

City of Vancouver Green Fleet Plan

Evan Dacey
Senior Project Manager
3/1/2019



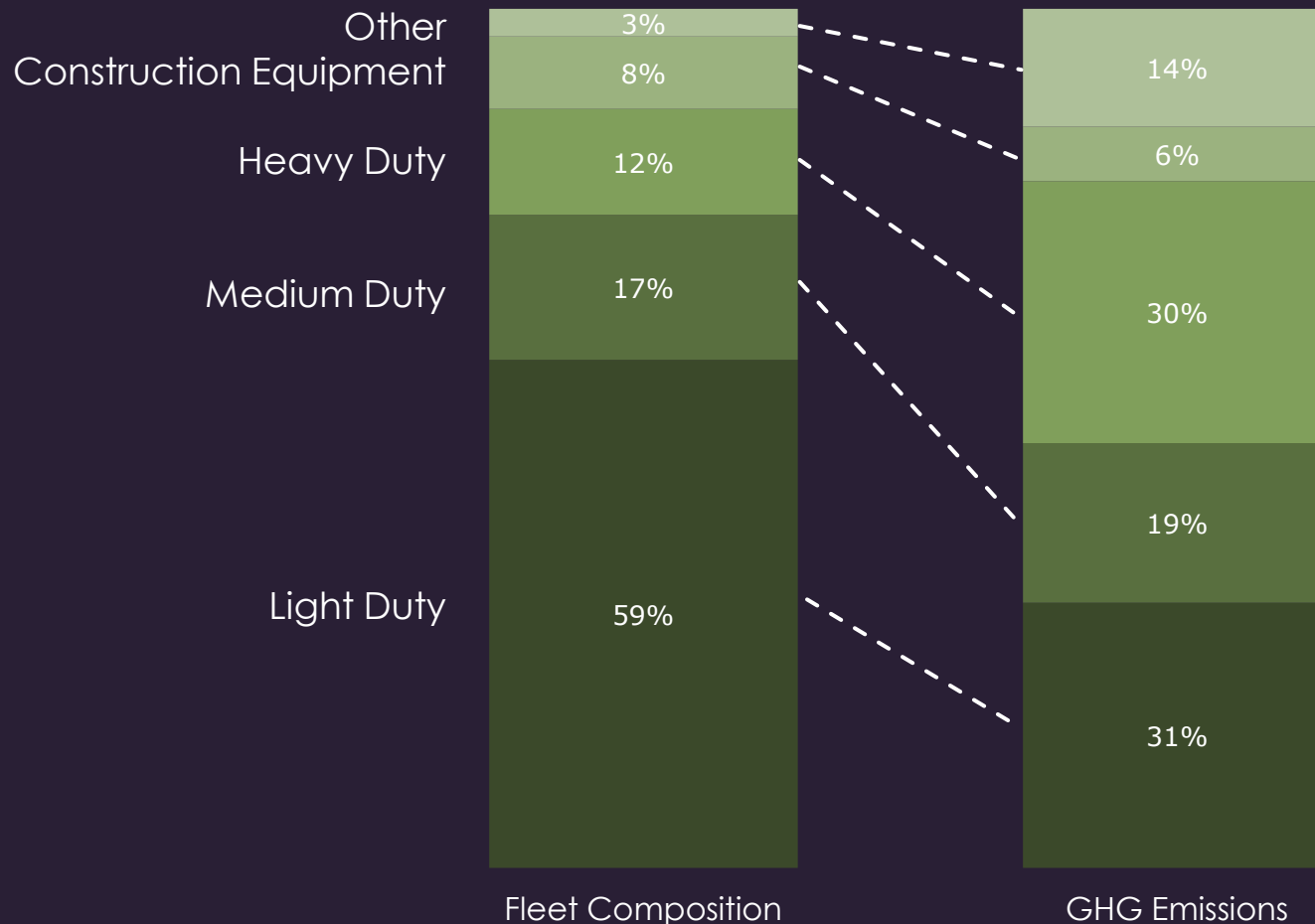
City of Vancouver – Equipment Services

Equipment Services provides centralized fleet and manufacturing services for Municipal, Fire and Police operations.



Fleet and GHG Emissions

1,850 units in the City's fleet
 16,300 tonnes of CO₂e annually



Strategic Alignment – Emissions Reduction

Derive 100% of energy used in city fleet from renewable energy sources **before 2050**.

2020 TARGET



from 2007 levels

2030 TARGET



from 2007 levels

2018 RESULTS



Green Fleet Plan – First Iteration

Developed in 2013 as part of Green Operations plan under the Greenest City 2020 action plan

- 10 key opportunities initially identified to reach target of 30% reduction
- Projects were aspirational and meant to guide future capital replacement programs
- Formed the foundation for refresh of Green Fleet Plan in 2018

Green Fleet Plan – 2018 Refresh

Refreshed in 2018 to support meeting 2020 and 2030 targets.

Three Key Pillars:

1 – Electrifying the Fleet

All vehicle replacements firstly consider an electric option

2 – Fueling the Fleet

All fuel used contains a high proportion of renewable, biologically derived content

3 – Optimizing the Fleet

Ensuring all vehicle usage is optimized through technology and driver behaviour

Green Fleet Plan – Emissions Projection

Fleet GHGs (CO₂e)



2030 target reached by 2023

-50%

1 - Electrifying the Fleet

All vehicle replacements firstly consider an electric option

Split into 4 major projects:

1. Light Duty Vehicles
2. Medium/Heavy Duty Trucks
3. Construction and Maintenance Equipment
4. Charging Infrastructure

Goal: Reduction of **1,300 tonnes** of CO₂e annually

Light Duty Vehicles

Types of Units Included:

- Target of 100 new units
 - Sedans (Available Now)
 - SUVs (Available Now)
 - Trucks and Vans (*Available Near Future*)

Action Plan:

- Established contract(s) for light duty purchases (multiple vendors)
- Internal policy on EV-first for sedans

Emissions Reduced:

- Estimated 2-4 tonnes of CO₂e reduced per unit

Medium and Heavy Duty Trucks

Types of Units Included:

- Target of first 44 units
 - Tractor Trailers
 - Refuse Collection Trucks
 - Cube Vans

Action Plan:

- Established first contract for med/heavy duty buys
- Request for Applications for additional vendors
- Pilot first 5-7 units in 2019

Emissions Reduced:

- Estimated 10-45 tonnes of CO₂e reduced per unit

Construction and Maintenance Equipment

Types of Units Included:

- Target of 75 new units
 - Construction Equipment
 - Sweepers
 - Forklifts

Action Plan:

- RFP for Construction Equipment (*summer 2019*)
- Contract for electric forklifts
- Establish multiple contracts for additional equipment

Emissions Reduced:

- Estimated 3-5 tonnes of CO₂e reduced per unit

Charging Infrastructure

EV Station projects managed by EQS asset management team.

Approach to EV Stations:

- All electric vehicles currently have “depot-charging” approach.
- Aim to group vehicles together into site-specific projects to spread electrical infrastructure costs across multiple stations
- Size electrical infrastructure to allow for additional stations later at lower cost
- Agreement with internal Real Estate group to facilitate install and ongoing maintenance

2 - Fueling the Fleet

All fuel used contains a high proportion of renewable, biologically derived content

Fossil Fuel

Gasoline

Diesel

Compressed
Natural Gas

Renewable Fuel

Ethanol - Max 10% blend

Biodiesel - Max 20% blend

Renewable Diesel – Can be used at 100% blend

Renewable Natural Gas – Can be used at 100% blend

Goal: Reduction of **7,500 tonnes** of CO₂e annually

Renewable Diesel

Suncor selected as the successful proponent for the supply and delivery of fuels to the City of Vancouver and the larger BC Petroleum Partners Buying Group (BCPPBG)

Contract Highlights and Implementation:

- Suncor is able to provide Renewable Diesel (R100) directly to the City of Vancouver and *potentially* to other interested agencies
- 2.2 million litres of R100 in 2019 at major sites
- Full transition to R100 by 2021

Renewable Natural Gas

Separate from BCPPBG

Contract established with FortisBC for supply of RNG

Contract Highlights and Implementation:

- Covers all City groups, primarily facilities, district energy and fleet
- FortisBC is able to provide sufficient levels of RNG to transition all CNG use
- Partial transition of 12,000 GJ to RNG in 2019
- Full transition of 24,000 GJ to RNG by 2020

3 - Optimizing the Fleet

Ensuring all vehicle usage is optimized through technology and driver behaviour

Split into 2 major projects:

1. GPS and Telematics
2. Other Technology

Goal: Reduction of **1,300 tonnes** of CO₂e annually

GPS and Telematics

Dedicated team within EQS examining operationalizing benefits from GPS and telematics technology

In-Vehicle Alert Pilot – 100 Vehicles:

- 20% decrease in idling occurrences
- Reduction in harsh braking
- Fuel Economy improvement 6L/100km (total across the group)
- Estimated 5,000L in fuel savings
- Reduction in emissions of approximately 11.5 – 13.5 tonnes of GHGs (CO₂e)



QUESTIONS & DISCUSSION

Evan Dacey

Senior Project Manager –
Strategic Initiatives and Innovation
evan.dacey@vancouver.ca