

Stakeholder/Agency Involvement in Port Air Quality Issues



Joseph Ray, Principal



Air Quality Background

- Emissions Inventories
- State Implementation Plans (SIPs)
- SIP Emissions Gap
- Voluntary Emission Reduction Measures

What's an Emissions Inventory?

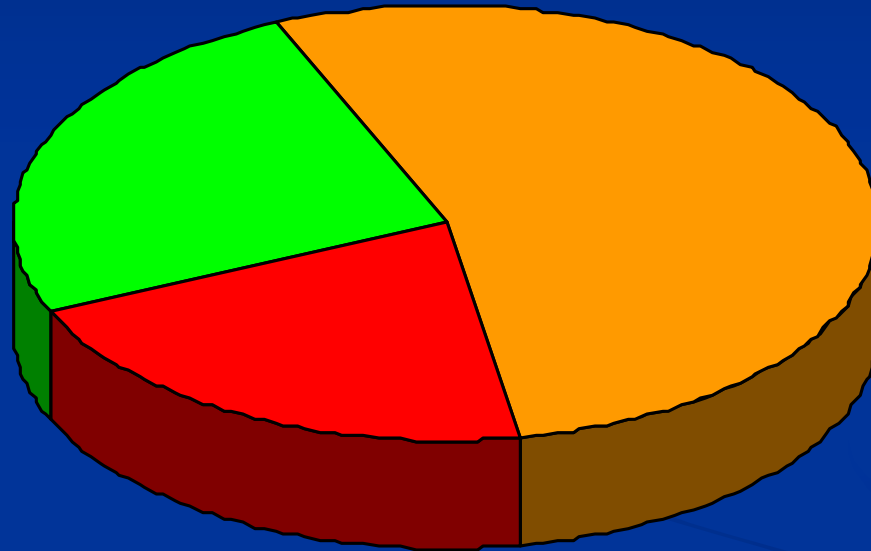
- At its simplest, an estimate of emissions of various pollutants from a specified set of sources
- At its best, a comprehensive tabulation of emission-producing activities and equipment
- Prelude to effective emission reduction program

Emissions Inventory

- Point Sources: refineries, factories, power plants
- On-Road Sources: cars, trucks, buses, motorcycles
- Off-Road Sources: trains, ships, construction equipment, port (cargo handling) equipment, and area sources

Example of Regional Emissions Inventory

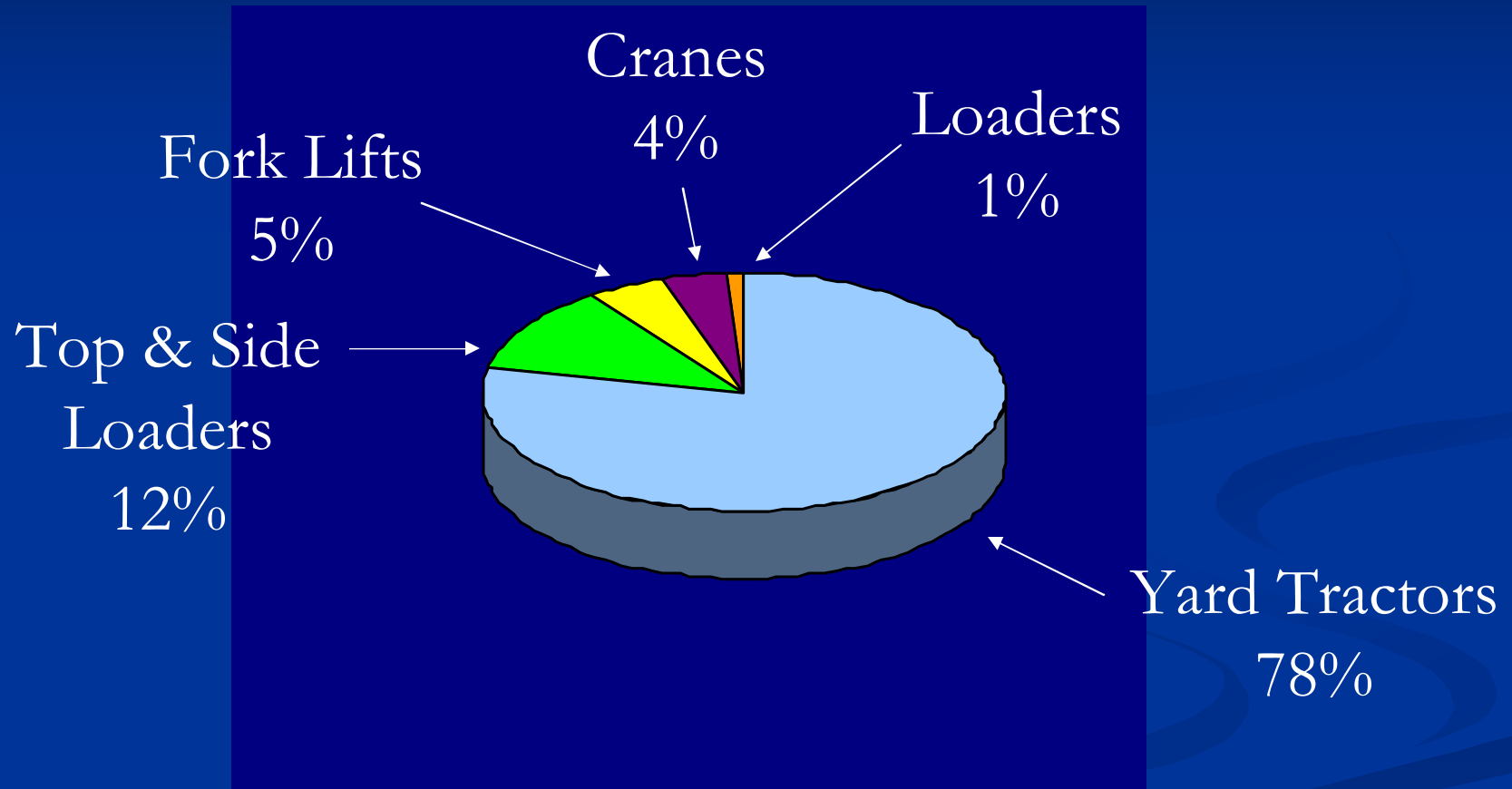
Sources
On-Road
25%



Point
Sources
54%

Non-Road and
Area Sources
21%

Example of Summary of Focused Emissions Inventory



What's a State Implementation Plan?

- A plan which demonstrates how an area will improve air quality to meet the federal health-based air quality standard

How a State Develops a SIP

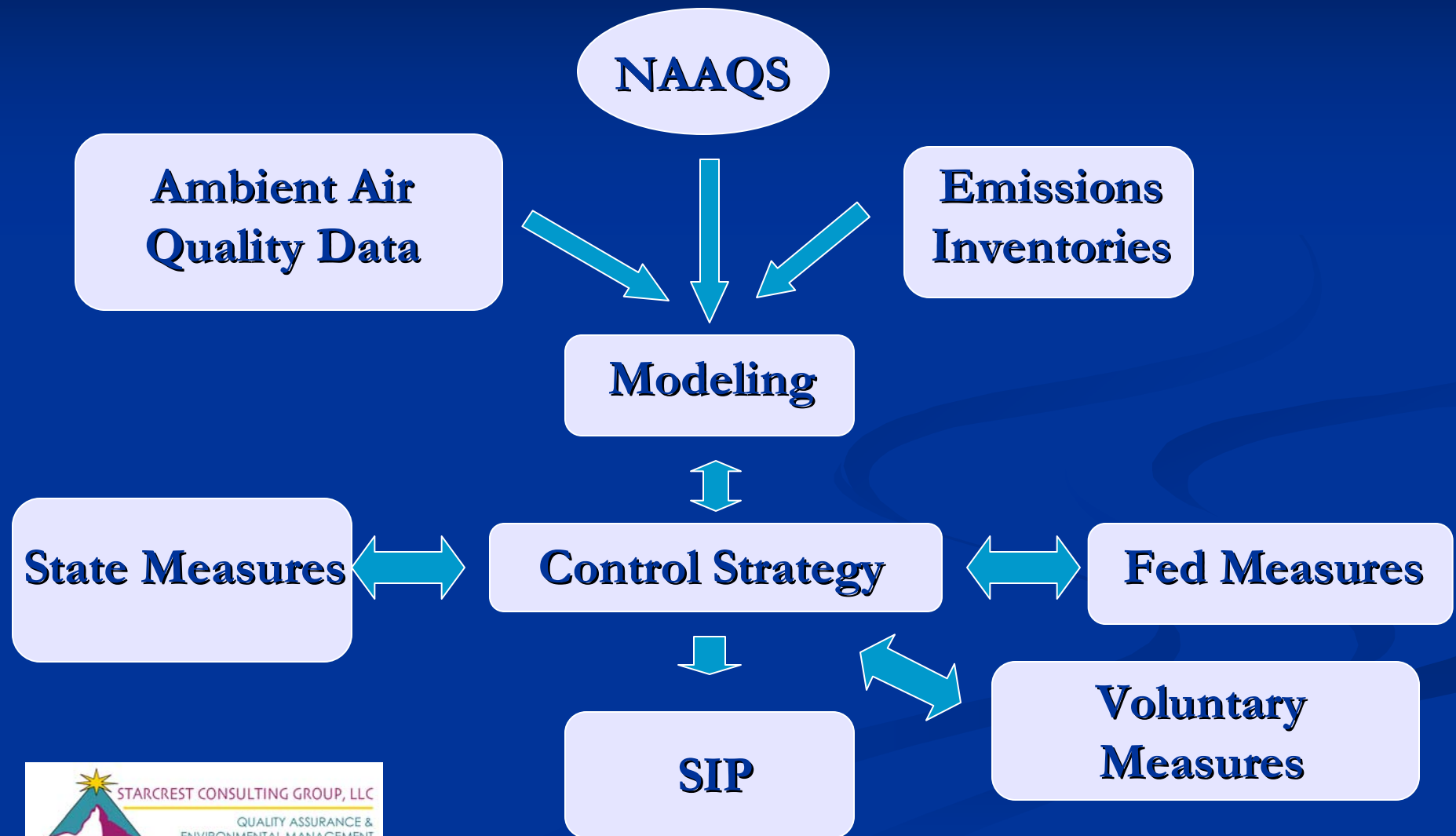
**National Ambient
Air Quality
Standards
(NAAQS)**

**Ambient Air
Quality Data**

**Emissions
Inventories**

Control Strategies

How a State Develops a SIP



What if it Doesn't Add Up?

- Attainment modeling shows that “X” tons of reductions are needed
- Control strategies (federal + state + voluntary) show that reductions will be “X – A”
- “A” is the “gap” that sends regulators back to the cutting board
- The solution can be unrealistic regulations or more “voluntary” measures

Voluntary Emission Reduction Measures

- Undertaken by non-regulatory entities
- Measures that are not required by local, state, or federal regulation
- Early implementation of upcoming measures

Voluntary Emission Reduction Measures

- Reasons to develop voluntary measures
 - SIP gap (to stave off unrealistic regulations)
 - Generate favorable publicity
 - Mitigate perceived negative impact on community
- In all cases, cooperation of stakeholders and regulators is essential

Stakeholder/Agency Involvement

- Houston's Experience
- New York / New Jersey
- Southern California Ports
- Puget Sound Maritime Air
Forum



Stakeholder/Agency Involvement

HOUSTON



Houston Background

- Houston-Galveston Area was Severe Non-Attainment for Ozone
- Modeling Showed Need for Substantial NO_x Reductions
- TNRCC was Looking for all Available Reductions
- Their List Included the Kitchen Sink

Port of Houston

Cargo Handling Equipment EI

- Visited Every Terminal/Operator
- Collected Data on *Virtually All* CHE (887 pieces of Equipment)
- NONROAD Model for Emissions
- Estimates had Credibility because of the Data Provided by Operators

Houston Area Construction Equipment EI

- Houston Construction Industry Coalition
- Provided input on methodology
- Provided data or access to data
- Better data lowered construction equipment emission estimates
- Better data improved agency's knowledge of emission distribution

Houston-Galveston Commercial Marine Vessel EI

- State Planned to Estimate Emissions, Port said “We can do it better”
- Over 60 Parties Involved
 - Port Pilots – boarding program, detailed information
 - Shipping lines – boarding program approval, operating information
 - Tow boat companies – detailed fuel data
 - Marine Exchange – detailed arrival/departure information
- Agency personnel provided input and were kept informed

HGAVEI Findings

- Traditional Inventories – Top Down
- HGAVEI Approach – Bottom Up
- Vessel Emissions Were Previously Over-Estimated
 - 1990 HGAVEI: 14.6 tpd VOC 75.3 tpd NO_x
 - 1991 HGAVEI: 3.8 tpd VOC 40.0 tpd NO_x
 - 1993 HGAVEI: 4.3 tpd VOC 50.6 tpd NO_x
 - 2000 HGAVEI: 1.0 tpd VOC 31.5 tpd NO_x

Benefits of Detailed EI

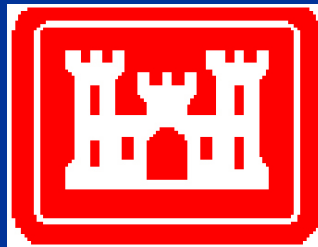
- HGAVEI Included in State Implementation Plan (SIP)
- This corrected previous overestimates, made the Port a smaller target, and reduced the NO_x “gap”
- Bayport CT emissions added to SIP – agency publicly defended Port against detractors

Stakeholder/Agency Involvement

New York / New Jersey



THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY



New York/New Jersey Regional Air Team

- Harbor deepening project put on hold because of General Conformity concerns
- Collaborative effort among PANYNJ, USACE-NYD, States of New York and New Jersey, U.S.EPA

NY – NJ Regional Air Team

- Developed first ever conditional statement of general conformity
- Allows project to proceed while offset plans are developed and implemented



Stakeholder/Agency Involvement

Puget Sound Maritime Air Forum



Puget Sound Maritime Air Forum

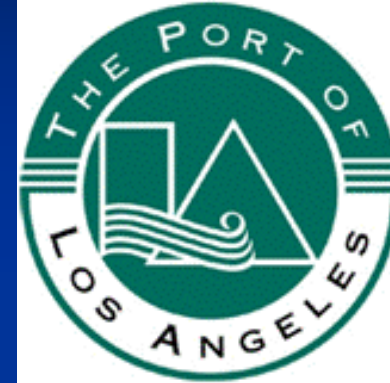
- Collaboration among Puget Sound area ports, local, state and federal agencies, industry associations, and health groups
- More than 20 member entities
- International collaboration includes coordination with similar EI being prepared for the Georgia Basin in British Columbia

Puget Sound Maritime Air Forum

- Purpose is to stay “ahead of the curve” with respect to maritime-related air issues
- Forum’s projects include air emissions inventory planned along the lines of previous bottom-up EIs
- Outreach, information sharing

Stakeholder/Agency Involvement

Port of Los Angeles



Port of Long Beach



Port of Los Angeles

- Developed emissions inventory using bottom-up approach with stakeholder assistance/input
- Marine vessels, CHE, trucks, trains
- Cooperation/consultation group with POLB, ARB, SCAQMD, EPA to gain their buy-in and support
- Baseline EI 2001, currently updating to 2005

Port of Long Beach

- Developed emissions inventory using bottom-up approach with stakeholder assistance/input
- CHE, trucks, trains, recently added marine vessels
- Cooperation/consultation group with POLA, ARB, SCAQMD, EPA to gain their buy-in and support
- Baseline EI 2002, currently updating to 2005

Ports of Los Angeles and Long Beach

- ARB and SCAQMD had substantial review role in EI development
- Ports' inventories and methods used by ARB to update state and district SIPs
- This ensures the state has the best available data on which to base their SIP attainment planning

Port of Los Angeles

- No Net Increase Task Force
- Mayor of City of Los Angeles pledge to hold Port emissions at 2001 levels
- Same multi-agency working group (minus POLB) – plus railroads, other industry groups
- 68 measures to reduce emissions
- Some more practical than others...

Port of Los Angeles

- Pacific Rim Ports Air Quality Collaborative
 - Information Exchange
 - Collaboration on Emission Reduction Initiatives



Conclusions

- Stakeholder involvement can greatly increase detail and accuracy of emissions inventories
- Degree of voluntary cooperation can grow with history of successful teamwork

Conclusions

- Agency involvement builds credibility with public and the agencies themselves
- Credibility provides ports with access and influence on regulatory measures

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