

# The 2015 Update to the Greenhouse Gas Emission Reduction Act (GGRA) Plan and Moving Beyond

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# **GGRA of 2009/ Climate Commission Act of 2015**

- Summary of the 2012 GGRA Plan
- Summary of the 2015 GGRA Update Report
- Future Items and Post 2020 Goals

# 2012 Plan Summary

- Overview of the Plan
  - A comprehensive multi-sector, multi-agency plan to reduce Maryland's GHG emissions with over 50 programs that utilize market based and regulatory approaches to reduce emissions within Maryland
- GHG Emission Reduction Goals
  - Reduce emissions 25% by 2020 (from 2006 baseline)
  - A reduction of approximately 33 MMtCO<sub>2</sub>e by 2020
- Expected Economic Benefits
  - Net benefit of \$1.6 billion in economic output to the Maryland economy
  - Over 30,000 jobs will be created and maintained in 2020

# 2015 GGRA Report

- MDE will submit the 2015 GGRA Update to the Governor and the General Assembly in October
- Emissions Inventory and Forecast
  - Updated 2011 emissions inventory including all in-state emissions and imported electricity
  - A 2014 inventory will be complete later in 2015
- Resilience and Adaptation: How Maryland can better understand and address potential risks posed by climate change
- “Cost of Inaction in Maryland” Report completed by Center for Climate and Energy Solutions (C2ES)
- Update on climate change science
- Summary of emerging technologies related to climate change science
- How the GGRA will impact the manufacturing sector in Maryland
- Multi-Pollutant Benefits (NESCAUM report) - Ozone, fine particles, more
- How might Federal actions impact MD’s progress – Clean Power Plan, new EPA vehicle standards, etc.

# Market Driven Changes

- Since the 2006 baseline year, CO2 emissions in Maryland have decreased because electricity generation and industrial sources are using more natural gas instead of coal.
- Changes in driving behavior (partially linked to a slow economy) also contributed to the decline in CO2 emissions from transportation, manufacturing, and electricity generation
- Other changes related to projections:
  - Per-capita waste generation
  - Recycling and reuse rates

# Maryland Commission on Climate Change (MCCC)

- Maryland's Commission on Climate Change is charged with advising the Governor and General Assembly on ways to mitigate the causes of, prepare for, and adapt to the consequences of climate change and maintaining and strengthening the State's existing Greenhouse Gas Reduction Plan, also referred to as *the Plan*. Commission priorities include building broader partnerships with federal, State and local governments and the private sector to reduce greenhouse gas emissions and prepare for the likely impacts of climate change in Maryland, better communicating with and educating Marylanders about the urgency of the challenge and options to address it, and establishing action plan goals and timetables for implementation.
- Maryland has documented a sea level rise of more than one foot in the last century, increasing water temperatures in the Chesapeake Bay, more rain and flooding in the winter and spring and more arid summers. Maryland's people and their property, natural environment and public investments are extremely vulnerable to climate change impacts.
- The Commission, originally created by a 2007 Executive Order, was strengthened by a 2014 Executive Order and 2015 legislation with requirements to expand the Commission membership and maintain a comprehensive action plan, with 5-year benchmarks, to achieve science-based reductions in Maryland's greenhouse gas emissions.
- The Commission is supported by a Steering Committee and four working groups, Mitigation, Adaptation, Science and Outreach which represent diverse stakeholder interests and bring broad perspective and expertise to the Commission's work.

# The Path Forward

- In 2016, the General assembly must take an action to renew the GGRA of 2009
  - No action - GGRA sunsets
  - Keep or adjust 25% by 20 requirement?
  - Move on to a beyond 2020 effort?
- MDE recommendations will be included in the October report
- Options
  - Hold the line on 25 by 20
  - Move forward with a gentle ... 40 by 30 process
  - Increase efforts to support economic growth and job creation
  - Continue to refine analyses on emerging issues

# What About Post 2020 Goals?

- Science advisors are clearly pushing for deep reductions
  - Something like 70% to 80% reduction ... world-wide by 2050 ... or earlier
  - Not terribly different from where we were when the GGRA was adopted in 2009
- The GGRA and other leadership states moved forward with a “first step” towards those deep goals in 2050
  - GGRA ... 25% reduction by 2020
  - Other states and nations adopted very similar “progress” steps
- Economic growth and job creation are more important than ever
- What should the next step in that progress be?



# How About 1/2/3/40 by 30?

**1** ... Increase net economic benefit (from 2020 projected benefits) by 1 percent by 2030

Increase net economic benefits from about \$3 billion in 2020 to \$3.6 billion

**2** ... Increase projected 2020 job creation by an additional 2 percent by 2030

Increase job creation from 33,000 jobs in 2020 to around 34,000 jobs  
As part of this effort increase manufacturing sector jobs

**3** ... Increase the real average annual wages paid to workers by 3 percent by 2030

**40** ... Meet, exceed or get as close as you can to a 40% reduction in GHG emissions by 2030

# 40% GHG Reduction by 2030?

- Generally consistent with other states
  - Red and Blue leadership states
- Consistent with international discussions
- An aggressive goal ... but one that you can identify a feasible path forward to get to
  - Federal vehicle and fuel efficiency standards provide deeper and deeper reductions as time marches on and the older fleet turns over
- U.S. target - 28% by 2025 from 2005

# 2030 Target - Goal, Mandate or Aspiration?

- Use the current GGRA policy as a model
  - Set 40 by 30 as a planning goal ...
  - But have the General Assembly confirm , strengthen or otherwise adjust the goal during a mid-course check-in
- Getting to the goal should continue to be tied - strongly tied - to improving the States economy and creating new jobs
  - Include quantitative goals for economic growth and job creation
- Timing
  - Can logically build from the current GGRA schedule

# Potential Timing

- October 2015 - MDE submits GGRA report to Governor and General Assembly
  - Includes a recommendation on a path forward
- General Assembly takes action in 2016
- How it might work (2009 GGRA process as a guide)
  - 2019 - MDE (with the Commission's guidance) develops and submits a 40% by 30 Plan to the Governor and General Assembly
    - Includes goals for jobs and the economy
    - Also includes a status report on 25% by 20
  - 2020 - Implementation of the 40% by 30 Plan begins
  - 2025 - MDE owes a status report to the Governor and the General Assembly on progress in reducing GHG emissions and how the plan is fostering economic development opportunities and creating new green jobs
  - 2026 - General Assembly (just like the 2016 process) must confirm or adjust the 2030 target to keep the requirements of the law in place ... if no action ... the law sunsets !!!

# Emerging Issues

- Fast acting climate changers
- Life cycle analyses of various energy strategies
- Health risk and benefits analysis
- Regional and local partnerships
- Green financing
- Hydraulic fracturing and other natural gas issues
- The Clean Power Plan and other federal GHG reduction efforts

# Clean Power Plan Briefing



Air Quality Planning Program  
September 2015

## Applicability

- Sources used to set CPP goal not identical to RGGI
- EPA excluded small sources that produced less than ~220,000 MWh
- States define applicability under CPP
- States can include new sources

	MWh	CO2 Emissions (short tons)
Included Units	19,866,745	20,171,027
Excluded Units	639,797	461,650

# Comparison of Units: RGGI to CPP

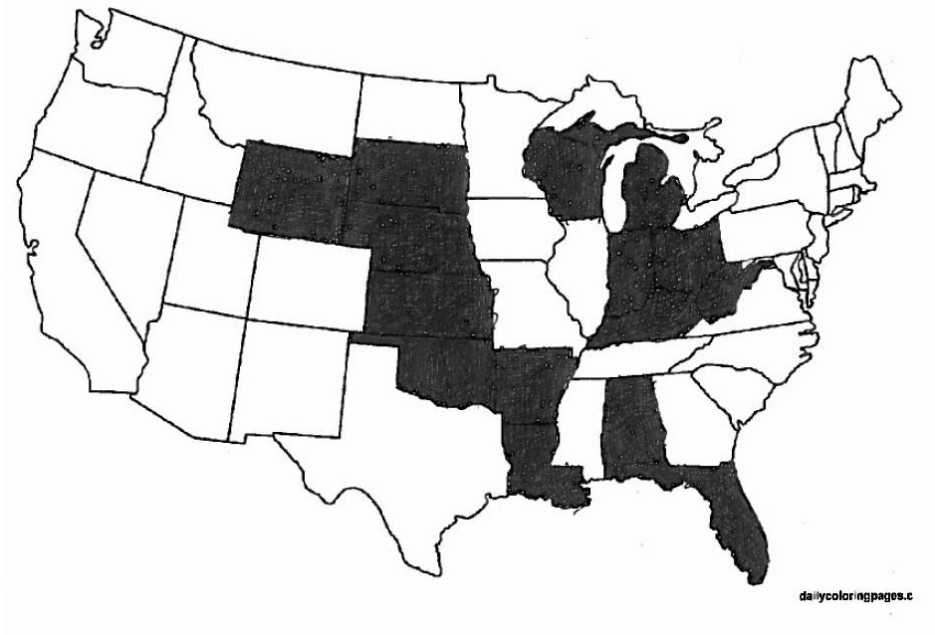
RGGI Plant Name	Units	EPA Plant Name	Units	Note
AES Warrior Run	1	AES Warrior Run	1	
Brandon Shores	2	Brandon Shores	2	
C P Crane	2	C P Crane	2	
Chalk Point	10	Chalk Point LLC	4	excluded 6
Dickerson	5	Dickerson	2	excluded 3
R Paul Smith	2	R Paul Smith	2	
Gould Street	1	Gould Street	1	
Herbert A Wagner	4	Herbert A Wagner	4	
Morgantown	6	Morgantown	2	excluded 4
Panda Brandywine	3	Panda Brandywine LP	3	
Perryman	4	Perryman		excluded 4
Riverside	2	Riverside		excluded 4
Rock Springs	4	NAEA Rock Springs LLC		excluded 6
Vienna	1	Vienna Operations	1	





# 15 States Want a Stay

- 15 states have filed with the DC circuit for a stay of the CPP requirements:  
FL, AL  
KY, OH, MI, WI, IN, WV  
LA, AR, KS, NE, OK, SD, WY



- State Plans due Sep 6, 2016 or apply for 2 year extension
- 2016 - Request requirements
  - Identify final plan approaches; describe progress
  - Explain why the state requires the extension
  - Opportunity for public comment on initial submittal and meaningful stakeholder opportunities
- Does not require:
  - enforceable measures or final decisions
  - legislation and/or regulations to be passed (only progress report)
- 2018 Final Plan Submittal
- Compliance period start date delayed until 2022
- Step periods of 3, 3, and 2 years in interim period
- Two year compliance periods for final year starting in 2030.

# Plan Options

- Rate Based
  - Emissions Standards
    - Subcategorized Rates (Model Rule)
    - State-Wide Rate Goals
    - State Defined Rates
- Mass Based
  - Emissions Standards
    - Existing Units Only (Model Rule)
    - Existing and new source