



California Environmental Protection Agency

**Air Resources Board**

**DOCKET**

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# *Low Carbon Fuel Standard*

## *Program Overview and Update*

California Energy Commission  
Transportation Committee Workshop  
September 9, 2011



# Overview

- Goals of Low Carbon Fuel Standard (LCFS)
- 2011 Implementation
- Formal review of LCFS with Advisory Panel
- Proposed amendments to the LCFS



# Goals and Benefits of LCFS

- Reduces carbon intensity of transportation fuels by 10% by 2020
  - Full lifecycle: production, transportation, and use of motor vehicle fuel
  - Gasoline and diesel standards
- Accounts for 16 MMTCO<sub>2</sub>e reduction by 2020
- Will contribute about a 10% overall GHG reduction to the larger AB 32 program



# Goals and Benefits of LCFS

- Can be achieved through use of:
  - lower-carbon-intensity biofuels (ethanol, biodiesel, cellulosic)
  - alternative fuels (electricity, hydrogen, biogas, natural gas)
- Reduce the amount of petroleum consumed and dependence on foreign oil
- Establish a model for regional and national standards



# 2011 LCFS Implementation

- 2010 reporting year
- 2011 first implementation year
- Modest 0.25% carbon intensity reduction for 2011 (“back-loaded” compliance curve)
- Quarterly reporting requirements
  - Credits and deficits
  - Credits available for purchase/transfer

# Biofuel Producers Registrations

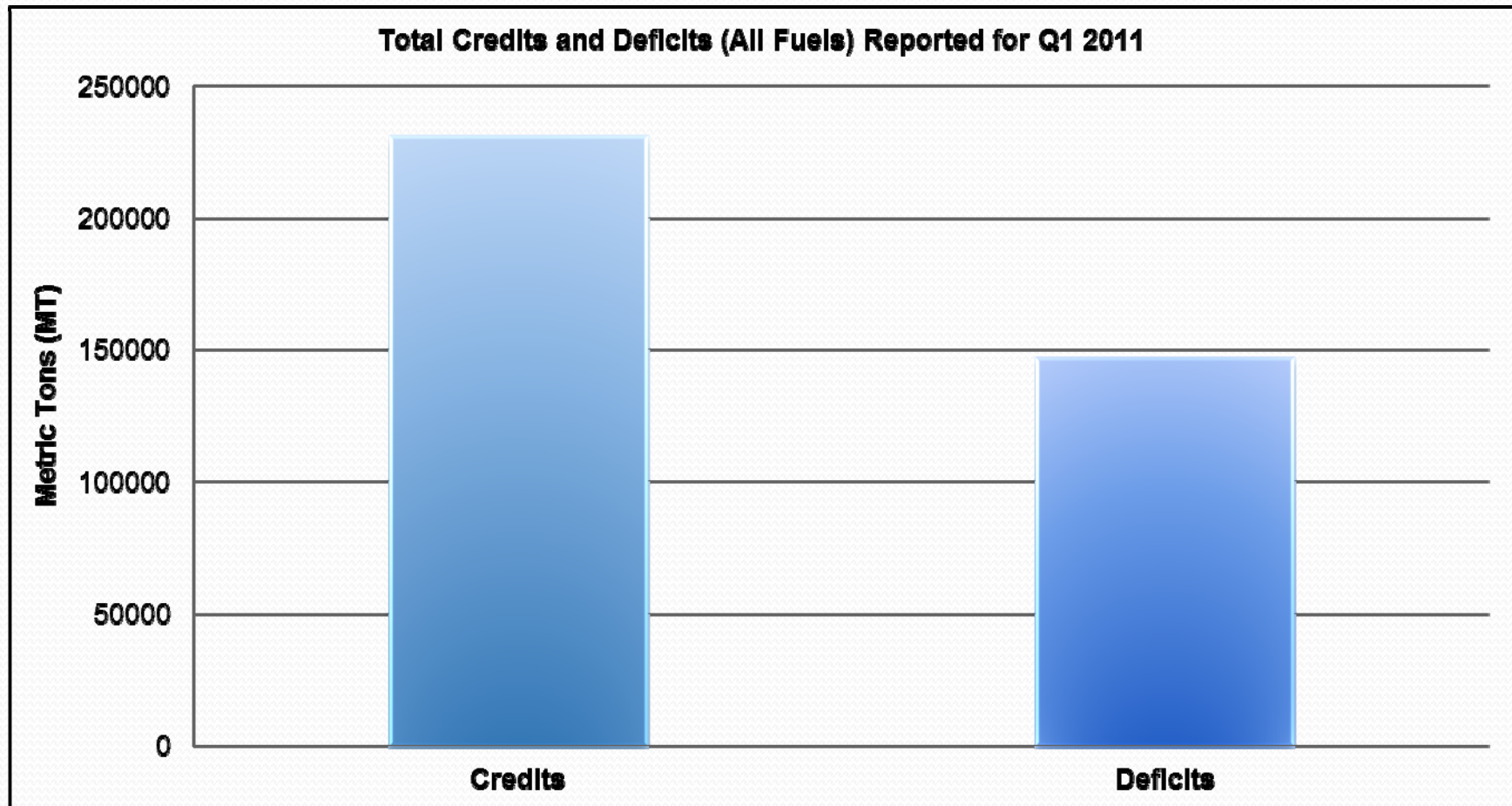
- Voluntary program
  - Evidence of physical pathway required
  - Provide regulated parties with claimed CI values
  - Integrated with LCFS Reporting Tool (LRT)
- Registered about 150 U.S. facilities
  - Over 10 BGY capacity
- Registered 43 Brazilian Facilities
  - Another 1.1 BGY capacity



# New Fuel Pathways

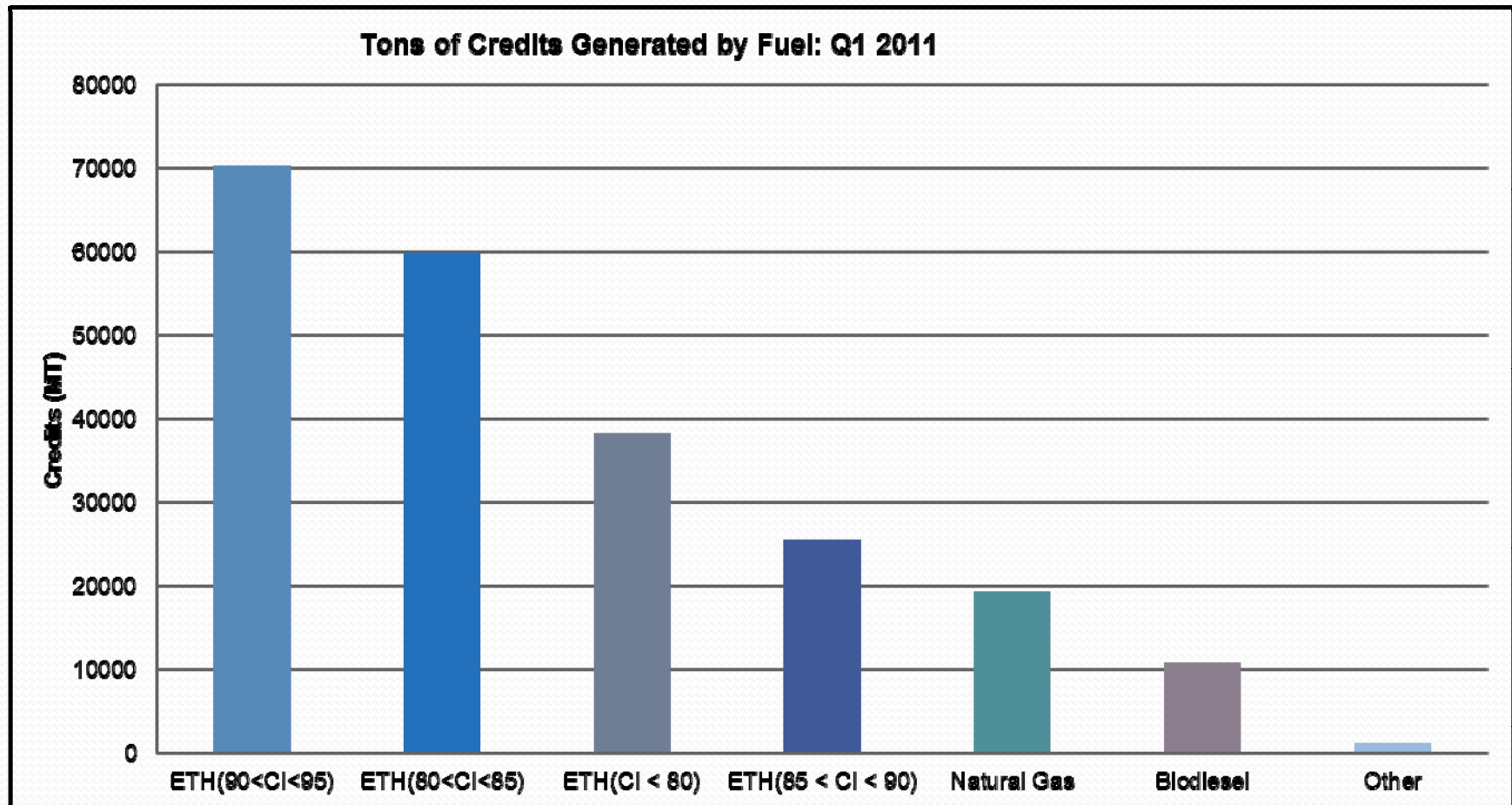
- Biofuel facilities have applied for new fuel pathways with lower CIs
- Executive Officer Hearing on 2/24/11
  - 28 pathways
  - 25 from applicants: corn, CBI ethanol
  - 3 ARB developed: Midwest used cooking oil (2) and corn oil extraction at ethanol plants
- More pathways posted for use on 6/24/2011
- Process shows LCFS working as planned

# 1Q 2011 Reporting Results





# 1Q 2011 Credit Generation





# LCFS Formal Review

- LCFS regulation requires two formal reviews by:
  - January 1, 2012
  - January 1, 2015
- Executive Officer must convene Advisory Panel
- Regulation identifies minimum topics of review
  - Program's progress against LCFS targets
  - Fuel availability
  - Economic and environmental impacts
  - Advances/challenges related to low-CI fuel production
  - Harmonization with international, federal programs



# Advisory Panel

- ~40 members from industry, academia, and NGOs
- First convened in February
- Added two additional topics for review:
  - High carbon intensity crude oil
  - Credit trading program
- Has met four times, providing feedback to ARB staff proposals
- Final meeting in October to discuss draft program review report
- Discuss program review at December Board Hearing



# **Proposed Amendments to LCFS Regulation**

- Opt-in/opt-out provisions
- Enhanced regulated party provisions
- Credit trading process
- Certification process for method 2A/2B
- High carbon-intensity crude oil (HCICO)
- Electricity regulated party
- Potential revision to land use change values



# Potential Impacts on LCFS Analysis

- Land use change values
  - May alter CIs of soy, corn, and sugarcane biofuels
  - May alter baseline and therefore compliance curve
- High carbon intensity crude oil
  - Options to existing language being considered
  - May affect generation of deficits
- Credit trading and opt-in revisions
  - Clarify procedures
  - May attract additional credits into program



# Key Dates

- Workshops
  - September 14 a.m. – Land use change
  - September 14 p.m. – Other proposed amendments
- Advisory Panel
  - September 29 – Public meeting to discuss progress
  - October 27 – Final Advisory Panel meeting
- Board Hearing
  - December 15 – Sacramento
  - Proposed amendments, LCFS formal review, and sustainability on agenda



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