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# ISCC/PRIMA Conference

*Plugging the West Coast Carbon Short –  
The Coming Low Carbon Shortage and Need for  
Sustainability Verification*

## Verification Considerations for California's Low Carbon Fuel Standard

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***Renée Lawver, Manager***  
Substance Evaluation Section  
Industrial Strategies Division

California Environmental Protection Agency  
 **Air Resources Board**

# LCFS Program Background

- Market-based, fuel-neutral performance standard
- Requires reductions in carbon intensity (CI) of CA's transportation fuels
  - CI is calculated based on greenhouse gas (GHG) emissions per unit of fuel energy over fuel's lifecycle (gCO<sub>2</sub>e/MJ)
- Quantity of credits or deficits is determined by fuel-specific CI score relative to declining CI standard and quantity of fuel
  - Fuel CI greater than mandated average CI generates deficits
  - Fuel CI less than mandated average CI generates credits
- Deficits must be balanced with credits generated by lower-CI fuels to remain in compliance

# Third-Party Verification Guiding Principles

- ① ARB retention of sole authority over the LCFS program, including verification requirements, as bestowed through the State's legislative and regulatory process;
- ② Continual improvement in the detection, prevention, and correction of errors or fraud;
- ③ Identification and implementation of cost reducing strategies, while maintaining verification rigor;
- ④ Policy consistency with other ARB verification programs; and
- ⑤ Consideration of the unique attributes of fuel carbon intensities and fuels marketing structure.

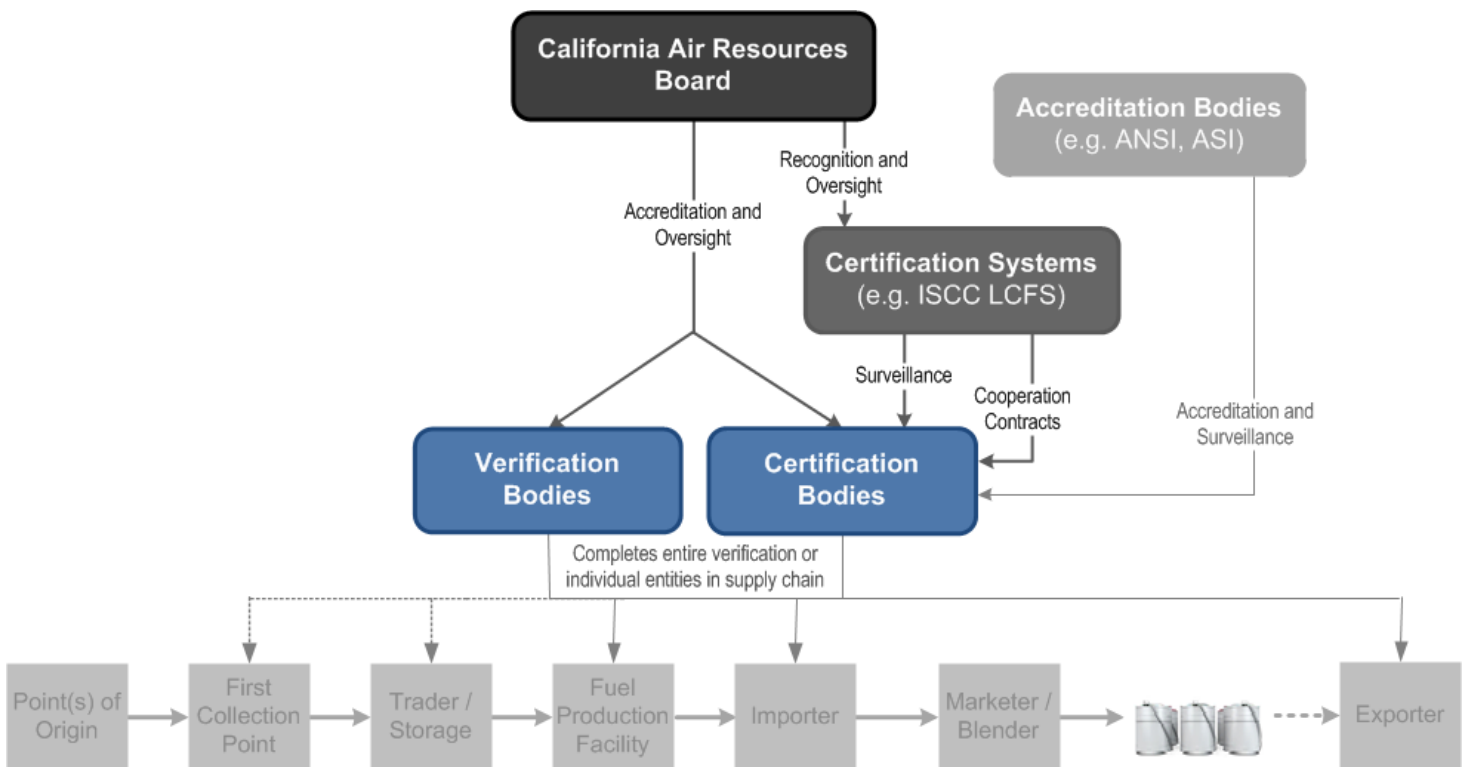


# Structure Meets the Needs of LCFS Verification

- ARB oversight and authority
- Built on proven robust and effective ARB verification structures
- Necessary options for broad scope of LCFS verifications
  - Range of fuel pathway complexities and fraud/error risks
  - International feedstock and alternative fuel supply chains
- Leverages material/energy balance verification elements from U.S. EPA QAP program and EU RED recognized certification schemes
  - May recognize international certification schemes that can assist with administrative functions
  - Provides access to global resources and expertise
- Maintains verification rigor with cost-effective risk mitigation
  - Avoids multiple/duplicative audits and verifications
- Structure may support future sustainability provisions

# Verification Structure Considerations: Option 1

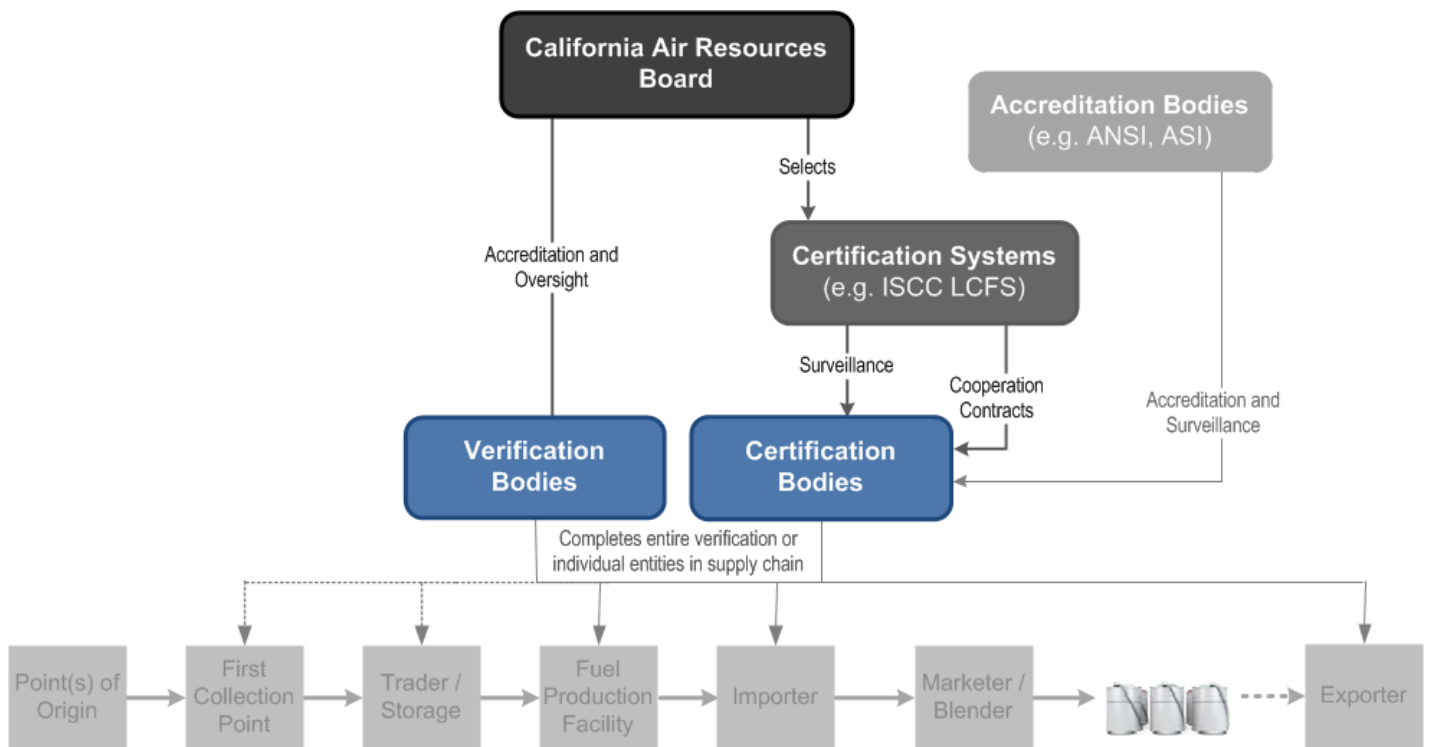
## ARB Oversees Certification Systems and Accredits CBs



# Verification Structure Considerations: Option 2

ARB Selects Certification Systems and Specifies Minimum Requirements for CBs

Certification Systems Train and Oversee CBs



# Possible Selection Criteria for Certification Systems (1)

## Certification system

- Recognized under EU RED
- Regularly updates requirements based on LCFS regulatory updates and ARB guidance
- Requirements that are additional to LCFS are vetted via multi-stakeholder approach
- Requires traceability via chain of custody records
- Requires audit of all volumes to assure no double counting of feedstock or fuel attributes
- Includes full supply chain certification capability
- Reviews supply chain compliance with regional, national and international laws

## **Possible Selection Criteria for Certification Systems (2)**

### Certification system

- Publishes procedures, requirements, guidance, certificate validity and audit report summaries on website (transparency)
- Makes oversight reports and full CB audit reports available to ARB
- Requires certification body (CB) accreditation by national or international accreditation body
- Maintains effective auditor training program
- Includes an effective grievance mechanism
- Includes sanction mechanisms for system participants and CBs

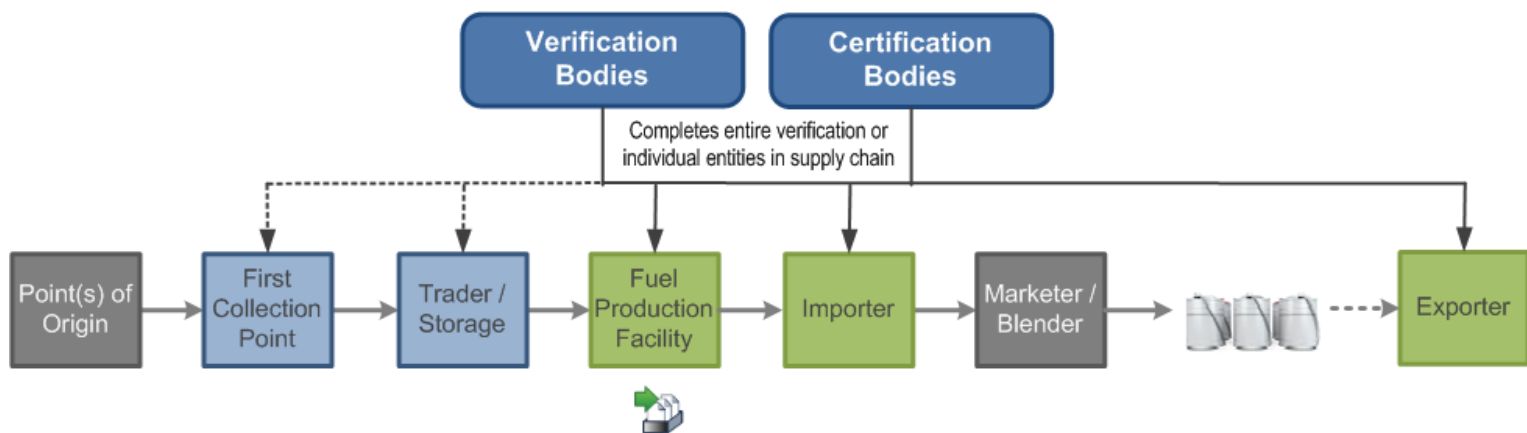


# Considerations for Certification Body Minimum Requirements

- Fuels auditing experience
- COI policy and impartiality provisions specified by ARB
- Professional liability insurance
- Nonconformance root cause analysis and corrective action
- Requirements consistent with ISO standards:  
ISO 14064-3, 14065, 17065 (e.g., data confidentiality  
procedures and individual auditor competency)

# Verification Responsibility Considerations

## GENERAL

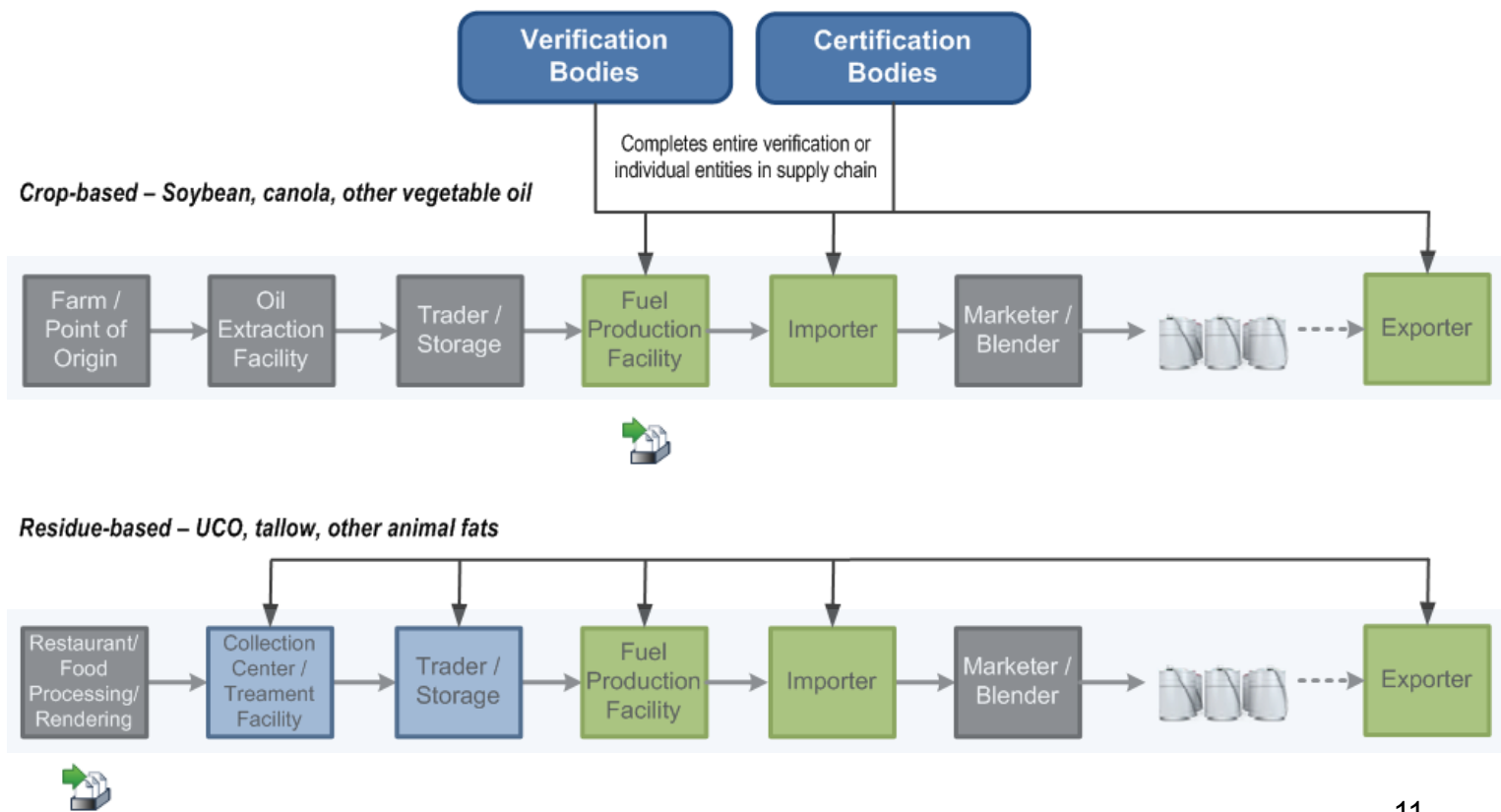


### Legend

- ↓ Solid line indicates verification required
- ⋯ Dotted line indicates additional verification required for some fuels (e.g., residue-based fuels)
- 📄 Icon indicates where traceability begins (i.e., feedstock/product transfer documents required)

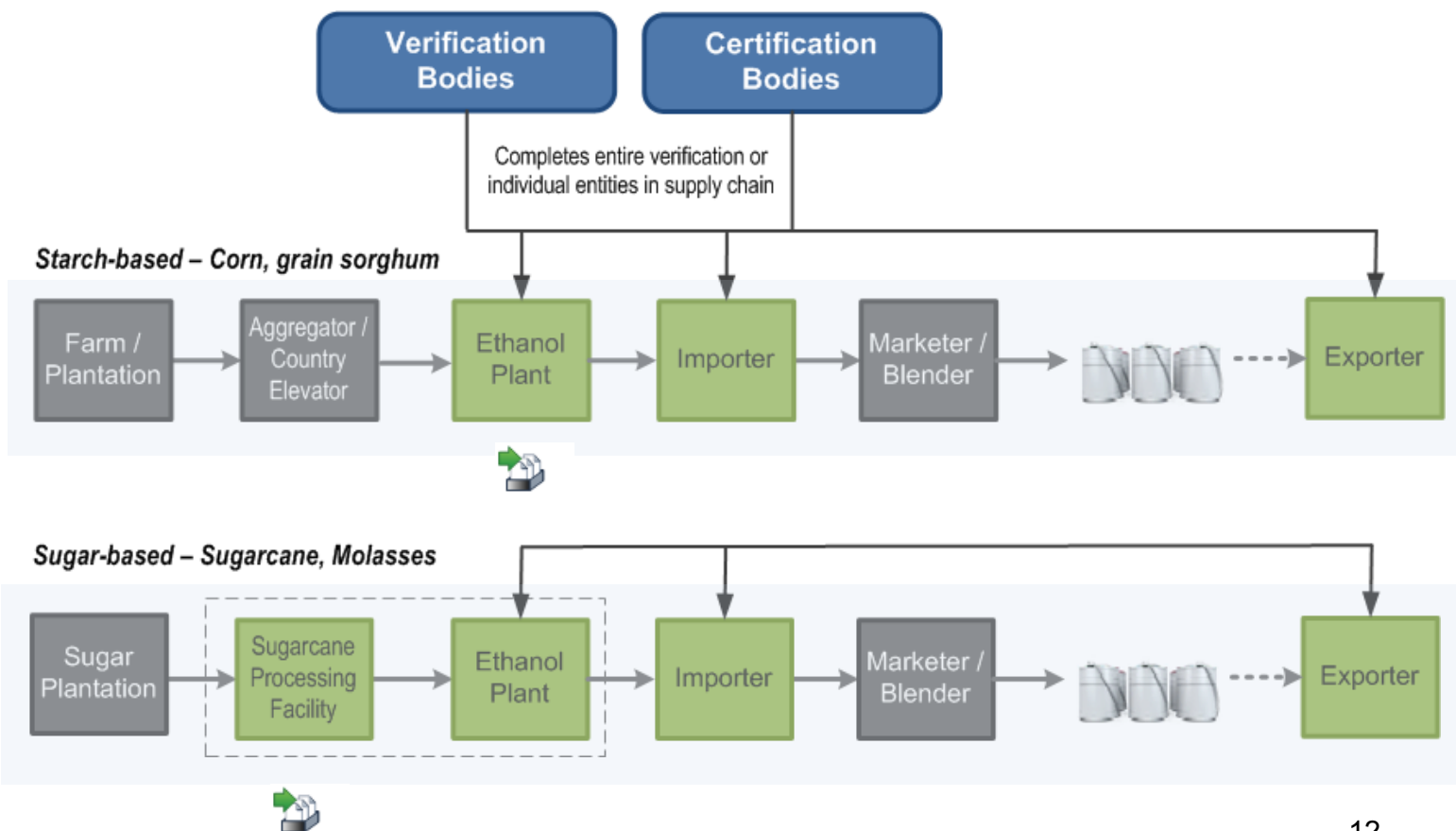
# Verification Responsibility Considerations

## BIOMASS-BASED DIESEL



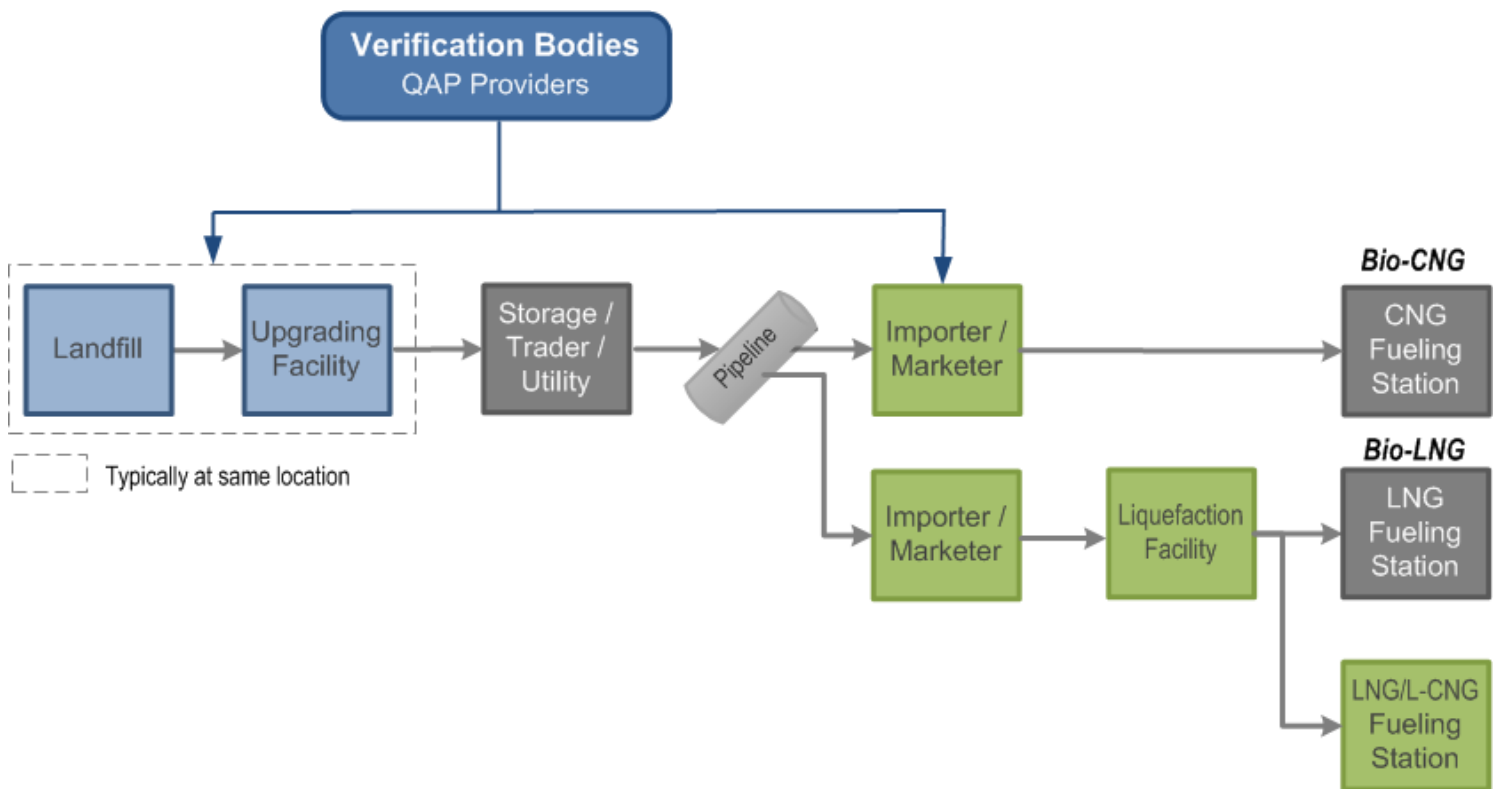
# Verification Responsibility Considerations

## ETHANOL



# Verification Responsibility Considerations

## LANDFILL BIOGAS



# Proposed Rulemaking Schedule

TASK	DATE
Concept Paper to inform Environmental Impacts and Economic Analyses	June/July 2017
Fuel-Specific Public Working Meetings	Dec 2015 – Jun 2017
Final Notice Package (Notice and Staff Initial Statement of Reasons)	November 2017
Board Hearing	February 2018
Amendments Effective	January 1, 2019

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Thank you

***Renée Lawver, Manager***

Substance Evaluation Section

Industrial Strategies Division

916-322-7062

[rlawver@arb.ca.gov](mailto:rlawver@arb.ca.gov)

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