Public Meeting

Point of Regulation for the Sources of Fuel Combustion Included in the Second Compliance Period in a California Cap-and-Trade Program

June 23, 2009
California Air Resources Board
California Cap-and-Trade Rulemaking Timeline

• Focus in 2009: work through implications of different issues and policy decisions
• Focus in 2010: finalize program design and regulatory language
• Late 2010: Board consideration of cap-and-trade regulation
• Extensive public process throughout
Purpose of Meeting

• Discuss options for the points of regulation (and regulated parties) as they apply to sources of fuel combustion included in the second compliance period of the California cap-and-trade program

• Stakeholders are asked to provide written comments on this topic to ARB by July 14th (http://www.arb.ca.gov/cc/capandtrade/comments.htm)
Outline for Today’s Presentation

• Background on fuels in the cap
• Compliance obligation considerations
• Point of regulation options for each fuel
• Future meeting topics
• Roundtable discussion and questions
Background on Fuels in the Cap
Capped Sources

• 2012-2014 (Narrow Scope)
  – In-State Electricity Generation Facilities (>25,000 MT CO$_2$e/yr) and Imported Electricity
  – Large Industrial Facilities (>25,000 MT CO$_2$e/yr)

• 2015-2020 (Broad Scope – 2$^{nd}$ and 3$^{rd}$ compliance periods). Narrow scope fuels plus:
  – Transportation fuel use
  – Small industrial fuel use (<25,000 MT CO$_2$e/yr)
  – Residential and commercial fuel use

Source: Scoping Plan page 31
California GHG Inventory (2002 – 2004 Average)

- High GWP: 3%
- Recycling and Waste: 1%
- Agriculture: 6%
- Industry: 20%
- Electricity: 23%
- Transportation: 38%
- Commercial and Residential Natural Gas: 9%

Added in 2nd Period:
- ~96% Gasoline + Diesel
- ~97% NG + LPG

Source: Scoping Plan
**Goal:** Establish cap for each year at the beginning of the program

- **Concept of the Cap**

  - **Allowances Issued**
  - **Emissions from All Sources (Period 1)**
  - **Linear Projection to Target (All Capped Sources)**
  - **Linear Projection to % of Target (Electricity and Industrial Sources)**

**Source:** Scoping Plan Appendix page C-18
Compliance Obligation Considerations
Considerations for Determining Point of Regulation (POR)

- Capture as many emissions as possible
- POR with information to report fuel used in CA
- Limit the number of regulated parties
- POR with information to avoid double pricing of emissions from fuel use at large stationary sources (i.e. ‘net out’)
- Consider relevant legal constraints
- Consider need for full information on how refined fuel was produced (i.e. full production pathway)
Establishing a Compliance Obligation: Broad Scope

• **Who**: Point of regulation will be defined for all types of fuel consumed in California

• **What**: Direct emissions from fuel combustion (fuel carbon content as proxy)
  – Fuel production pathway emissions upstream from the point of regulation may also have a compliance obligation

• **Considerations**:
  – ‘Net out’ fuels sold by fuel providers to large point sources with direct compliance obligations
  – ‘Net out’ fuels exempt from the program (e.g. petroleum used in plastics)
Reporting

- GHG Mandatory Reporting Regulation will be revised as part of cap-and-trade regulation in 2010
  - 2nd compliance period fuels to be added
- Regulated parties in the cap-and-trade program will be also be reporting entities
Point of Regulation Options for Each Fuel
## POR for Regulations with Fuels

<table>
<thead>
<tr>
<th></th>
<th>LCFS</th>
<th>Proposed AB 32 Fee Reg</th>
<th>CaRFG3, RFS</th>
<th>AB 32 Cap / Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline, diesel</td>
<td>Refinery or importer of blendstock</td>
<td>Refinery or importer of blendstock</td>
<td>Distribution Rack</td>
<td>TBD</td>
</tr>
<tr>
<td>Natural gas</td>
<td>Utilities or fuel dispensing eq. owner</td>
<td>Utilities + ind. pipeline operators</td>
<td>N/A</td>
<td>TBD</td>
</tr>
<tr>
<td>LNG</td>
<td>Fuel provider supplying to dispenser</td>
<td>Treated as Natural Gas</td>
<td>N/A</td>
<td>TBD</td>
</tr>
<tr>
<td>Electricity</td>
<td>Utilities or veh elec providers, indiv. owners</td>
<td>Fuel supplier or importer of electricity</td>
<td>N/A</td>
<td>See notes below</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>Fuel producer for veh use</td>
<td>N/A</td>
<td>N/A</td>
<td>See notes below</td>
</tr>
<tr>
<td>E85</td>
<td>Fuel producer for veh use</td>
<td>N/A</td>
<td>N/A</td>
<td>TBD</td>
</tr>
</tbody>
</table>

- POR definition above for LCFS does not capture all possible PORs
- Electricity for transportation will not be classified as a “fuel”. The point of regulation for electricity will capture all uses.
- Hydrogen (H₂) fuel doesn’t contain carbon so H₂ fuel use will not be included. H₂ production is captured as industrial source.
POR Options
- Refiners or blendstock importers
- Distribution terminal racks

Considerations
- Compliance at rack would be consistent with CaRFG3
- Refiners and importers will have fuel production info (LCFS)
- Compliance must account for low biofuel blends (e.g. E10-10% ethanol blend)
- Ability to ‘net out’:
  - E.g. Diesel fuel used in narrow scope industrial sources
High Biofuel Blends (E85, B100, etc)

Example fuel pathway

POR Options
- Fuel producers or importers
- Refiners

Considerations
- Compliance must account for petroleum feedstock (e.g. 15% gasoline)
- Various biofuel carbon intensity variations are being considered
Natural Gas

POR Options

• CA end users supplied directly from interstate pipelines
• Intrastate pipelines
• Local Distribution Companies (LDCs)

Considerations

• Multiple points of regulation may be needed to capture scope of emissions
  – E.g., capture end users for direct deliveries from interstate pipelines and/or non-utility deliveries
• LDCs have some ability to ‘net out’ narrow scope sources
• Avoid double counting (e.g., NG underground storage)
• Entities already reporting information to the state
• Ability to pass through costs
California Cap & Trade
In-state stationary sources > 25,000 MTCO₂E at point of emissions

Natural Gas in California Programs

Regulated Party
For these emissions

AB 32 Fee Reg
Board of Equalization Natural Gas Surcharge

Local Producers
Imported Gas
Processors
Pipelines
LNG Terminals
Local Distribution Companies

Storage

Industrial End Users
Residential and Commercial End Users
Transportation End Users

* Some LNG is produced in Alaska

Low Carbon Fuel Standard

http://www.api.org/aboutoilgas/upload/UNDERSTANDING_NATURAL_GAS MARKETS.pdf
New Zealand ETS

- **First domestic supplier liable for obligation**
- **Deducts deliveries to industrial sources**
- **Imports (Currently zero)**
- **May opt-in if purchase more than 2 petajoules**

**Natural Gas in other C&T Programs**

- **Australia Carbon Pollution Reduction Scheme**
- **Facilities ≥25,000 MTCO₂E (Optional transfer of obligation)**
- **Storage**
- **Local Producers**
- **Imported Gas**
- **Processors**
- **Pipelines**
- **Local Distribution Companies**
- **Transportation End Users**
- **Industrial End Users**
- **Residential and Commercial End Users**

America Natural Gas

- NZ Production
- Inc. flared gas, venting
- Deducts deliveries to industrial sources

Additional notes:
- Local Imported Producers Gas
- Natural Gas in other C&T Programs
- New Zealand ETS
- Full emissions of NG to be consumed

Non-Natural Gas Fuels

• Liquid petroleum gas ("propane")
  – ~9% of resid./comm. sector emissions; ~1% of total inventory
  – Variety of end uses, delivery methods
  – CPUC regulates safety of propane distribution systems, at point of propane system operator
  – Prices are unregulated

• Kerosene
  – ~0.3% of resid./comm. sector emissions; ~0.03% of total inventory

• Others?
Workshop Discussion Questions

1. Are we capturing the appropriate fuel types?
2. Are there suggestions for the cap setting process for these fuels?
   - Sources of data, projections
   - Determining fuel production pathway emissions
3. What are the benefits and challenges with various POR alternatives?
Future Fuels-Related Topics

- Consideration of importing LCFS credits for compliance with cap-and-trade program
- Reporting process
  - Methodologies for 2\textsuperscript{nd} compliance period fuels
- Cap setting process and data, including fuels
- Possible inclusion of fuel pathway emissions (out-of-state) in fuel provider compliance obligation
  - Cap-setting public meeting
References

• Low Carbon Fuel Standard (LCFS)

• AB 32 Mandatory Reporting
  – http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm

• BOE Tax Laws (NG Surcharge Law and Fuel Surcharge)
  – http://www.boe.ca.gov/sptaxprog/natgas.htm
  – http://www.boe.ca.gov/sptaxprog/spftdmfuels.htm

• New Zealand Emissions Trading Scheme

• Australia Carbon Pollution Reduction Scheme
### Team Leads for Cap & Trade Rulemaking

<table>
<thead>
<tr>
<th>Name</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sam Wade, Mary Jane Coombs</td>
<td>Cap setting and allowance distribution</td>
</tr>
<tr>
<td>Ray Olsson</td>
<td>Market operations and oversight</td>
</tr>
<tr>
<td>Brieanne Aguila</td>
<td>Offsets and cap-and-trade project manager</td>
</tr>
<tr>
<td>Claudia Orlando</td>
<td>Electricity</td>
</tr>
<tr>
<td>Joshua Cunningham</td>
<td>Transportation fuels</td>
</tr>
<tr>
<td>Manpreet Mattu</td>
<td>Reporting, and Energy efficiency</td>
</tr>
<tr>
<td>Bruce Tuter, Mihoyo Fuji</td>
<td>Industrial sectors</td>
</tr>
<tr>
<td>Karin Donhowe</td>
<td>Residential and commercial fuels</td>
</tr>
<tr>
<td>Mihoyo Fuji</td>
<td>Marginal abatement costs and leakage related issues</td>
</tr>
<tr>
<td>David Kennedy, Stephen Shelby,</td>
<td>Impact analyses (environmental, economic, localized, small business,</td>
</tr>
<tr>
<td>Barbara Bamberger, Mihoyo Fuji,</td>
<td>public health)</td>
</tr>
<tr>
<td>Jeannie Blakeslee, Judy Nottoli,</td>
<td></td>
</tr>
<tr>
<td>Jerry Hart</td>
<td></td>
</tr>
</tbody>
</table>
For More Information…

- **ARB’s Cap-and-Trade Web Site**
  - [http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm](http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm)

- **To stay informed, sign up for the Cap-and-Trade listserv:**

- **Western Climate Initiative**
  - [http://www.westernclimateinitiative.org](http://www.westernclimateinitiative.org)