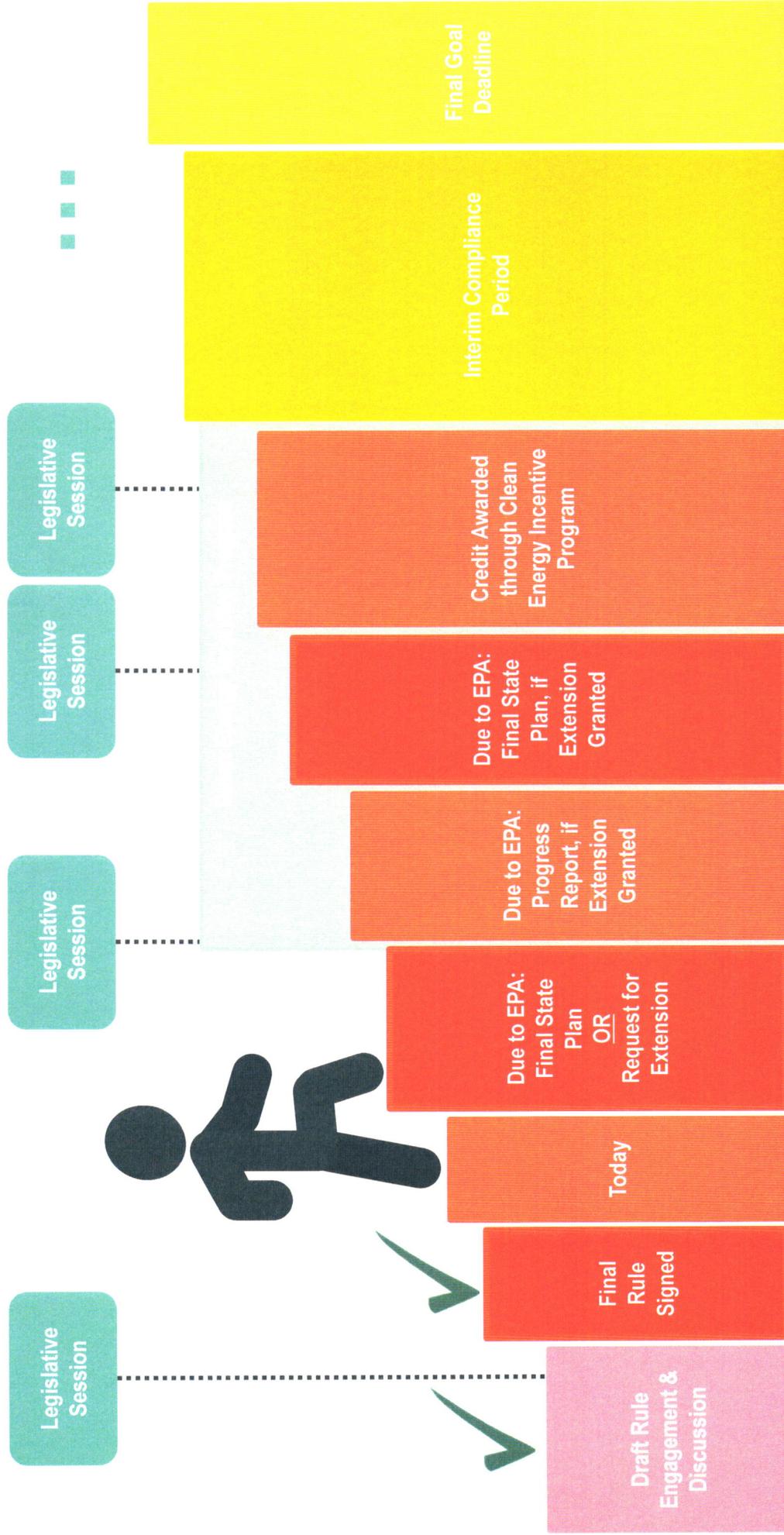
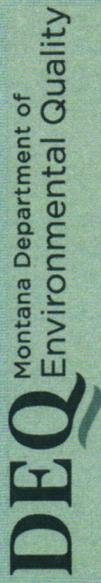


Clean Air Act §111(d) – Process Timeline



6/2014 - 8/2015 8/3/2015 9/10/2015 9/6/2016 9/6/2017 9/6/2018 2020 - 2021 2022 - 2029 2030

Handouts– Clean Power Plan

1

CPP- Definitions

2

- EGU = Fossil Fuel-Fired Electrical Generating Unit
- EGU's mostly are coal-fired and Natural Gas Combined Cycle (NGCC) facilities. Some states also have oil-fired units.
- In the rule, two emission performance rates (Best System of Emission Reduction – BSER) are developed for
 - Fossil Fuel Fired Electric Steam Generating Unit (Coal EGUs)
 - Stationary Combustion Turbines (NGCC EGUs)
- Each state's goal is calculated based on the weighted average of both types of EGUs total generation in the state

Montana's Existing EGUs under CPP

3

- J E Corette Plant
- Colstrip 1
- Colstrip 2
- Colstrip 3
- Colstrip 4
- Lewis & Clark
- Colstrip Energy LP
- Yellowstone Energy LP
- Hardin Generator Project



Draft to Final - Changes

4

Draft Rule

- Focused on performance of individual Electrical Generating Units (EGUs)
- Used four building blocks
- State Rate Goals varied widely (215 - 1,783 lb/MWh)
- Primarily Rate-Based

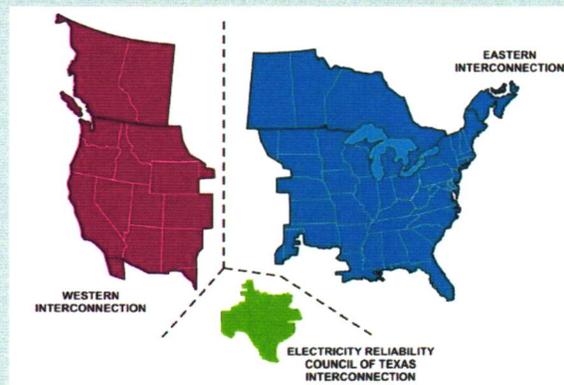
Final Rule

- Rolled up unit level and state data into regional baseline totals to better match with the integrated nature of the electrical grid.
- Used three building blocks (no EE)
- State Rate Goals now range from 771 lb/MWh to 1305 lb/MWh
- Rate and Mass Targets

BSER Applied to Interconnections

5

- A. 2012 baseline adjustment
 - Boosted MT coal generation by 7%
- B. Efficiency improvement applied to coal units
- C. Renewable Energy potential projected displacing generation from coal and NGCC units
- D. Coal generation coal shifted to NGCC



Source: Section VI.D. Slide From Georgetown Climate Center

Montana Targets Draft to Final

6

Draft Rule

- Year 2030 Rate Target
 - 1,771 lb/MWh

Final Rule

- Year 2030 Rate Target
 - 1,305 lb/MWh
- Year 2030 Mass Target (only Existing Units)
 - 11,303,107 tons

Montana Final Rule Targets by Period

7

- **Rate:**

Annual Emission Rate Target (lb CO ₂ /MWh)		
Montana	Interim (avg 2022-2029)	Final (2030-)
Emission Rate Target	1,534	1,305

- **Mass:**

Annual Mass Emission Target (tons CO ₂)		
Montana	Interim (avg 2022-2029)	Final (2030-)
Mass Target (no new sources)	12,791,000	11,303,000

Rate or Mass?

8

- **Rate-Based**
 - Emission Rate Credit (ERCs) System would need to be established
 - ERCs are created when electricity is generated below target emission rates and then can be transferred to EGUs who are above their rate-based target. (ERCs are MWhs added to the denominator which lowers the calculated rate).
- **Mass-Based**
 - Emission allowance system would need to be established
 - Allowances not used by an owner can be transferred to other EGUs to be used to cover their emissions above their allowance. (Allowances are tons of CO₂ that subtract from a unit's actual stack emissions).
- **Both systems allow for trading (potentially all states)**

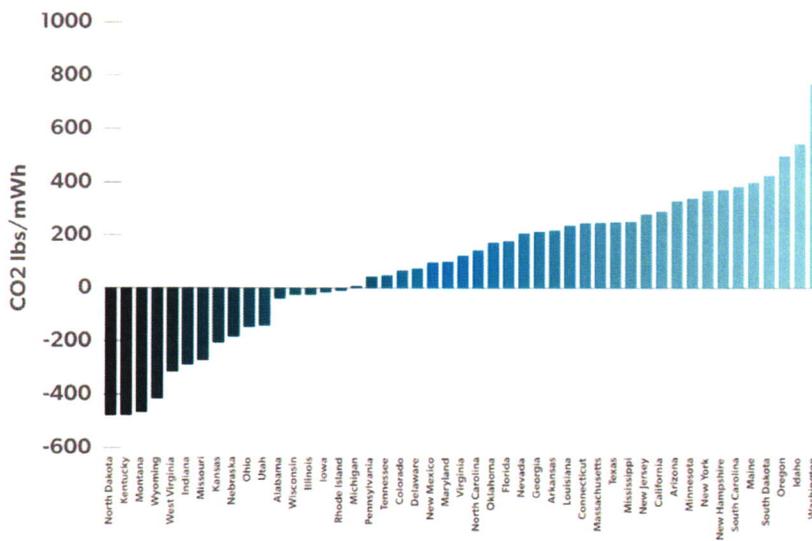
Plant	2012 Adjusted CO2 (Tons)
J E Corette Plant	924,875
Colstrip 1	1,740,573
Colstrip 2	1,840,671
Colstrip 3	5,953,630
Colstrip 4	6,264,940
Lewis & Clark	357,823
Colstrip Energy LP	466,574
Yellowstone Energy LP	943,467
Hardin Generator Project	686,699
Total	19,179,253

Draft vs. Final Rate Impact

10

Difference Between Proposed and Final Rate-based Goal

Negative numbers denote that the final goal is more stringent than the proposed goal by the amount indicated.



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Clean Power Plan Goal Calculation Viewer

[Return to Calc Overview](#)

State Goal Rates

To calculate state goals in the final CPP, the EPA calculates the affected fleet rate for states assuming that all likely affected baseline sources meet the respective category-specific emission performance rates presented while generating at the same baseline generation total. For each state, EPA calculated an average of the category-specific fossil steam and NGCC rates, weighting by the state's baseline generation levels for each source category. These blended state rates reflect the total emission rate from likely affected units in the state if they operated at baseline generation levels while meeting the category-specific rates.

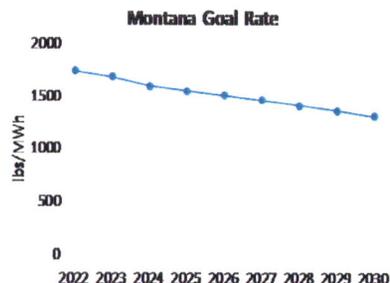
$$\text{State Goal Rate}_{\text{year}} = (\text{Fossil steam source category rate} * \text{Fossil steam baseline share of affected generation}) + (\text{NGCC source category rate} * \text{NGCC baseline share of affected generation})$$

Select a state/year below to view calculation for that combination

State: **Montana** Year: **Final (2030)**

Final (2030) Montana Goal
 $= (1,305 \text{ lbs/MWh} * 100\%) + (771 \text{ lbs/MWh} * 0\%)$
 $= 1,305 \text{ lbs/MWh}$

Montana Interim Goal Rate (2022-2029)	= 1,534 lbs/MWh
Montana Final Goal Rate (2030)	= 1,305 lbs/MWh



The calculated yearly goal rates are not prescriptive. Rather, they are used to establish the Interim and Final Goal Rates that states ultimately

1. See also: CO2 Emission Performance Rate and Goal Computation TSD
2. See also: CPP final rule preamble section VII.B

Any clarifications can be found on the EPA Clean Power Plan Website. <http://www2.epa.gov/cleanpowerplan>