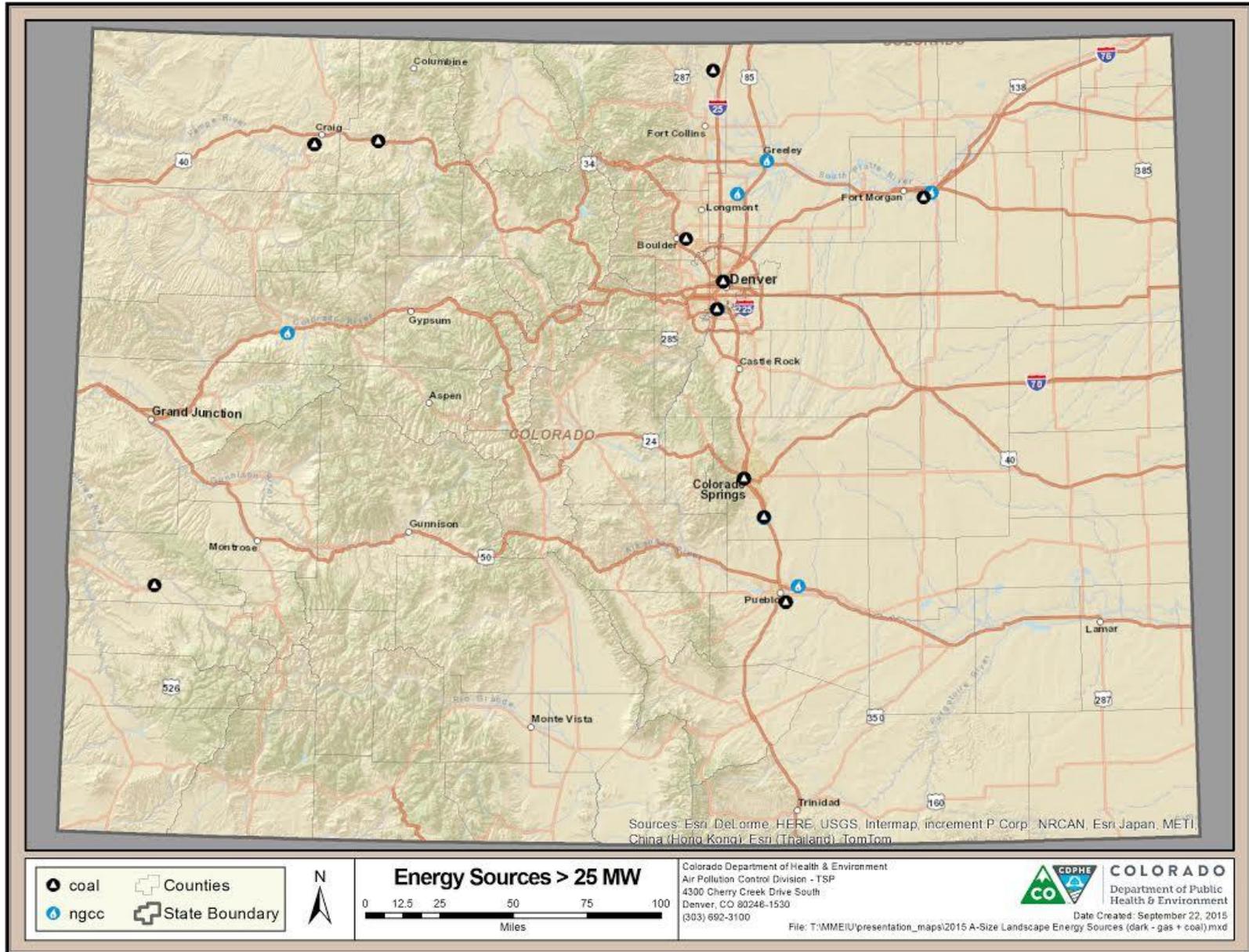


Clean Power Plan

TIMELINE



Map of Colorado's EGUs



Colorado's Generation Mix

- Coal fired boilers



- Natural gas

- turbines
- engines

- Wind

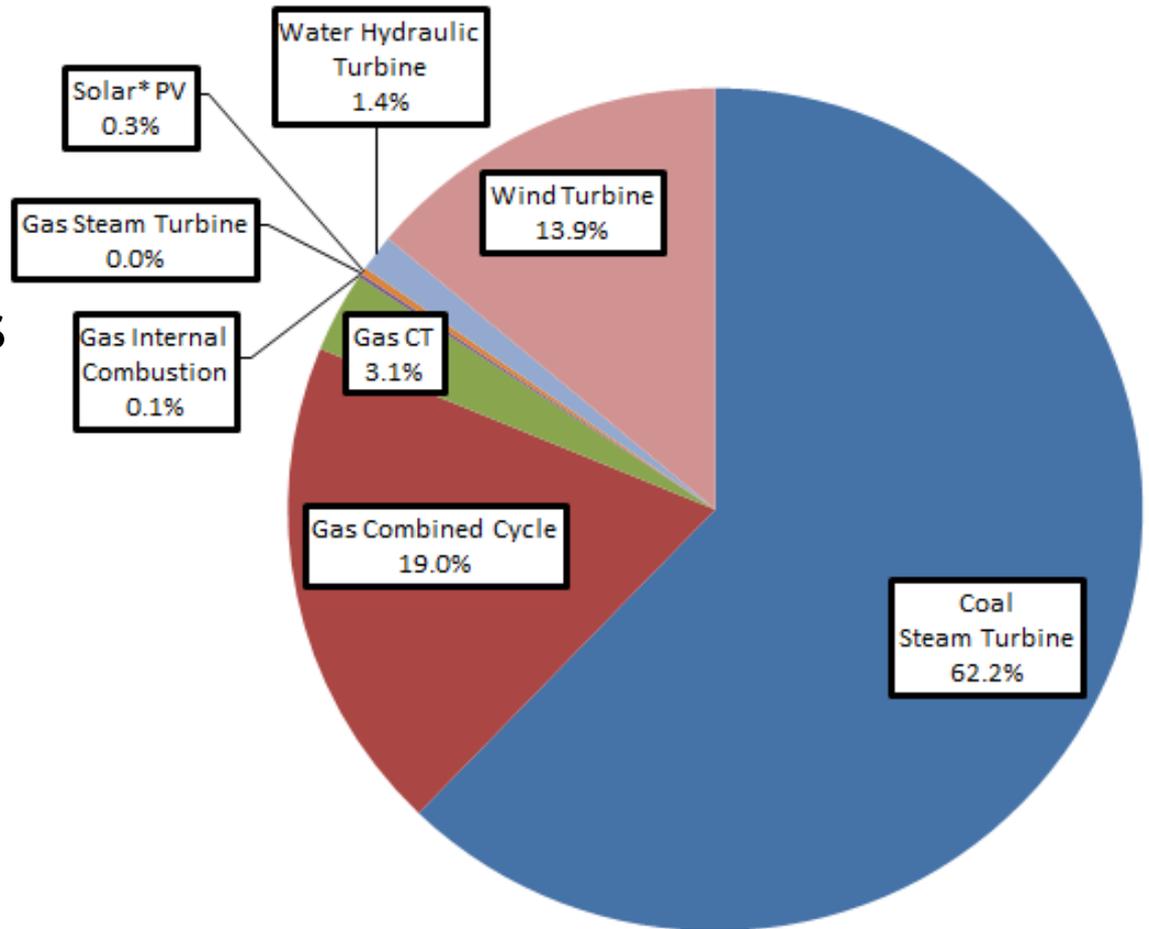


- Hydro

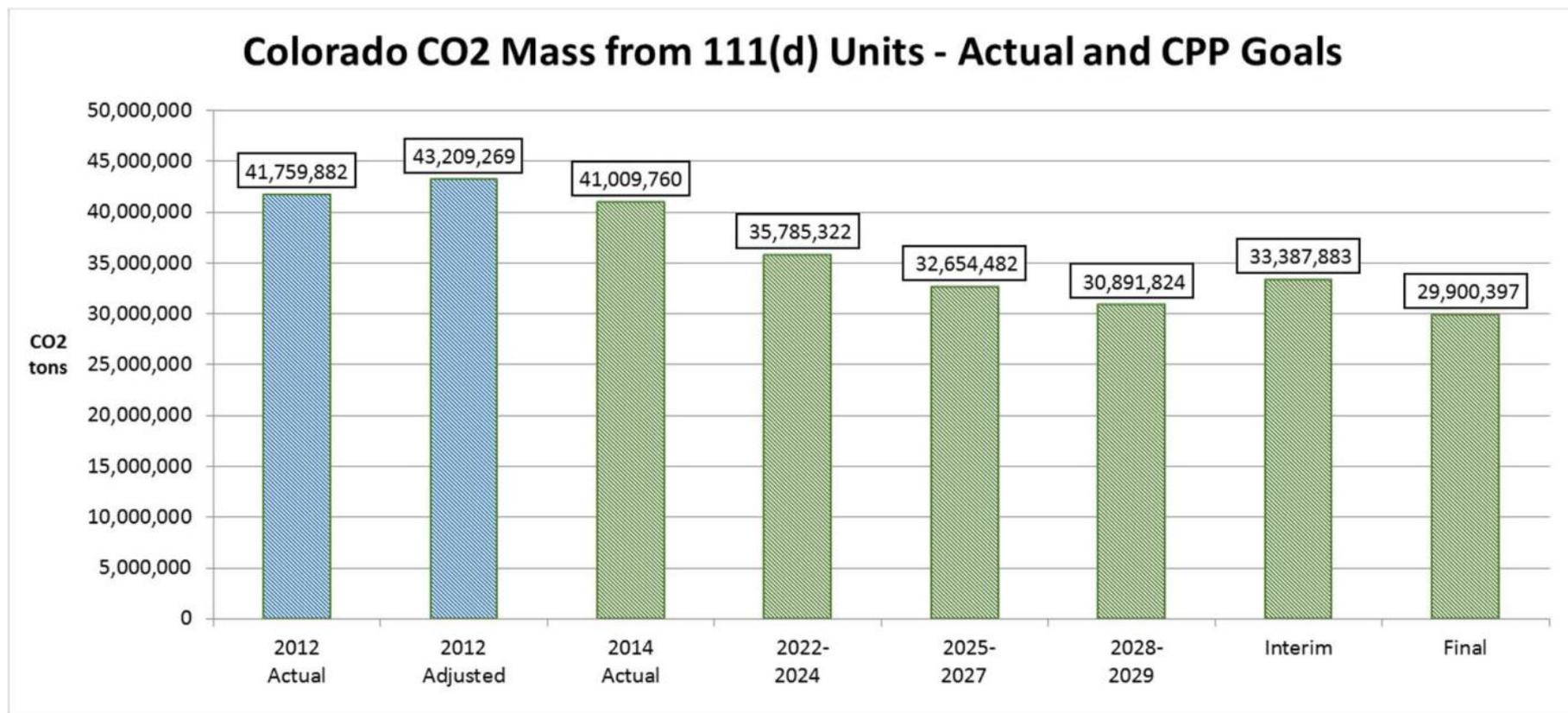
- Solar



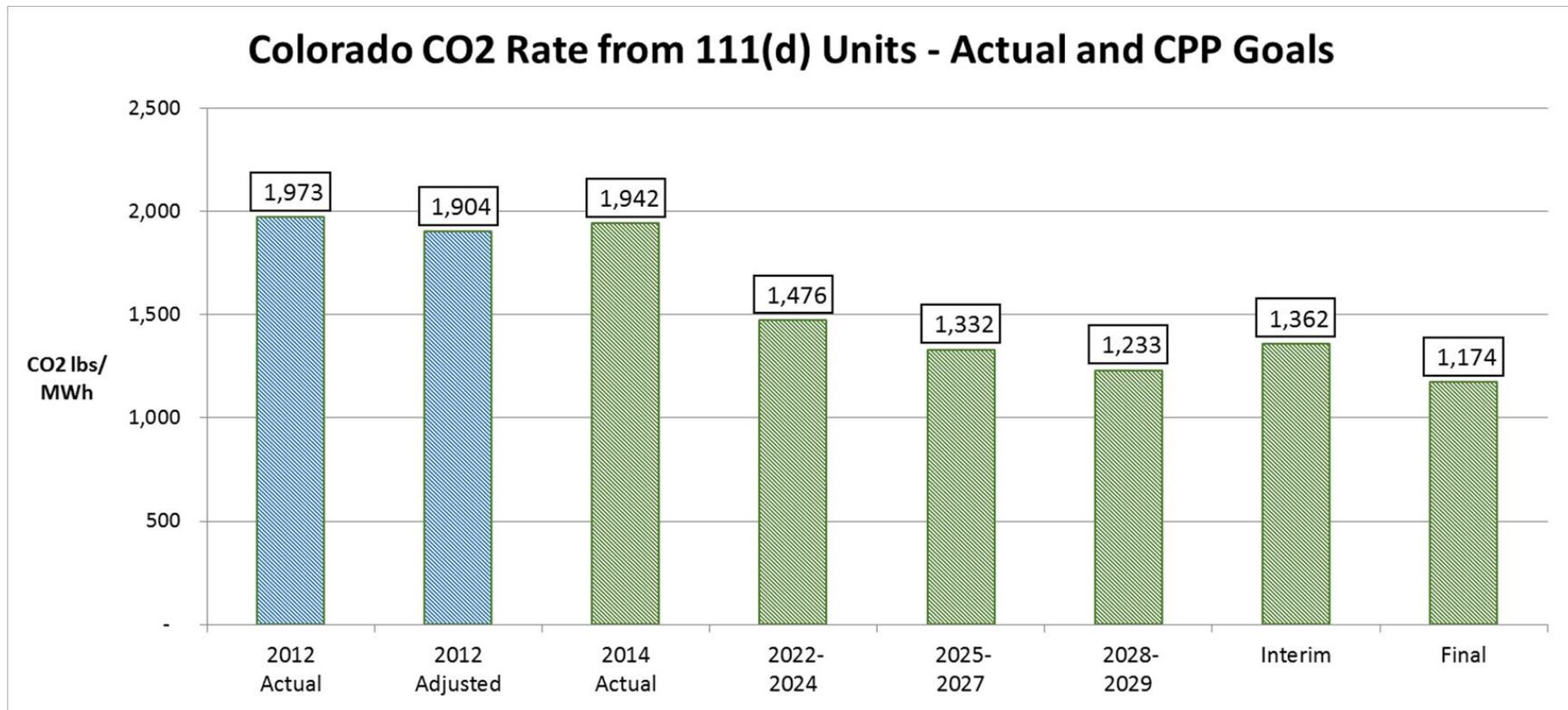
Colorado Generating Plants - % of Total Generation (MWh) in 2014



Colorado's CO2 Emissions (mass basis)



Colorado's CO₂ Emissions (rate basis)



Potential Compliance Strategies

- Improve heat rate
- Redispatch to existing NGCC
- New renewables or nuclear
- Reduce or retire existing units
- Energy efficiency or demand side management
- Switch fuels
- Reduce transmission and distribution losses
- Combined heat and power
- Trading
- Other



Key Decisions



- Mass v. Rate
 - Allocation methodology
 - Emission Rate Credit issuance
- Trading
- Treatment of new sources
- Clean Energy Incentive Program

Clean Energy Incentive Program

- Incentivizes early reductions and early state plans
- Eligibility criteria:
 - Wind, solar or low income energy efficiency project
 - Commences after State submits 111(d) plan opting into CEIP, or Sept. 6, 2018 if federal plan
 - Generation or savings in 2020-2021
 - Evaluation, measurement & verification required
- EPA matches ERCs or allowances
- State may create its own incentive program, outside of the CEIP



Local Government Issues

- Compliance burden is on state & utilities, generally not on local government
- Energy savings, renewables, combined heat & power help achieve state goals
 - Plan may include incentives
- Consumers' electric bills

Resources

- CDPHE website:
www.colorado.gov/cdphe/CleanPowerPlan
 - Sign up for e-mail notifications
 - Submit public comments:
cdphe.commentsapcd@state.co.us
 - Find information on Colorado's public meetings, any shared documents, and more
- EPA website: www2.epa.gov/cleanpowerplan
 - Find federal rules, technical support documents, tools and more



