

Implementing the Governor's Low Carbon Fuel Standard

Western States Petroleum Association

Low Carbon Fuel Standard
Implementation Proposal

California Air Resources Board
LCFS Policy Workgroup Workshop

March 25, 2008

Where does LCFS fit in reducing GHG from driving?

- An LCFS is one part of three elements of reducing transportation emissions:
 - Vehicle miles traveled (land use)
 - Vehicle fuel efficiency (Pavley regulations)
 - Fuel GHG intensity (LCFS)

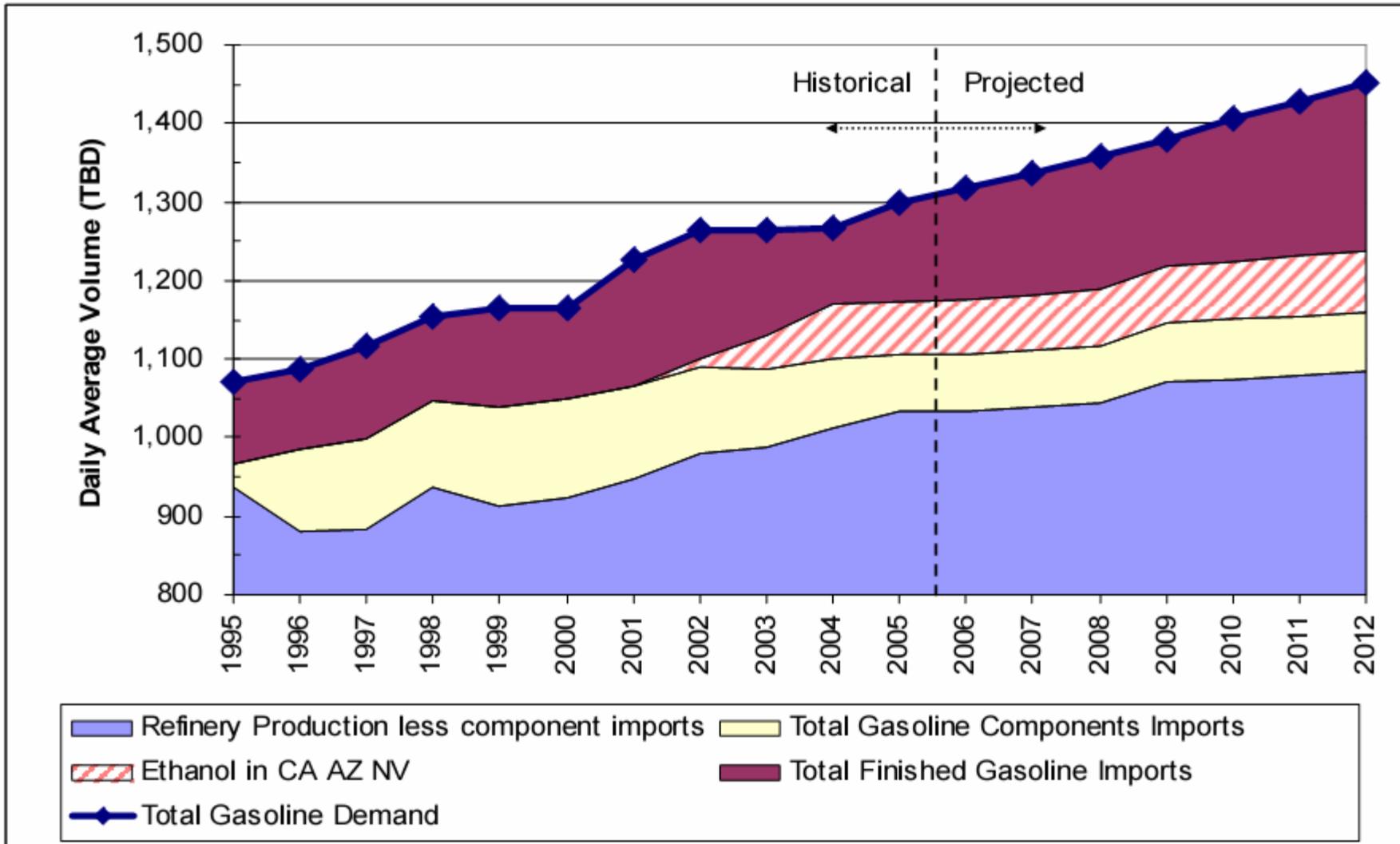
LCFS – Program Goals (Governor's EO and White Paper)

- Reduce GHG intensity of California passenger vehicle fuels
- Drive innovation so the Low Carbon Fuel Standard will:
 - Contribute to lower carbon transportation sector
 - Sustain state economy
 - Ensure reliable fuel supplies

WSPA is committed to workable implementation of the Governor's LCFS

- Extensive technical meetings with CARB staff
- WSPA Collaborative Process to explore key technical and policy issues with CARB staff, administration policy makers, academics, and industry and environmental organizations
 - California Energy Flows (August 2007)
 - California Crude Oil Flows (January 2008)
 - Life Cycle Analysis (March 2008)
- WSPA LCFS Implementation Proposal

California gasoline supply & demand



Source: California Energy Commission; 2006 Price Spike Report

LCFS Done Right (or Not)

LCFS Done Right

- Reduces GHG intensity of passenger vehicle fuels through performance standards
- Drives Innovation
- Strengthens State Economy
- Ensures Reliable Fuel Supplies

LCFS Done Wrong

- Fails to reduce GHG intensity
- Frustrates or Fails to Drive Innovation
- Harms State Economy
- Introduces Uncertainty into State Fuel Supply
- Mandates specific fuels, processes, or technologies

Principles for LCFS Done Right

- Simplicity (reliability of fuel supplies and protection of economy)
 - Start simple to begin with success, build over time
 - Start with passenger vehicle fuel pool
 - Technical feasibility and cost effectiveness
 - Avoid inconsistency with federal RFS and other fuel programs
- Reducing GHG Intensity
 - Scientifically sound life-cycle analysis
 - Realistic defaults
 - Back-loaded compliance schedule
 - Regular milestones
 - Major program review in 2014-2015 timeframe
 - Avoid crude shuffling by treating crudes equally
- Innovation
 - Fuel Neutral
 - Protection of investments made in reliance upon life cycle and default decisions made by CARB
 - Credit trading within and among various fuel types and providers
 - Fair competition between at-risk investments

Starting Simple

- Phase in the LCFS program.
- Start simple; build as experience is gained and uncertainty is resolved.
- Schedule regular program reviews to evaluate progress, impacts and impediments, and make appropriate adjustments.
- Schedule major program evaluation in 2014-2015 (to coincide with the first Scoping Plan update under AB 32) to assess key features and potential major changes or expansion as indicated to reach the reduction goal.

Starting Simple

Initial Scope:

- The initial scope of the LCFS should be passenger vehicle fuel (PVF) for sale in California
 - Reductions required in all PVF types
 - Fuel providers should be able to use low carbon diesel (biodiesel and renewable diesel) and other low carbon non-PVF fuels as credits against LCFS compliance
- By 2015, consider whether to expand the regulated fuel pool to include non-PVF fuels

Keep It Simple

Technical Feasibility and Cost Effectiveness:

Use appropriate and transparent methods to assess cost effectiveness and feasibility

Compliance Point:

Same as CARB CBG Rules and federal RFS

Harmonization with related EPA Programs:

Facilitate compliance by ensuring LCFS is not inconsistent with federal requirements

Principles for Reducing GHG

- Scientifically sound life-cycle analysis
- Realistic defaults
- Back-loaded compliance schedule
- Regular milestones
 - Major program review in 2014-2015 timeframe
- Avoid crude shuffling by treating crudes equally

GHG – Life Cycle Analysis

- Life Cycle Analysis is the key element of the LCFS
 - It determines the ‘score’ for each fuel
- UC Study uses certain LCA figures to build feasibility scenarios
 - Uncertainty and significant scientific debate on LCA
 - Recent land use change research, ensuing debate raises questions about LCA of some current biofuels
- LCA is a critical factor in setting scope, reduction targets, and compliance timelines
- Resolve basic LCA questions to make sound recommendations on scope, target, & timeline

GHG - Default Values

Default Values:

- The state should set accurate default values for existing and alternative PVF based on best available information
 - Should not disadvantage current crude slates or current investments, or result in double regulation.
- They should be realistic
 - accurate and reflective of uncertainty
 - neither “pessimistic” nor “optimistic”
- They should be consistent with whatever the state uses to set the baseline carbon intensity factor.

GHG Intensity Reduction and Certainty

- **Uncertainty**: More regulatory, economic, and scientific certainty is needed by fuel providers to support effective compliance strategies and required long-term investments. The program should include the following to deal with uncertainty:
 - **Regular milestones** at which the program is reviewed to ensure it is not having an adverse impact on state fuel supplies, that it is technologically feasible and cost-effective and that it allows for program adjustments, as determined to be appropriate.
 - **Collaborative** efforts to provide technical review and guidance to the state as it refines the LCA models and deals with other key policy, technical and economic issues.
 - **Transparent process** that does not lead people to believe that the resulting values and regulatory decisions are any more certain than the underlying science and economics.
- Life Cycle Analysis Collaborative March 19, 2008

GHG Reductions: Preventing Crude Shuffling and Leakage

Crude Oil Treatment:

- All crudes should be treated equally.
- Single baseline value for all crude oil feed stocks used in California refineries.
 - Objective is to reduce GHG intensity of California fuels
 - Redirection of lower carbon crudes into California (and higher carbon crudes elsewhere) will not drive innovation.
 - Crude market is global; California system will not prevent or discourage use of higher GHG intensity crudes outside of California
 - Treating different crudes disparately will result in “leakage” or “shuffling” of crudes and a likely increase in GHG emissions.
- January 9-10, 2008 Collaborative on Crude Oil Flow, Final Report available shortly

Innovation Principles

- Fuel Neutral
- Back-loaded Compliance Schedule
- Protection Of Investments Based Upon LCA and Default Value Decisions
- Credit Trading
- Fair Competition for At-Risk Investments

Fuel Neutral

- The LCFS should be fuel and process neutral
 - Does not selectively favor any
 - Technology
 - Process
 - Product
- LCA calculations should reflect both fuel and vehicle equally among combinations
- Use of clean diesel technology in passenger vehicles displaces gasoline demand and reduces GHG intensity of PVF pool
 - Sales of diesel for PVF should generate LCFS credit
 - Does not prevent allocation of Pavley credit to autos

Innovation – Compliance Schedule

Back Loaded Compliance Schedule:

- It will be impossible to achieve a 10 % reduction in GHG intensity in 2020 without the development and commercialization of technologies that do not exist today.
- The compliance schedule should
 - Drive innovation of next generation low carbon fuels
 - Provide sufficient time to develop, demonstrate, commercialize, and build the necessary technologies.
- To avoid misdirecting resources, and to allow time for innovation and commercialization to occur, the compliance schedule should be back loaded:
 - Pilot and demonstration scale projects over the initial years.
 - Accelerated reductions in the later years.

Innovation - Investments

- Investment decisions made in reliance upon state-established default values should be protected until fully depreciated.
- Must encourage necessary investment to meet reduction targets
 - Especially for early action
- CARB must update LCA and default values in response to new information and analysis
- Once investment decisions made on basis of those numbers, they must be protected

Innovation – Credit Trading

- Allow credit trading between fuels
 - within and between liquid, electricity, or gaseous fuels
- Wherever credits are allowed, WSPA supports the banking, borrowing, trading, and indefinite life of LCFS credits
- There should be rigorous controls to assure the integrity of the credit market
- Credits should only be generated from at risk investments
 - i.e. should not be generated from rate-payer funds

Credits and At-Risk Investment

- Allow credit trading between fuels only if:
 - Credits are generated from at-risk investments in innovative technologies and facilitating infrastructure, and
 - There is fairness in competition between regulated and unregulated industries.
- The LCFS must be structured to allow all fuel providers access to all markets, regulated and unregulated.

Points of Concern

- **LCA Decisions**
 - CARB should make decisions on LCA treatment for biofuels before making scope, target, and timeline decisions, especially for diesel
- **Scope**
 - CARB staff initial proposal to require 10% GHG reduction for diesel
- **Fuel Neutrality**
 - CARB staff initially proposing against crediting GHG reductions for passenger diesel to fuel provider
- **Crude Treatment**
 - CARB staff initially proposing to treat certain crude sources inequitably
- **Credit Generation**
 - CARB staff initially disposed to allow credit generation from rate-payer funds

Next Steps

- Low Carbon Fuel Symposium, April 14-15
 - WSPA Sponsor
- CEC Biofuels/LCA Symposium late May 2008
- CARB Draft Regulation expected Spring 2008
- WSPA encourages CARB to
 - hold a public LCA forum addressing land use change
 - make basic LCA decisions before further scope, target, and timeline recommendations
- WSPA will continue to engage constructively with CARB and stakeholders to strengthen areas of agreement and address points of concern