



Policy Initiatives for the Bioeconomy

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Introduction

- **Regulations**
 - **Clean Air Act (CAA) – Why does this matter**
 - Regulatory history
 - Auto fuel economy and greenhouse gas (GHG) rulemaking
 - California waivers
- **Recent Federal Legislation**
 - Energy Policy Act (Epact) 2005
 - Energy Independence and Security Act (EISA) of 2007
- **State Initiatives: California**



Clean Air Act

- **The Clean Air Act (CAA) passed 1970**
- **(CAA) six criteria pollutants: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead**
- **Major amendments 1977, 1990**
 - **CAA 1990 oxygenate requirement for nonattainment areas**
 - MTBE or ethanol
 - Reformulated gasoline (1995)
 - Winter oxyfuel (1992)
 - **CAA 1990 included SO₂ cap and trade**
 - **In many ways, intellectual forbearer of CO₂ cap and trade, RFS**



Legislation

EPA Act 2005

- **Removed oxygenate requirement**
 - Immediately (July 2005) for CA waiver states
 - May 2006 for all others
- **Introduction of ethanol mandate up to 8 billion gallons by 2012**

EISA 2007

- **CAA changes added Renewable Fuels Program**
 - 36 billion gallons renewable fuels by 2022
 - Four nested categories dependent on GHG lifecycle emissions



CAA CO2 Regulatory History

- **Massachusetts vs. EPA (April 2007)**
 - Ruled that Greenhouse gases (GHG) are a “pollutant” under the CAA
 - Requires EPA to consider regulation of GHG
- **Bush Administration**
 - In response to Mass vs. EPA, Bush administration “20 in 10” plan
 - Directed EPA, DOE, and USDA to develop regulations to regulate GHG emissions for light duty vehicles
 - 35 billion gallons of renewable and alternative fuels in 2017
 - Advance Notice of Proposed Rulemaking on Endangerment



CAA CO2 Regulatory History

- **Obama Administration**
 - Proposed “Endangerment finding” issued April 24, 2009
 - National Program May 19, 2009
 - California waiver June 30 2009
 - Final rule for mandatory reporting GHG Dec 2009
 - Endangerment Finding Dec 2009
 - April 2010 Final rule for LDV 2012 – 2016
 - Includes provisions for FFV
 - Zero GHG rating for electricity
- **American Electric Power Co. v. Connecticut**
 - Bars Federal common law suits on GHG
 - Reaffirms EPA’s authority to regulate GHG under the CAA



California GHG Mitigation

- **AB 32, the Global Warming Solutions Act of 2006**
- **GHG at 1990 level for 2020**
 - **Implementation plan foresees 39 percent of reduction through transportation**
 - Incorporates Pavley (vehicle)
 - Complementary programs includes feebates, vehicle certification
 - Land use
 - Vehicle standards
 - **Market incentives**
 - Cap and Trade
 - Low Carbon Fuel Standard (LCFS)
 - Feebates
 - Congestion Pricing



Low Carbon Fuel Standards CA (LCFS)

- **History**
 - AB 32, the Global Warming Solutions Act of 2006
 - Executive Order S-1-07, the Low Carbon Fuel Standard
 - Draft Standard issued October 10, 2008
- **Design of LCFS**
 - Requires a reduction of 10 percent or greater in the average fuel carbon intensity of transportation fuels in 2020 compared to the baseline year of 2010
 - “Obligated party” is producer, provider, or importer of fuels
 - Compliance strategy includes alternative fuel vehicles (including EV, FFV)