

# **Proposed AB 32 Cost of Implementation Fee Regulation**

**Public Workshop  
California Air Resources Board  
Office of Climate Change  
April 20, 2009  
Sacramento**

## Workshop Documents

- Slide Presentation
- Proposed AB 32 Cost of Implementation Fee Regulation and Proposed Amendment to the Mandatory Reporting of Greenhouse Gas Emissions Regulation
- Fee Expenditure Background Document

# Introduction

## Workshop Objectives

- Provide updated timeline
- Discuss changes to the proposed Fee Regulation
- Discuss amendment to the Mandatory Reporting Regulation
- Provide information on Fee expenditure

## Updated Timeline

April 24, 2009	3 <sup>rd</sup> Workshop Comment Period Ends
May 8, 2009	Initial Statement of Reasons Published
June 25/26, 2009	ARB Board Hearing
Summer/Fall 2009	Final regulatory package submitted to the Office of Administrative Law (OAL)
December 2009	Affected Entities report 2008 emissions to ARB
January 2010	Fee Determination Notice sent to Affected Entities
March 2010	Affected Entities remit fee to ARB

# **Overview of the Fee Regulation**

## Fee Background

- Authorized by AB 32, HSC section 38597
- Included in Scoping Plan/approved by Board
- Loan repayment required in 07/08 and 08/09 Budgets
- Collected revenues shall be used to administer and implement AB 32
  - ARB and other State agencies
  - Support Scoping Plan
  - Repay start-up loans for ARB and Cal/EPA
  - Funding to be secured beginning with 09/10 Budget

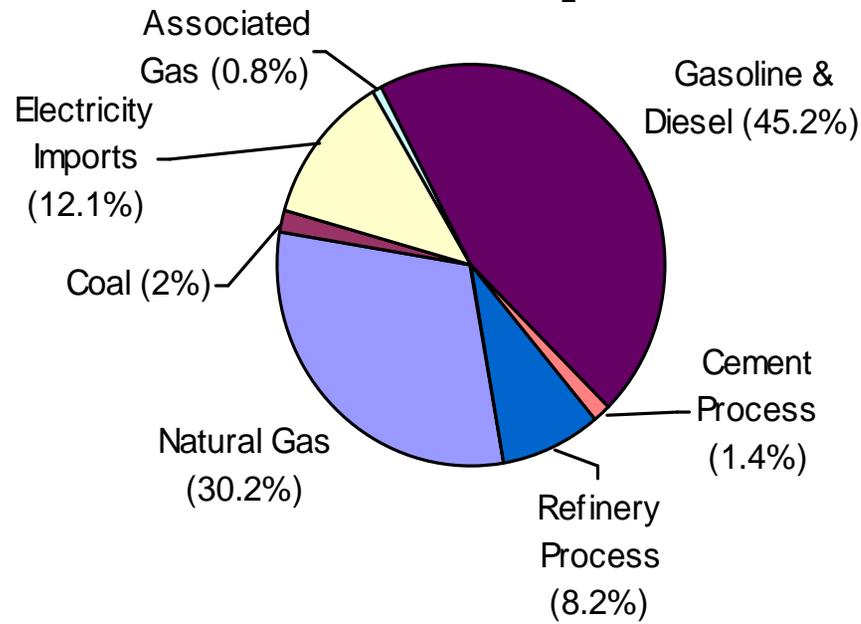
## Fee Approach

- Broad-based, economy-wide
- “Upstream” entities
- Minimize administration costs
  - ARB
  - Affected Entities
- Consistent with existing programs
- Use of existing data

# **Applicability**

# Breakdown by Sector

**Greenhouse Gas Emissions by Sector  
included in the Fee Regulation  
412 MMTCO<sub>2</sub>E**



## Affected Entities

- Natural gas: utilities, select users, and pipeline owners and operators
- Producers and importers of transportation fuels
- Refineries
- Cement manufacturers
- Importers of out-of-state electricity
- Facilities that combust coal

## Affected Entities

### Natural Gas

- Public Utility Gas Corporations
- Interstate pipelines that deliver natural gas directly to end users
- Intrastate pipelines that deliver natural gas directly to end users
- Natural gas producers subject to ARB's mandatory reporting regulation consuming gas produced on-site
- Oil production operations subject to ARB's mandatory reporting regulation that consume "associated gas" produced on-site

## Affected Entities

### Producers and Importers of California transportation fuels

- California gasoline
- CARBOB
- California diesel

## Affected Entities

### Refineries

- Refineries that produce, consume  
Catalyst coke  
Petroleum coke  
Refinery gas  
or utilize  
Steam methane reforming processes

## Affected Entities

### Cement Manufacturers

- Direct, non-combustion related, CO<sub>2</sub> emissions from clinker manufacturing

## Affected Entities

### Imported Electricity

- Retail providers & marketers
- Fee assessed at the first point of delivery in California

For Fee Regulation only

# Affected Entities

## Coal Combustion

Entities using coal as a fuel and subject to ARB's Mandatory Reporting Regulation

- Cement manufacturers
- Cogeneration facilities
- Others

## Other Emissions

- Emissions not covered by Fee Regulation (15%)
- High Global Warming Potential Gases (3%)
  - Separate regulation being pursued
- Other GHG sources (12%)
  - Non-CO<sub>2</sub> Agricultural processes
  - Forest sector
  - Other fuels
    - e.g. Aviation gasoline, jet fuel, kerosene and biodiesel

# Entity-Specific Reporting Requirements

# Reporting Requirements

## Natural Gas

- Public utility gas corporations
  - Therms of NG delivered to end users at the meter
- Interstate and intrastate pipelines
  - Therms of NG gas delivered directly to end users at the meter
- Natural Gas producers consuming gas produced on-site and subject to ARB's mandatory reporting regulation
  - Therms of NG produced on-site that are consumed on-site
- Producers that consume "associated gas" and are subject to ARB's mandatory reporting regulation
  - Emissions resulting from combustion of associated gas

# Reporting Requirements

## Producers and Importers of Transportation Fuel

- Gallons of California gasoline, CARBOB, and Ca diesel supplied for use in California

## Refineries

- GHG emissions that result from the refining process
  - Direct process emissions from the steam methane reforming process
- Combustion emissions from refining process by-products from:
  - Catalyst and petroleum coke
  - Refinery gas

# Reporting Requirements

## Cement Manufacturing

- Direct CO<sub>2</sub> emissions from clinker manufacturing

## Imported Electricity

- Based on MWh from each affected entity, reported per Mandatory Reporting regulation

## Coal

- Tons of coal and the associated grade of coal combusted

# Reporting Requirements

## Additional Requirement

- Required use of ARB's Online Greenhouse Gas Reporting Tool
- Tool will be modified to facilitate use with the Fee Regulation

# Fee Calculations

## Fee Calculation

### Common Carbon Cost (CCC)

- Annual cost of the program (current fiscal year)
  - Total Revenue Requirement
- Annual emissions (previous calendar year)
  - Quantities of reported fuels, imported electricity, and emissions
  - Source-specific emissions factors

# Fee Calculation

$$CCC = \frac{TRR}{(Q_{ng} \times EF_{ng}) + (Q_g \times EF_g) + (Q_d \times EF_d) + (Q_c \times EF_c) + (Q_{ie} \times EF_{ie}) + TE_i}$$

TRR = Total Required Revenue

$(Q_i \times EF_i)$  = Quantity of fuel/electricity multiplied by the emission factor for fuel/electricity

$TE_i$  = Total state process emissions inventory for cement manufacturers and refineries, and emissions from the combustion of associated gas

# Total Required Revenue

**Total Required Revenue (TRR)** is the sum of

**1) Required Revenue (RR)**

- AB 32 expenditures budgeted for a fiscal year for all state agencies based on the approved state budget  
and
- Debt repayment
  - Fiscal years
    - » 09/10, 10/11, 11/12 and 12/13

And

**2) Annual adjustments for excess or under collection**

# Specific Fee Calculations

## Fee Rate

- Fuel/Electricity/Coal  
Fee Rate =  $CCC \times EF_i$
- Process Emissions  
CCC serves as the Fee Rate

## Fee

- Fuel/Electricity/Coal  
Fee = Fee Rate x Quantity of fuel/electricity/coal supplied, consumed or produced
- Process Emissions  
Fee =  $CCC \times$  Quantity of Emissions

## Specific Fee Rate Calculations

- **Natural Gas**

Fee Rate = CCC x EF for natural gas

- **California Gasoline and Finished CARBOB**

Fee Rate = CCC x EF for gasoline

- **California Diesel fuel**

Fee Rate = CCC x EF for diesel

- **Cement and Refinery Process Emissions, Associated Gas**

Fee Rate = CCC

- **Coal**

Fee Rate = CCC x EF for coal\*

\*each grade of coal has its own emission factor

# Specific Fee Calculations

- **Associated Gas**

Fee = CCC x Emissions associated with gas consumed on-site or supplied

- **Imported Electricity**

Fee = Fee Rate x Quantity of Electricity Imported by each entity

- Fee Rate = CCC x Emission Factor (MWh) for each source

Emission factors (MTCO<sub>2</sub>E/MWh) for:

- Generating facilities
- Asset-owning & asset-controlling suppliers
- Unspecified sources

# Specific Fee Calculations

## Imported Electricity continued . . .

- Emission Factors for Specified Sources
  - Generating facilities
    - Fuel use, emissions data reported to ARB or taken from EIA and EPA data
    - ARB calculates specific emission factor and fee rate for imports from generating facility
  - Asset-owning or -controlling suppliers
    - Must be issued a supplier-specific ID and submit data per Mandatory Reporting
    - Emission factor is weighted average of EFs for generating facilities and purchased power (including unspecified power with default EF)

# Specific Fee Calculations

## Imported Electricity continued . . .

- Emission Factors
  - Unspecified sources
    - Default emission factor of 0.499 MTCO<sub>2</sub>E or 1,100 lbs / MWh
    - Based on CPUC and CEC recommendation for the Mandatory Reporting Regulation
    - Not a precedent for treatment of unspecified imports in any other regulation
    - Will be revisited pending development of Cap-and-Trade regulation

# Proposed Implementation Schedule

## First Two Years of the Fee

### Year 1

December 2009

Affected Entities report 2008 emissions to ARB using the GHG Reporting Tool

January 2010

Fee Notice Sent to Affected Entities

March 2010

Entities Remit Fee

### Year 2

June 2010

Affected Entities report 2009 emissions to ARB

January 2011

Fee Notice Sent to Affected Entities

March 2010

Entities Remit Fee

# **Mandatory Reporting Regulation**

# Mandatory Reporting Requirement

- **Mandatory Reporting Regulation Amendments:**
  - Entities subject to the Mandatory Reporting Regulation required to use ARB's Online GHG Reporting Tool
  - New Section added--95104(e)
  - Reporting tool use no longer voluntary

# Mandatory Reporting Requirement

## Greenhouse Gas Reporting Tool

- Web-based platform for reporting information required by ARB's Mandatory Reporting Regulation
  - Ensures complete reporting to ARB
  - Provides reporting, QA, certification, tracking, and verification access
  - Designed to facilitate reporting & ease administrative burden
  - All reported information is held in a secure, password-protected database

# Mandatory Reporting Requirement

## Greenhouse Gas Reporting Tool

- User friendly
  - Comprehensive user guide, sector-specific reporting guidance, and training videos available
  - Training Site provides practice with Tool's structure and function
- Data fields to be added for entities subject to the Fee regulation

*<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-tool.htm>*

# Preliminary Costs and Fee Estimates

## Eligible Costs

Limited to state agencies' activities and programs costs directly related to AB 32 Implementation

- Formally approved staff positions
- Other costs directly related to administering AB 32

### Eligibility for funding

- FY 2007/2008 – ARB and Cal/EPA
- FY 2008/2009 – ARB and Cal/EPA
- FY 2009/2010 – Approved State Agencies

## Non-Eligible Costs

- AB 32 compliance costs
- Non-state agency costs
- GHG reductions achieved as co-benefit to principal agency activities
- Pre-existing GHG reduction programs
- Activities related to adaptation or CEQA analysis for projects

# Approval Process

## Example: Fiscal Year 2012/2013

- |             |   |
|-------------|---|
| Sept. 2011  | State agencies submit BCPs to DOF   |
| Fall 2011   | DOF approves or denies BCPs based on criteria   |
| Jan. 2012   | Approved AB 32 BCPs included in Governor's Proposed Budget<br>→ CalEPA issues " <i>Preliminary AB 32 Crosscut Budget Summary</i> "  |
| Summer 2012 | New Budget Approved<br>→ CalEPA issues " <i>Approved AB 32 Crosscut Budget Summary,</i> "<br>→ RR 2012/2013 based on Budget Summary |

# State Agency Costs for FY 09-10

## Preliminary

Agency	Positions	Funding (\$millions)
Calif. Environmental Protection Agency	6.0	1.8
Calif. Air Resources Board	155.0	33.1
Integrated Waste Management Board	7.0	1.6
Calif. Energy Commission	4.75	0.6
Department of Food and Agriculture	1.9	0.5
Department of General Services	2.0	1.4
<b>TOTAL</b>	<b>176.65</b>	<b>39</b>

# Year 1-3 Costs Preliminary

## AB 32 Implementation Costs 2007/2008 – 2009/2010

Fiscal Year	Program Cost (\$ millions)
2007/2008	24
2008/2009	32
2009/2010	39
<b>Total</b>	<b>95</b>

## Breakdown of Start-up Costs

### 2007/2008 Fiscal Year

\$8.5 Million Air Pollution Control Fund

\$15.7 Million Loan from Motor Vehicle Account (ARB)

\$300,000 Loan from Motor Vehicle Account (Cal/EPA)

### 2008/2009 Fiscal Year

\$32 Million Loan from Beverage Container Recovery Fund  
(ARB and Cal/EPA)

### 2009/2010 Fiscal Year

\$35 Million Budgeted Loan from Beverage Container  
Recovery Fund-Do not anticipate using

# Loan Repayment Schedule

<b>Payment Due</b>	<b>Estimated amount due including interest (millions)</b>
June 30, 2010	\$ 14.8 (MVA only)
June 30, 2011	\$ 15.1 (MVA and BCRF)
June 30, 2012	\$ 14.8 (MVA and BCRF)
June 30, 2013	\$ 13.7 (BCRF only)

# Total Revenue Required FY 09-10

Preliminary

- Total Revenue Required - \$54 million
  - Program Costs - \$39 million
  - Debt Repayment - \$15 million

# Sector-Specific Fee Estimates FY 09-10

Preliminary based on TRR=\$54M

Emissions Source	Emissions (Million MTCO <sub>2</sub> E)	Estimated Fee (Million)	Share of Costs by Emissions Source (%)
Refinery Process Emissions	33.9	\$4.3	8.2
Gasoline	143.4	\$19.2	34.8
Diesel	42.8	\$5.6	10.4
Natural Gas	124.5	\$16.1	30.2
Associated Gas	3.2	\$0.4	0.8
Cement	8.4	\$1.1	2.0
Non-Cement Coal Use	5.7	\$0.7	1.4
Electricity Imports	49.6	\$6.6	12.1
<b>Total</b>	<b>411.7</b>	<b>\$54.0</b>	<b>100.0</b>

Note: Emissions data from 2006 ARB Emissions Inventory, all other entries based on ARB calculations.

# Costs per Unit Product

## Preliminary

2009/2010 Pass Through		
Product	2009/2010 Program Costs	Program Cost + Loan Repayment
Natural Gas (\$/therm)	0.0005	0.0007
Gasoline & Diesel (\$/gallon)	0.001	0.0014
Cement Manufacturers (\$/ton)	0.05	0.07
Imported Electricity (\$/MWh)	0.05	0.07
Coal (\$/short ton)	0.20	0.28
Approximate Cost per Californian	\$1.00	\$1.50

# Preliminary Costs and Fee Estimates

## ARB Process for Determining Expenses

- **Approved BCPs**
  - Salaries and staff benefits
  - Operating expenses and equipment
  - Other costs
    - Contracts

## Questions or Comments?

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**Thank you for your Feedback!**