

# Mobile Source Committee Update

## OTC Stakeholder's Meeting

March 16<sup>th</sup>, 2011

Linthicum, MD



**OZONE** TRANSPORT COMMISSION

# Overview

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1. Nonroad Idling Model Rule
  1. Stakeholder Outreach
  2. Revised Draft
2. Goods Movement
3. Inventory Analysis

# Nonroad Idling Model Rule

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- Goal: Reduce emissions by decreasing unnecessary idling from nonroad engines
- Nonroad diesel engines are major sources of:
  - Oxides of Nitrogen ( $\text{NO}_x$ )
  - Fine Particulate Matter ( $\text{PM}_{2.5}$ )
  - Toxic Air Pollutants
- Many states prohibit unnecessary idling of highway diesel trucks, but only a few prohibit it for non-road equipment

# Nonroad Idling Emissions

- Different data sets produce a range of idling rates
- Using the range of rates, if all unnecessary idling in the OTR is reduced, the following emission reductions would result:

Data Source	Idling Rate	NOx(tpy)	HC(tpy)	PM(tpy)
John Deere	42%	8,188	4,172	803
CARB	7.2%	1,474	751	145

# Nonroad Idling: Stakeholder Review

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- Model Rule posted on 9/2010
- Solicited comments at Fall '10 Stakeholder Meeting
- Hosted stakeholder calls on:
  - 11/22/10 with Associate General Contractors (AGC)
  - 12/02/10 with RRI Energy
  - 02/01/11 with EMA, AGC, and other Manufacturers
- Evaluated and incorporated comments
- Drafted an accompanying guidance document
- Posted revised draft on 3/11/2011
- Additional comments can be sent to OTC by 3/31

# Nonroad Idling: Guidance Document

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- Stakeholders expressed a variety of concerns about certain activities when idling is necessary
- Many of the exemptions qualified under the existing language of the model rule
- To address these concerns a guidance document was written that:
  - Clarifies exemptions in model rule
  - Allows the model rule to remain concise

# Nonroad Idling: Guidance Document

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- The document includes:
  - Frequently Asked Questions about idling
  - Summary of the regulation
  - Examples of idling exemptions
- The document is intended to assist:
  - Site managers
  - Compliance officers

# Nonroad Idling: Model Rule Changes

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- *3-minute idling limit should be extended:*
  - Existing nonroad idling provisions in the OTC have limits of 3 or 5 minutes and this range will be included
- *Definition of “nonroad diesel” should be changed to match 40 CFR 89:*
  - Modified to reflect the language in 40 CFR 89
- *Definition of “idling” should be simplified:*
  - Simplified language was incorporated



# Nonroad Idling: Guidance Clarifications

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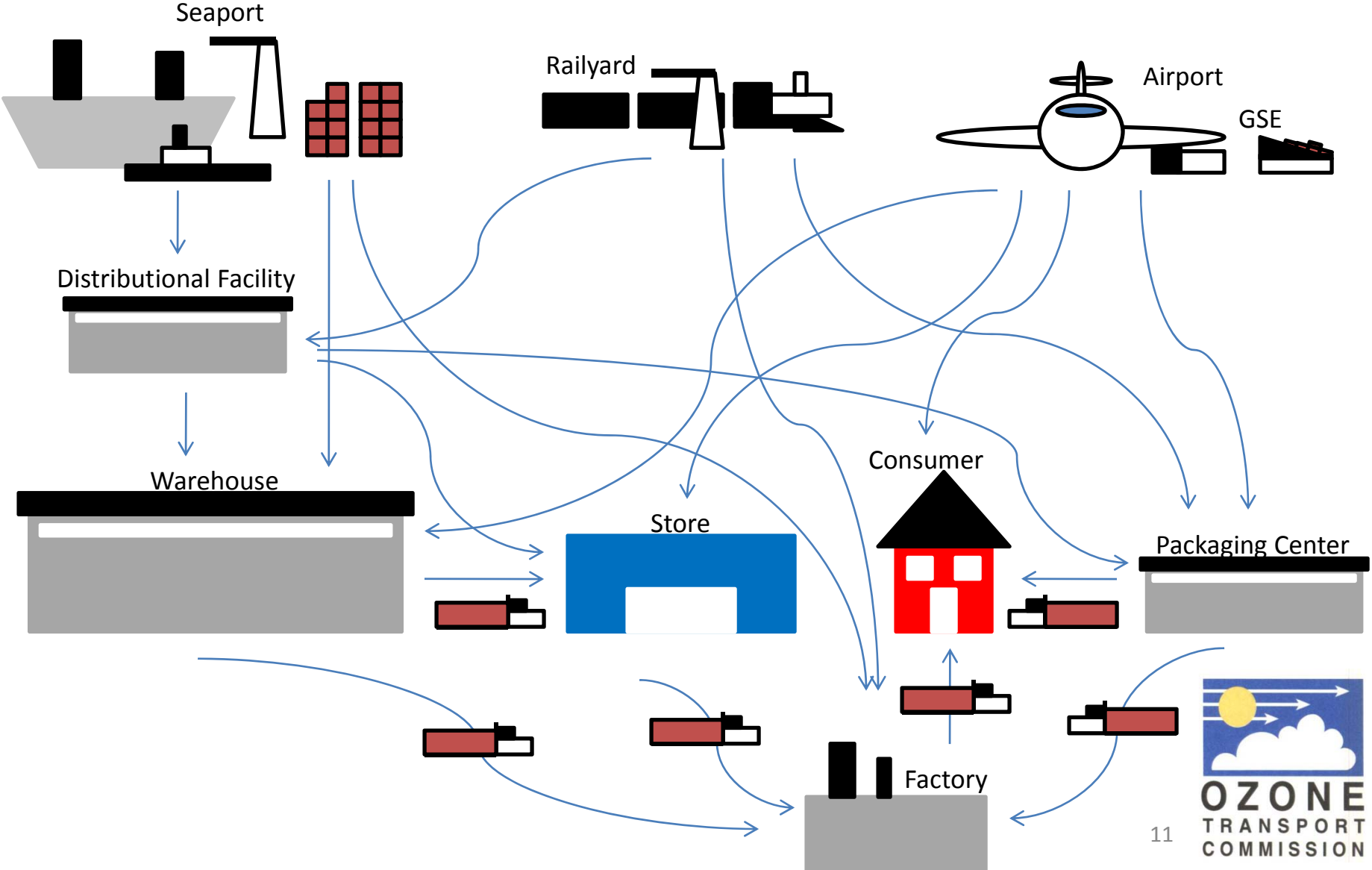
- *Requests for exemptions that are already included in the model rule:*
  - Heating/cooling in extreme weather
  - Specific processes including mixing, dumping, processing cargo, heating and refrigeration, utility service restoration
  - Loading/unloading property
  - Warming up an engine to manufacturer's recommended operating temperatures
  - Defogging, deicing and snow removal
  - Operation of safety lights

# Nonroad Idling: Other Comment Responses

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- *Liabile party language should be simplified:*
  - States often hold different parties liable and this approach allows for this flexibility
- *Tier 4 engines should be exempted:*
  - Though cleaner, Tier 4 engines still pollute and unnecessary idling can be reduced
- *Unlimited queuing should be allowed:*
  - Following the CA rule, 15 minutes is the allowable limit for queuing when idling

# Goods Movement Strategy: Overview



# Goods Movement Strategy: Next Steps

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- Analysis of Inventory
  - Strategy Proposal Document
  - Determine Source Categories involved
  - Rank Categories to determine areas of focus
- Stakeholder Involvement
  - Seeking input on the Strategy Proposal
  - Comments can be transmitted to OTC by 3/31
- June Meeting - Goal
  - Provide Preliminary Analysis
  - Determine Focus of Strategy

# Goods Movement Strategy: Next Steps

- Examples of Source Categories

Description	SCC
Off-highway Vehicle Diesel; Industrial Equipment; Aerial Lifts	2270003010
Off-highway Vehicle Diesel; Industrial Equipment; Forklifts	2270003020
Off-highway Vehicle Diesel; Industrial Equipment; Sweepers/Scrubbers	2270003030
Off-highway Vehicle Diesel; Industrial Equipment; Terminal Tractors	2270003070
Off-highway Vehicle Diesel; Commercial Equipment; Generator Sets	2270006005
Off-highway Vehicle Diesel; Commercial Equipment; Air Compressors	2270006015
Off-highway Vehicle Diesel; Commercial Equipment; Welders	2270006025
Marine Vessels, Commercial; Diesel; Harbor Vessels	2280002020
Marine Vessels, Commercial; Diesel; Fishing Vessels	2280002030
Marine Vessels, Commercial; Diesel; Port emissions	2280002100
Marine Vessels, Commercial; Residual; Port emissions	2280003100
Railroad Equipment; Diesel; Line Haul Locomotives: Class I Operations	2285002006
Railroad Equipment; Diesel; Line Haul Locomotives: Class II / III Operations	2285002007



# Summary of the Next Steps

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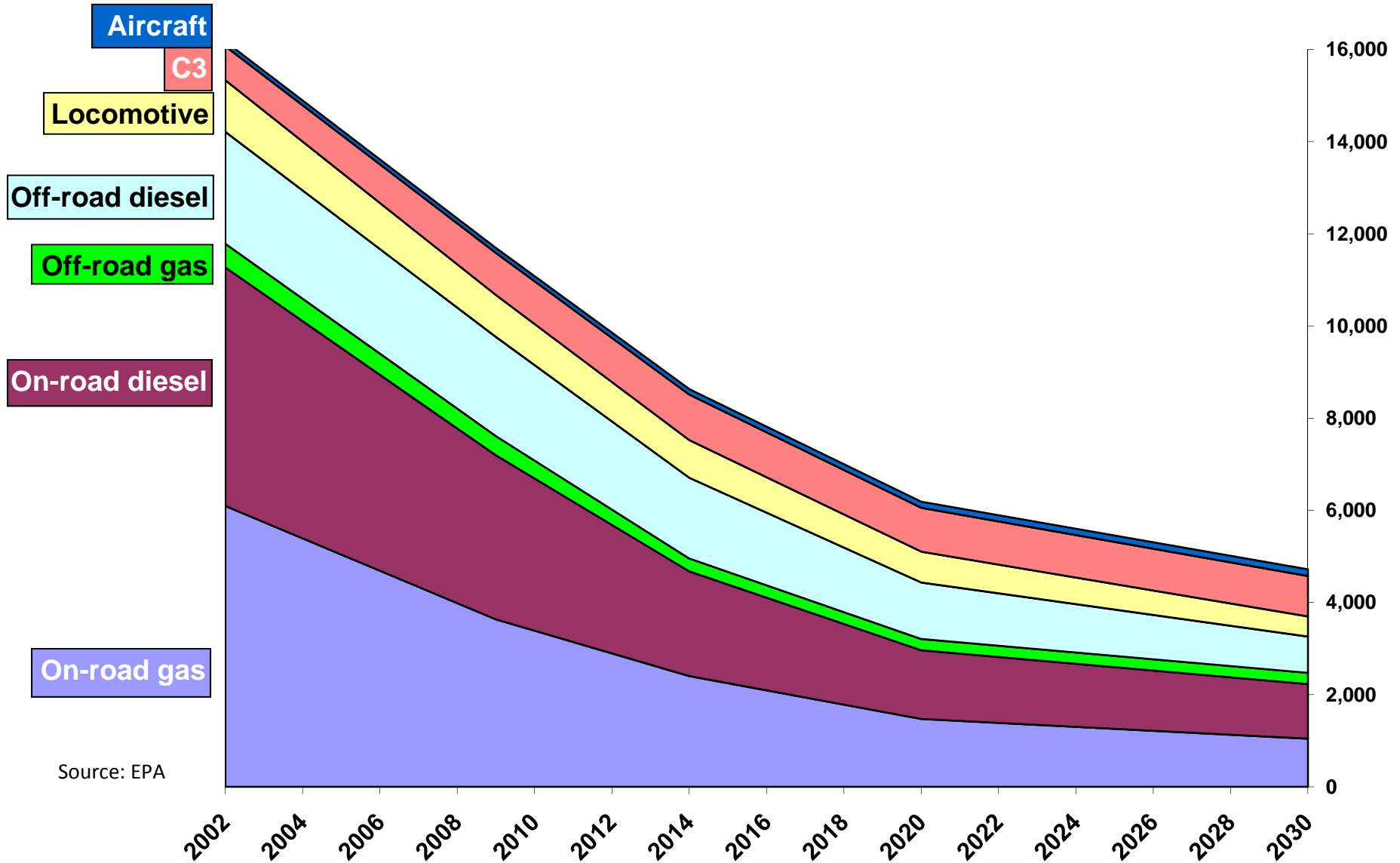
- Non-Road Idling
  - Stakeholder Comments due March 31<sup>st</sup>
  - Technical Support Document in Mid-April
  - June Commission Meeting
- Goods Movement
  - Comments on Strategy Proposal due March 31<sup>st</sup>
  - Continued Inventory Analysis
- Inventory Analysis
  - Incorporate onroad MOVES estimates
  - Analyze categories

# EPA National Mobile Inventory Estimates

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- Estimates from the National perspective
- Includes federal rules that are on the books as of March 2010:
  - C3 Marine
  - C1/C2 Marine
  - Locomotives
  - Nonroad Spark Ignition
- The analysis does not include:
  - Light Duty GHG
  - Heavy Duty GHG

# Annual U.S. Mobile Source NO<sub>x</sub> Emission Projections (ktons per year) Including C3 Marine (ECA) Control

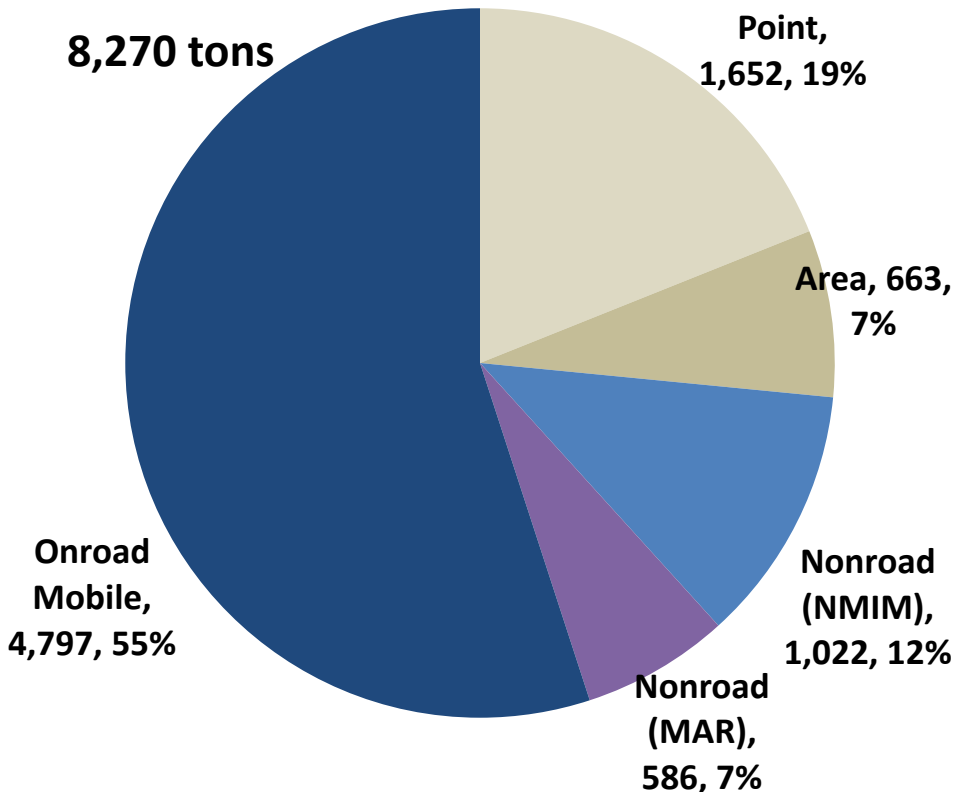


Source: EPA

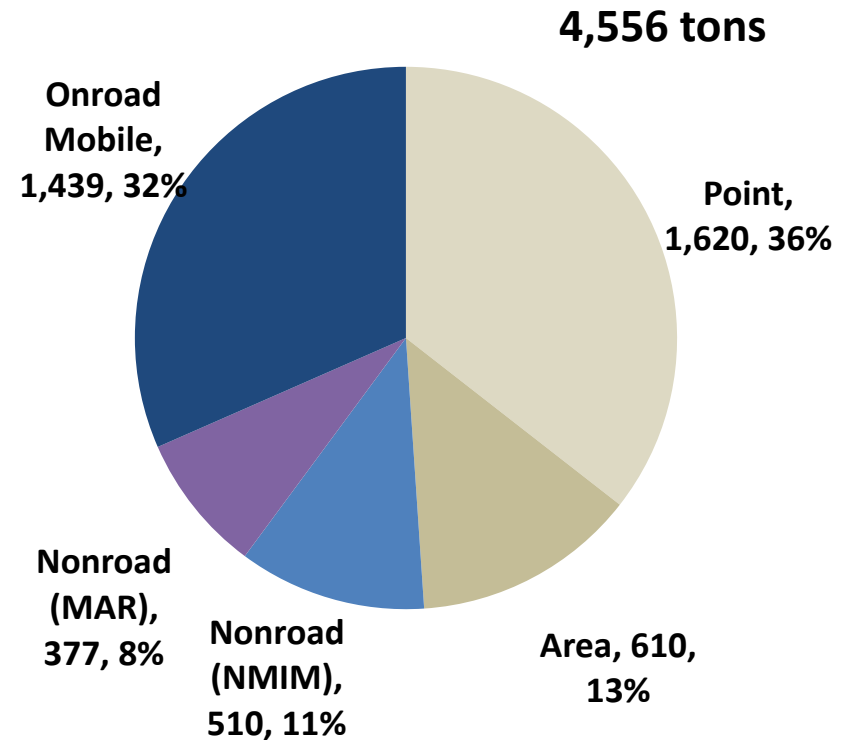


# NO<sub>x</sub> July Avg. Daily Tons

## NO<sub>x</sub> 2007 Average July Day

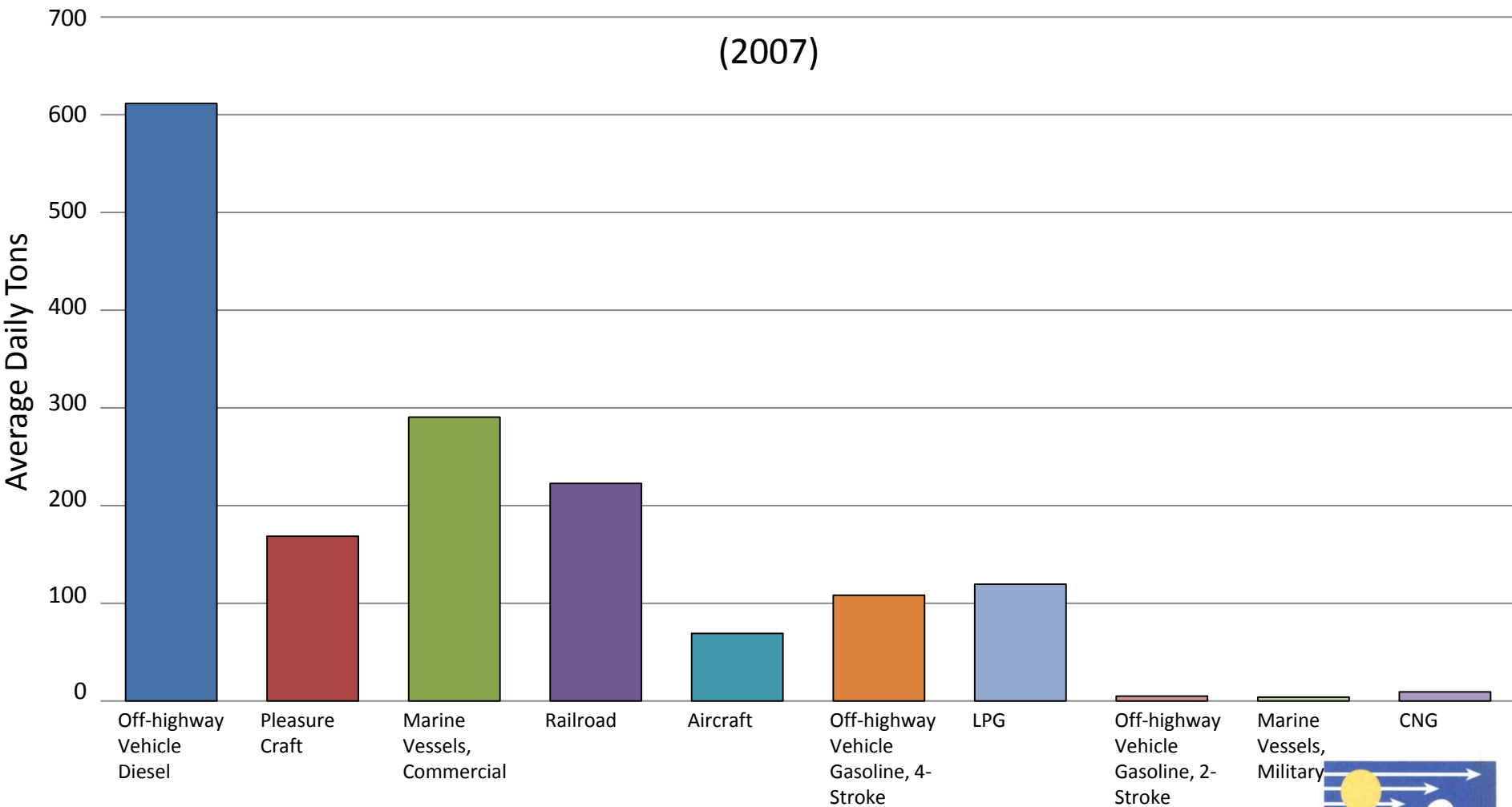


## NO<sub>x</sub> 2020 Average July Day



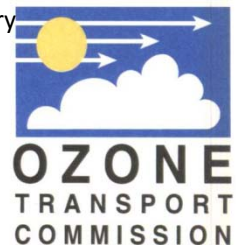
- Onroad Mobile is an interpolated 2007 emissions using MOBILE6.2 and MOVES Adjustment Factors
- "Scenario 3" reductions are used to produce estimate for 2020 Onroad Mobile
- No growth or reduction is assumed from 2007 to 2020 for EGUs
- Nonroad and EGUs are estimates of an average July day
- Onroad Mobile, M/A/R, Non-EGU Point, and Area are estimates of an average annual day
- For the OTR + VA

# Nonroad NO<sub>x</sub> July Avg. Daily Tons



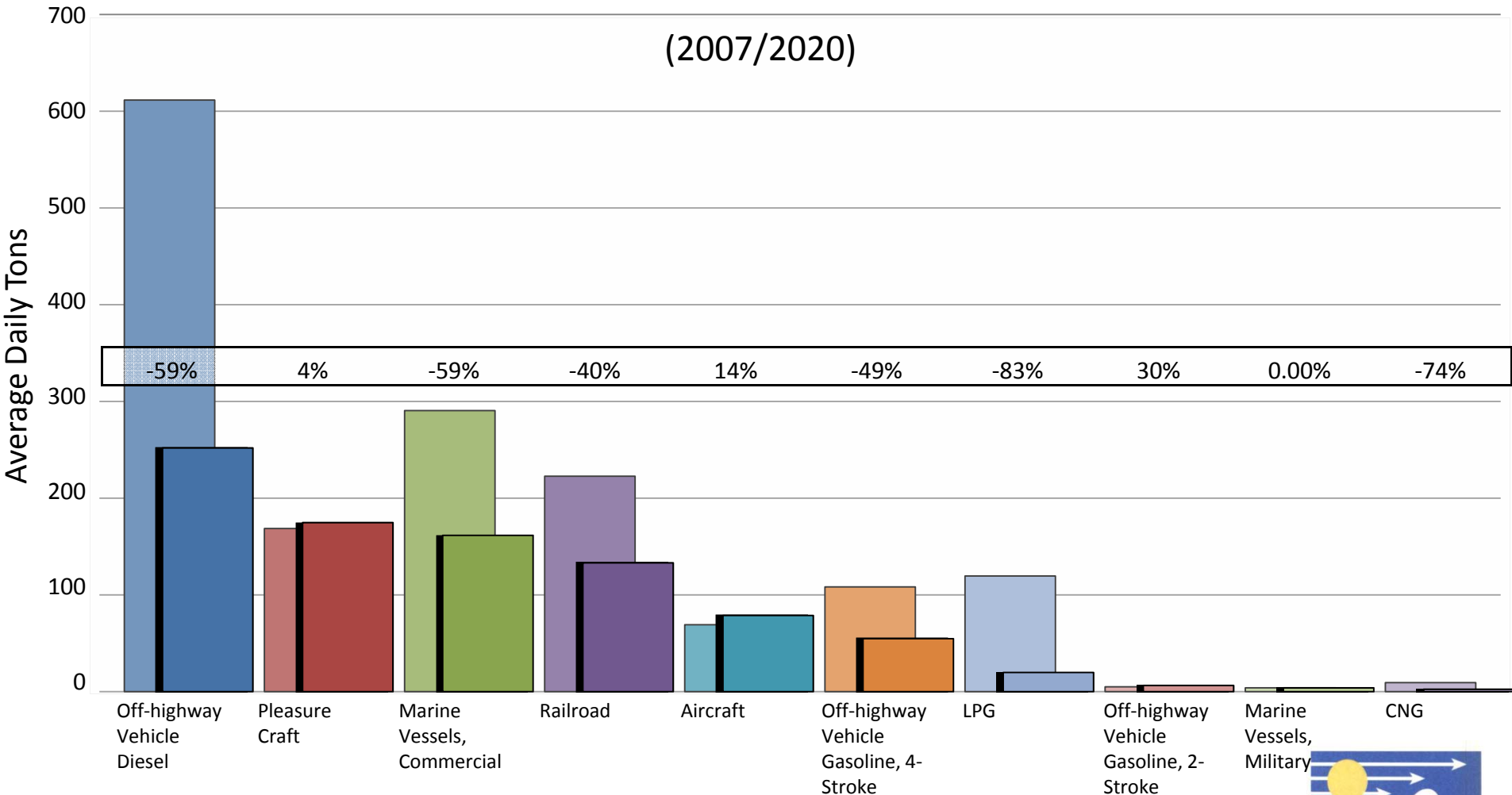
2007 Marine/Air/Rail: Updated 02/17/2011, Other Nonroad: Updated 09/29/2010

2020 Marine/Air/Rail: Updated 02/17/2011, Other Nonroad: Updated 01/05/2011



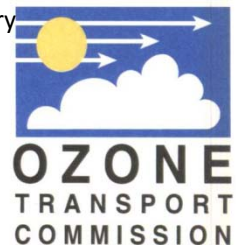
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(2007/2020)

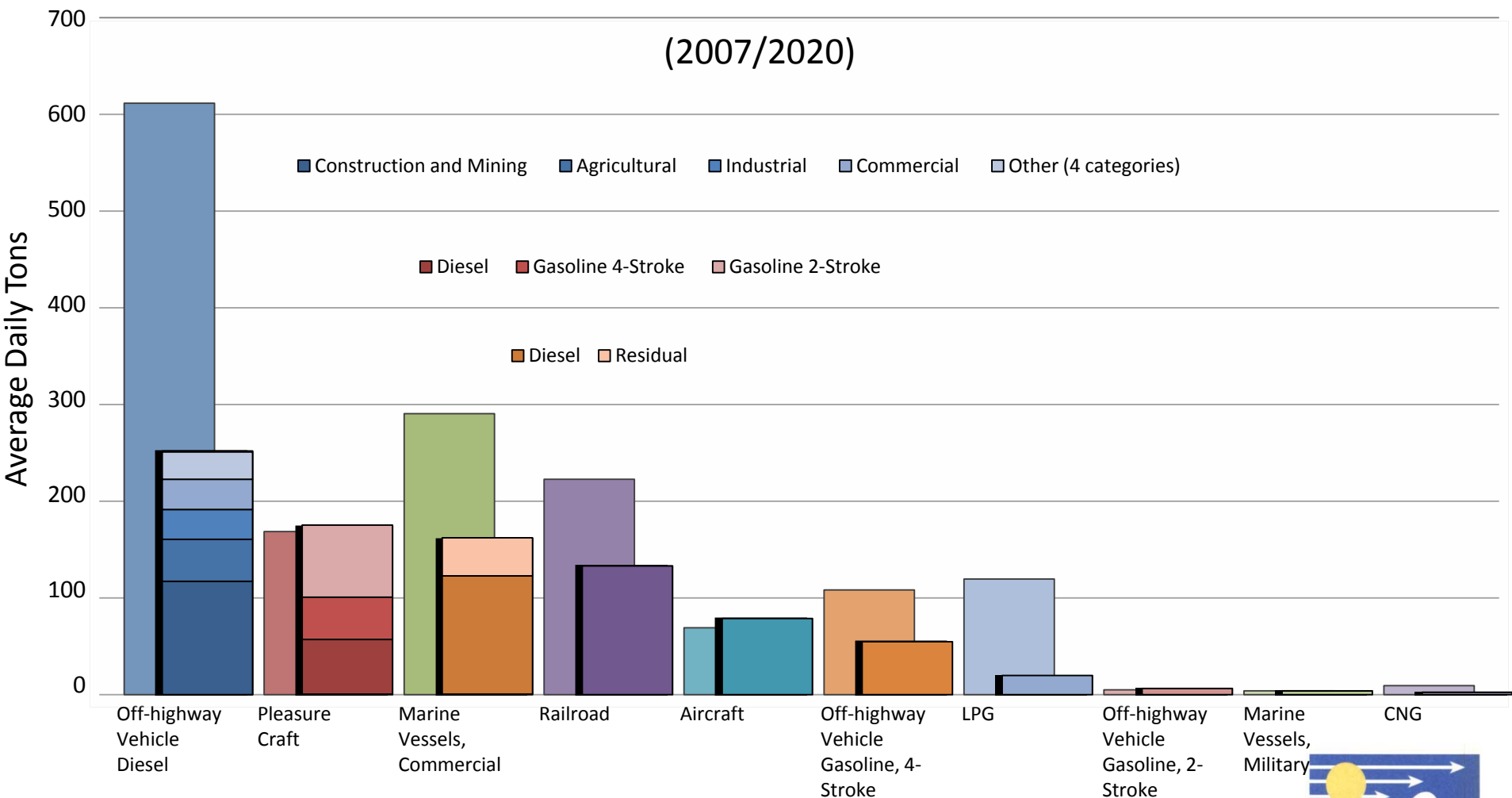


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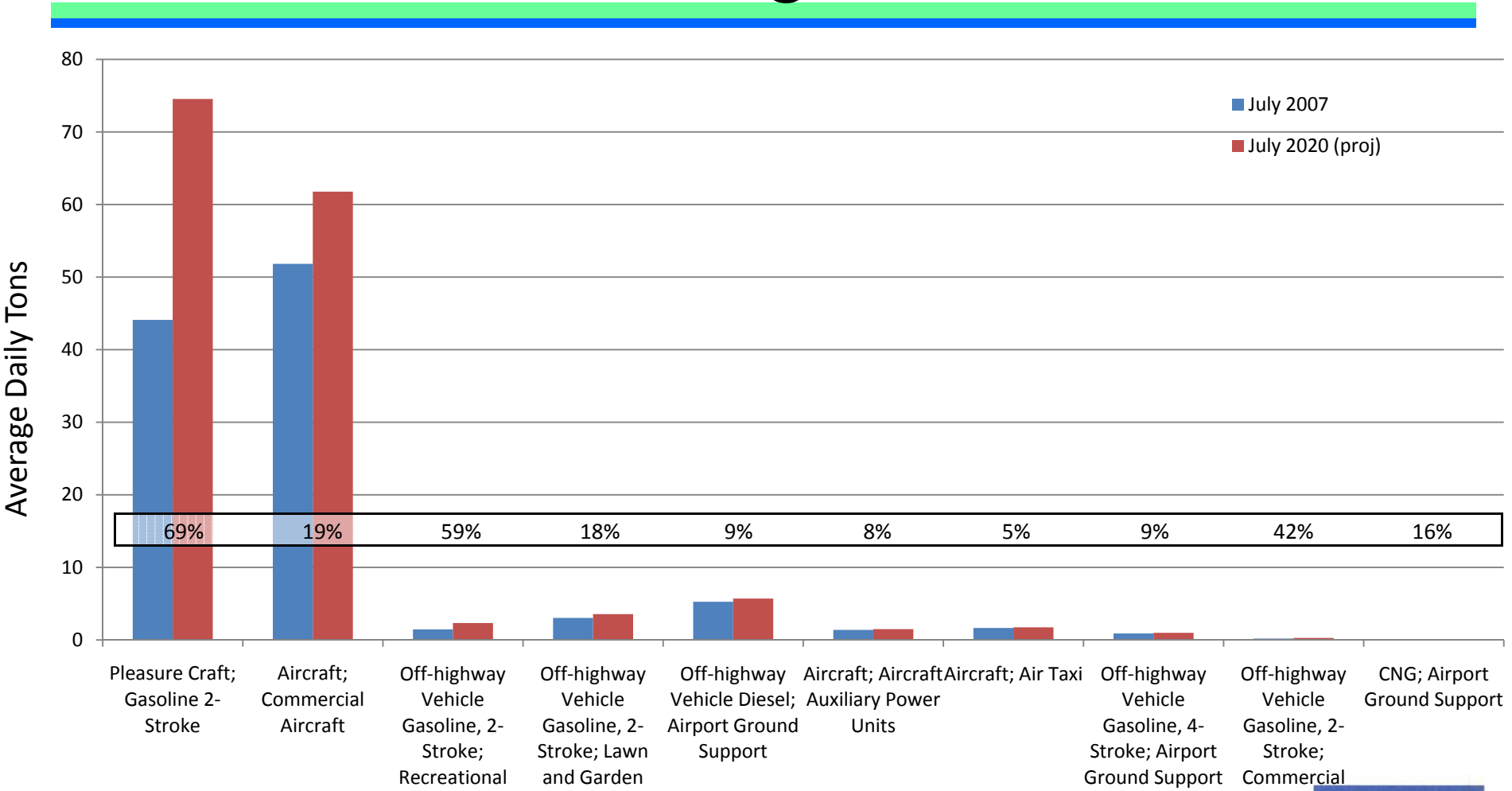


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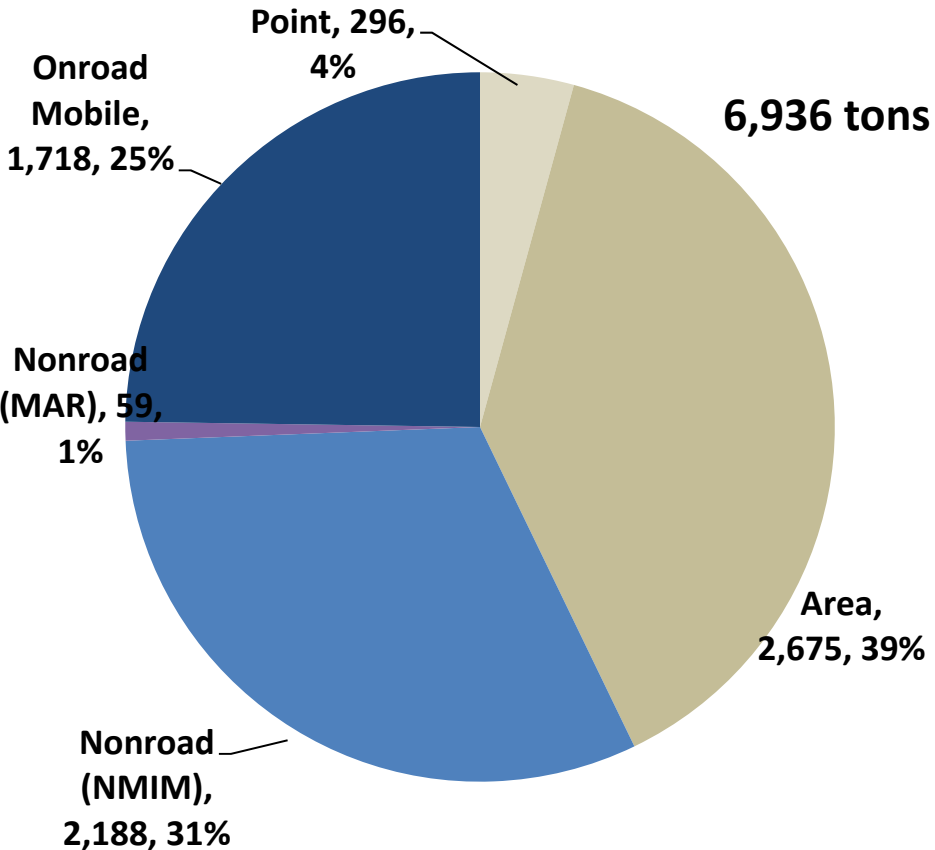
# Nonroad NOx: Categories that Increase



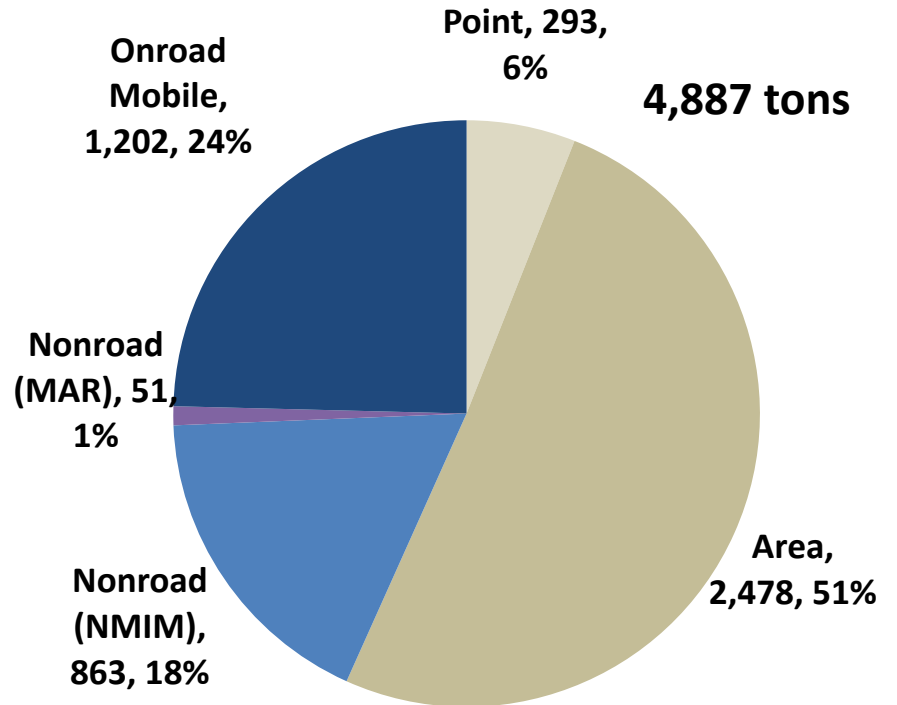
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# VOC July Avg. Daily Tons

VOC 2007 Average July Day

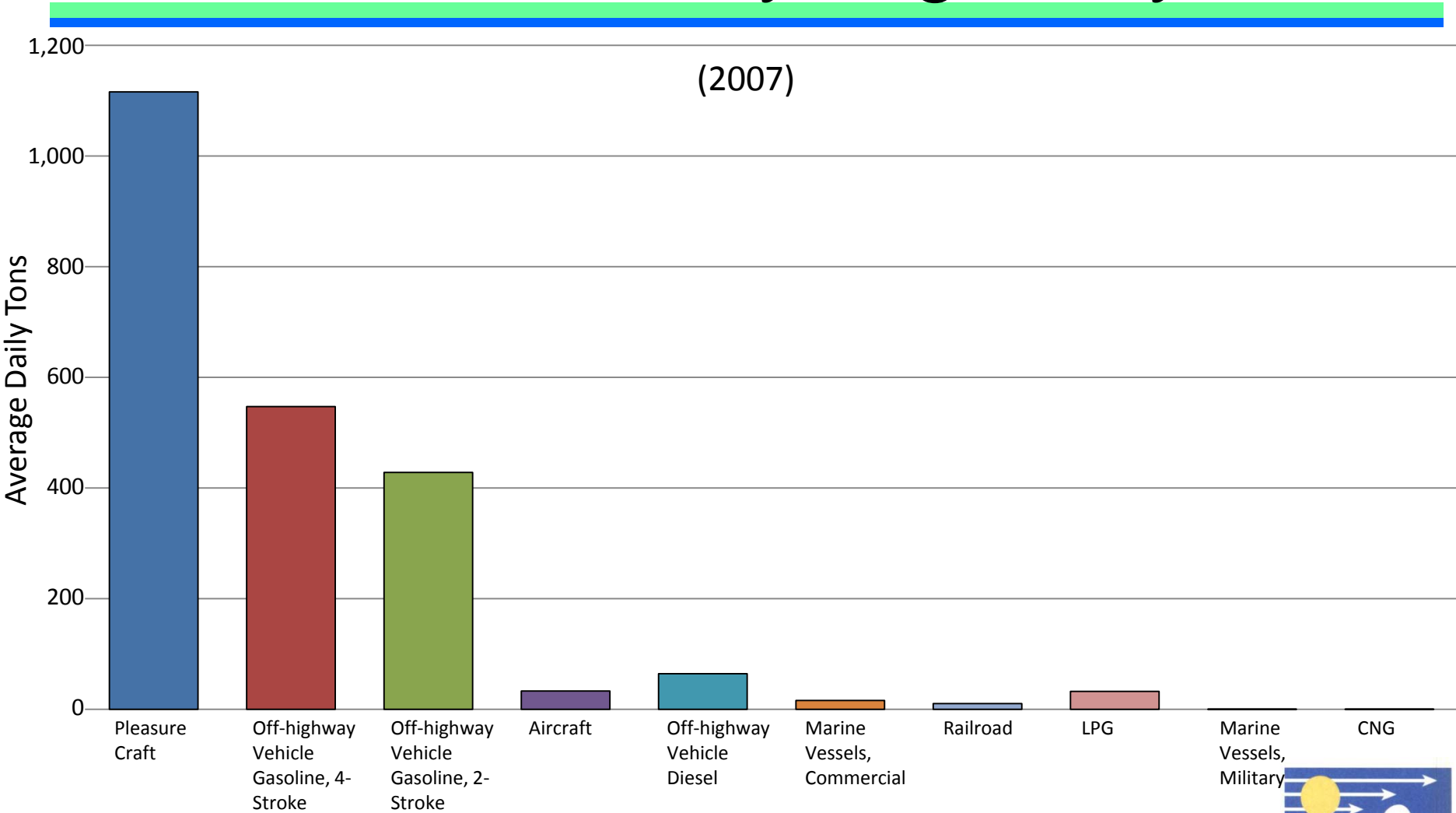


VOC 2020 Average July Day



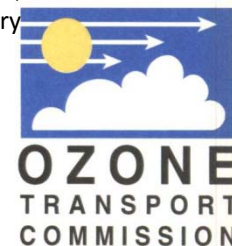
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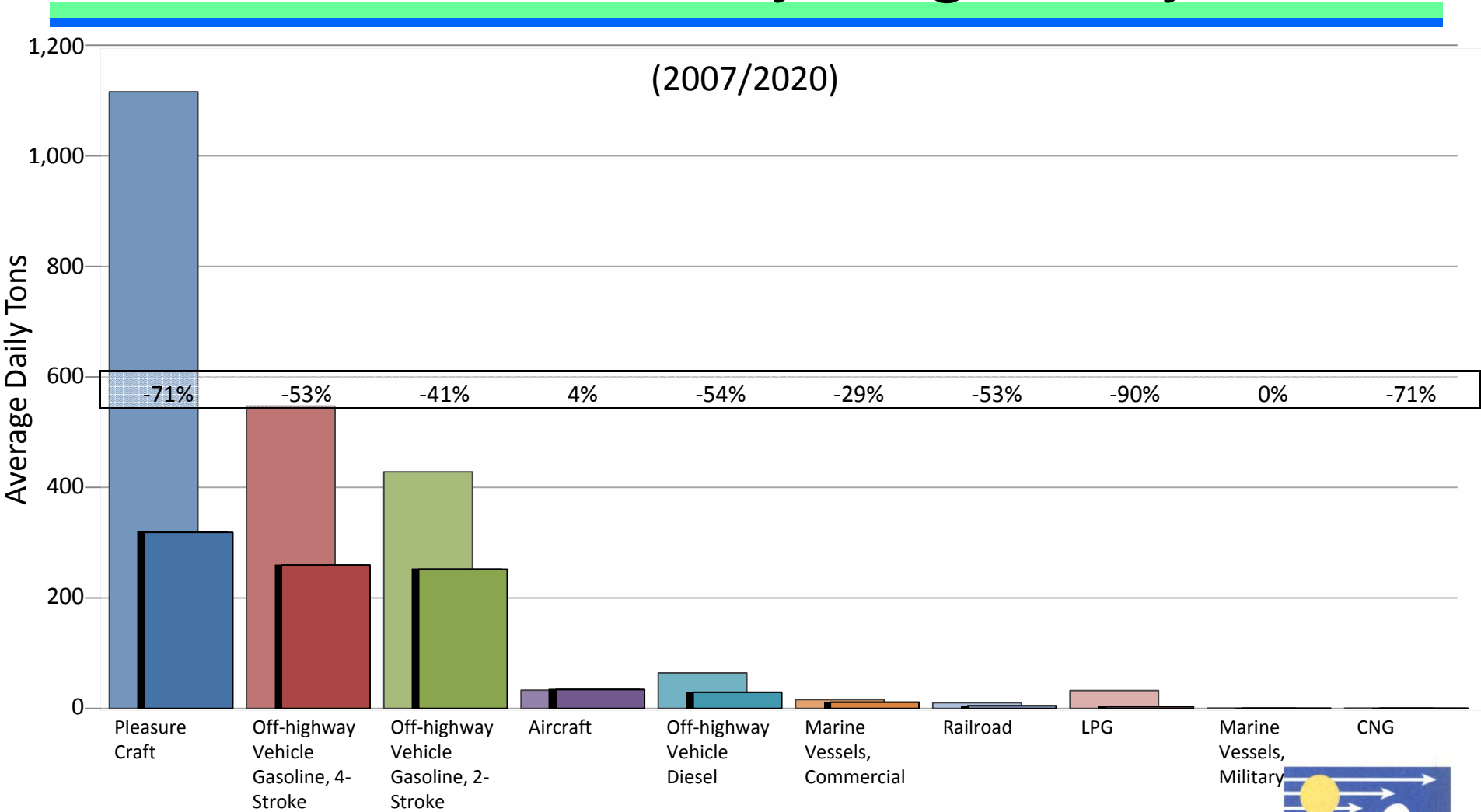


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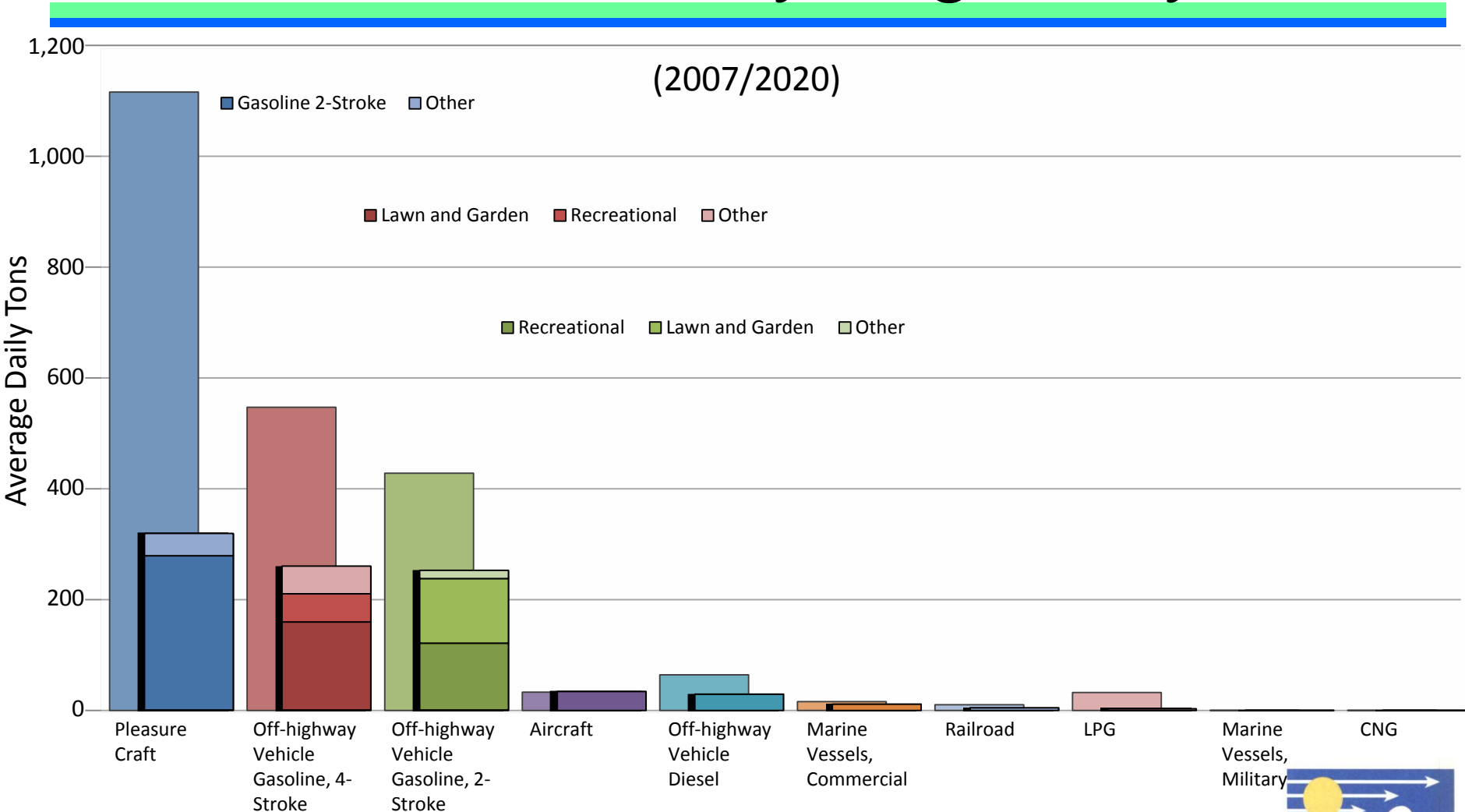
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# Inventory Analysis: Summary

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- Onroad:
  - Waiting for MOVES data
- Mobile is a large part of the OTR inventory:
  - $\text{NO}_x$  - 2007 (74%), 2020 (51%)
  - VOC - 2007 (57%), 2020 (43%)
- Significant reductions are expected in 2020 in all Mobile Sectors
- Emission Increases are Projected for:
  - Pleasure Craft -  $\text{NO}_x$  (4%)
  - Aircraft -  $\text{NO}_x$  (14%), VOC (4%)