

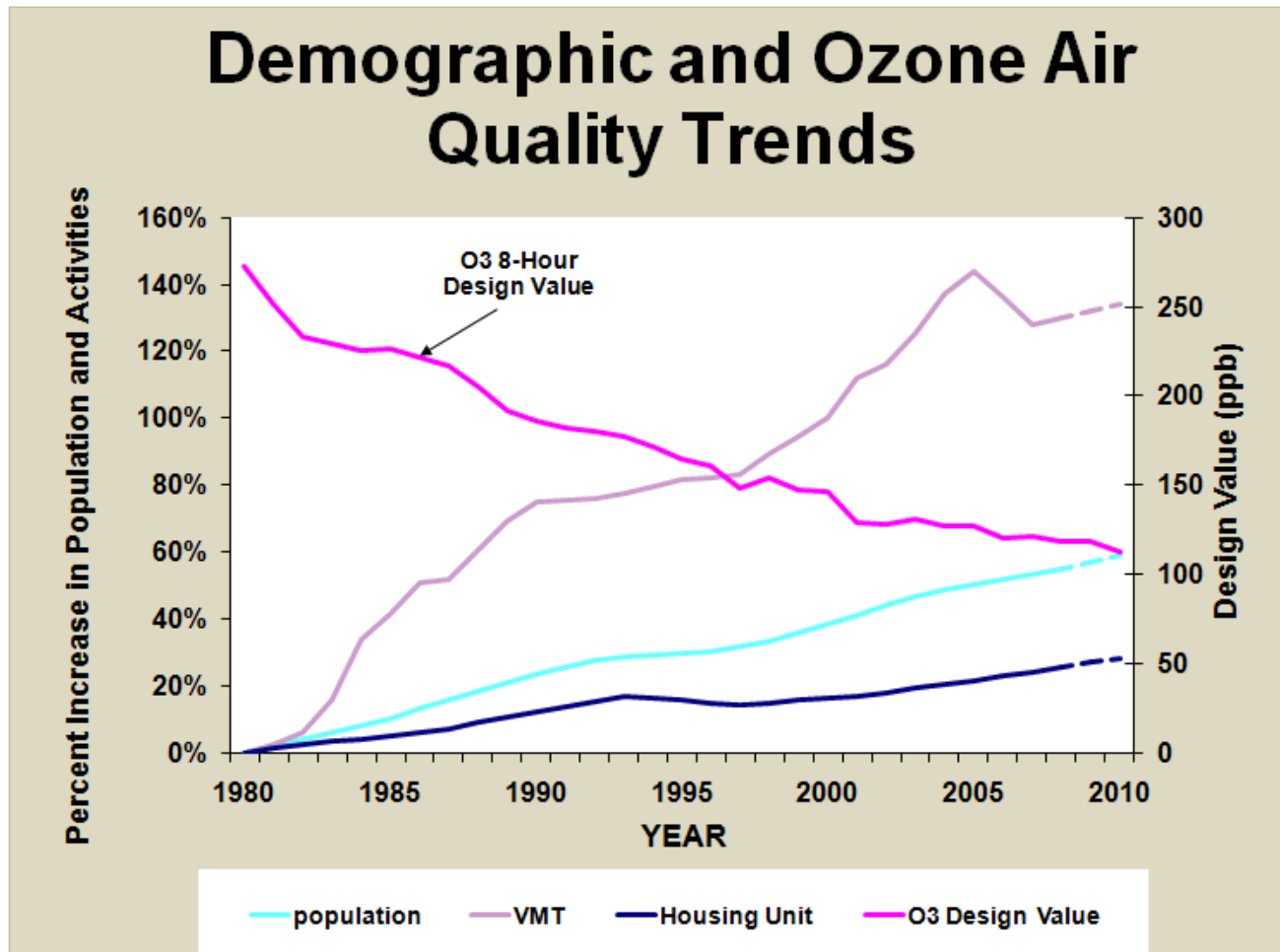
Regulatory and Policy Strategies

Barry Wallerstein
Executive Officer, SCAQMD

Climate Policy in an Energy Boom
Asilomar Conference Grounds
August 9, 2013



South Coast Air Basin Air Quality Progress With Growth *A Success Story*



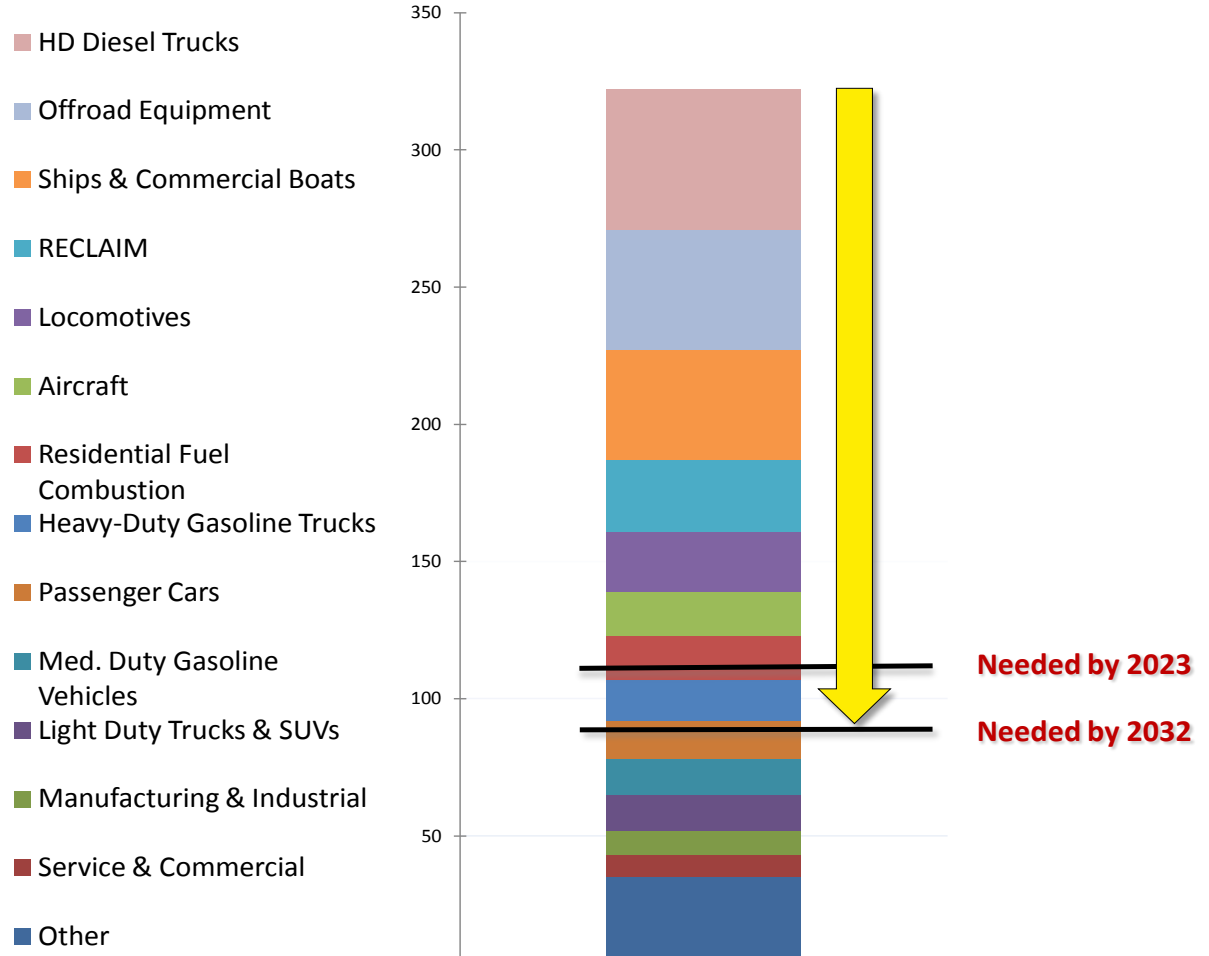
Health Impacts of Air Pollution in SCAQMD

- Premature deaths: thousands per year
- Hospitalizations
- Cases respiratory illness
- School absences
- Lost workdays

Two-thirds to three-quarters reduction in NOx needed to attain ozone standards

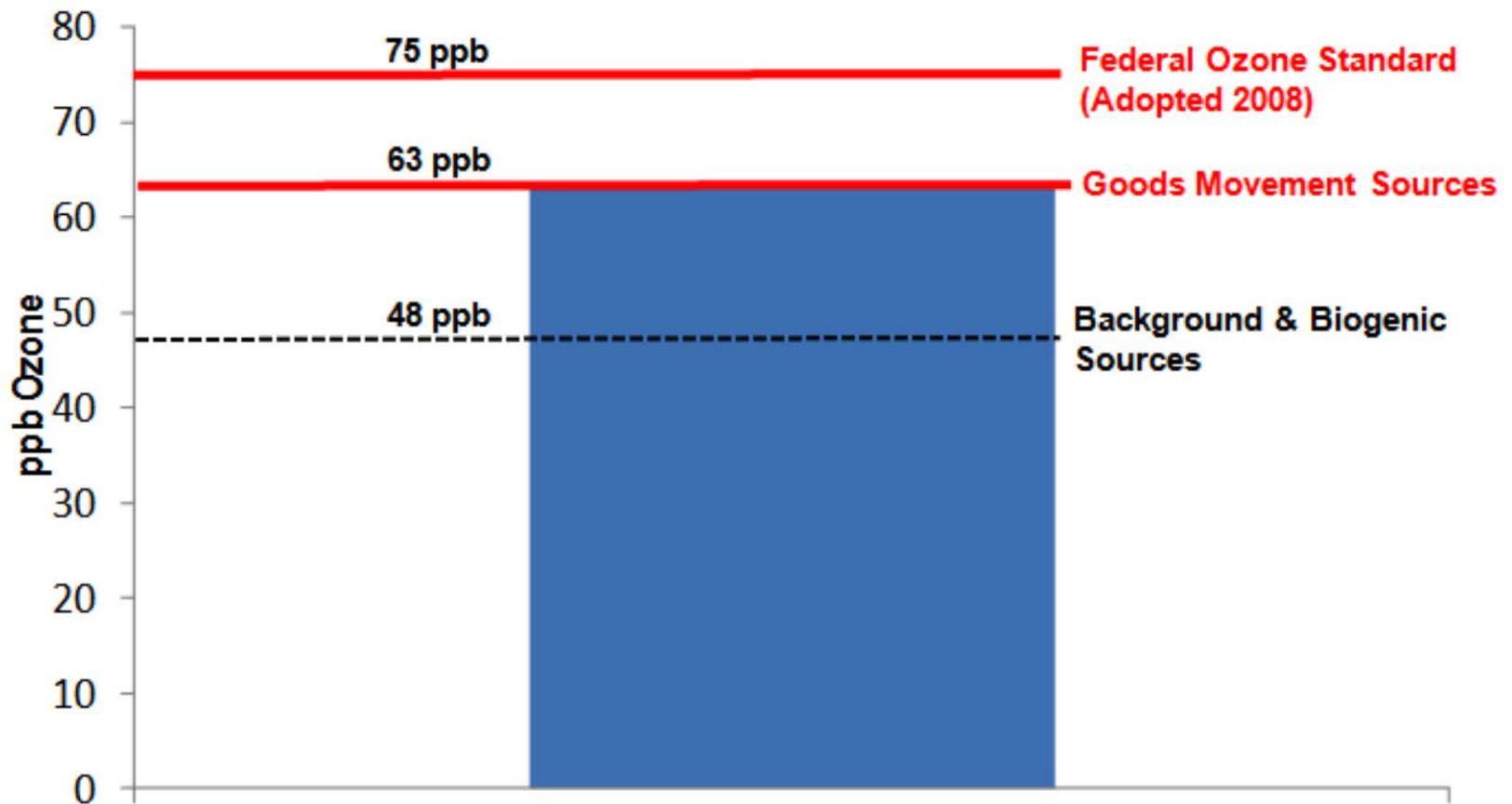
Nitrogen Oxides Emissions in 2023 with Adopted Standards

Additional Needed Emission Reductions



* Source: Ambient ozone modeling conducted by SCAQMD, 2012; final data

Goods Movement Contribution (2030)



Integrated Solutions

**Climate
Change**



**Air Quality
Improvement
Needs**



**Energy
Reliability and
Security**



**Transportation
& Land Use**



Past Success—Reason for Optimism

- LAMTA – Transit Buses
 - California’s largest transit agency (3rd largest in Nation)
 - 100% CNG in January 2011
- Port Trucks
 - Expedited turnover to 2007 +
 - Additional incentives for LNG
- Refuse Haulers
 - 34% alternative fuel
 - Waste Management has largest NG fleet in the nation



Continuing the Progress

- As in early 2000s, SCAQMD teaming with stakeholders (CEC, DOE, SoCalGas) to develop next generation NG engine
- Target is 0.02 g/bhp-hr to achieve emissions similar to power plant



Moving Toward Zero-Emission Technologies

- Hybrid trucks – 11 OEMs & 134 Models
- Hybrids with all electric range
 - Volvo
 - Capstone/Kenworth
- Battery & Fuel Cell
 - Transpower
 - Balqon
 - US Hybrids
 - Vision



Wayside Power

- Zero-emission on major corridors
- Hybrid with all electric range
- Demo project partners: Siemens, Volvo, ports, CEC, etc



Siemens Catenary Truck



2012 RTP: Warehouse infrastructure

Lessons Learned

- Don't underestimate human ingenuity
- Industry has found innovative, cost efficient ways to implement regulatory performance standards
- Progression from funding R&D to incentives and regulatory performance standards has been successful
- Importance of clear and sustained emission targets for industry to work towards
- Importance of sufficient—but not excessive—lead time

Lessons Learned, cont'd

- Regulatory programs have and can allow flexibility to make mid course corrections in technology and strategies
- Economics matter—seek the business case
- Political will and leadership are critical
- An informed public can create political will and leadership
- Comprehensive planning for energy, transportation/land use, climate and air quality—by federal, state, local government—is key