

# Proposed Changes to 111(d) Rule to Recognize Early Action



**MPCA Clean Power Plan Stakeholders Group  
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# Problem: Proposed Rule Fails to Reward Early Action

- ◆ Pre-2012 early action: coal plant retirements, RE and EE leadership all make MN's goal more stringent
- ◆ 2012 to 2020 early action: uncertainty whether further retirements, RE and EE will count gives utilities incentive to delay to 2020
  
- ◆ Result:
  - Greater burden on states that are leaders in clean energy
  - Greater costs to achieve next round of reductions
  - Disincentive to continue clean energy leadership
  - Stringent interim goals and the 2020 “cliff”
  
- ◆ Solution: “Surgical Fixes”
  - Reward pre-2012 and encourage pre-2020 early action
  - Works within rule's base year and overall methodology

# 1. Block 2: Exempt NGCCs Built After 2005 to Replace Coal

- ◆ Recalculate Block 2 excluding NGCC capacity that replaces coal retired under multi-pollutant programs
  - Exemption would apply to the lesser of the capacity of coal retired or the capacity of NGCC installed
  - Only on-site replacement eligible
- ◆ MERP Example:
  - 652 MW High Bridge and Riverside coal plants replaced with 1,080 MW of NGCCs at same sites
  - Exempt 652 MW of this NGCC from Block 2 in Minnesota

	2030 Goal		
State	Proposed	Revised	<i>Change</i>
Minnesota	873	957	84

## 2. Block 2: Eliminate the Penalty for NGCC Generation Displaced by Renewables

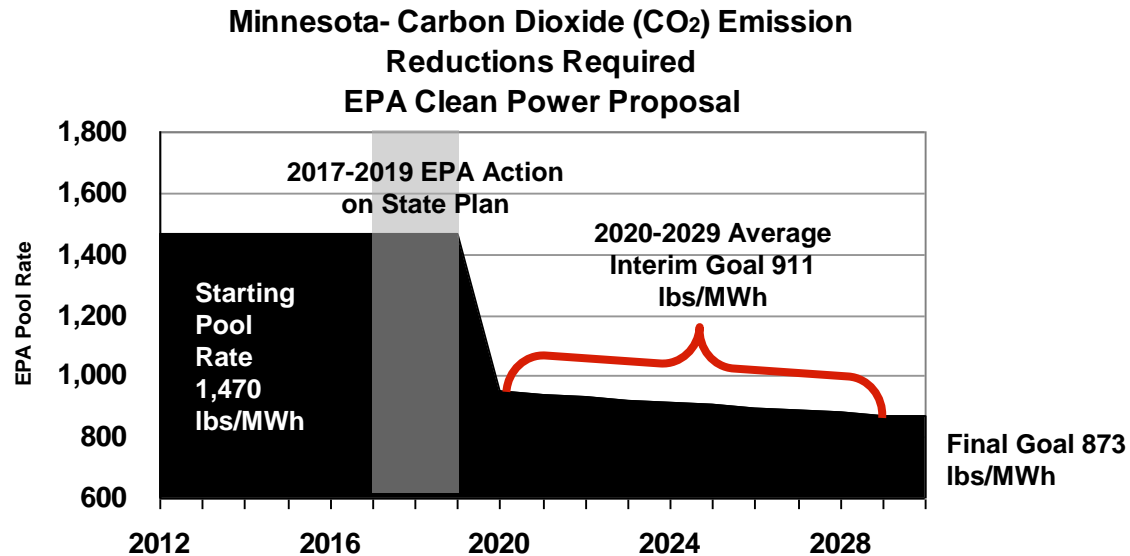
- ◆ Intermittent RE balanced by NGCCs, driving down their capacity factors
  - Estimate NGCC MWh displaced by wind in 2012
  - Add the displaced MWh to actual NGCC MWh in 2012; re-calculate capacity factor
  - Re-calculate Block 2 with adjusted capacity factor

System	Estimated % of NGCC MWh displaced by RE
<b>Xcel Energy – Colorado</b> Internal analysis	<b>39%</b>
<b>ERCOT</b> “Analysis of Wind Generation Impact on ERCOT Ancillary Services Requirements,” March 2008	<b>83%</b>
<b>WECC</b> “The Western Wind and Solar Integration Study Phase 2,” National Renewable Energy Laboratory, September 2013	<b>87%</b>
<b>MISO</b> Monthly market reports	<b>32.6%</b>

		Interim Goal	Final Goal
MN	proposed	911	873
	revised	1040	1001
	<i>change</i>	129	128
<i>(Assumes 50% displacement)</i>			

### 3. Interim Targets: Increase Flexibility in Interim Goals

- ◆ **Problem: EPA's interim goals would require most reductions by 2020**
  - Greater burden on clean energy leaders; “low hanging fruit” is gone
  - Potential for premature retirements, stranded costs, reliability impacts



- ◆ **Solution: Allow states to establish own interim glide path based on emission reduction plans**
  - Assures credibility
  - Protects clean energy states from disruption
  - Enables other “fixes”

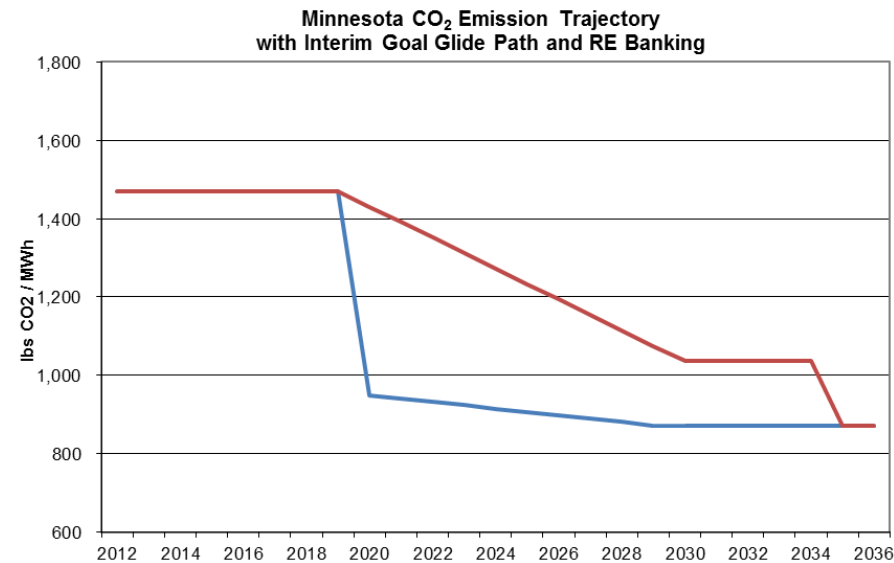
# 4. Block 3: Early Action Credit for Renewables Through Banking

- ◆ Create renewable energy bank to raise 2030 goal and allow more time for compliance with final state goal

## Potential Design:

- ◆ Only states with 2012 RE percentage above 1.5 x the national average are allowed to bank
- ◆ Bank = (state RE generation) – (1.5 x national average RE generation)
  - Rewards significant leadership
  - Limits impact on rule design
- ◆ Bank accumulates from 2017 – 2019
- ◆ State expends bank from 2030 – 2034
  - State target capped at 2012 emissions
- ◆ At 2035, state must meet final goal

	2030 Goal
proposed	873
revised	1036
<i>change</i>	163



## 5. Technical Corrections

- ◆ Sherco 3: Add back proxy lbs and MWhs to 2012 MN fossil intensity rate
  - A simple add-back of 2010 Sherco 3's CO<sub>2</sub> emissions and MWh to the goal formula increases Minnesota's goal by 83 lbs/MWh
  - A multi-year baseline is another potential fix for this and other baseline anomalies nationwide

- ◆ NGCC Capacity Issue 1: Use summer net capacity in place of EPA's "nameplate" assumption in Block 2.

	<u>Final Goal</u>
proposed	873
revised	959
<i>change</i>	86

- ◆ NGCC Capacity Issue 2: Correct unit configuration errors in EPA's modeling (e.g. Mankato NGCC)

	<u>Final Goal</u>
proposed	873
revised	892
<i>change</i>	19