

# California's Revised Mandatory Greenhouse Gas Reporting Regulation

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California Environmental Protection Agency

**AIR RESOURCES BOARD**

# Background

- Regulation revision approved in December 2010:
  - Support California cap-and-trade
  - Harmonize with U.S. EPA reporting requirements
  - Support a future regional linked cap-and-trade program under Western Climate Initiative
- Additional modifications in 2011 to respond to stakeholder comments
- Revised regulation expected to be effective in Jan 2012
- Original regulation adopted by the Board in Dec. 2007
- GHG emissions data reported for 2008-2010 data years. Third-party verification of 2009 and 2010 data.



# Applicability & Thresholds

## 2007 Regulation

*By industry sectors*

- Cement plants
- Electricity retail providers and marketers
- Electricity generating & cogen facilities, >1 MW and 2,500 MTCO<sub>2</sub>e

*>25,000 MTCO<sub>2</sub>e:*

- Petroleum refineries
- Hydrogen plants
- Any facilities with combustion emissions above the threshold

## Revised Regulation

*By source categories (corresponds to 40 CFR Part 98)*

### ■ Facilities:

❖ *No threshold:* Part 75 facilities, cement production, lime mfg, nitric acid production, and petroleum refineries.

❖ *>25,000 MTCO<sub>2</sub>e:* production of glass, hydrogen, iron & steel, pulp & paper, and oil & gas; non-Part 75 electricity generating facilities, large fuel combustion facilities, and geothermal facilities

❖ *10K-25K MTCO<sub>2</sub>e:* abbreviated reporters

■ **Suppliers** of natural gas, transportation fuels, or CO<sub>2</sub> (10,000 MTCO<sub>2</sub>e threshold)

■ **Electric power entities**

# Key Dates

## ■ Reporting Deadlines:

- Facility and fuel/CO<sub>2</sub> supplier: April 10
- Electric power entity: June 1
- Abbreviated reporter (10K-25K MTCO<sub>2</sub>e): June 1
  - If currently subject to the 2007 Rule, begin in 2012
  - New reporters, begin in 2013

## ■ Verification Deadlines:

- 10 business days before Sep 1: Deadline for verifiers to give notice of potential adverse verification statement
- August 31: Last day to file a petition to contest the verifier's final verification statement
- September 1: Final verification statement due
- October 10: ARB's final decision on all petitions



# General Requirements

- Abbreviated reporting option for 10K-25K MTCO<sub>2</sub>e
- Biofuel categories, calculation, and verification
- Demonstration of fuel measurement accuracy
- Missing data substitution procedure (begin in 2013 for 2012 data)
- Product data reporting requirements for refineries, cement, nitric acid, iron & steel, glass, paper & pulp, hydrogen, and lime manufacturing.
- Product data has similar meter accuracy and reporting requirements to emissions data, except data substitution is not permitted.



# Emission Calculation Methods

## For Stationary Fuel Combustion

### Use U.S. EPA's Tiered Methodology:

- **Tier 1:** default emission factor and high heat value
  - **Tier 2:** default emission factor, measured high heat value or steam quantity
  - **Tier 3:** measured carbon content
  - **Tier 4:** Continuous Emissions Monitoring System (CEMS)
- California limits certain fuels to higher tiers than what U.S. EPA allows



# Emission Calculation Methods

## Minimum Tier to be Used

- Pipeline natural gas: Tier 1 or 2
- Natural gas outside of 970-1100 Btu/scf range: Tier 3
- Listed standardized liquid fuels in <250 MMBtu/hr unit: Tier 1
- Solid fossil fuels in steam-producing unit: Tier 3 or 4
- Exempt biomass-derived fuels in 40 CFR 98 Table C-1: Tier 1 or 2
- Fuels make up <10% of annual heat input in >250 MMBtu/hr unit: any Tiers (unless specifically not allowed by 40 CFR 98)
- *de minimis* emissions: any Tiers
- All other fuels except steam-producing units: Tier 3 or 4



# Facility Energy Balance

- Report Energy Inputs and Outputs Across Facility Boundary:
  - Electricity purchase/acquisition
  - Thermal energy purchase/acquisition
  - Electricity provided/sold
  - Thermal energy provided/sold (from cogen/bigen unit and other non-cogen/bigen boilers)
- Options for excluding:
  - Electricity passed through the facility
  - Electricity consumed by operations or activities that
    - do not generate any emissions, energy outputs, or products that are covered by this article, and
    - Not a part of nor in support of electricity generation or any industrial activities covered by this article





# Electricity Generating Units (EGU)

- Requirements apply to any facility with EGU
- Reporting requirements:
  - New facility categorizations based on operational control, cogen/host relationship, and electricity sale
  - Dispositions of generated electricity and thermal energy
  - Basic information about the EGU
  - Net and gross power generated; total thermal output
- Cogeneration vs. "bigeneration"
- Allow (and encourage) unit aggregation, but subject to certain limitations



# Electricity Generating Units (EGU)

- On-site renewable EGU  $>0.5$  MW (e.g. solar installation)
  - Report basic information and gross power generated
  - To complete facility energy balance and ensure equitable accounting of industrial efficiency
- Options for facilities that meet certain criteria:
  - Total facility nameplate capacity  $<1$  MW: may report EGUs as combustion sources under §95115.
  - Facilities that do not sell any generated energy off-site: accounting for various on-site uses of electricity and thermal energy is optional
  - Facilities with only non-fuel-based renewable EGUs and no other types of EGU: separate reporting of on-site uses of generated electricity is optional

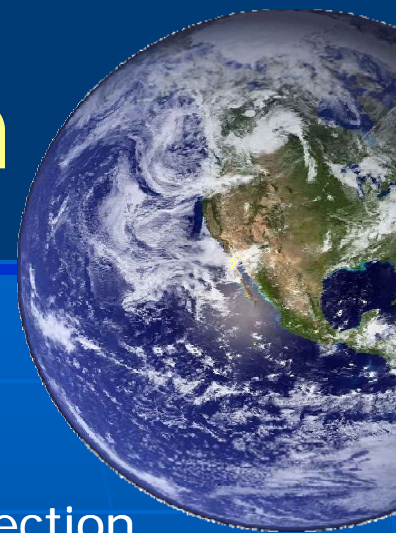


# Verification

- Maintains process of third-party verification of reported emissions, including ARB accreditation
- Modifications were made to improve transparency and to synchronize with the cap and trade program (C&T).
- Product data verification requirements were added to support the allocation of allowances in the C&T program.
- Biomass-derived fuel verification was added to ensure the validity of biomass-derived fuel types.
- Clarifications to the accreditation and conflict of interest procedures improves the operational rigor of the verification program.



# Additional Information



- GHG Reporting Website:

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

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