

Evaluation of HGB Stationary Source Emission Control Strategies for the 2018 8-Hour Ozone SIP

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Stakeholders Meeting, Houston
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Project Scope

- Collaborate with TCEQ and stakeholders
- Develop potential control strategies
 - Started with list prepared in 2006
- Quantify the strategies with any benefit
 - Voluntary
 - Local implementation
 - Potential regulations not discussed

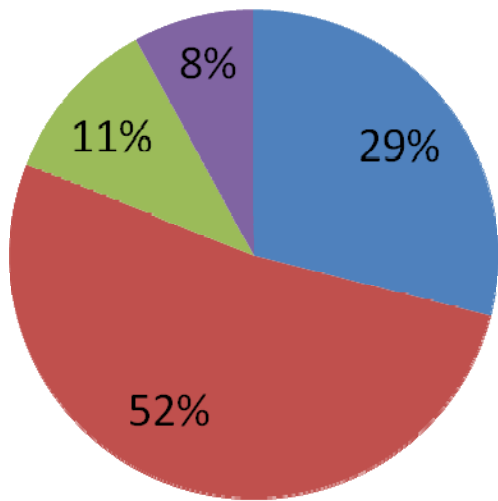
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VOC Emissions in the HGB 8-County Non-Attainment Region

Source: TCEQ Initial 2018 HGB Modeling Emissions Inventory

2005 VOC Baseline Emissions

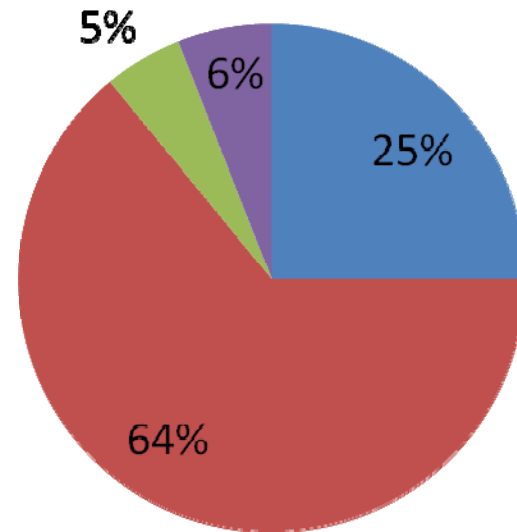
- Point
- Area
- On-Road
- Non-Road



Total = 992 tons per day

2018 VOC Future Modeling Emissions

- Point
- Area
- On-Road
- Non-road



Total = 1011 tons per day

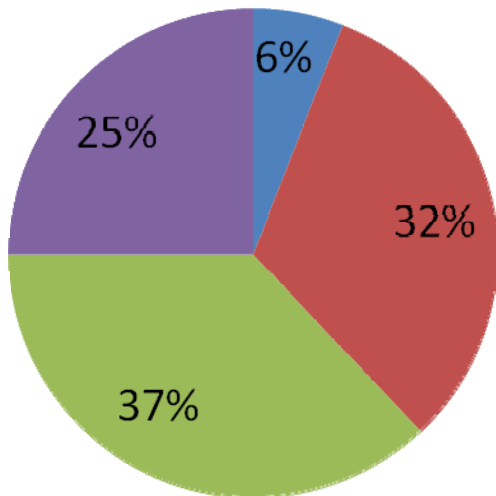
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NOx Emissions in the HGB 8-County Non-Attainment Region

Source: TCEQ Initial 2018 HGB Modeling Emissions Inventory

2005 NOx Emissions Baseline

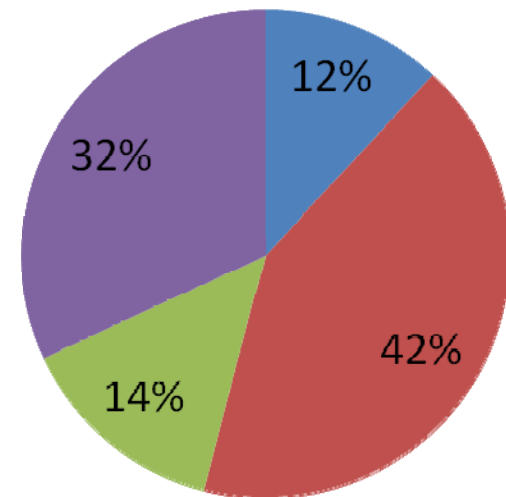
- Area
- Point
- On-Road
- Non-Road



Total = 600 tons per day

2018 Future Modeling Emissions

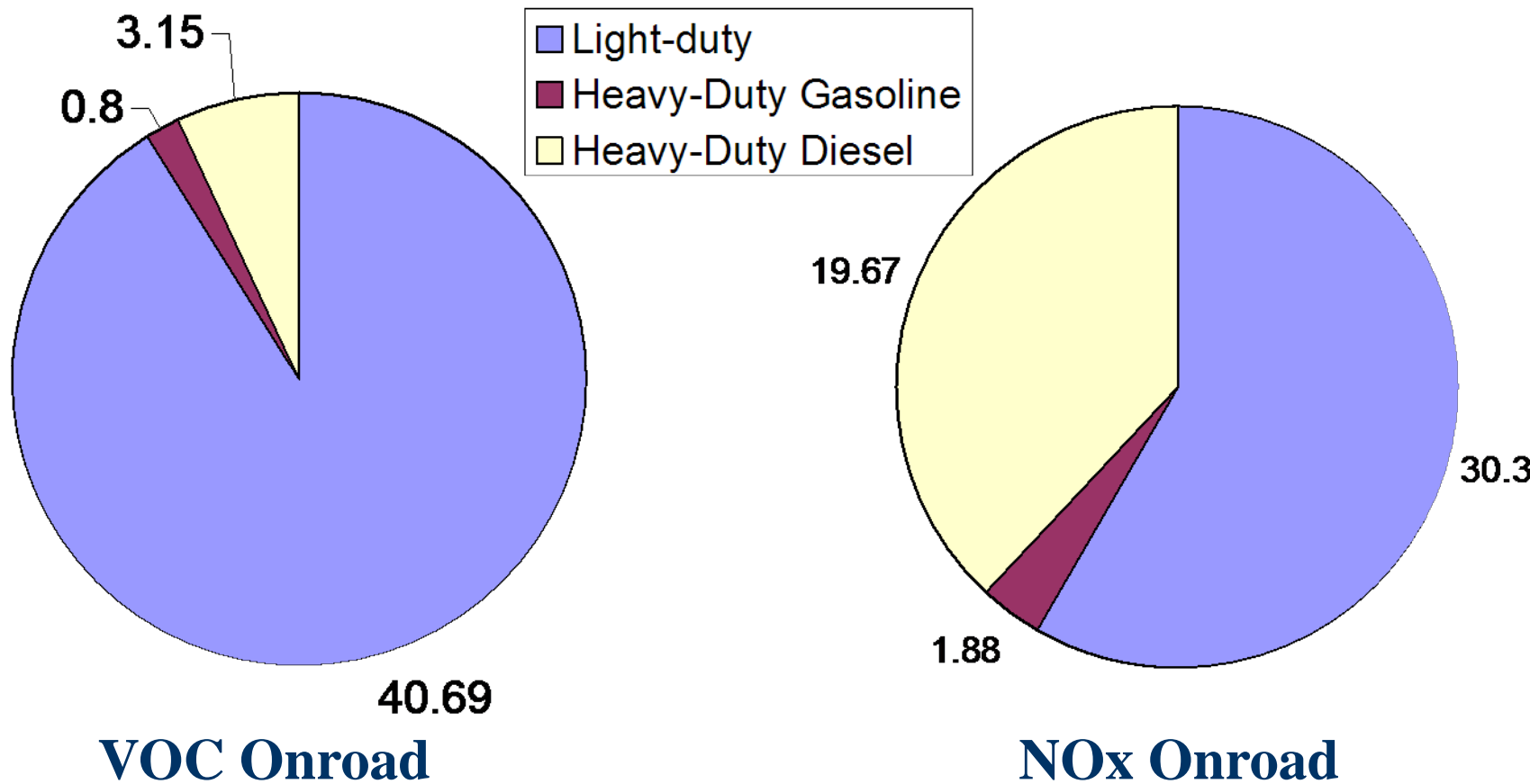
- Area
- Point
- On-Road
- Non-Road



Total = 364 tons per day

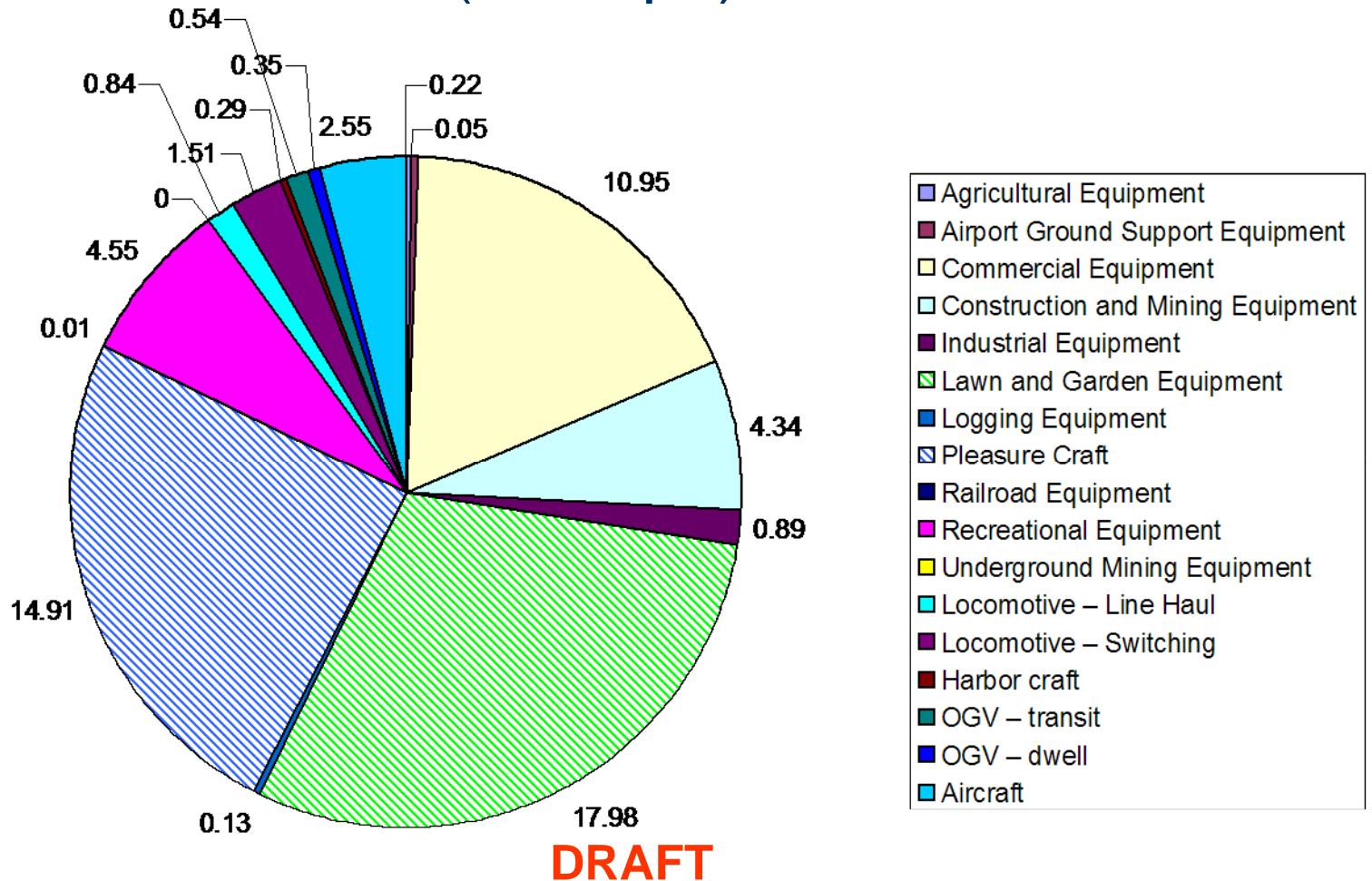
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HGB 2018 Baseline Onroad VOC and NO_x Inventory (44.6 tpd VOC and 51.7 tpd NO_x)

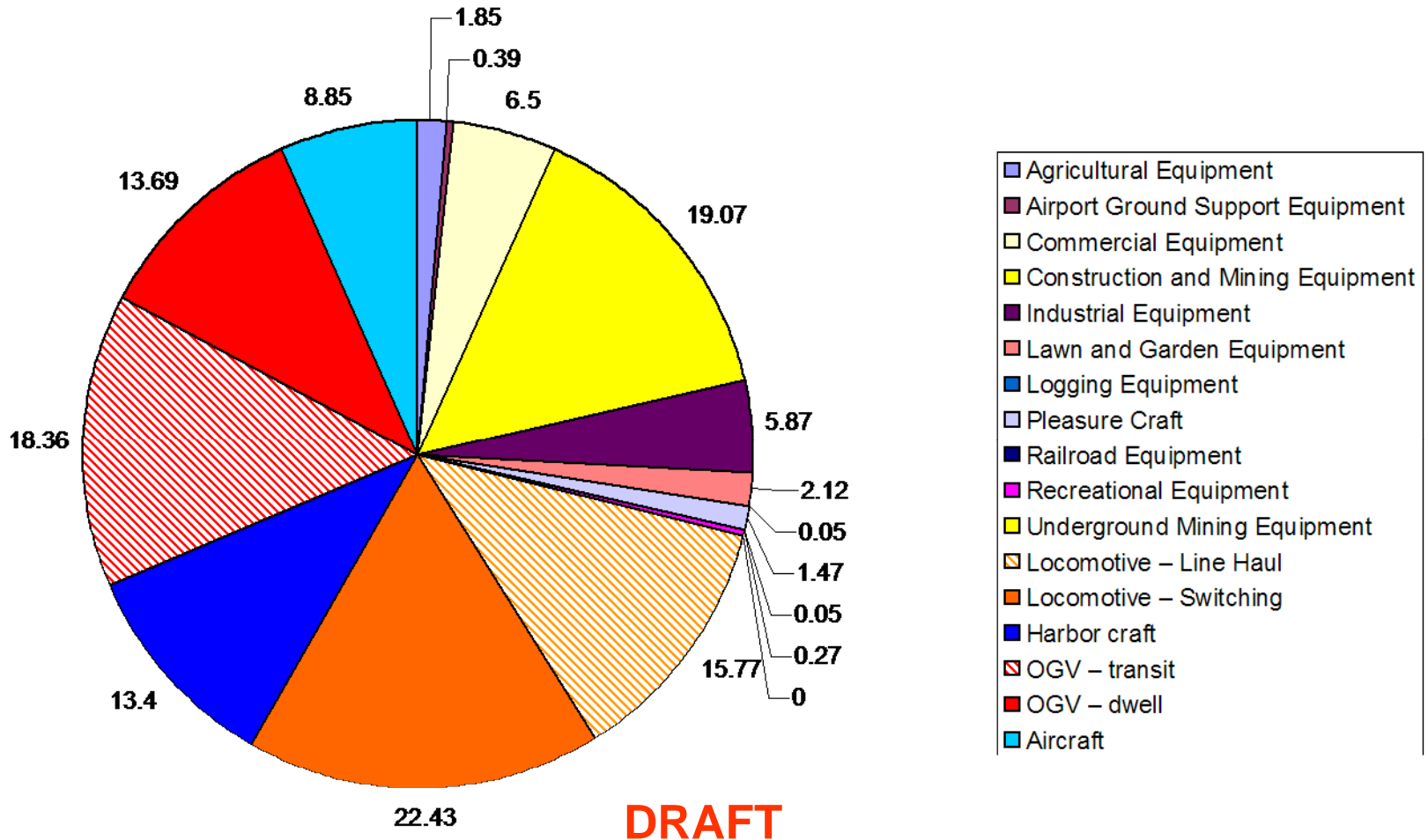


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HGB 2018 Baseline Offroad VOC Inventory (60.1 tpd)



HGB 2018 Baseline Offroad NOx Inventory (128.4 tpd)



Mobile Source Master List

- Developed from
 - HGB 2006 master list
 - TCEQ, H-GAC and other suggestions
 - ENVIRON review

Control Measure Evaluation Methodology

- Phase I: Screening/**Qualitative** evaluation
 - Any potential quantifiable reduction at all
- Phase II: **Quantitative** evaluation
 - Quantification of emission benefits, costs, and technical feasibility
 - Only voluntary and local implementation

Screening Step

- Screening against SIP criteria
 - Permanent?
 - Quantifiable?
 - Enforceable?
 - Surplus?
- 26 Onroad Measures included
- 8 Offroad Measures

Short List of Onroad Control Measures (highest impact measures)

1. **Clean Vehicles/TERP Retrofit/Replacement Program (1-2.5 tpd NO_x)**
2. **Fuel/VMT Pricing measures**
 - a) **Tax**
 - b) **Mileage-based insurance (3 VOC, 2.2 NO_x)
~5 cents/mile**
 - c) **Mileage-based registration**
3. **Alternative commuting options (2 VOC, 1.5 NO_x)**
4. **I/M for Chambers, Liberty, Waller Co. (1 VOC, 1.25 tpd NO_x)**

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Short List of Offroad Control Measures (highest impact measures)

1. **TERP-style replacement program**

- a) Offroad (2.5 tpd NO_x)
- b) Marine (2 – 4 tpd NO_x)
- c) Locomotive (2 – 3.5 tpd NO_x) (Ownership)

2. **Large ocean-going vessels (spatial issues)**

- a) Berthing (6.8 tpd NO_x)
- b) Engine controls (4 tpd NO_x)
- c) Fuels (2 – 3.5 tpd NO_x)
- d) Speed reduction (outside of the area) (4 tpd)

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Individual Measures Discussion

- Draft Report December 5, 2008
 - Section 5 Summary
 - Appendix C and D Detailed Discussion
- Comments Period
 - Begins: December 8, 2008
 - Ends: January 15, 2009
- Final Report February 20, 2009

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