



Franchise Agreement/ Collection Fleet Replacement: Zero Emission Vehicles (ZEV)



A Public Agency

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Summary of Current Status

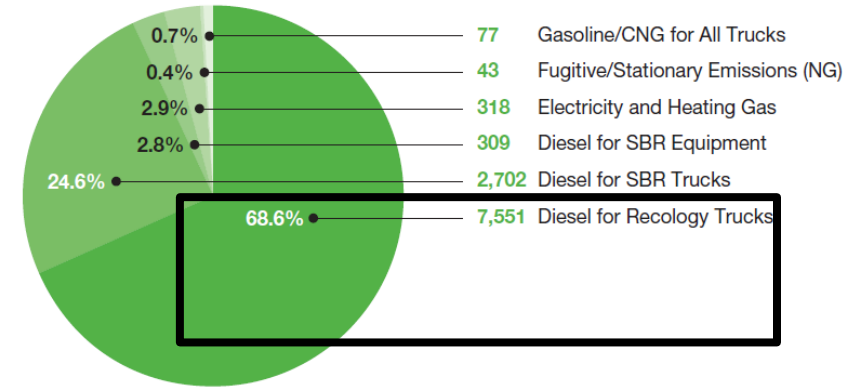


- **Recology's 100% Fleet transition: 2021-2026**
- **New CARB Rule (trucks) - Minimum ZEV Requirements (6 trucks by 2026)**
 - Other reg's (e.g. Newsom's EO N-79-20 banning non-ZEV sales by 2035) increasingly pointing in ZEV direction
 - Member Agencies also going in this direction, e.g. Menlo Park (Sustainable Vehicle Fleet Policy: Prioritizes ZEV purchases, even if costlier)
- **Recology prefers Autocar – estimated ZEV truck delivery in 2024, with 2 pilot EVs coming 1/2022**
 - 2 other manufacturers already have 1st/2nd gen ZEV Trucks for sale, and more to come in 2021
- **Not yet widely demonstrated that ZEV's can be as productive as conventional trucks**
 - Higher purchase price (SBWMA pays premium), despite lower fuel expense, still leads to higher EV lifecycle cost
- **Renewable Diesel has similar GHG and tailpipe emissions to RNG, but cheaper**
 - It is also plug-and-play (used since Nov-19), so it is best bridge to ZEVs that will inevitably be required

Recology's Fleet Purchase Schedule and GHG impacts

- 144 total, with ~120 as largest Class 8 Rear, Front and Side Loaders
- Possible shifting of purchasing vehicles 2024+
- Recology estimate of Autocar's at-scale ZEV delivery: 2024
- By this schedule, up to 54 trucks could be ZEVs
- CARB schedule (minimum, starts in 2024) = 6 ZEV's

Figure 28. Agency Greenhouse Gas Emissions (in Metric Tons of Carbon Dioxide-Equivalents, 2017)



Year	2021	2022	2023	2024	2025	2026
# Trucks	4	36	50	40	10	4

54 units

Estimated Annual Cost of ZEV Purchases – no subsidies

Per Year Parameter # ZEVs	Per ZEV	Pilot ZEVs	CARB Min.	ZEV Purchases		
	1	2	6	24	54	72
ZEV Cost Premium (\$/year) (1)	\$30,514	\$61,027	\$183,082	\$732,326	\$1,647,734	\$2,196,978
Site Infrastr. Cost Premium (2)	\$24,347	\$24,347	\$42,218	\$168,615	\$355,102	\$428,142
Fuel Savings (3)	-\$1,403	-\$2,806	-\$8,418	-\$33,672	-\$75,762	-\$101,016
LCFS Credit (4)	-\$16,216	-\$32,432	-\$97,296	-\$389,184	-\$875,664	-\$1,167,552
Maintenance Savings (5)	0	0	0	0	0	0
Total Annual Premium (6)	\$37,241	\$50,136	\$119,586	\$478,085	\$1,051,409	\$1,356,552
Rate Impact (7)	0.03%	0.04%	0.10%	0.40%	0.88%	1.13%
Diesel Reduction (gal/yr)	5357	10714	32142	128568	289278	385704
SBWMA % GHG Reduction (8)	0.48%	0.96%	2.87%	11.48%	25.83%	34.44%

Proposed Roadmap and Subsidy Considerations

- Use RD as bridge fuel, start 2 EV pilot, explore shift in Att N Schedule
- Plan/install battery charging infrastructure on Transfer Station parcel
 - Need capability of charging 2 pilot Autocar ZEV trucks by Jan-2022
 - Then need 4 or more by 2024 (to reach CARB minimum of 6), perhaps selecting 22 (plus 2 pilot EVs = 24 total)
 - 24 is number closest to 25 PG&E EV Fleet program maximum \$9k/vehicle Behind the Meter (BTM) subsidy, to get us the rough \$50k-\$500k To the Meter (TTM) expense also covered
 - TTM expense is even black box to PCE, and can doom projects (SamTrans EV bus charging avoided at @Holly St)
 - We otherwise have to pay that TTM expense after EVF expiry in 2025 (EVF likely to be one-time, drawn down soon)
- If we want maximum EVF subsidies, need Board Letter of Commitment (along with Recology buy-in) and BTM electrical engineer support soon
 - Other subsidies: BAAQMD (\$9k-32k per truck), PCE (\$25k), and CA-HVIP (\$100k+, tougher)

EV Fleet Process and Timing

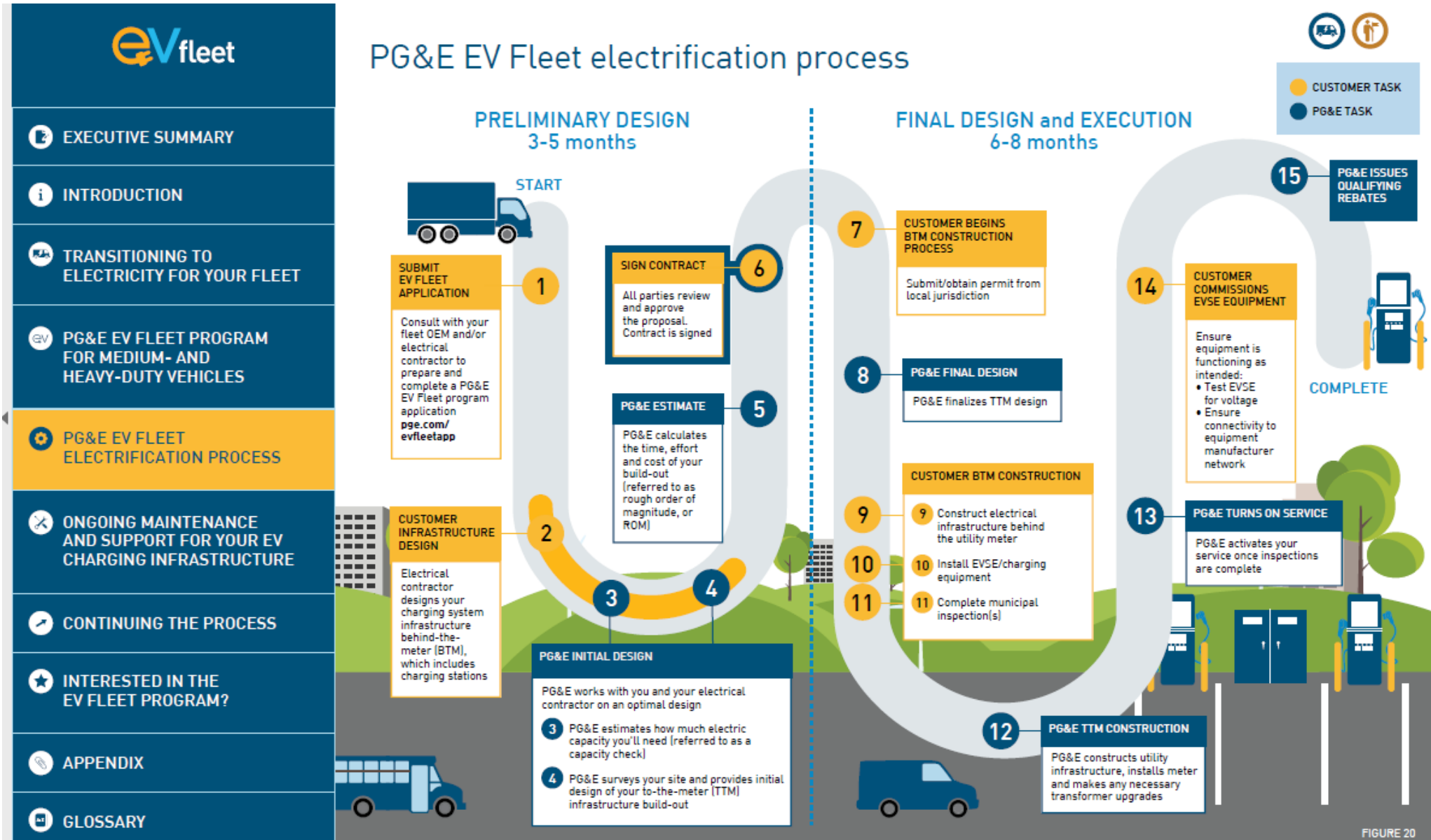


FIGURE 20