

California Environmental Protection Agency



Air Resources Board

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 MMTCO₂e 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

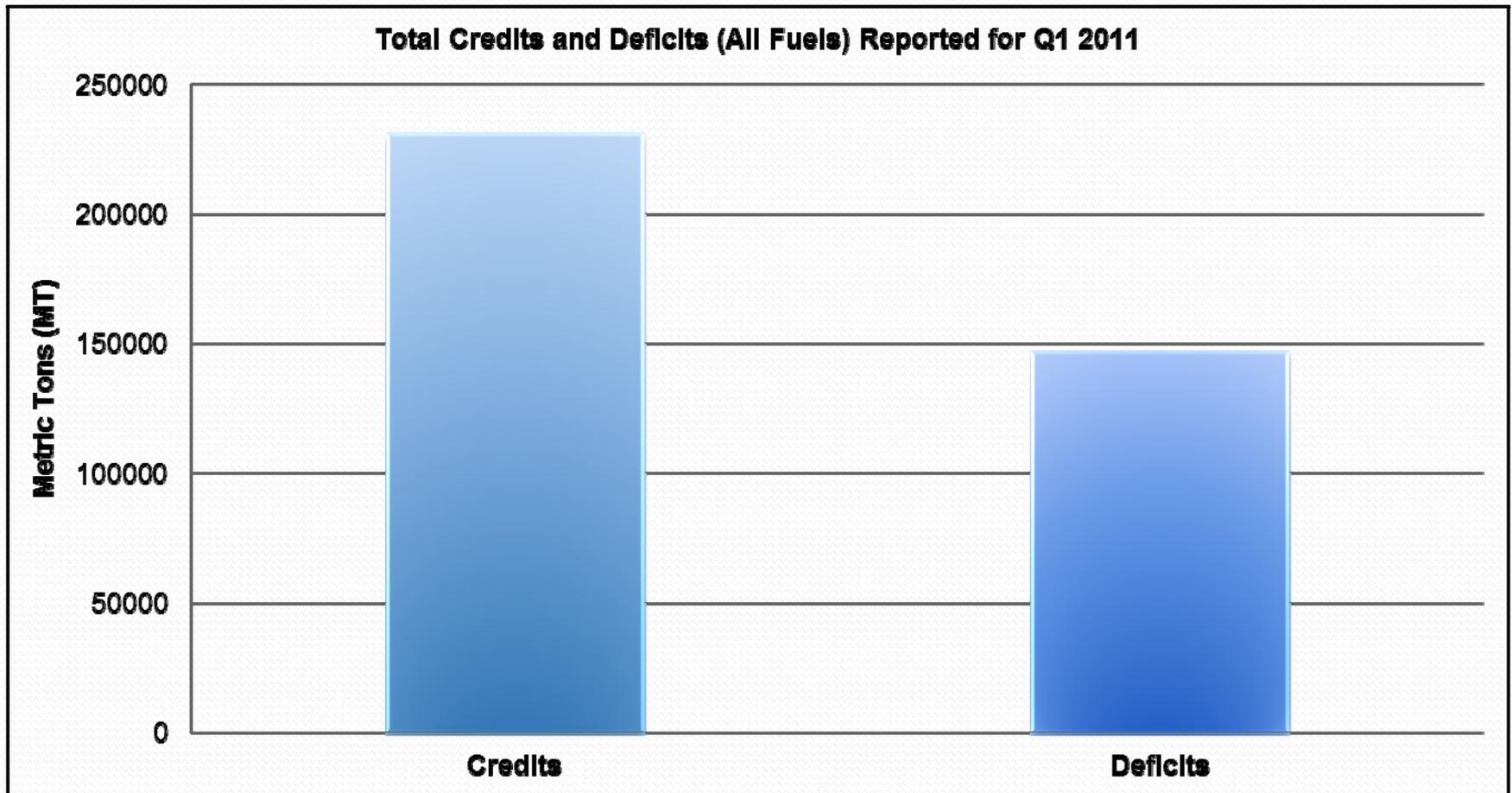
Biofuel Producers Registrations

- 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

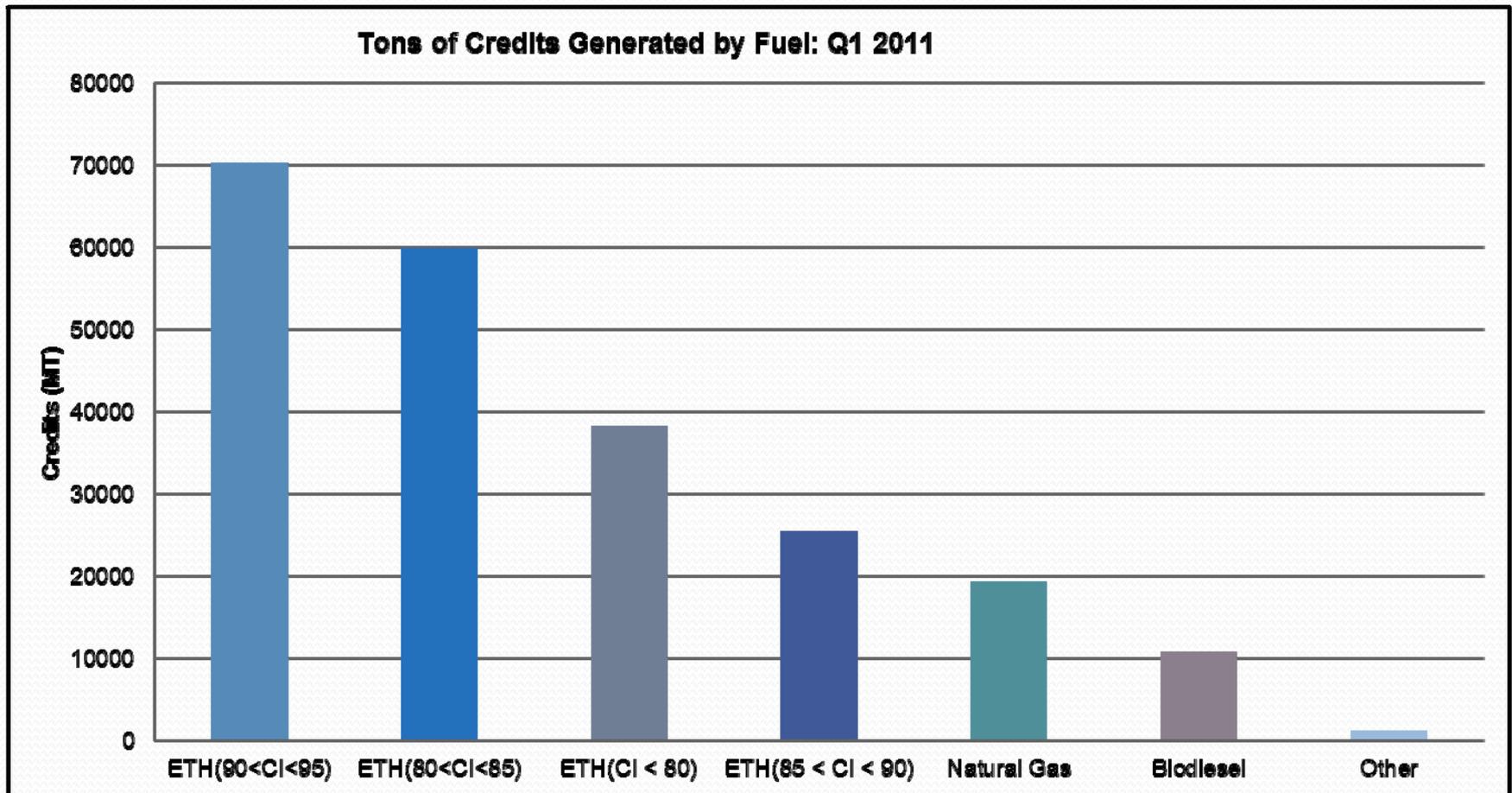
New Fuel Pathways

- 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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