

2016 AQMP White Papers “Goods Movement” Preliminary Draft



Agenda No. 4
Working Group Meeting No. 5
July 1, 2015

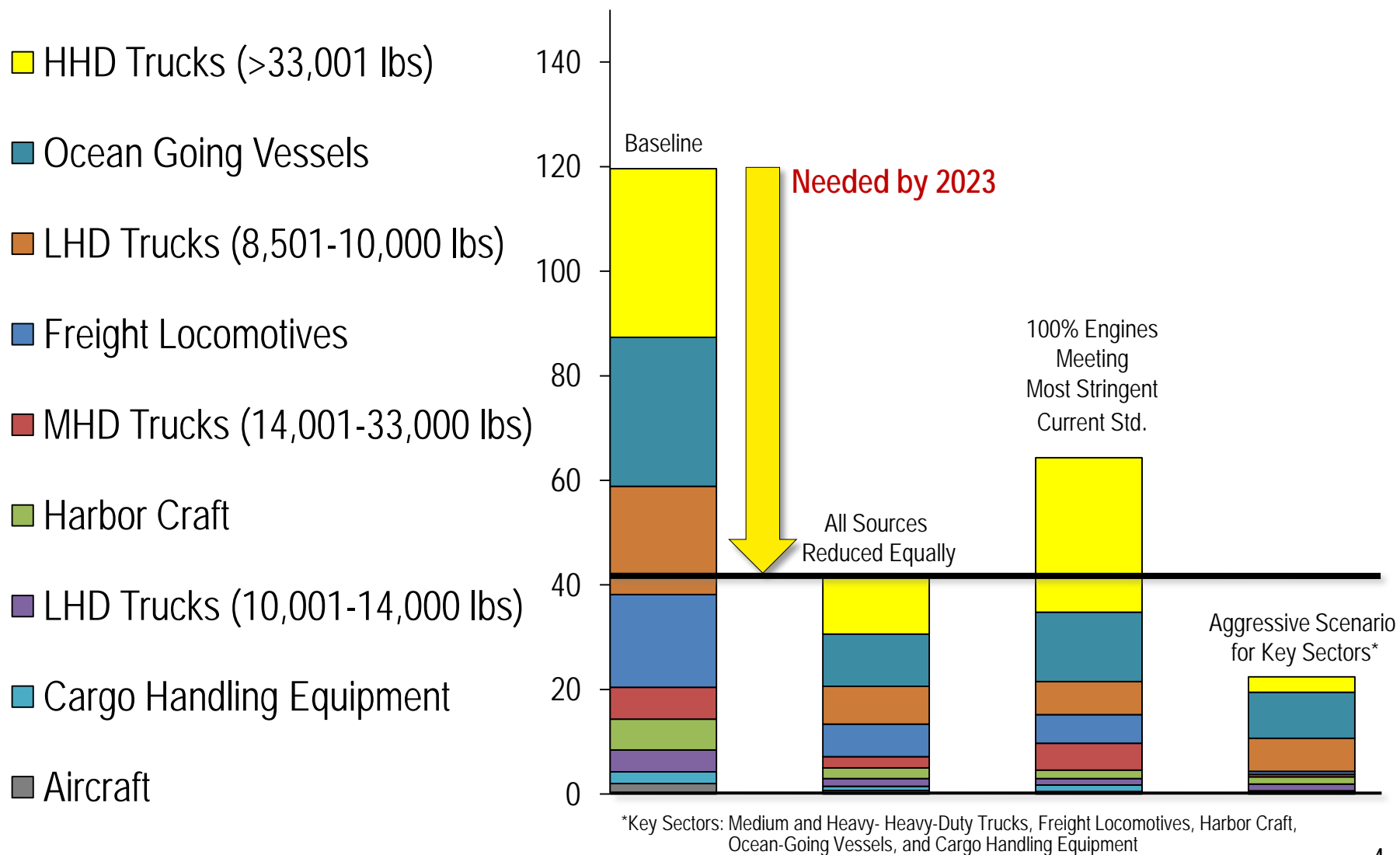
Preliminary Draft Document Outline

- Introduction
- Background
 - Attainment Challenges
 - Air Quality Impacts
 - Emissions Reduction Progress to Date
- NOx Emission Reduction Scenarios
 - Equal Share
 - 100 Percent Existing Standards
 - 90% Cleaner Emission Levels
 - Various Penetrations of Zero- and Near-Zero Emission:
25%, 50%, 75%

Preliminary Draft Document Outline

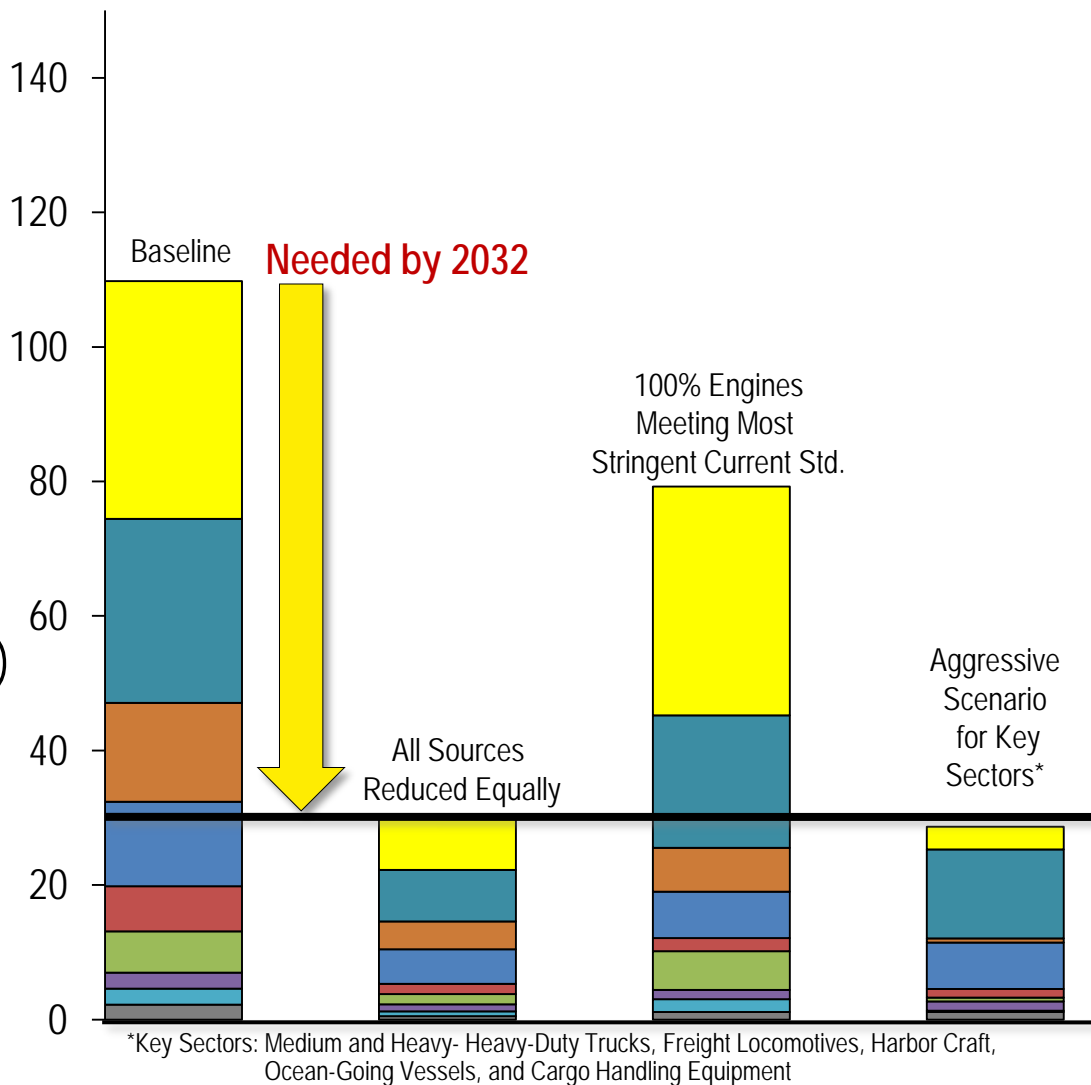
- Initial Observations
- Recommendations
- Appendix A – Current Emissions Control Programs
- Appendix B – Potential Emission Reduction
Technologies and Efficiency Measures

Mobile Source NOx Emission Reductions to Achieve 8-Hr Ozone Air Quality Standards (2023)



Mobile Source NOx Emission Reductions to Achieve 8-Hr Ozone Air Quality Standards (2032)

- HHD Trucks (>33,001 lbs)
- Ocean Going Vessels
- Freight Locomotives
- LHD Trucks (8,501-10,000 lbs)
- Harbor Craft
- MHD Trucks (14,001-33,000 lbs)
- LHD Trucks (10,001-14,000 lbs)
- Cargo Handling Equipment
- Aircraft



Initial Observations and Recommendations

- SCAQMD staff's initial thoughts
- Provided to set framework for discussion with Working Group

Initial Observations – Emission Reduction Scenarios

- Focus on goods movement sector, but all categories need to reduce emissions to attain standards
- Goods movement sector will not meet “equal share” reduction targets even if all equipment at lowest emission standards
- On-road heavy duty trucks largest contributor to goods movement sector NOx emissions
- Not all categories will be able to achieve “equal share” reductions
- Additional NOx reductions needed from national/international transportation sources

Initial Observations – Emission Reduction Scenarios

- Accelerating deployment of commercially available zero-emission equipment needed to meet “equal share” reductions
- Other categories may need to reduce emissions beyond “equal share” to cover those unable to meet their “equal share”
- New lower exhaust emission standards needed
- Most effective strategies - combination of advanced technology deployment, incentives (including funding) programs, and infrastructure enhancements
- Nexus with the passenger transportation sector

Initial Observations – Advanced Technologies

- Develop mechanisms for goods movement sources to use cleanest equipment
- Fleet purchases should be cleanest possible
- Need to commercialize near-zero and zero emission truck technologies as early as possible
- Need to conduct R&D programs for cleaner than Tier 4 locomotives as soon as possible to meet 2032 standards
- FAA CLEEN program important in developing lower NO_x emitting aircraft

Initial Observations – Efficiency Measures

- Operational efficiencies will help reduce fuel use and emissions
- Intelligent Transportation Systems and connected vehicle/equipment can improve operational efficiencies, reduce emissions, fuel use, and traffic congestion
- Operational efficiencies in goods delivery routing can help reduce road congestion and reduce emissions

Recommendations

- CARB and U.S. EPA need to establish new 90% cleaner engine NOx standards as soon as possible
- U.S. EPA and appropriate international organizations need to develop new lower standards for locomotives, ocean-going vessels, and aircraft
- Sustained public funding to maximize deployment of zero- and near-zero emissions technologies

Recommendations

- New mechanisms (regulations, monetary and non-monetary incentives) to increase deployment of zero- and near-zero technology
- Develop mechanisms for greater deployment of “emission capture systems” at ports and rail yards
- Support FAA CLEEN program and other aircraft-related programs for the development of cleaner fuel efficient aircraft
- Support use of renewable fuels

Recommendations – Operational Efficiencies

- Work with goods movement sector stakeholders to identify operation efficiencies that provide emission reduction co-benefits and develop quantification methodologies
- Conduct studies to assess ITS potential to reduce truck and traffic congestion, and emissions reduction potential
- Promote deployment of ITS and implement such technologies in key goods movement corridors in the region
- Dedicated truck lanes should give preferential treatment to zero- and near-zero trucks

Next Steps

- Incorporate Working Group members/ stakeholders input and comments (July – August 2015)
- Present to the SCAQMD Governing Board with other White Papers (September 2015)
- Additional discussions part of the control measure development for 2016 AQMP