

# Ontario Airport Progress Report Update

Presentation to South Coast AQMD  
Airports MOU Working Group Meeting  
May 7, 2024



# MOU Airport Obligation

## MOU Airport Obligation

- On an annual basis by June 1
- Provide information to AQMD as listed in the MOU
- Beginning in 2021, ending in 2032
- Includes 1 MOU Schedule
  - Ground Support Equipment
- The program establishes NOx fleet average emission factors of 2.2 and 1.0 g/bhp-hr by January 1 of 2023 and 2031, respectively.

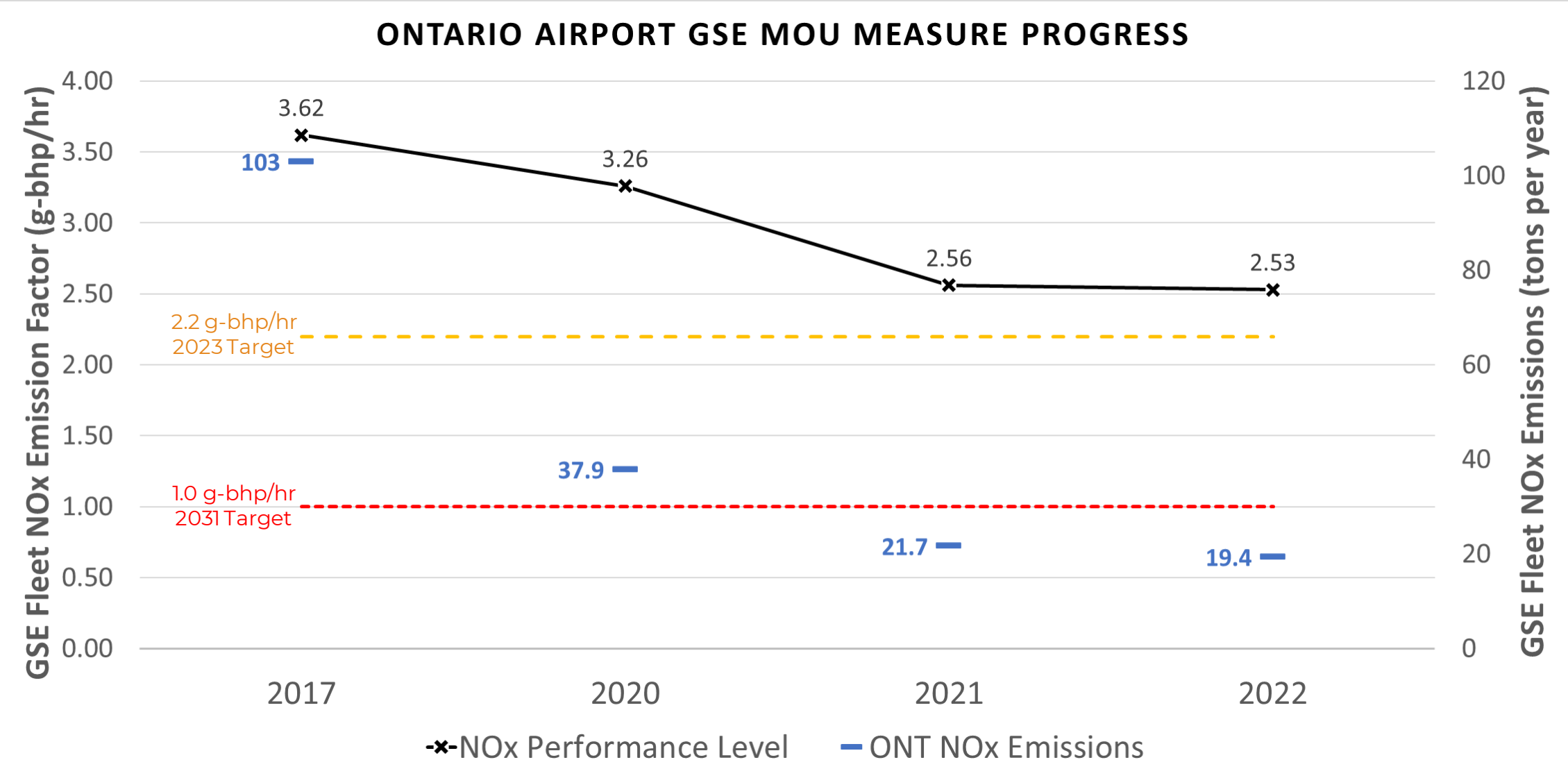
# MOU Progress Updates

## Fleet Average Emission Factor and Emissions Trending Down

- 3.62 g/bhp-hr (2017)
  - 3.26 g/bhp-hr (2020)
  - 2.56 g/bhp-hr (2021)
  - 2.53 g/bhp-hr (2022)
- MOU Target: January 1, 2023 – Achieve airport GSE fleet-wide average NOx emission factor that is  $\leq 2.2$  g/bhp-hr
  - The fleet average NOx emission factor has **decreased 30.1%** since 2017
  - Improvements
    - Fewer GSE with Tier 1 and 2 diesel engines
    - Fewer gasoline engines older than 2010
    - Increase in electric GSE



# GSE Emissions Continuing to Decrease



# GSE Improvements: Ontario Airport

	2017	2021	2022	% Change from 2017 to 2022
Electric	128	100	115	- 10%
Diesel	172	168	150	- 13%
Tier 0	6	7	7	17%
Tier 1	32	15	15	- 53%
Tier 2	19	14	13	- 32%
Tier 3	28	24	17	- 39%
Tier4 Interim/Final	87	108	98	+ 13%
Gasoline/LPG	315	178	189	- 40%
Pre-2010	128	52	51	- 60%
2010-2022	187	126	138	-26%
<b>Total Count of GSE</b>	<b>615</b>	<b>446</b>	<b>454</b>	<b>- 26%</b>

# Actions Taken Since Inception of MOU

Actions	Benefits
Revised NELA contracts to include MOU requirements	Provided <b>transparency</b> for tenants and operators to <b>support</b> OIAA with the voluntary MOU
Regular and periodic communications with tenants and operators	Assisted in <b>pushing progress</b> with GSE emission reduction strategies
	Identified <b>improvements</b> in how they are tracking GSE
	Developed information to understand <b>electrification requirements</b>
Evaluation of infrastructure improvements to support GSE electrification	<p>Completed <b>Zero Emissions Blueprint</b> (Jul 2021 – Feb 2023)</p> <ul style="list-style-type: none"> <li>• For ONT’s medium- and heavy-duty Zero Emission Vehicle (ZEV) infrastructure</li> <li>• Yielded target opportunities for transitioning Airport’s MHD vehicles to ZEV (including GSE)</li> </ul> <p>Completed <b>Phase 1 of Utility Infrastructure Plan</b> (Nov 2022 – Aug 2023)</p> <ul style="list-style-type: none"> <li>• Identified power demand for future planning horizons</li> <li>• Considered impact of additional electric charging (including for GSE) campus-wide</li> </ul>

# Actions Expected in 2024 and Beyond

Actions	Benefits
Expansion of Motor Vehicle Operating Permit (MVOP) program to include GSE	Improve <b>GSE tracking</b> to minimize unexpected reporting changes
	Create an <b>auditing cycle</b> to ensure accurate tracking and reporting of GSE
	Provide clarity on the <b>timeline and reporting</b> needs
	Through the equipment registration process, facilitate <b>data-informed conversations</b> with airport tenants regarding fleet turnover improvements consistent with the MOU targets
	<b>Demonstrate commitment</b> by ONT, tenants and operators to making progress to achieve MOU targets

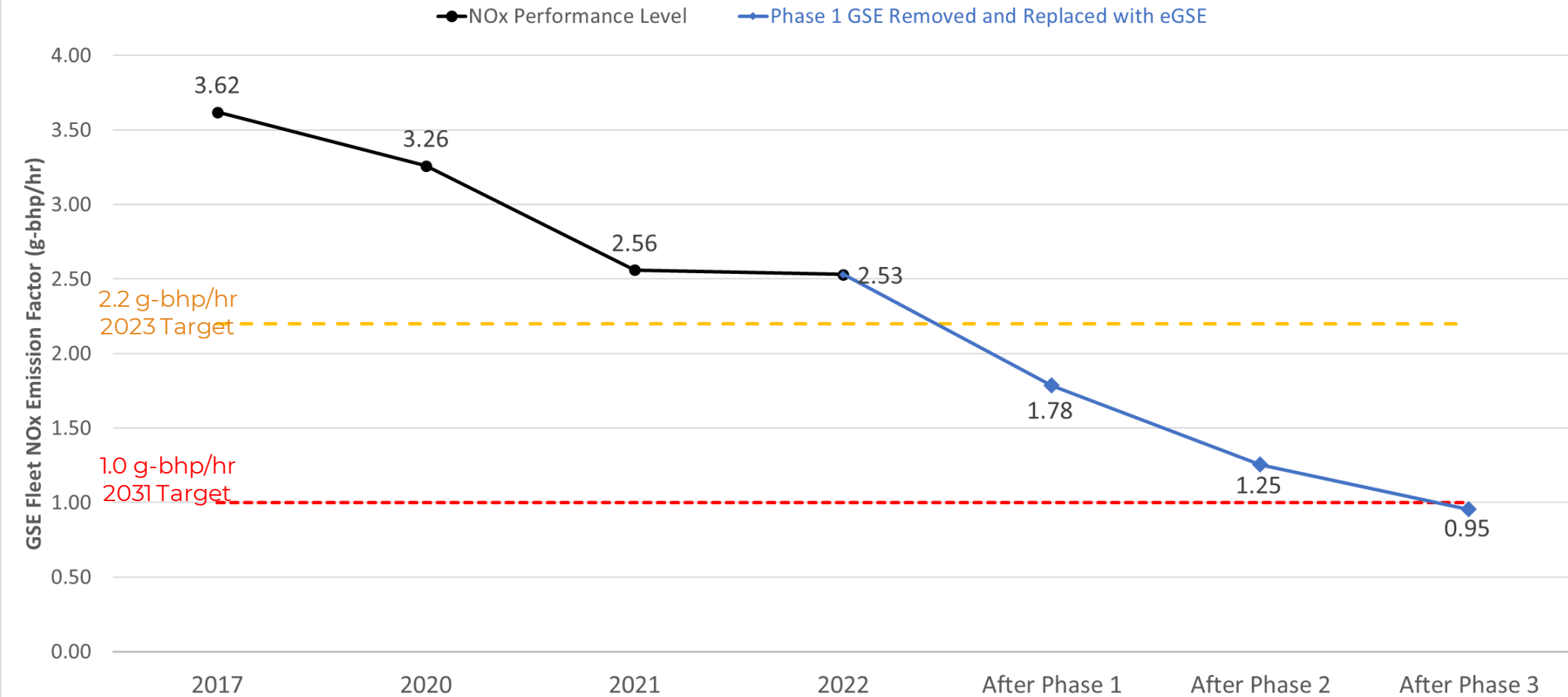
# Actions Expected in 2024 and Beyond

Actions	Benefits
<p><u>ZEV Infrastructure Implementation Plan</u> (initiated in Sept 2023; ongoing)</p>	<p>Add infrastructure to <b>support electric GSE chargers</b> at Terminals 1 and 2 as part of planning phase 1</p> <ul style="list-style-type: none"> <li>• Serves passenger, cargo, and all international arrivals</li> <li>• Targeted construction: Fiscal Year (FY) 2025</li> </ul> <p>Work on future planning phases is in progress</p> <ul style="list-style-type: none"> <li>• E.g., planning phase 2 envisions additional electric GSE chargers at Terminal 4 and fleet charging at the maintenance yard; planning phases 3 and 4 contemplate additional fleet charging at the maintenance yard</li> </ul>
<p><u>Utility Infrastructure Plan</u> (Dec 2023 - anticipated completion in Summer 2024)</p>	<p>Identifies <b>power infrastructure upgrades</b> to meet future power demand</p> <p>Initiates technical working group meetings with <b>Southern California Edison</b> to deliver power in the future</p> <p>Develops <b>sequencing and implementation plans</b> for utility infrastructure projects</p>



# One Potential Path to 2031

## PHASED APPROACH TO 2031 TARGET



The MOU's 2031 goal can be met through targeted **replacement with electric GSE.**

### **Phase 1: 38 GSE**

Diesel Tier 0 and Tier 1  
Gasoline <2000

### **Phase 2: 43 GSE**

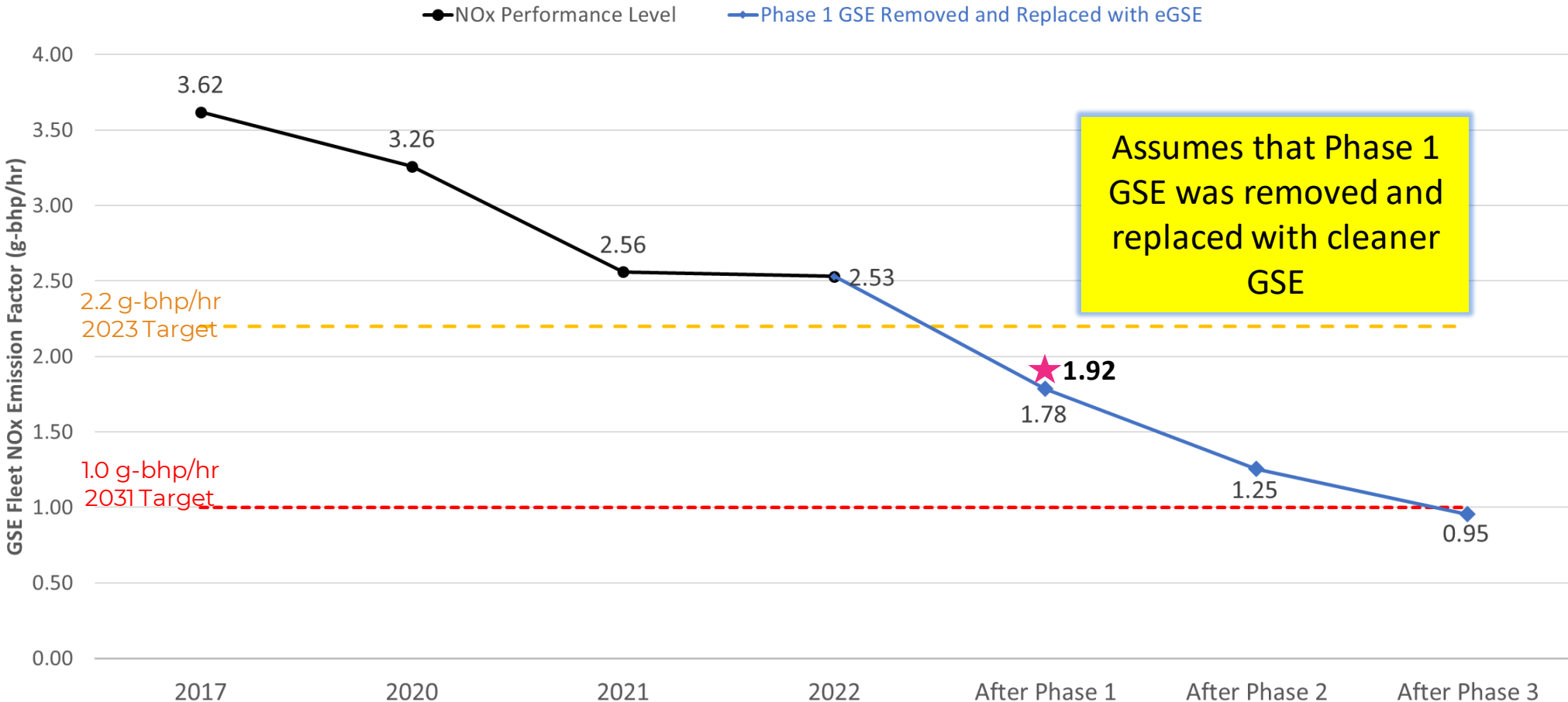
Diesel Tier 2  
Gasoline 2000-2009

### **Phase 3: 72 GSE**

Diesel Tier 3  
Gasoline 2010-2016

# One Potential Path to 2031

## PHASED APPROACH TO 2031 TARGET



### Phase 1 GSE Tenants

- 9 tenants with Phase 1 GSE
- 4 tenants make up 74% of the Phase 1 GSE
- 1 tenant with 32% of the Phase 1 GSE requires additional electrical capacity to support fleet conversion

### Remove Phase 1: 38 GSE

Diesel Tier 0 and Tier 1  
Gasoline <2000

### Replace with cleaner GSE

- ★ Diesel Tier 4
- Gasoline MY2022

# Questions