

# NOx BARCT Rulemaking Update

February 7, 2020

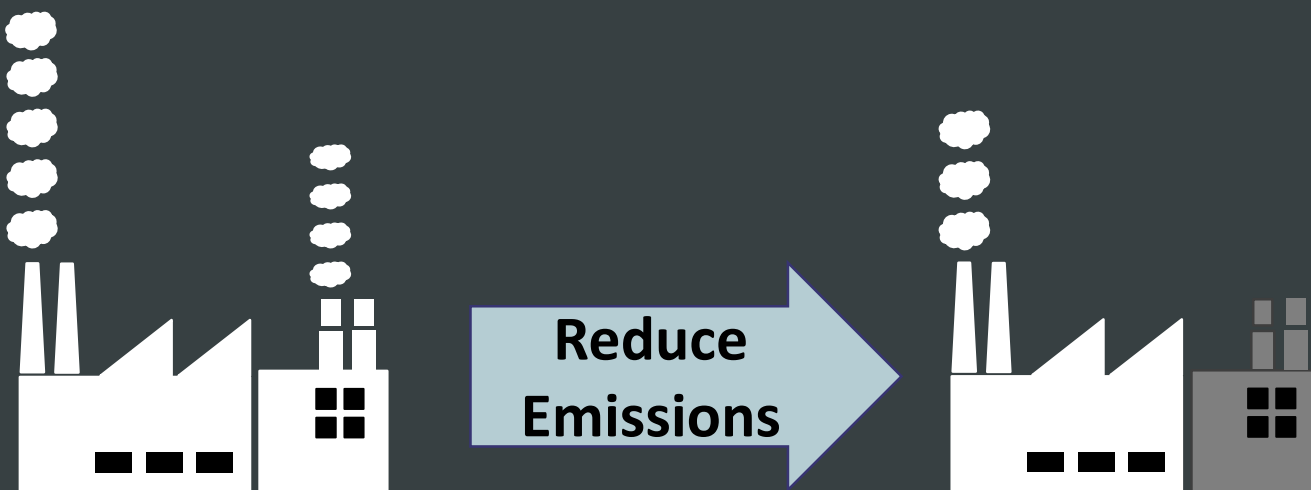
Governing Board Meeting

# Background

- Regional Clean Air Incentives Market (RECLAIM) was adopted on October 15, 1993
- Includes two markets for facilities with NO<sub>x</sub> or SO<sub>x</sub> emissions  $\geq$  4 tons per year
- Facilities were initially issued an Allocation of RECLAIM Trading Credits (RTCs)
  - Facilities must hold RTCs that are equal to or greater than their actual emissions
- RECLAIM was designed to achieve emission reductions and allow compliance flexibility

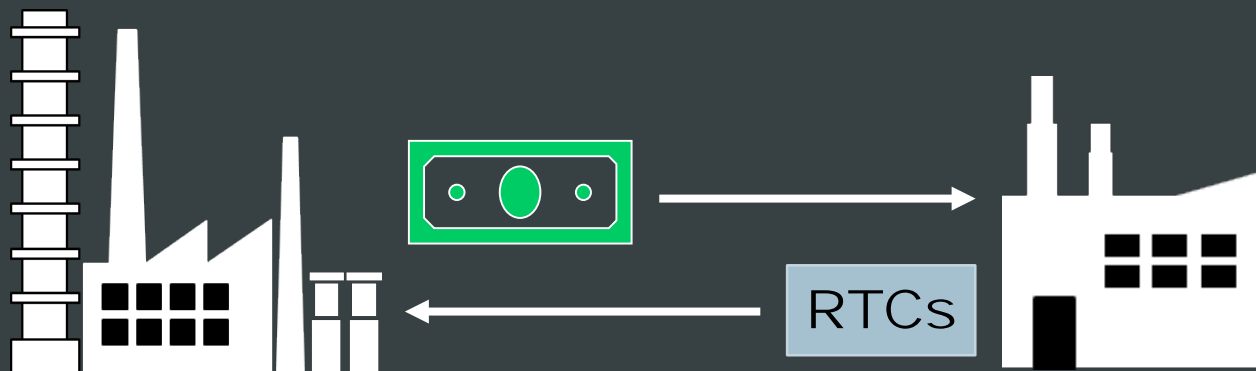


# RECLAIM Compliance Options



Reduce emissions through:

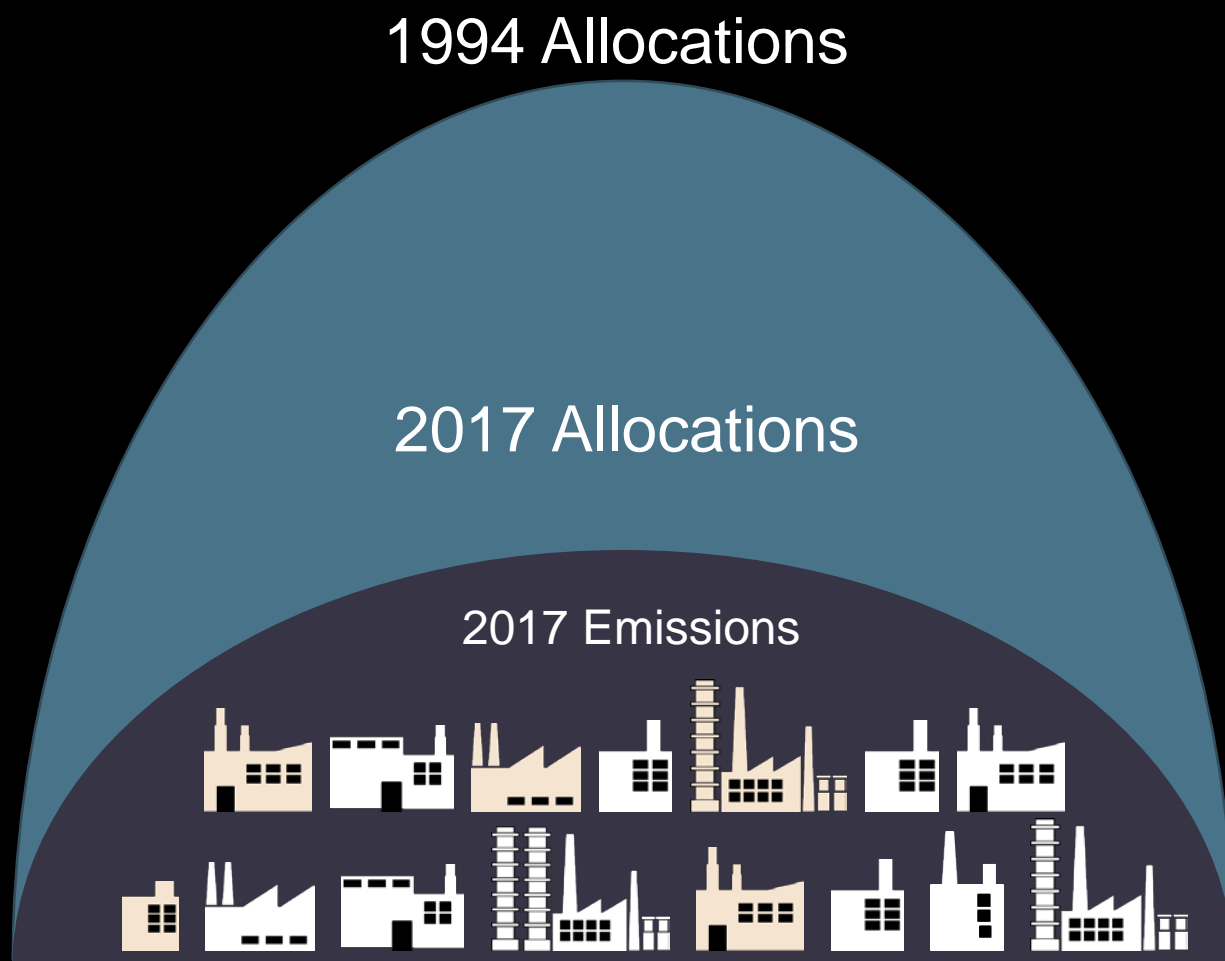
- Installation of pollution controls;
- Throughput reductions; or
- Equipment or process shutdowns



Purchase RTCs from:

- Another facility that has excess RTCs; or
- Another entity such as a broker

# About NOx RECLAIM



## Facilities

- 1994: 392 facilities<sup>1</sup>
- 2017: 258 facilities

## NOx Allocations

- 1994: 110 tons per day
- 2017: 25 tons per day

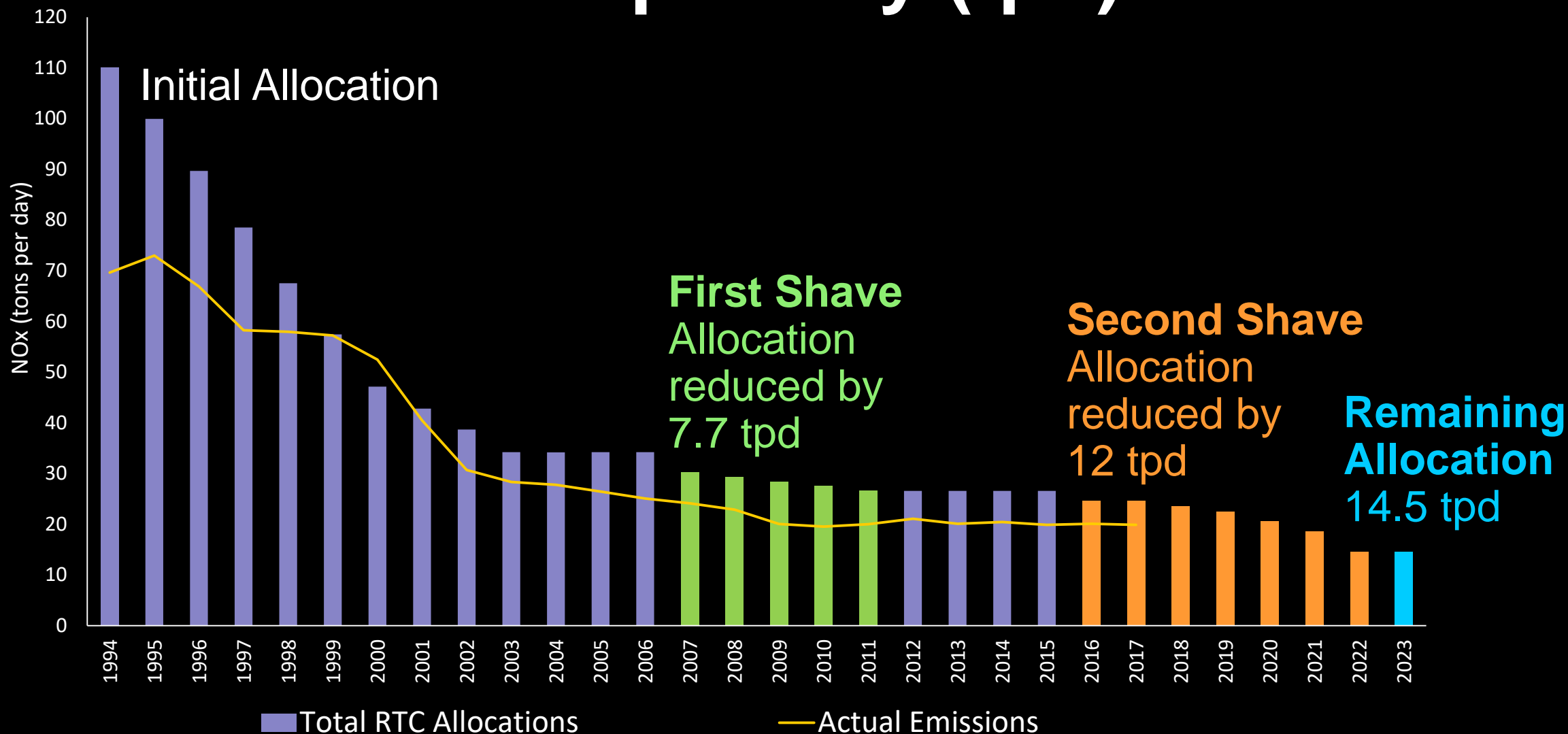
## NOx Emissions

- 1994: 70 tons per day
- 2017: 20 tons per day

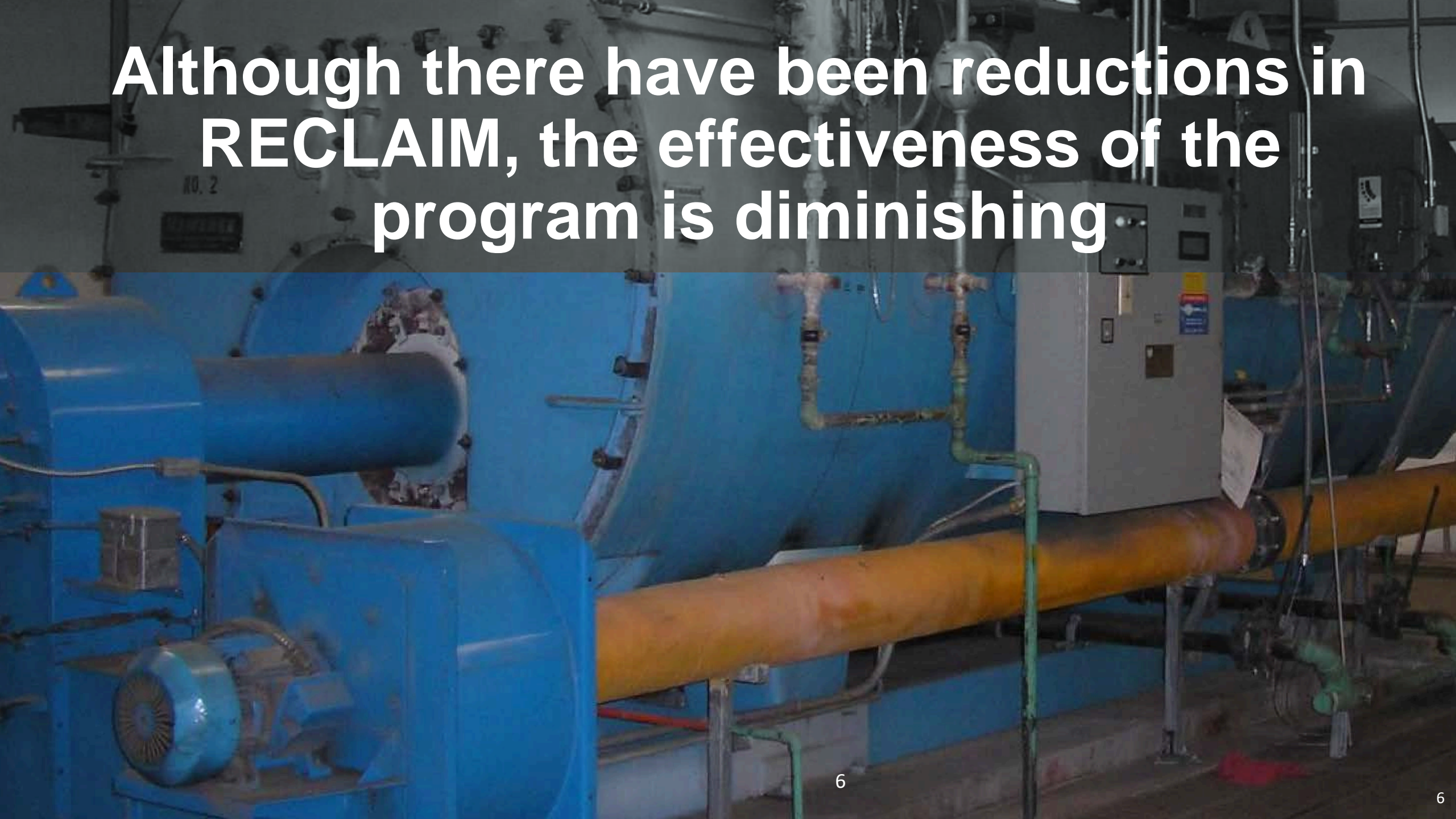
<sup>1</sup> Initially 392 facilities were identified. 70 facilities were excluded that did not meet the applicability criteria, category exemption, or facility merger.

# NOx Allocations and Actual Emissions

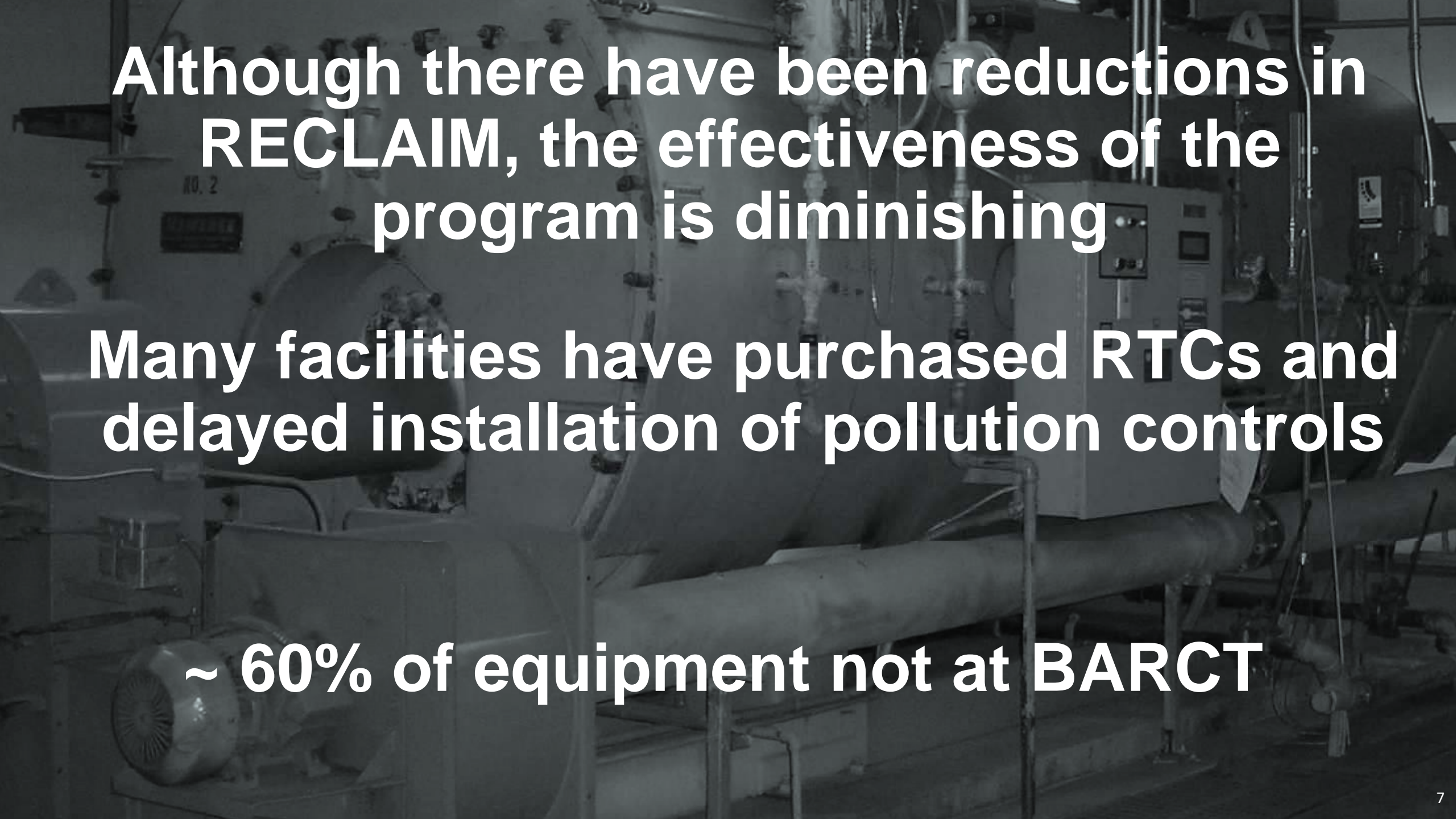
## Tons per Day (tpd)



Although there have been reductions in  
**RECLAIM**, the effectiveness of the  
program is diminishing





A grayscale photograph of industrial machinery, likely a large pump or motor, with various pipes, valves, and electrical components. The text is overlaid on this background.

**Although there have been reductions in  
RECLAIM, the effectiveness of the  
program is diminishing**

**Many facilities have purchased RTCs and  
delayed installation of pollution controls**

**~ 60% of equipment not at BARCT**

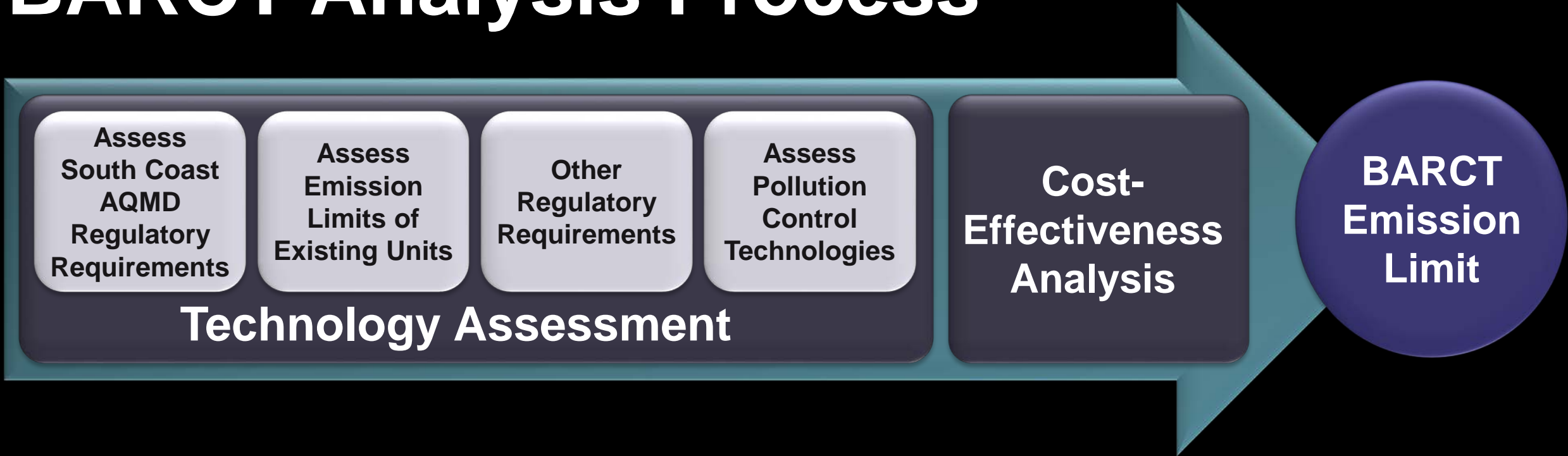
# 2016 AQMP and AB 617

- 2016 AQMP includes Control Measure CMB-05
  - Achieve further NO<sub>x</sub> reductions of 5 tons per day by 2025 from RECLAIM sources
  - Transition RECLAIM to a command-and-control regulatory structure requiring BARCT level controls as soon as practicable
- AB 617 accelerated BARCT schedules
  - Requires adoption of BARCT by the earliest feasible date, but no later than December 31, 2023





# BARCT Analysis Process



- BARCT emission limits represents the maximum degree of reduction achievable<sup>1</sup>
- Must include a technology and cost-effectiveness analysis for each class and category of equipment<sup>1</sup>
- Applicable to equipment retrofits and replacements
- Using 2016 AQMP cost-effectiveness of \$50,000 per ton of NOx reduced as guidance

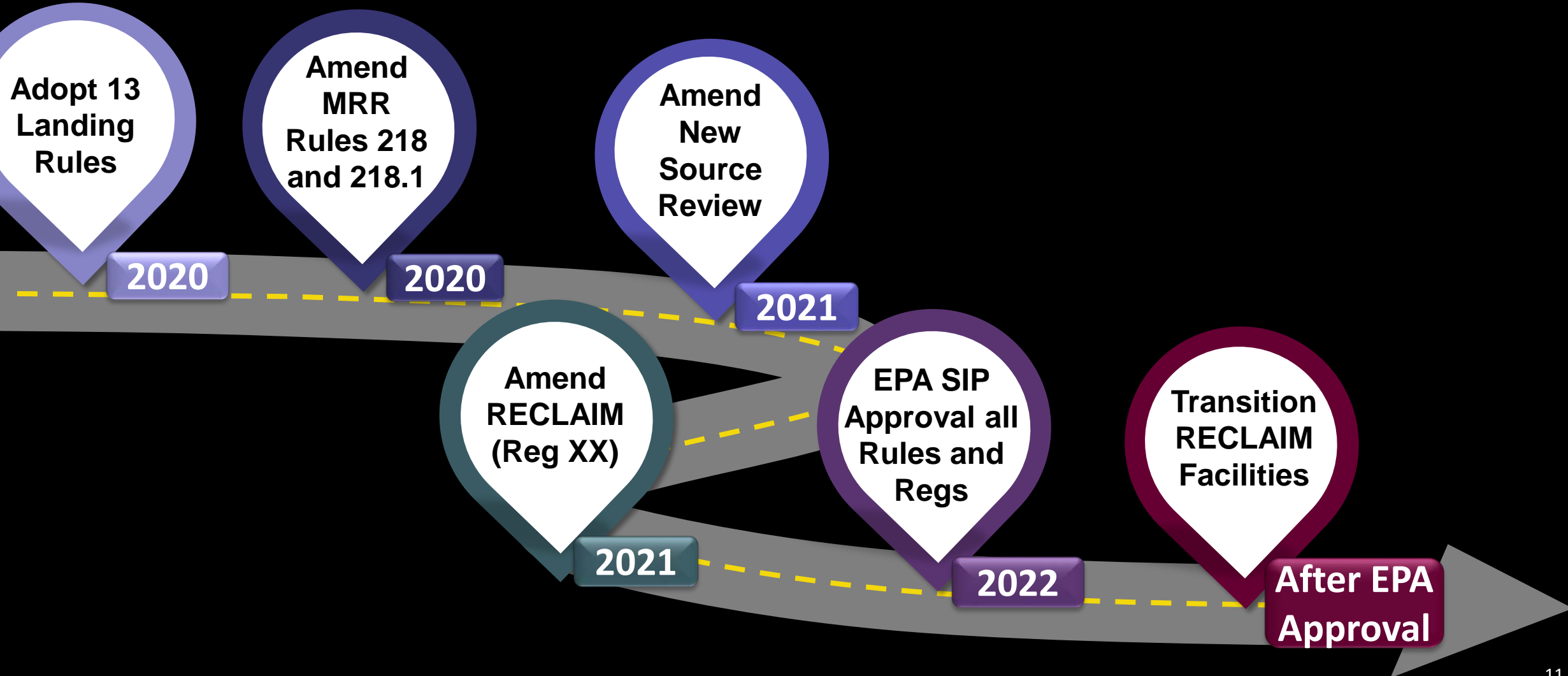
<sup>1</sup> Health and Safety Code Section 40406



# Command-and-Control

- Establishes BARCT NO<sub>x</sub> emission limit for equipment categories
  - Specified in rules that are either equipment or industry specific
- Operators required to meet BARCT emission limit
  - Cannot purchase credits in lieu of meeting limits
- Can build in some flexibility
  - Implementation schedule
  - Compliance options

# Current Approach to Transitioning RECLAIM to Command-and-Control

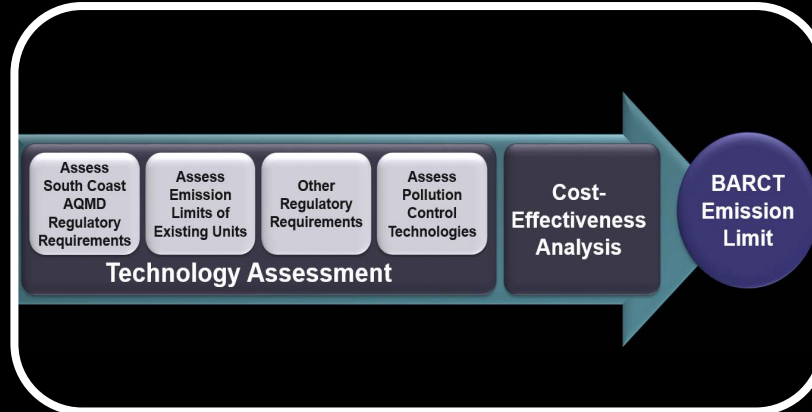


# Challenges



## New Source Review

- Complex program
- Availability of offsets post-RECLAIM
- Applicability
- Offset calculations



## BARCT Analysis

- ~1,600 pieces of equipment<sup>1</sup>
- BARCT analysis needed for each class and category
- Establish NOx emission limits

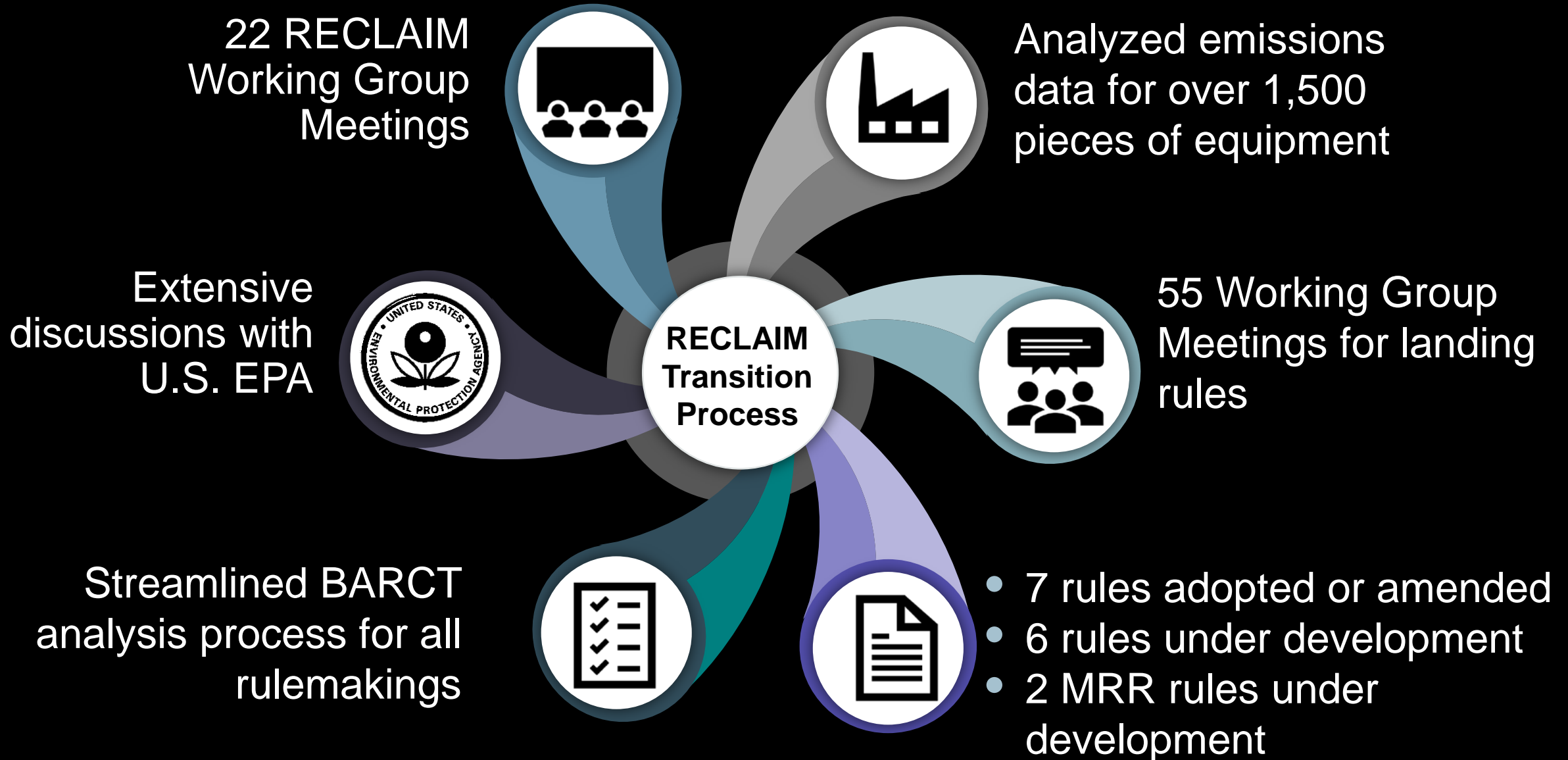


## RECLAIM Transition

- EPA approval
- 250+ facilities to transition
- Amending permits

<sup>1</sup> Excludes emergency engines and equipment exempt from permitting

# Progress to Date





# Adopted/Amended Landing Rules



Rules 1146, 1146.1, and 1146.2 –  
Boilers, heaters, and steam generators

0.27  
tons per day\*



Rule 1118.1 - Non Refinery Flares

0  
tons per day\*



Rule 1134 - Gas Turbines

1.8  
tons per day\*



Rule 1135 - Electric Generating Facilities

1.9  
tons per day\*



Rule 1110.2 - Gaseous- and Liquid-Fueled Engines

0.29  
tons per day\*

4.26  
tons per day  
of NOx\*

# Rules Under Development



PAR 1117 – Glass Melting  
Furnaces

Public Hearing: June 2020



PR 1147.2 – Metal  
Processing Equipment

Public Hearing: August 2020



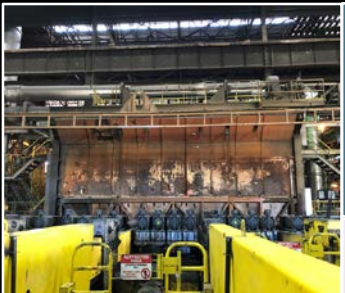
PAR 1147 – Miscellaneous  
Combustion Sources

Public Hearing: August 2020



PR 1109.1 – Refinery Equipment

Public Hearing: September 2020



PR 1147.1 – Large Miscellaneous  
Combustion Sources

Public Hearing: August 2020



PR 1147.3 – Aggregate Facilities

Public Hearing: December 2020

\*PAR 218/218.1 – Requirements for Continuous Emissions Monitoring Systems public hearing currently schedule for April 2020

# Update on Proposed Refinery Rule (Proposed Rule 1109.1)

- Refineries represents the largest emissions category in RECLAIM
- 2017 emissions represented ~50 percent of RECLAIM emissions
- Substantial emission reduction potential – more than 5 tpd
- 9 Working Group Meetings and numerous individual and industry meetings
- Conducting detailed BARCT analysis on each piece of equipment
- Initial BARCT limits for all categories expected in next few months
- Two consultants on contract reviewing staff's BARCT analysis





# Next Steps

- Continue working with U.S. EPA, CARB, and stakeholders on addressing NSR issues
- Continue rulemaking activities
- Monthly RECLAIM Working Group and Regulation XIII New Source Review Working Group meetings
- Quarterly Stationary Source Committee updates
- Update RECLAIM Transition Plan