



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

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Nov. 9, 2015

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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



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 Power
 BrushGeneration INVEST 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 RifleGenenatingStation

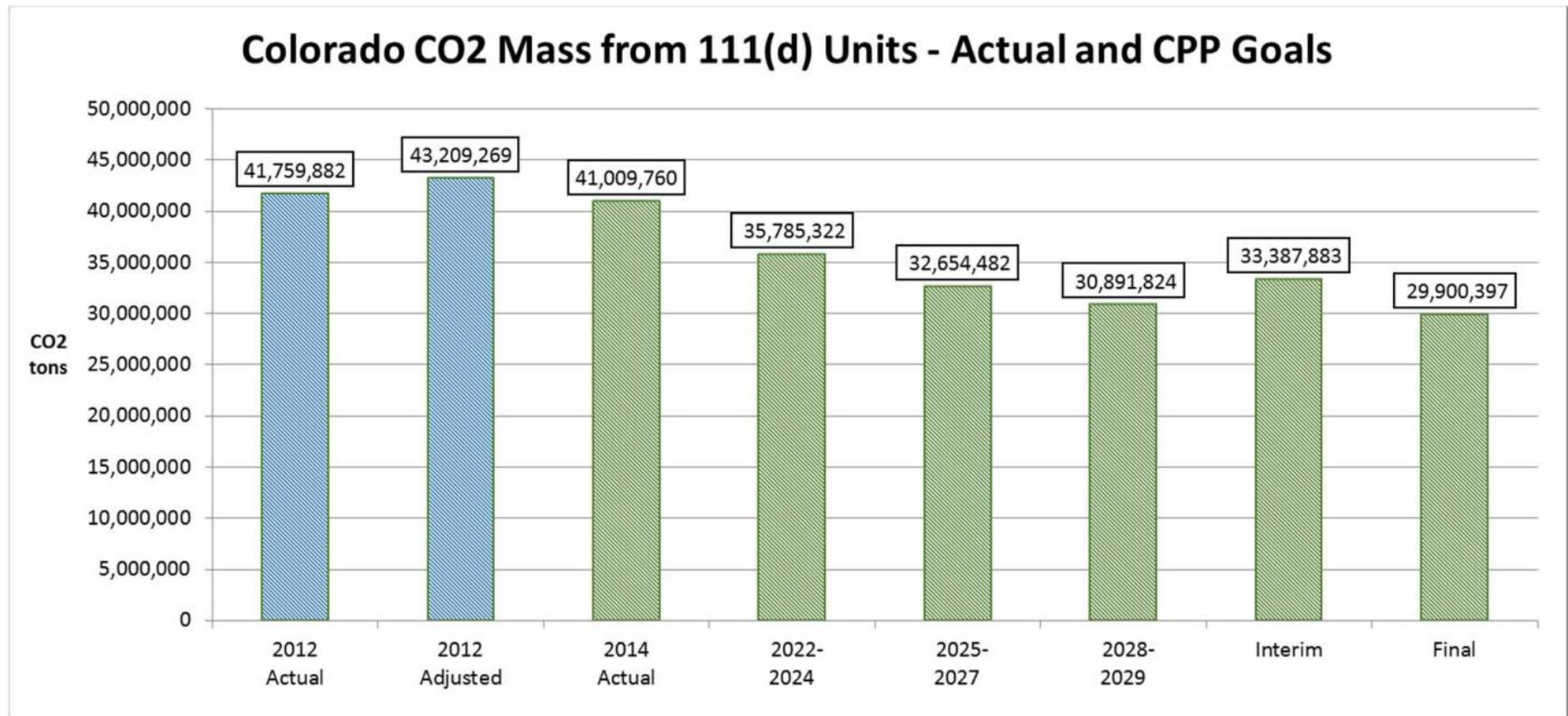


What Colorado Must Do

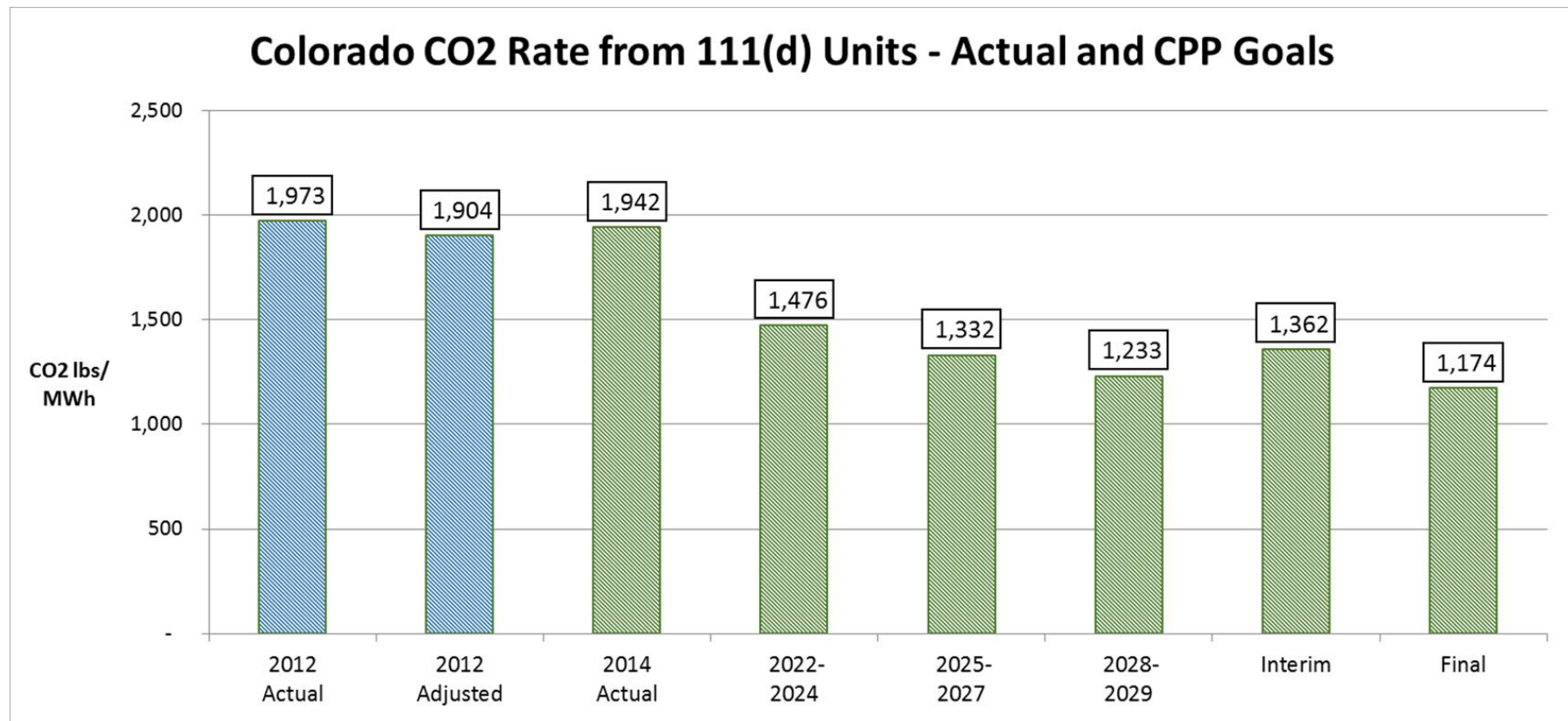


- Reduce CO₂ emissions by 2030 (from 2012 baseline)
 - by 38% on a rate basis, or
 - by 31% on a mass basis
 - Meet interim “step” goals (2-3 yr periods between 2022-2029)
- Adopt an approvable state plan or be subject to federal plan
- Provide initial submittal by 9/6/2016 and final plan by 9/6/2018

Colorado's CO2 Emissions (mass basis)



Colorado's CO₂ Emissions (rate basis)



Colorado's Generation Mix

- Coal fired boilers



- Natural gas
 - turbines
 - engines

- Wind

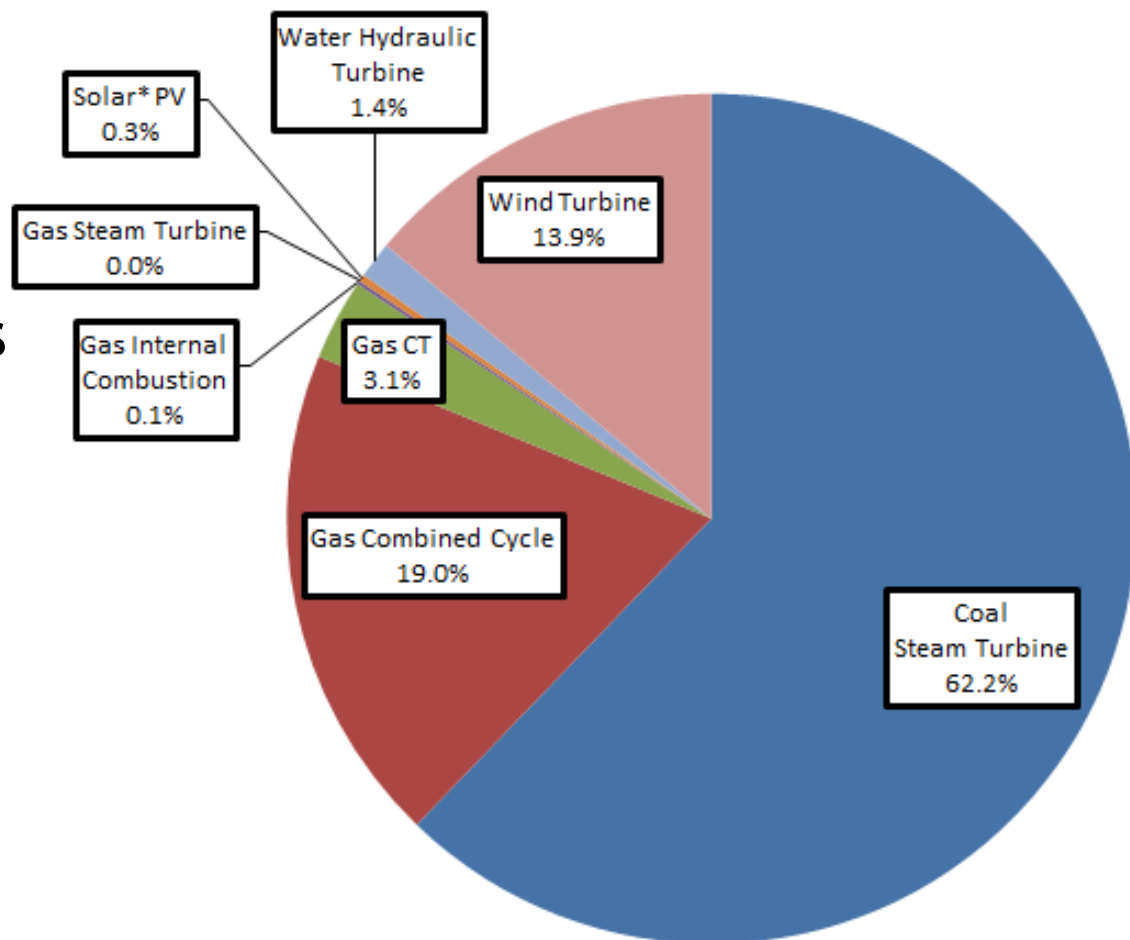


- Hydro

- Solar



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



Potential Compliance Strategies

EPA's Building Blocks

- EGU efficiency (heat rate improvement)
- Redispatch to natural gas
- Redispatch to renewables



More Options

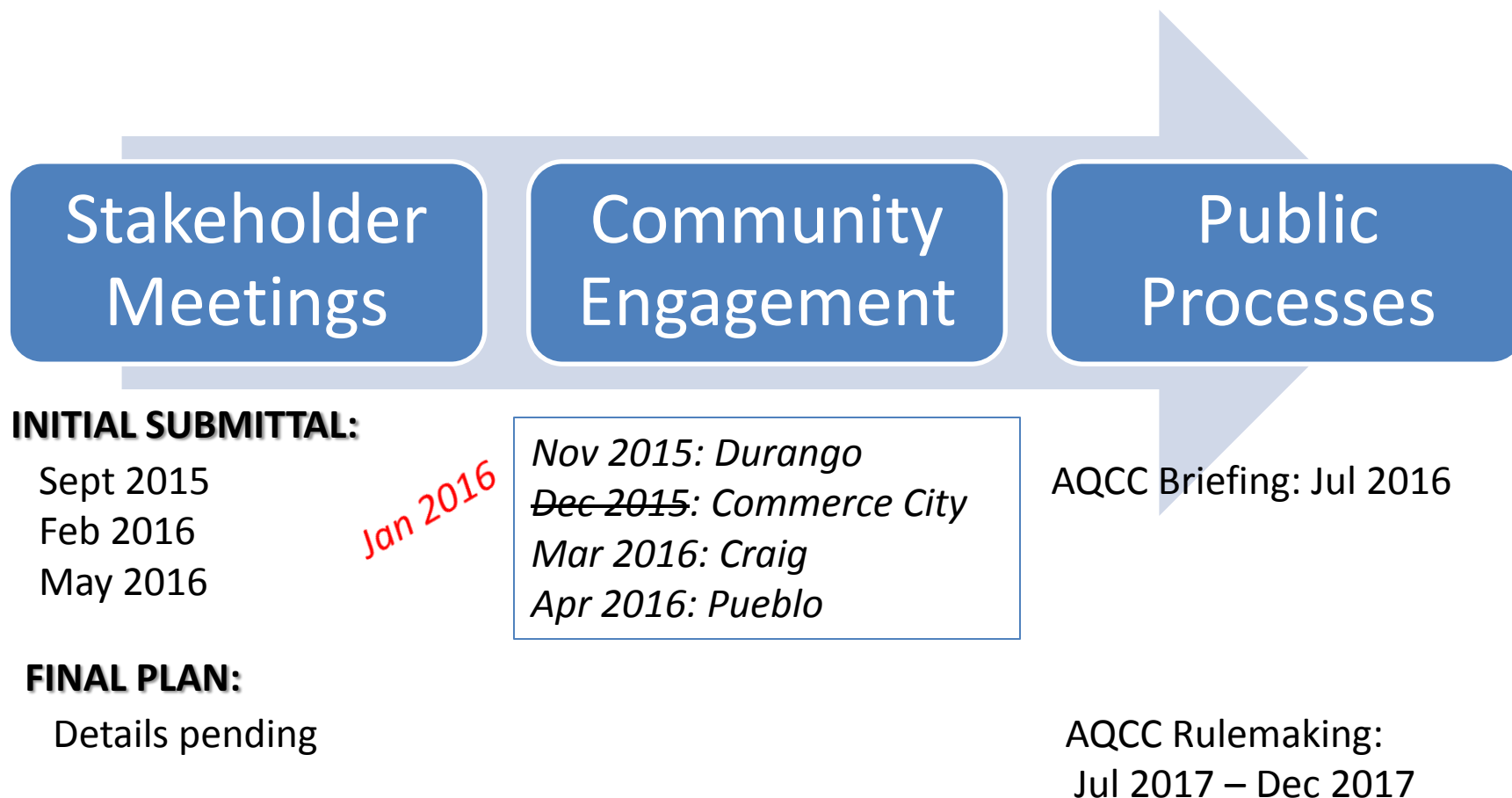
- Trading
- Energy efficiency/ demand side management (customers)
- Reduce transmission losses
- Others

Key Decisions

- Mass v. Rate
 - Allocation methodology
 - Emission Reduction Credit issuance
 - Set aside
- Trading
- Single state vs. multi-state approach
- Clean Energy Incentive Program
- Treatment of new sources
- Emission reduction options

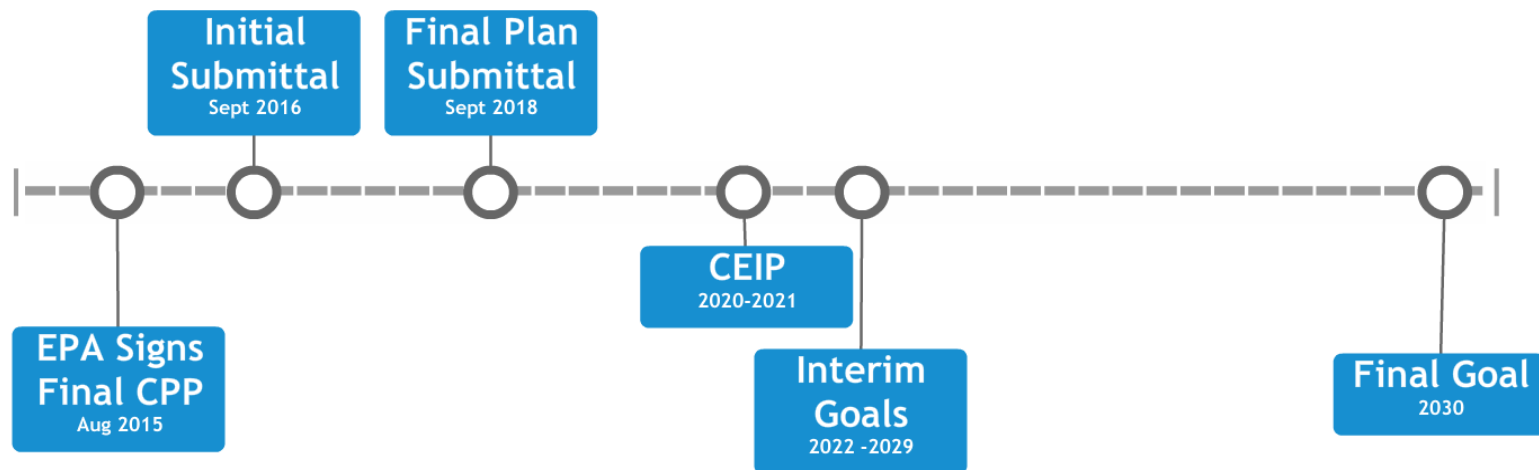


CDPHE's Vision for Public Process



Clean Power Plan

TIMELINE



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



