



National Climate Change Initiatives

MWAQC TAC
June 15, 2009



Overview of Recent Developments

- US EPA
 - Renewable Fuel Standard
- White House/EPA/DOT
 - GHG Emission Standards and CAFE



U.S. EPA Renewable Fuel Standard

- EPA announced 2nd phase Renewable Fuel Standard (RFS2) on May 5, 2009
 - Public Comment
 - Ends July 27, 2009



Renewable Fuel Standard

- Increase volume of renewable fuel over time
- Creation of renewable fuel categories
 - cellulosic, biomass based diesel, advanced biofuel, total renewable fuel
- Feedstock and land use restrictions
- Lifecycle greenhouse gas reduction threshold



New Standards

Four Separate Standards

- **Cellulosic Biofuel: 16 billion gallons by 2022**
 - Renewable fuel produced from cellulose, hemicellulose, or lignin
 - E.g., cellulosic ethanol, BTL diesel, green gasoline, etc.
 - Must meet a 60% lifecycle GHG threshold

- **Biomass-Based Diesel: 1 billion gallons by 2012 and beyond**
 - E.g., Biodiesel, “renewable diesel” if fats and oils not co-processed with petroleum
 - Must meet a 50% lifecycle GHG threshold

- **Advanced Biofuel: Minimum of 4 billion additional gallons by 2022**
 - Essentially anything but corn starch ethanol
 - Includes cellulosic biofuels and biomass-based diesel
 - Must meet a 50% lifecycle GHG threshold

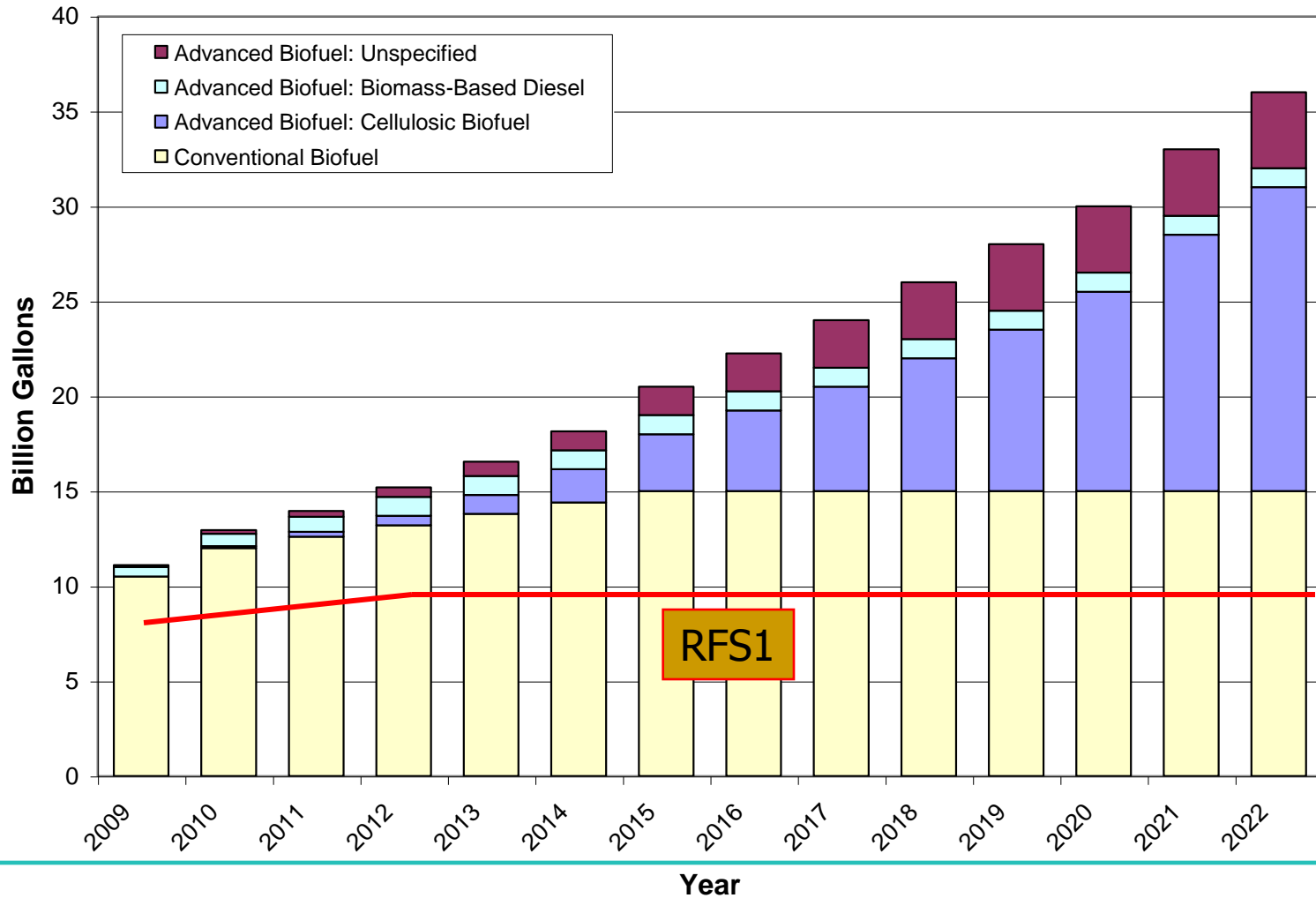
- **Conventional Biofuel: Up to 15 billion gallons**
 - Ethanol derived from corn starch – or any other qualifying renewable fuel
 - Must meet 20% lifecycle GHG threshold
 - Only applies to fuel produced in new facilities

Existing biofuel facilities not required to meet conventional biofuel GHG threshold

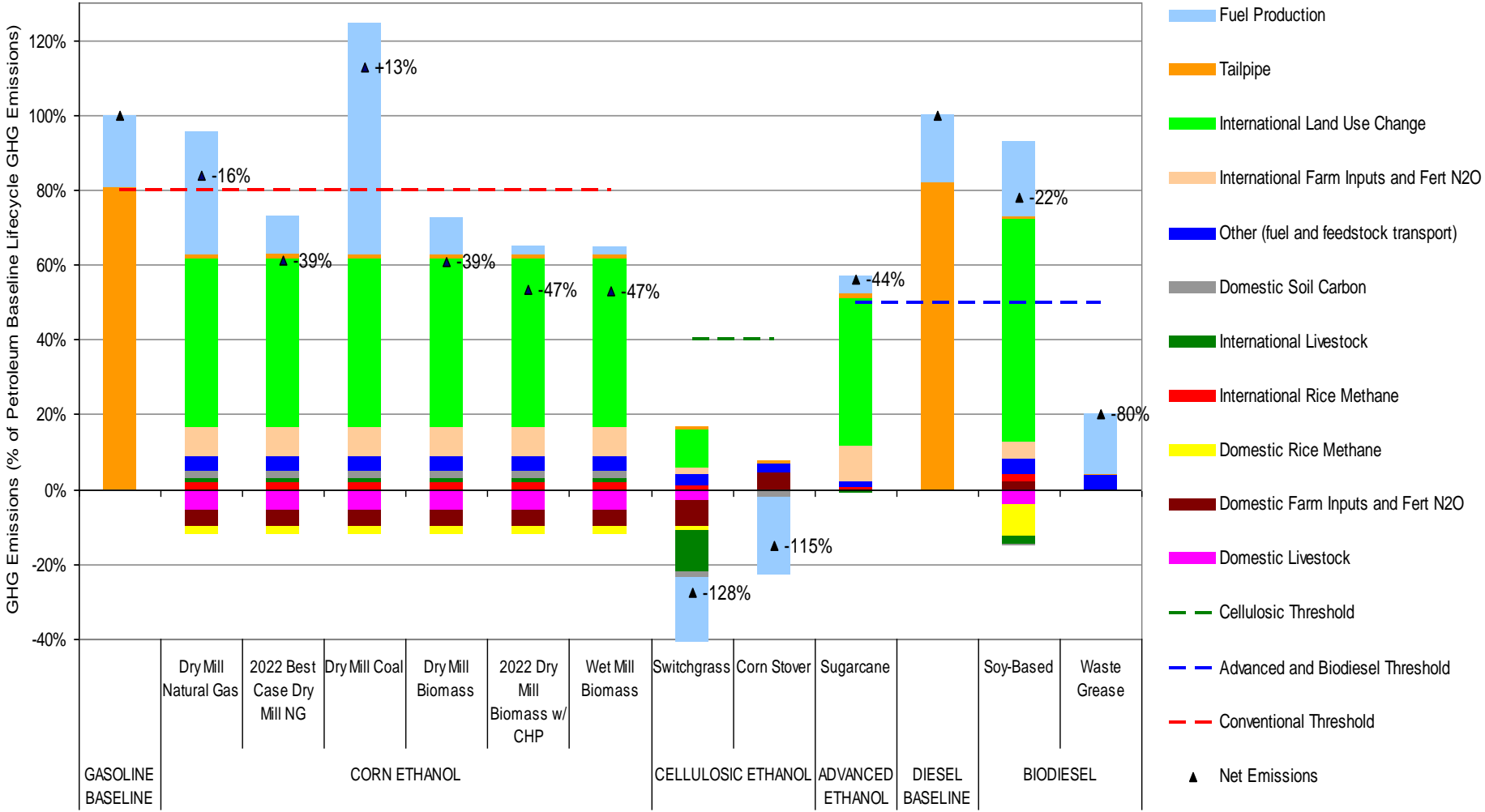
EISA language permits EPA to adjust the lifecycle GHG thresholds by as much as 10% (60% to 50%; 50% to 40%; 20% to 10%)

- Based on the market availability of fuels that could count as advanced biofuel, we have proposed that the GHG threshold for advanced biofuel be adjusted to as low as 40%

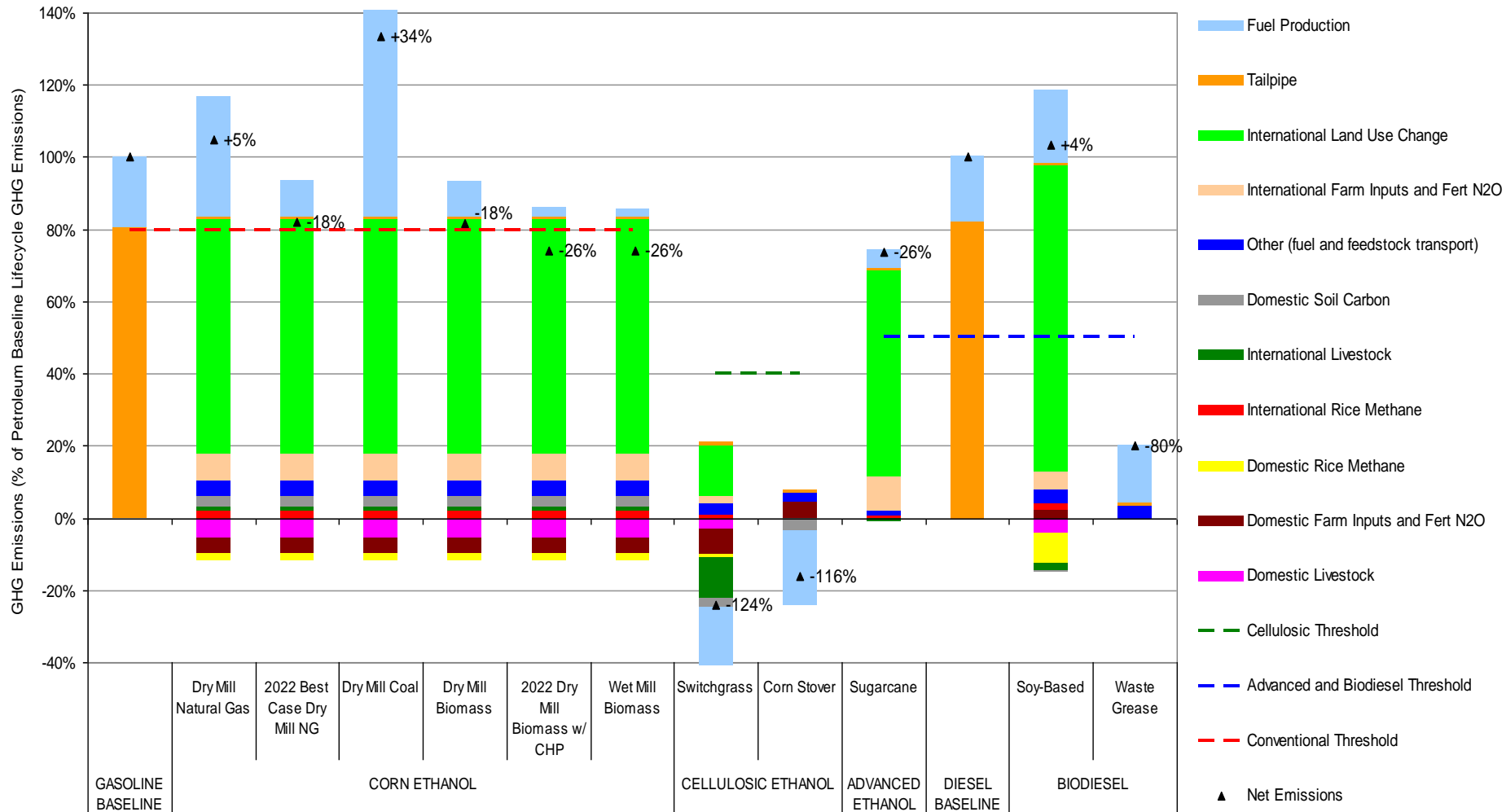
Increase Mainly From Cellulosic/Advanced Biofuel



Biofuel Lifecycle GHG Results: *Different Pathways with 2% Discount Rate – 100 years (2022 Values)*



Biofuel Lifecycle GHG Results: *Different Pathways with 0% Discount Rate – 30 years (2022 Values)*



White House Announcement on Regulating Greenhouse Gas Emissions from Motor Vehicles

- White House Announcement
- Joint EPA/DOT Rulemaking
 - Greenhouse Gas Emission Standard
 - New CAFE Standards
- Proposed National Solution
Resolves CAL LEV-II litigation,
waiver, and opt-in

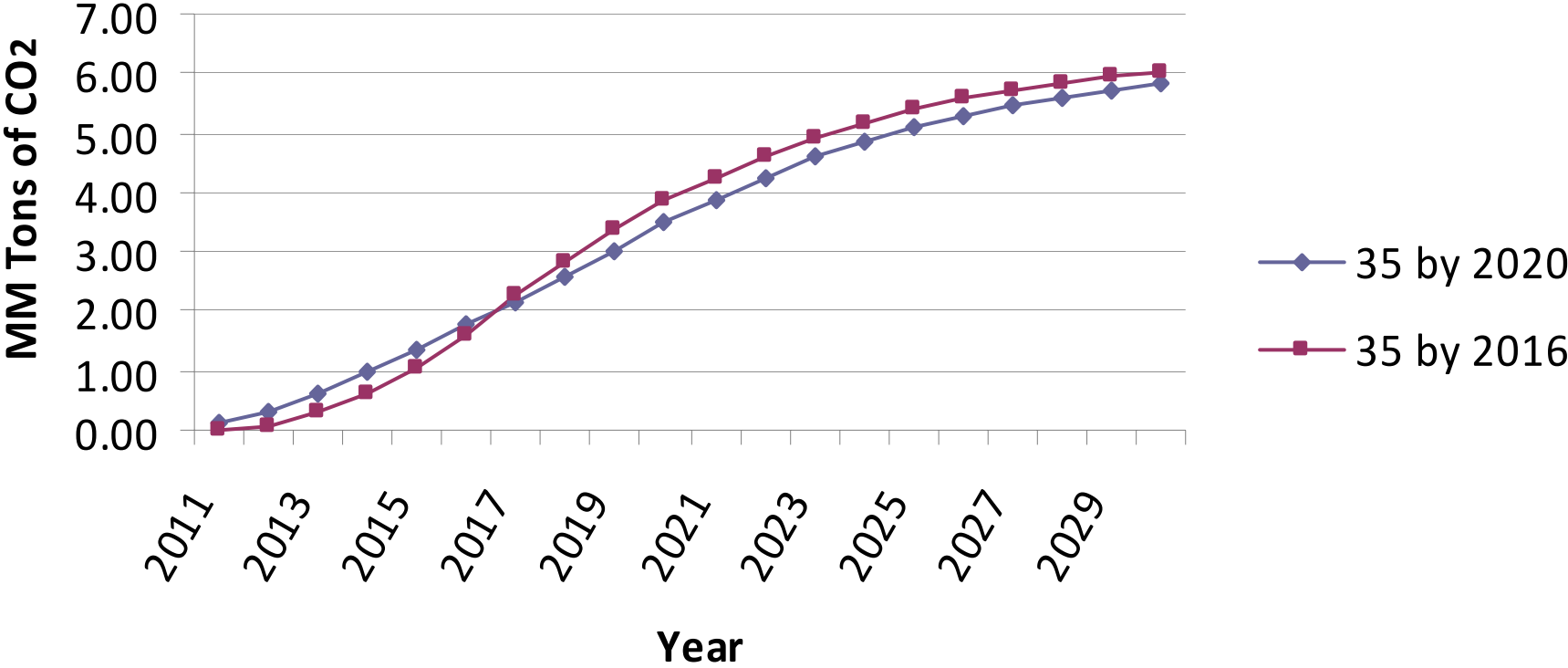


Greenhouse Gas Emission Standard and CAFE

- National intent is to harmonize the vehicle CO₂ emission standard with appropriate new CAFE requirements
 - 250 grams CO₂/mile
 - 35.5 mpg by 2016
- COG DTP Staff Estimates of Emission Benefit – 0.5% decrease compared to the recent Congressionally mandated 2020 CAFE



CO₂ Reductions



Source: COG DTP Staff