

# Environmental Permitting for Upgrading and Supplying RNG

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# Purpose

What are the environmental permitting requirements associated with bringing RNG into the natural gas pipeline network?



# Overview

## Environmental Permitting for Upgrading & Supplying RNG



What is driving this market?



Potential project locations (biogas sources)



Biogas processing



Environmental permitting considerations



Timelines for permitting



Questions

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# What is Driving This Market?

## Regulatory/legislative drivers

- Federal Renewable Fuel Standard (RFS)
- California Low Carbon Fuel Standard (LCFS)
- Oregon Clean Fuels Program
- British Columbia LCFS
- Additional activity

## Voluntary drivers

- Societal pressure
- Shareholder sustainability expectations
- Customer demand & brand loyalty
- Capital availability – where investors are hedging long-term return
- Private industry recognition of economic opportunity

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# Potential Project Locations (Biogas Sources)

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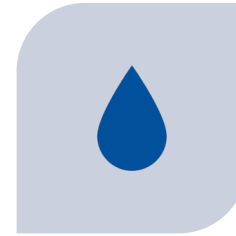
DAIRY/POULTRY/  
SWINE  
OPERATIONS



AGRICULTURAL  
WASTE



FOOD WASTE



WASTEWATER  
TREATMENT



LANDFILLS

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# Biogas Processing

## Recovery & distribution

- Biogas treatment
  - Train includes:
    - Upgrading/treating gas
    - Compression
    - Storage
    - Pipeline connections
- Wastewater
- Solid waste



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# Environmental Permitting Considerations

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DEFINING THE  
SOURCE &  
PROJECT



AIR QUALITY IN  
PROJECT LOCATION  
(ATTAINMENT  
ISSUES)



STATE SPECIFIC  
RULES,  
REQUIREMENTS,  
EXEMPTIONS



ENVIRONMENTAL  
REVIEW  
PROGRAMS



HAZARDOUS  
SUBSTANCE  
REGULATORY  
PROGRAMS

# Defining the Source & Project

## Applicable Programs

- Stationary source definition:
  - Common control
  - Contiguous or adjacent
  - Same 2-digit SIC or “support facility”
- Project definition:
  - Consider other related changes at the stationary source meeting certain criteria

The image shows three overlapping documents from the United States Environmental Protection Agency (EPA). The top document is a memorandum with the following details:

- MEMORANDUM**
- SUBJECT:** Ref: 8ARD-PM
- FROM:** Mr. Danny Powers, Air Quality Program, Southern Ute Indian, P.O. Box 737, Ignacio, Colorado 81048
- TO:** [Redacted]

The middle document is a letterhead for the EPA Region 8 office:

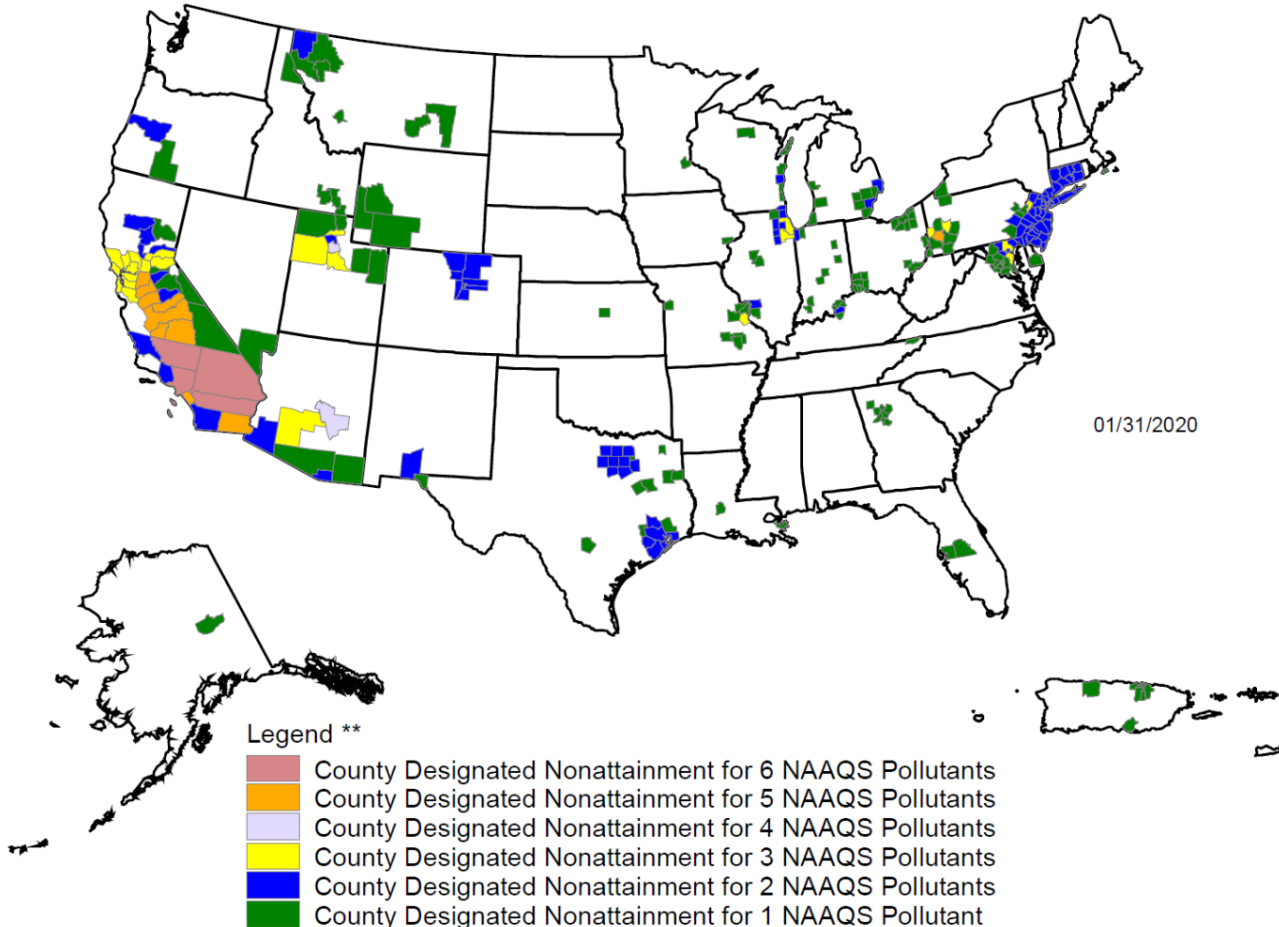
- UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
- REGION 8**
- 1555 Wynkoop Street, Denver, CO 80202-1129, Phone 800-227-8917

The bottom document is a letter dated July 12, 2019, addressed to the Honorable Catherine McCabe, Commissioner of the New Jersey Department of Environmental Protection. The letter discusses a request from Ocean County Landfill Corp. (OCLC) regarding source determination for a landfill and gas-to-energy (LFGTE) operations. It includes a "BACKGROUND" section and a "Recycling" logo at the bottom.

# Air Quality in Project Location

## Counties Designated "Nonattainment"

for Clean Air Act's National Ambient Air Quality Standards (NAAQS) \*



Map courtesy of United States Environmental Protection Agency

## Implications for nonattainment

- Lower major source thresholds
- Significant requirements, costs and schedule risks
- Emission offsets
- Lowest Achievable Emission Rates regardless of cost

# State Specific Rules, Requirements, Exemptions

Environmental Requirements vary by State



Air permitting

Air toxics  
Air dispersion modeling



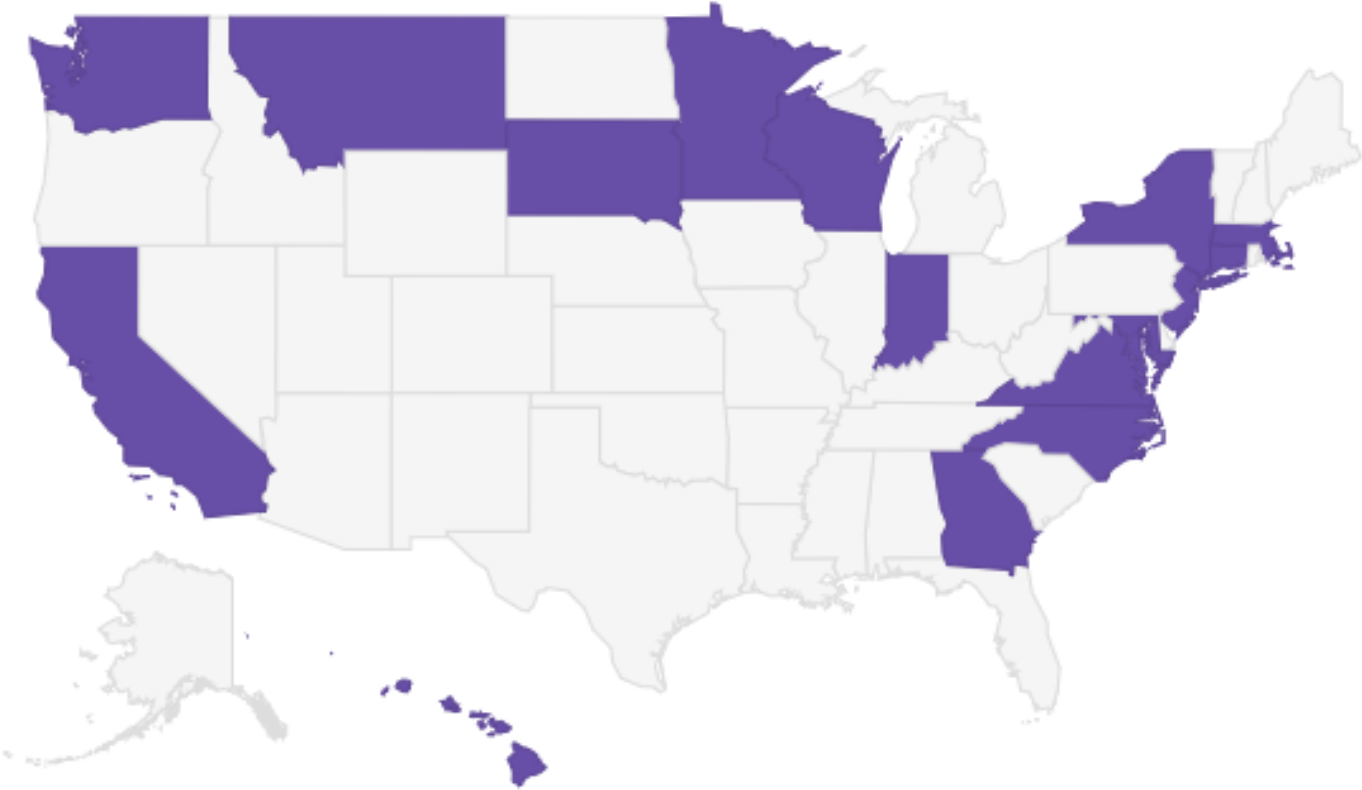
Waste management

Solid or hazardous  
Land application



Water

Wastewater  
Stormwater



## Environmental Review Programs

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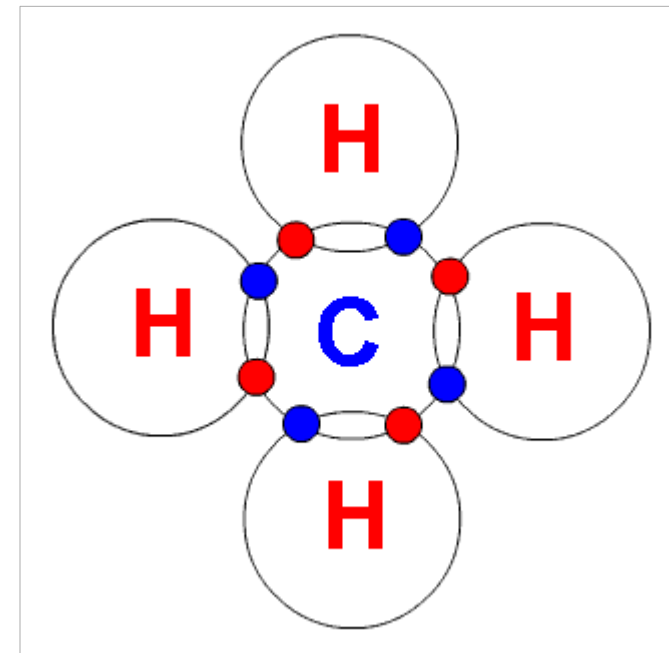
States with Environmental Policy Acts

# Hazardous Substance Regulatory Programs

## Applicable Programs

- Risk Management Program (RMP) requires a plan to address accidents and emergencies
- OSHA's Process Safety Management (PSM) program addresses management of hazards
- Chemical Facility Anti-Terrorism Standards (CFATS) addresses security

Threshold quantity: 10,000 lbs or 236,100 scf of methane



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# Timelines for Permitting

## Pre-construction approvals



AIR PERMIT



ENVIRONMENTAL  
REVIEW (IF REQUIRED)

## Pre-operation approvals



WASTEWATER



STORM WATER



RMP



WASTE

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