

**SCAQMD**  
**Working Group Meeting**  
**NOx RECLAIM**

**Diamond Bar, CA**  
**January 31, 2013**

# Agenda

- AQMP Control Measure
  - Phase I
  - Phase II
  - Errata Sheet
- Proposed Amendments
  - NO<sub>x</sub> shave and target source categories
  - Electronic transfer of data
- Open Discussion

# NOx RECLAIM

- Amended in 2005
- 7.7 tons per day RTC reduction across the board (22.5% reduction)
- Last year of shave: 2011
- Technologies identified as BARCT
  - Low-NOx burners
  - SCR

# NO<sub>x</sub> RECLAIM

- Targeted Source Categories in 2005 Amendments
  - Non-refinery boilers and heaters greater than 2 MMBTU/hr
  - Refinery boilers and heaters above 110 MMBTU/hr
  - Fluid catalytic cracking units
  - Metal melting and heating processes
  - Miscellaneous combustion equipment

# 2012 AQMP

- Control Measure CMB-01
  - Further NO<sub>x</sub> Reductions from RECLAIM
  - Short-term PM<sub>2.5</sub> control measure (Phase I)
  - 8-hour ozone control measure to be implemented by 2020 (Phase II)

# Phase I

- Designed as a contingency measure for 24-hr  $PM_{2.5}$  standard
- 2 – 3 tons/day reduction
- Shave is based on the amount of excess RTC holdings for recent compliance years
  - Equivalent to command and control
- Implementation beginning in 2015 if 24-hr  $PM_{2.5}$  standard is not met

# Phase II

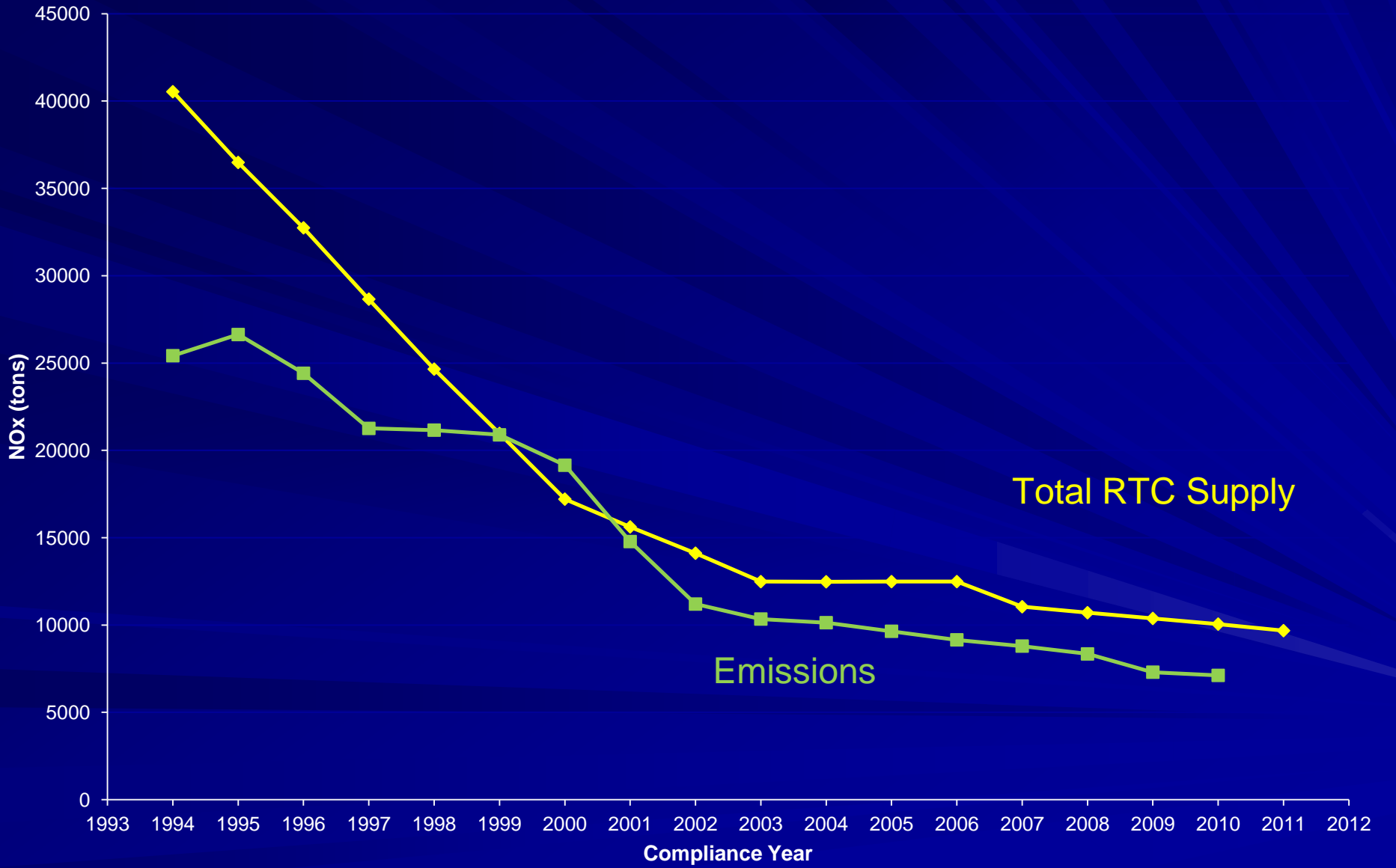
- Will focus on a BARCT evaluation
- An additional 1 – 2 tons/day reduction
- To be adopted by 2015 for implementation by 2020
- Cumulative reductions (Phase I + Phase II) will be 3 – 5 tons/day
- To be implemented by 2020 using the BARCT analysis that is developed in 2013 and 2014
- Lower end of reductions committed into the SIP

# Scope of Rule Development

- Goal: Capture Phase I and Phase II under a single rulemaking
  - Address contingency measure
  - Address BARCT
  - Update data communication system
- Bifurcate rulemaking if BARCT assessment cannot be completed in 2013



# NOx Emissions and RTC Supply



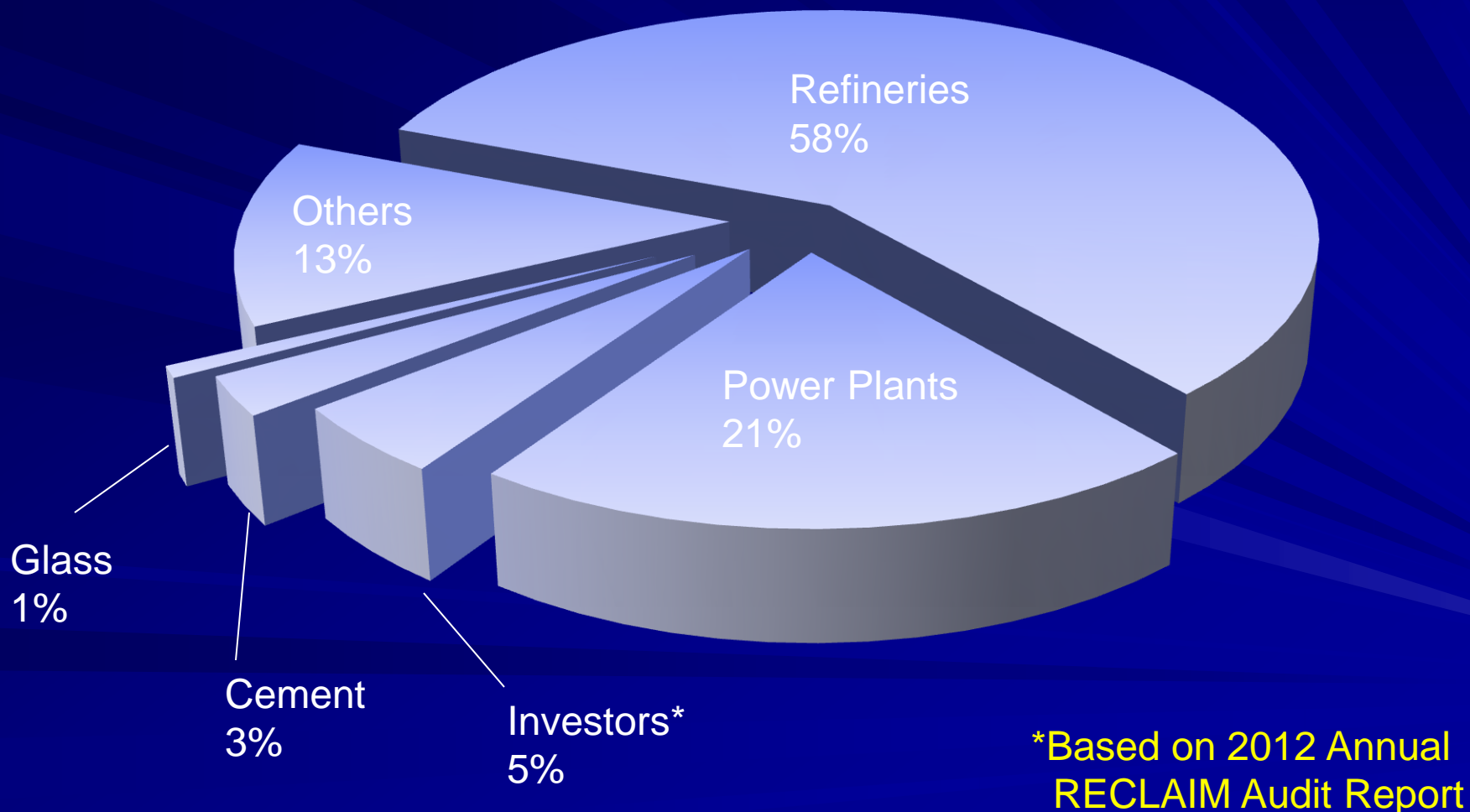
# NOx Emissions and RTC Supply

Compliance Year	2008	2009	2010	2011
NOx RTCs Allocated (tpd)	29.4	28.4	27.5	26.5
Audited Annual Emissions (tpd)	22.9	20	19.5	22.8*
RTC Holding Excess (tpd)	6.5	8.4	8.0	3.7*

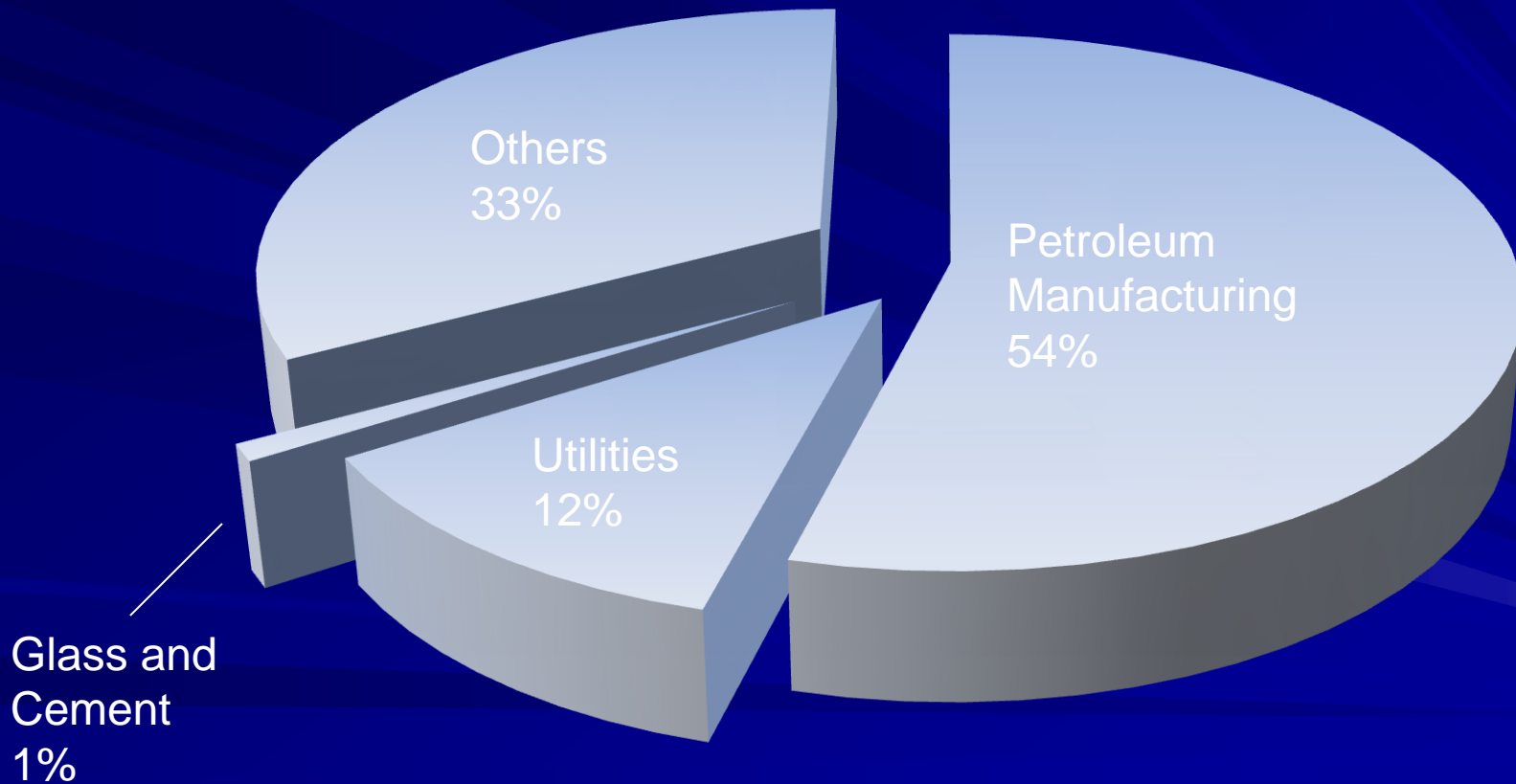
\*Based on un-audited figures. Audited figures to be released in the 2013 RECLAIM Annual Audit Report

# RTC Holdings

2011 Compliance Year (as of end of compliance period)



# Un-audited Emissions 2011 Compliance Year



Total un-audited emissions: 22.8 tons/day

# Rule Development Considerations

- Command and Control Equivalency
  - BARCT (technical feasibility & cost effectiveness)
  - Growth assumptions
  - NSR (BACT)
- Compliance margin
- Shave methodology
- Compliance options
- 2007 SIP black box commitment

# BARCT Analysis/Technology Review

- Review current technology
- Review existing implementation of control technology
- Available control technology
  - Low-NO<sub>x</sub> burners
  - Selective catalytic reduction (SCR)
  - Alternate technologies
  - Fuel technology

# BARCT Analysis/Technology Review

- BARCT evaluation source categories
  - Refinery boilers/heaters (40-110 MMBTU/hr)
  - Industrial boilers and process heaters above 2 MMBTU/hr to 110 MMBTU/hr
  - Glass furnaces
  - Cement kilns
  - Other source categories to be determined

# All Feasible Measures

- Emission levels of other AQMD rules;  
e.g. Rules 1146/1146.1, 1110.2, 1147
- Other agency application (both in state and nationwide)
- Control measures that increase efficiency
- Control measures which include zero and near-zero emission technologies



# Shave Methodology

- Past (2005 NO<sub>x</sub> RECLAIM amendment)
  - Across the board shave
- Past (2010 SO<sub>x</sub> RECLAIM amendment)
  - Large emitters
- 2013 NO<sub>x</sub> RECLAIM
  - To be determined

# Updates to Communications Systems

- Electronic transfer of data
  - Presently achieved for major sources, large, and process units by RTUs (Remote Terminal Units)
  - IP/Internet based electronic data submittal to AQMD in the future
  - Scope system requirements
  - Multi-year implementation with phase-in

# Tentative Rule Development Schedule

- Working Group January 2013  
(monthly as needed)
- Public Workshop June 2013
- Board Hearing October 2013