

City of Long Beach Green Fleet Program

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Fleet Overview

- Total fleet size: approximately 2,000 units (1,650 motorized)
- Typical purchase: about 200 vehicles per year
- Fuel use: about 2 million gallons per year
- Named one of Heavy Duty Trucking Magazine's Top 25 Green Fleets
- #10 Best Public Fleet in North America – 2017 Leading Fleets



Fleet Overview

Metrics and Goals

Alternative Fuels

A Data-Driven Fleet

Electric Vehicles

Where We're Going

“Green” Metrics and Goals

- Currently, 41% of motorized fleet is alternative fuel
 - FY18 goal: 43%
- Consistently purchasing 50% or more alternative fuel vehicles



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“Green” Metrics and Goals

- An aggressive approach to fleet sustainability
 - Added a dedicated green fleet analyst to our staff
 - Focus on reducing the City’s fleet environmental footprint
- Sustainable Fleet Accreditation just completed
 - Long Beach fleet earned the highest NAFA level, Tier IV



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Alternative Fuels: Renewables

- Renewable Liquefied Natural Gas (LNG), 67 vehicles
 - Currently transitioning from LNG to CNG
 - Reduced emissions, cost savings, equipment availability
- Renewable Compressed Natural Gas (CNG), 129 vehicles
- Renewable Diesel, 191 vehicles
 - Heavy duty applications
 - A “drop-in” fuel, reduces organic petroleum use, cleaner burn



Alternative Fuels: Natural Gas

- \$3.9M time-fill CNG station opened May 1, 2017
 - Supports up to 100 refuse trucks and street sweepers



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Alternative Fuels: Natural Gas

- 1st U.S. municipal “Near-Zero” emissions refuse truck



ACT Expo, May 2017

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Alternative Fuels: Natural Gas (Near-Zero)

- New technology
- 23 trucks in service now
- Emissions reduced drastically
 - NOx emissions meet 2023 California standard
 - 9% GHG reduction
- Equivalent emissions to a battery-electric truck
 - When using Renewable Natural Gas



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Alternative Fuels: Hybrid Electric

- 223 conventional hybrids and 8 plug-in hybrids (PHEV)
- Benefits: reduced maintenance, fuel use, and emissions
- Challenges: infrastructure costs and planning for plug-ins



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Alternative Fuels: Hybrid Electric

- Truck and van pilot test
 - 8 Hybrid Pickups and 11 Hybrid Vans going in service
- Hybrid patrol car pilot test
 - 5 cars to undergo testing



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Alternative Fuels: Future Options

- Hydrogen Fuel Cell
- Battery Electric
 - Cars
 - Trucks



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A Data-Driven Fleet

- Active telematics (600 City vehicles)
 - Expanding to idling, driver behavior, utilization, MPG
- Fuel Focus – passive telematics and fuel tracking
 - Will cover the remaining 1,000 vehicles
- Engine reprogramming for fuel savings
- These initiatives support a data-driven fleet
 - Expect reporting to departments starting in 2018



Electric Vehicles

- Battery Electric Vehicles (BEV)
 - Task Force developed draft policy to move to electric vehicles
 - Departments to use BEVs wherever feasible
 - BEVs offer reduced emissions and operational cost
 - Technology has matured; range generally 100 to 200+ miles
 - Considered to be “zero-emissions”
 - Only sedans for now; technology still developing for other vehicle types
 - Other vehicle opportunities coming rapidly
 - Actively investigating a variety of BEV trucks



Electric Vehicles

- Funding

- Vehicles and chargers covered by regular Fleet monthly charges
- Expect grant funding for infrastructure in most cases
 - Can be costly, dependent on many factors



- Deployment

- There are 84 potential BEV sedans in the fleet,
- Conversion to be phased, taking place from 2018 to 2022

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Where We're Going...

- Stay current with alternative fuel technology
 - Move to zero emissions with an aggressive timeline
- Make full use of telematics and vehicle data
 - Leverage vehicle data to reduce emissions and increase safety
 - City-wide policies regarding idling and driver behavior
 - Gamification and incentives
- Autonomous vehicles and integration into City fleet



Thank you!



LOCAL GOVERNMENT PARTNERSHIP PROGRAM

A Funding Opportunity to Improve Air Quality
in Your Community

Mobile Source Air Pollution Reduction Review Committee, aka “The MSRC”

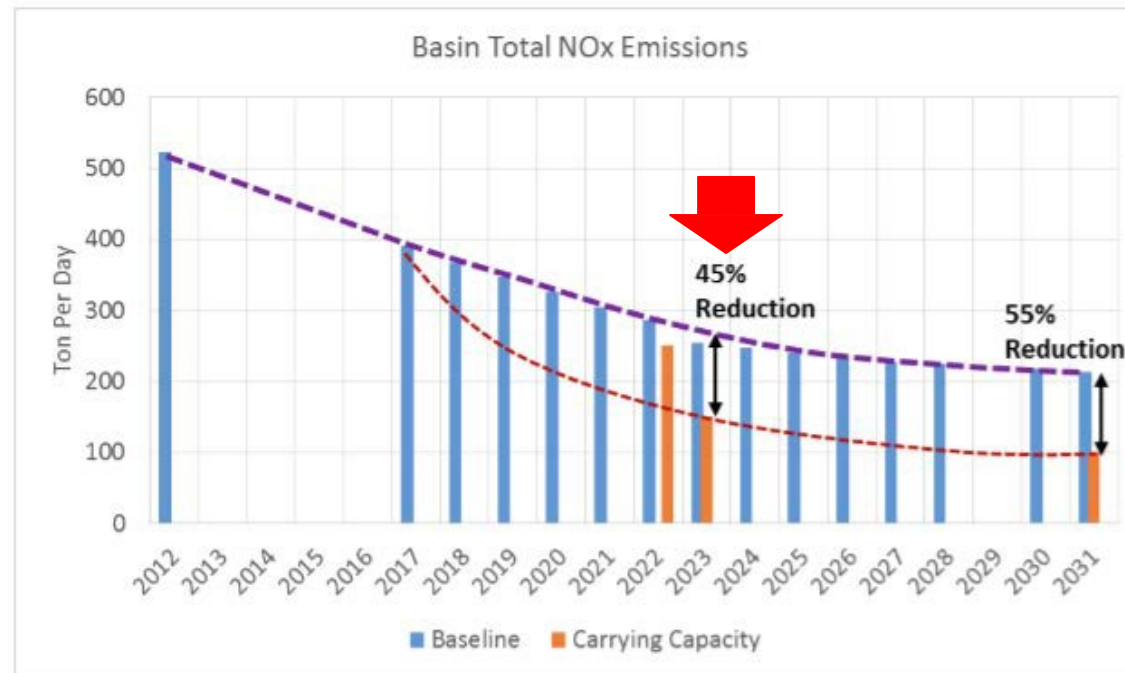
- The MSRC was Established by the California Legislature in 1990
- Sole Mission is to Invest Funds to Reduce Air Pollution Generated by Mobile Sources (i.e., cars, trucks, buses, etc.)
 - ⇒ *Funds Generated by Surcharge on Motor Vehicle Registrations*
- The MSRC Works Closely with the South Coast Air Quality Management District; However, the MSRC is NOT a Regulatory Agency
 - ⇒ *The MSRC Invests in Clean Air Projects that Support SCAQMD Objectives & Priorities*

SIGNIFICANT AIR QUALITY CHALLENGES IN OUR REGION...

Standard	Concentration	Classification	Latest Attainment Year
2008 8-hour Ozone	75 ppb	Extreme	2031
2012 Annual PM2.5	12 µg/m ³	Moderate	2021
		Serious	2025
2006 24-hour PM2.5	35 µg/m ³	Serious	2019
1997 8-hour Ozone	80 ppb	Extreme	2023
1979 1-hour Ozone	120 ppb	Extreme	2022

- **ACCORDING TO THE SOUTH COAST AQMD...**
 - South Coast Region is EXTREME NON-ATTAINMENT for OZONE
 - Ozone Causes RESPIRATORY AILMENTS and is a Primary Component of **SMOOG**

MANDATORY AIR POLLUTION REDUCTIONS ARE NEEDED *NOW*...



- **NO_x** is a Precursor to Ozone (SMOG) Formation...
- *From Today's Levels* – NO_x Emissions Need to be Reduced 45% by 2023 – *That's Only a Few Years Away...*

HOW DO WE REDUCE NO_x EMISSIONS BY 45%?

By Implementing the
Clean Air Measures
Outlined in the South Coast
AQMD's 2016 Air Quality
Management Plan



- **The AQMP is the Roadmap for How to Meet Our Mandated Clean Air Obligations**

THE MSRC IS PARTNERING WITH THE SOUTH COAST AQMD AND WANTS TO PARTNER WITH YOU...

...To Implement High Priority AQMP Strategies

- ✓ AQMP includes Traditional Regulatory Measures & Incentive-based Strategies
- ✓ Incentive-Based Programs will Accelerate the Introduction of Key AQMP Technologies including Zero & Near-Zero Emission Vehicles

The MSRC Has Reserved Incentive Funding for Your Jurisdiction under the Local Government Partnership Program

This is a great opportunity to receive funding to implement projects your jurisdiction needs to be part of our clean air future

Participation is 100% voluntary

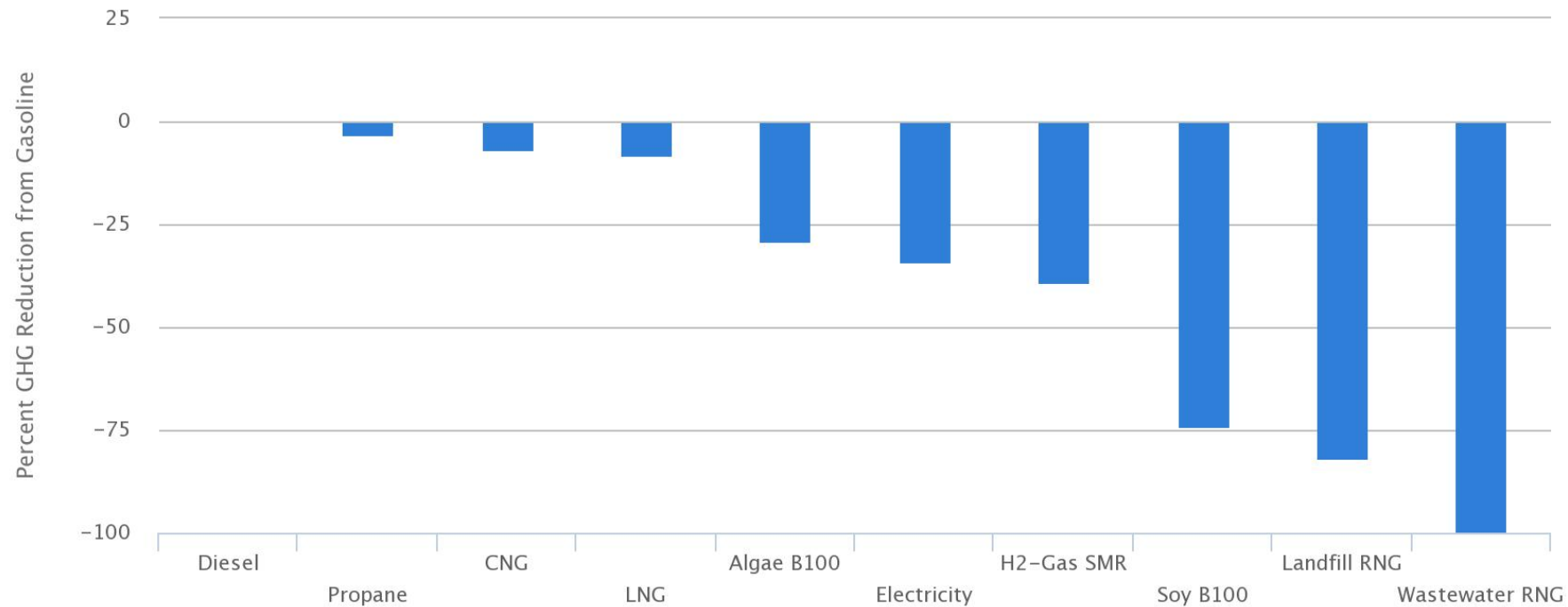
Funding is already reserved for your jurisdiction

Please ask your staff to work with the MSRC to develop projects that jumpstart implementation of the AQMP & help improve air quality for all residents

Thank you!
Questions?

Appendix A: Emission Benefits of Alternative Fuels

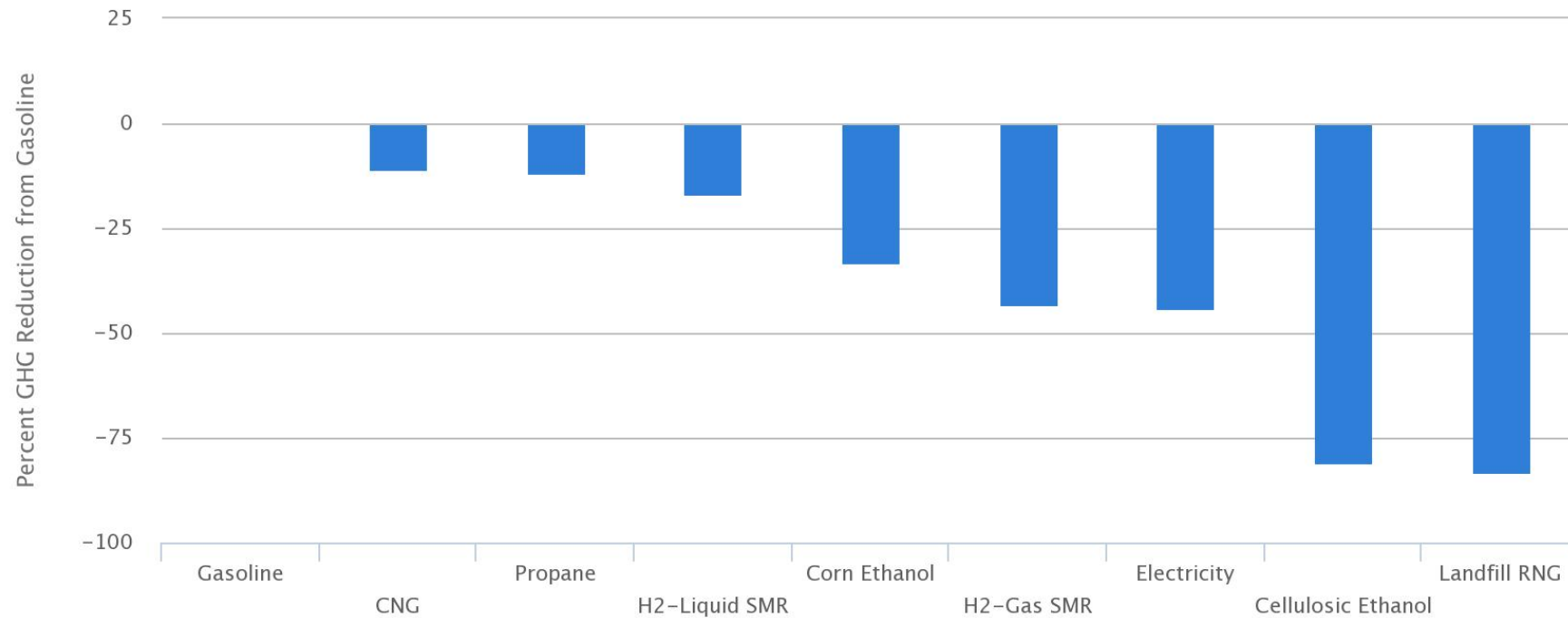
Clean Cities Lifecycle GHG Reduction in Heavy-Duty Vehicles



Last updated: February 2017
Printed on: July 25

Appendix A: Emission Benefits of Alternative Fuels

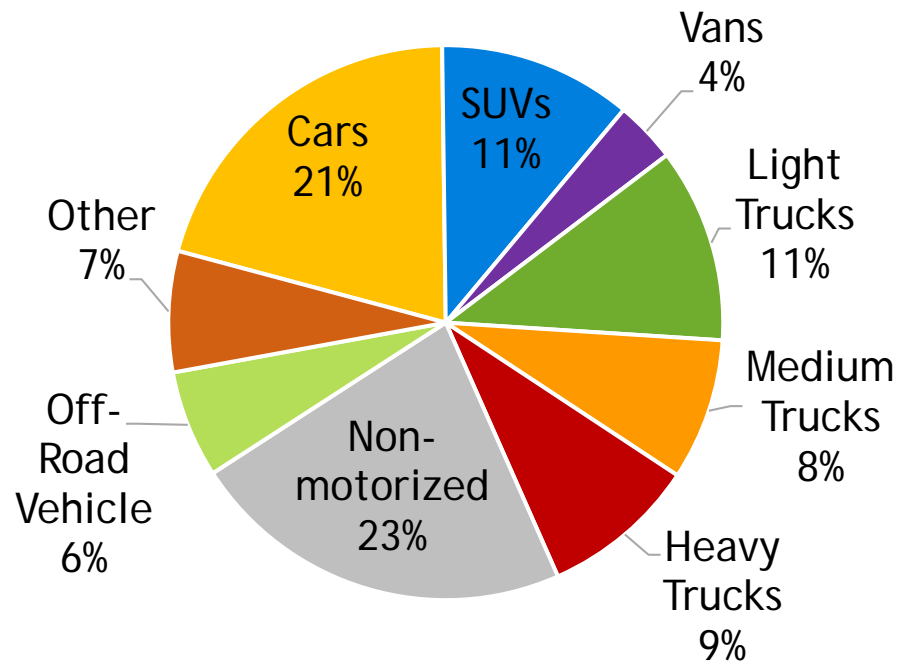
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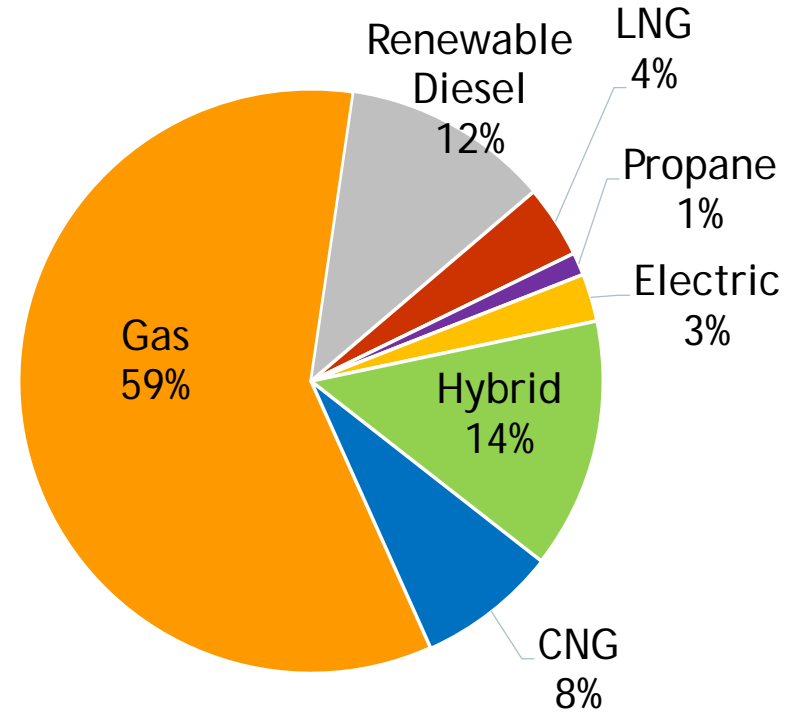
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Appendix E, Current Metrics and Goals

Total Fleet by Vehicle Type



Motorized Fleet by Fuel Type



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Technology

Policies

Where We're Going