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## Status Report

# What Do We Know About 40 by 30?



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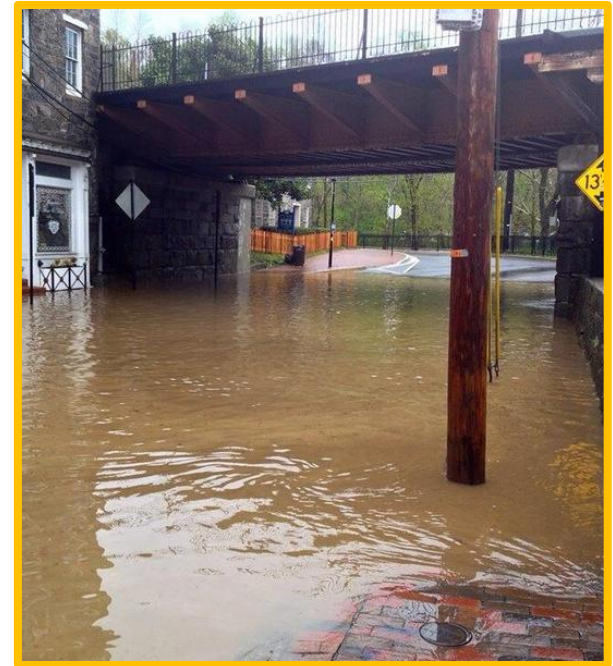
Maryland Commission on Climate Change

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# Presentation Overview

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- Timing/Schedule
- What's in the works for 40 by 30?
- Next Steps



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# The Schedule

- 2016 to 2018 - MDE, other State agencies, MWG and stakeholders research and build 40 by 30 plan
- December 31, 2018 - Draft plan
- December 31, 2019 - Final plan
- October 1, 2022 - MDE owes mid-course status report and manufacturing study.
  - Emission reductions
  - Jobs and the economy
- December 1, 2023 – Law terminates if not reauthorized
- October 1, 2027 – MDE owes second mid-course status report if the law is reauthorized



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# Four Steps to 40 by 30

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1. What is the 40 by 30 reduction goal?
2. How far will the 25 by 2020 plan get us?
3. How will “On-the-Books” or “On-the-Way” (OTB/OTW) programs help achieve deeper reductions by 2030?
4. How can enhancements to the 2020 plan and “emerging” strategies help close the gap?



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# Step 1 - The 40 by 30 Goal

A 40% by 2030 reduction goal requires not only a 40% reduction from 2006 levels but also that all growth between 2006 and 2030 be offset. All values in MMtCO<sub>2</sub>e.

The 2030 goal (40% below 2006 Baseline) = 64

Where will we be in 2030 with no action?  
Emissions = 121 to 125

Reduction Required to meet 2030 goal = **57 to 61**  
(121 - 64 = 57 / 125 - 64 = 61)

# Step 2 - The 2020 Plan

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*... with nothing but 2020 reductions from 2020 plan*

Reduction Scenario	Estimated Reductions Most Optimistic	Estimated Reductions Least Optimistic
Reductions needed by 2030	57 MMtCO <sub>2</sub> e	61 MMtCO <sub>2</sub> e
Benefits from 2020 plan in 2030	41 MMtCO <sub>2</sub> e	38 MMtCO <sub>2</sub> e
Gap with no new 2020 to 2030 reductions at all	16 MMtCO <sub>2</sub> e	23 MMtCO <sub>2</sub> e

# Step 3 - Programs That Are On-The-Way

## *... We Hope*

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- Many of the strategies in the 2020 plan continue to generate even deeper reductions between 2020 and 2030
  - These reductions are already on-the-books or on-the-way (OTB/OTW)
- This is most obvious in the transportation sector where the strategies provide greater and greater reductions as the vehicle fleet turns over between 2020 & 2030
- Other examples include forestry and energy efficiency programs



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# Transportation Sector

*OTB/OTW Programs that will drive post 2020 reductions*

## **OTB/OTW Mobile Source Programs**

**The Maryland Clean Cars Program**

**Federal Light Duty Fuel Economy Standards (2012 to 2016)**

**Federal Tier 3 Vehicle and Fuel Standards (2017 to 2025)**

**Federal Phase 1 Medium and Heavy Duty GHG Standards (2014 to 2018)**

**Federal Renewable Fuel Standards**

**Federal Phase 2 Medium and Heavy Duty GHG Standards (proposed)**

**Federal GHG Reductions from Aircraft (just starting)**

**An additional 3 to 6 MMtCO<sub>2</sub>e  
between 2020 and 2030**



# Energy and Other Sectors

*OTB/OTW Programs that will drive post 2020 reductions*

## **OTB/OTW Energy Sector**

**Regional Greenhouse Gas Initiative (RGGI)**

**Potential Clean Power Plan**

**Empower Maryland**

**Renewable Energy**

## **OTB/OTW Other Sectors**

**Forestry and Sequestration**

**Building Codes and Trade Codes**

**Leadership by Example**

**An additional 2 to 4 MMtCO<sub>2</sub>e  
between 2020 and 2030**

# Step 3 - Add in Programs that are On-The-Way

Reduction Scenario	Estimated Reductions Most Optimistic	Estimated Reductions Least Optimistic
Reductions needed by 2030	57 MMtCO <sub>2</sub> e	61 MMtCO <sub>2</sub> e
Benefits from 2020 plan in 2030	41 MMtCO <sub>2</sub> e	38 MMtCO <sub>2</sub> e
Benefits from 2020 to 2030 OTB/OTW	10 MMtCO <sub>2</sub> e	5 MMtCO <sub>2</sub> e
Gap with OTB/OTW 2020 to 2030 reductions	-6 MMtCO <sub>2</sub> e	-18 MMtCO <sub>2</sub> e

# Emerging and Enhanced Programs

## Emerging Efforts - Potential Enhancements

**Methane (3 MDE Initiatives and Fracking Ban) and Other Short-Lived Climate Pollutants (Clean Diesel) - Maybe 1 MMtCO<sub>2</sub>e**

**Zero and Electric Vehicle Initiatives - VW Settlement (Governor's Clean Car Act of 2017 ... Multiple MDOT/MDE/MEA initiatives) - 1 to 4 MMtCO<sub>2</sub>e**

**Grid-of-the-Future Proceedings (PSC) - 0 to 5 MMtCO<sub>2</sub>e**

**Healthy Soils Initiative (Ag) - 0 to 4 MMtCO<sub>2</sub>e**

**Other Sequestration Efforts (DNR) - 0 to 2 MMtCO<sub>2</sub>e**

**Zero Waste and Recycling Efforts (MDE) - Maybe 1 or 2 MMtCO<sub>2</sub>e**

**ECO Climate Ambassadors/Climate Champion Initiative and other Enhanced Partnerships - Maybe 1 MMtCO<sub>2</sub>e**

**Multi-State Transportation and Climate Initiative (TCI) - 0 to 2 MMtCO<sub>2</sub>e**

**Highly Uncertain, but an additional 2 to 21 MMtCO<sub>2</sub>e between 2020 and 2030**

# Last Step - Add in Emerging Programs

*... adding in new and enhanced programs*

Reduction Scenario	Estimated Reductions Most Optimistic	Estimated Reductions Least Optimistic
Reductions needed by 2030	57 MMtCO <sub>2</sub> e	61 MMtCO <sub>2</sub> e
Benefits from 2020 plan in 2030	41 MMtCO <sub>2</sub> e	38 MMtCO <sub>2</sub> e
Benefits from 2020 to 2030 OTB/OTW	10 MMtCO <sub>2</sub> e	5 MMtCO <sub>2</sub> e
Benefits from 2020 to 2030 New and Enhanced Programs	21 MMtCO <sub>2</sub> e	2 MMtCO <sub>2</sub> e
Gap after OTB/OTW and New/Enhanced/Emerging	<b>16 MMtCO<sub>2</sub>e</b> (more than 40 by 30)	<b>-16 MMtCO<sub>2</sub>e</b>

# Key Issues

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- There are three key areas we need to stay focused on as we continue to evolve the 40 by 30 plan
  - How successful will efforts to develop enhancements to existing programs and to finalize new emerging efforts be?
  - What will happen at the Federal level?
  - How do we make sure we are capturing current market trends as we decide how to grow emissions to 2030
- The Commission has its work cut out for the next 3 years



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# New and Emerging Programs

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*... some enhancements ... some brand new*

- More Certain Initiatives
  - Electric and Zero Emission Vehicles
  - Governor's Clean Car Act of 2017
  - MDE methane leakage regs
  - Fracking Ban - 2017 legislation
  - Healthy Soils - 2017 legislation
  - Enhanced RPS and EmPOWER efforts - 2017 legislative action

- Less Certain Initiatives
  - Grid-of-the-Future
  - TCI ... Multi-State transportation initiative
  - Enhanced sequestration
  - Zero Waste
  - Climate Ambassador/Climate Champion partnership effort

# Watching Federal Programs

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- There is a great deal of uncertainty over what will happen at the Federal level
- Some key federal programs to watch include
  - The Clean Power Plan
  - Tier 3 Mid-term Evaluation for MY2022-2025 Vehicles
  - The California Car Program
  - Others



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# Questions and Discussion



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