



Session #1: Integrating Electrification into Fleet Replacement Planning & Right Sizing

April 20, 2022





**SUSTAINABLE
FLEET
TECHNOLOGY**
WEBINAR SERIES 2022

Sessions through December 01, 2022



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CONFERENCE & EXPO 2022

Live in Durham NC: August 30 – September 01, 2022

<https://www.sustainablefleetexpo.com/>



Upcoming Sessions

- **May 05, 2022: Video Telematics Applications & Benefits**
- **May 19, 2022: EPA SmartWay Technologies and Success Stories**
- **Others TBD**



2022 SFT Webinar Series Sponsors



Format

- Q&A at the end
- Submit questions and comments to “Panelists”
- Scheduled for 2:00p-3:00p
- Handout
- Recording



Integrating Electrification into Fleet Replacement Planning & Right Sizing April 20, 2022

2:00-2:07 **Rick Sapienza, NCCETC**--Introduction and Welcome

2:07-2:12 **Bill Schankel, NAFA**—Introductory Comments

2:12-2:27 **Ron Hall, CST Fleet Services**—Electrification Planning & Right Sizing Process Overview

2:27-2:42 **Randy Owen**—Utility Electrification Example

2:42-3:00 **Q&A**





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NAFA[®]
Fleet Management Association

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CST

Fleet Services



Ron Hall

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336-287-8348

- **Co-Founder of CST Fleet Services**
- **Mission: Making today's fleets, better than yesterday, while preparing for tomorrow.**
- **Nearly 40 years of fleet industry experience**
- **Has worked with more than 200 fleets from small (~50 assets) to large (>150,000 assets)**
- **Degrees in Mathematics and Computer Science from Virginia Tech**



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*Integrating Electrification
into
Fleet Replacement Planning
& Right Sizing*

April 20, 2021



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CST Fleet Services Background

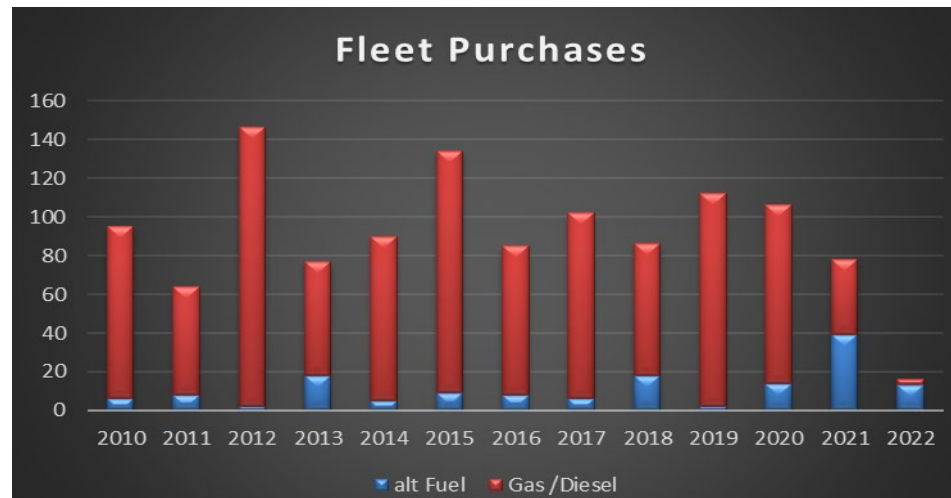
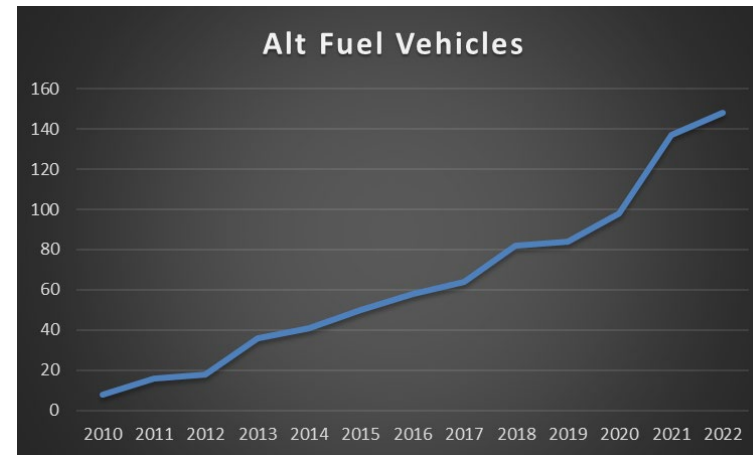
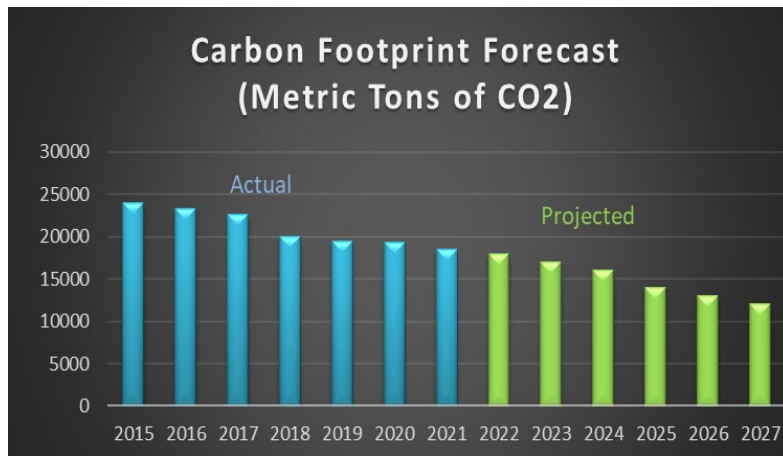
- **Active in Fleet Industry (since the late 70's)**
- **Incorporated in 2000**
- **Completed 20+ studies involving EV & Alt Fuel solutions**
- **Mission: Share and teach from our experience.**



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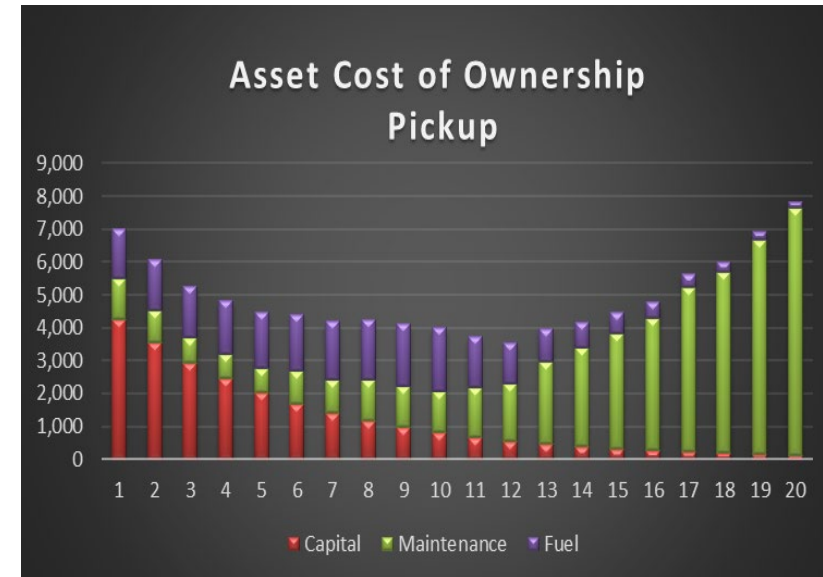
Show your EV/Alt Fuel progress to date





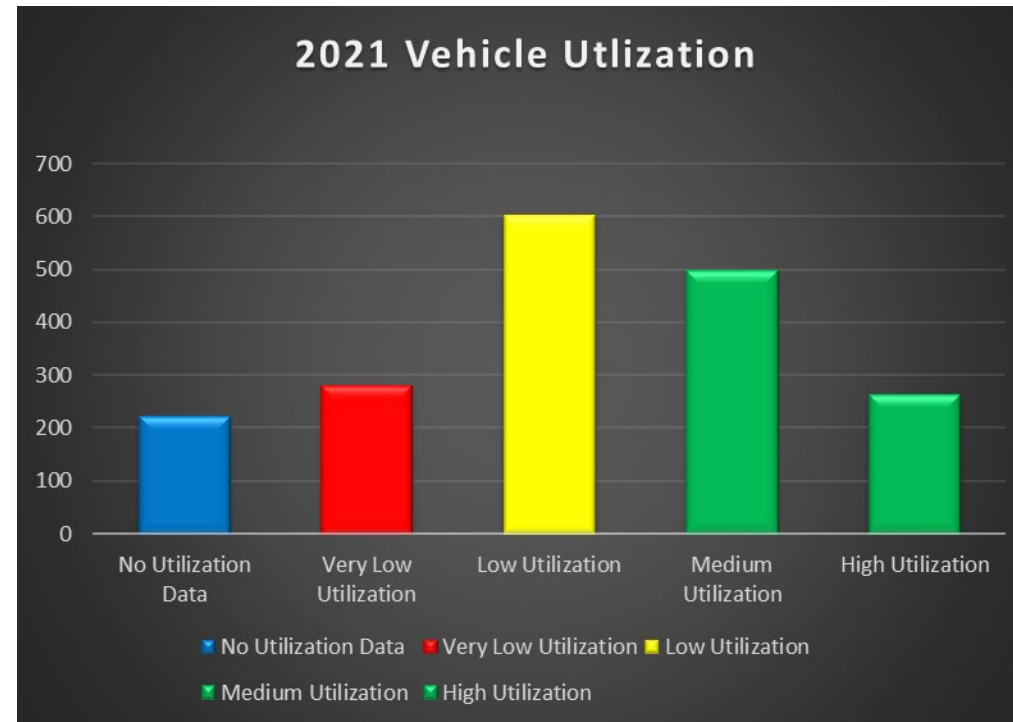
Understand your current fleet - Replacement cycle

Group	Recommended Life in Years	Recommended life in miles	Recommended life in hours
ATV	10	-	2,000
Backhoe	10	-	2,000
Boat	10	10,000	1,000
Bus	12	250,000	-
Compactor Truck	8	125,000	-
Dump Truck	10	100,000	-
EMS Truck	12	100,000	-
Equipment	20	10,000	2,000
Firetruck	10	100,000	-
Golfcart	10	10,000	2,000
Heavy Duty	10	200,000	-
Loader	10	-	3,000
Medium Duty	10	150,000	-
Motorcycle	10	15,000	-
Pickup Truck	10	120,000	-
roll-off	10	200,000	-
Sedan	8	100,000	-
SUV	8	100,000	-
Tractor	14	-	3,000
Trailer	20	-	-



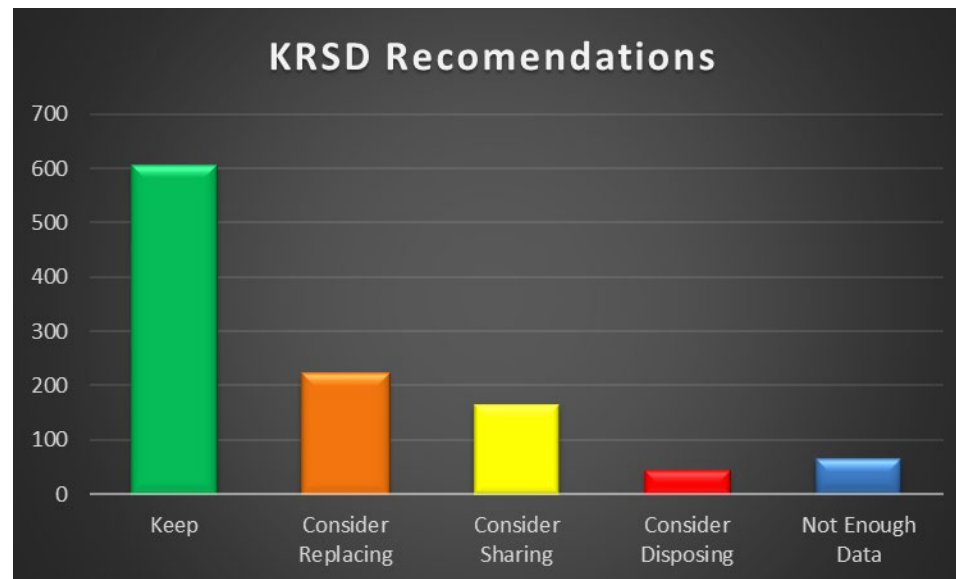


Understand your current fleet - Utilization



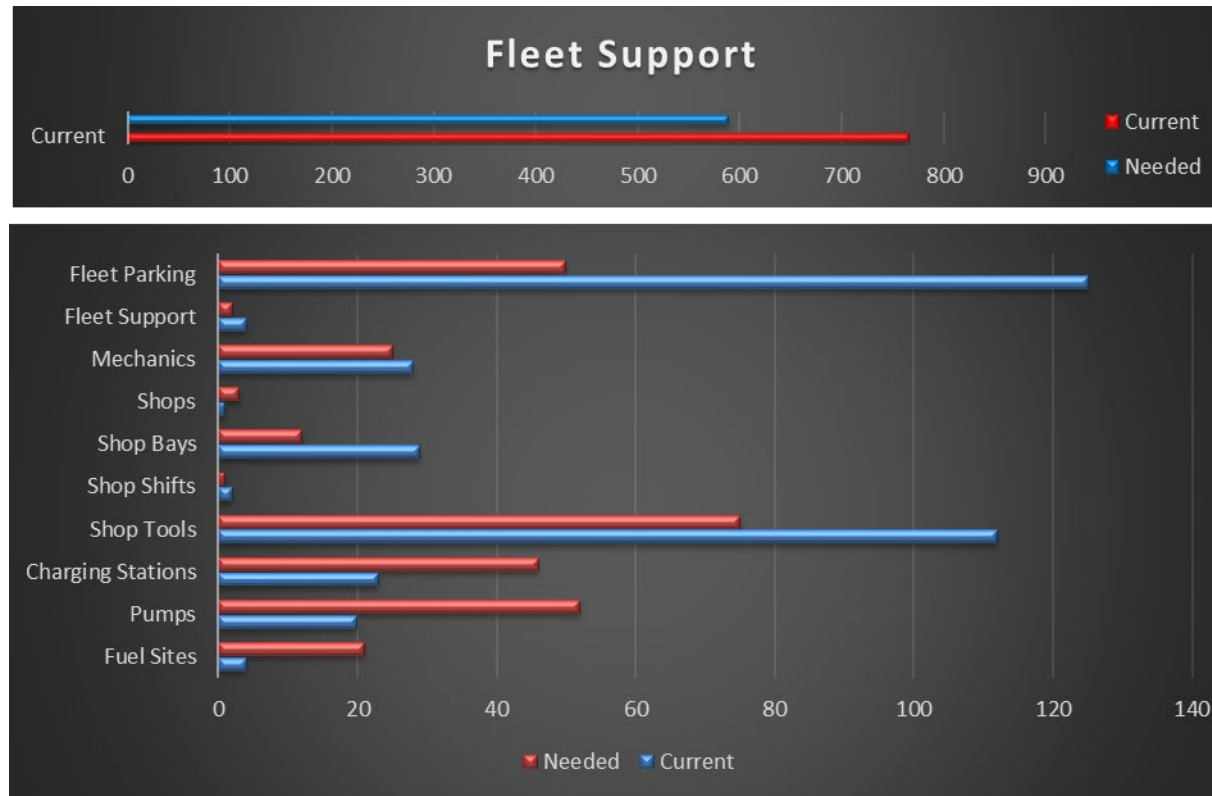


Meet with Using departments – Create Right-Size plan





Right- Size All of Fleet Services





Do not believe Commercials.....Know what is available

Upcoming Light Duty BEVs

Category	Year	Manufacturer	Model	Range
Sedan	2022	Audi	A6 e-tron	400
Sedan	2022	BMW	i4	300
Sedan	2022	Genesis	Electrified G80	310
Sedan	2022	Hyundai	Ioniq 6	300
Sedan	2022	Lexus	RZ	
		Mercedes-		
Sedan	2022	Benz	EQE	410
Sedan	2022	Volkswagen	ID.Space Vizzion	300
Sedan	2022	Volvo	XC90	
Sedan	2023	BMW	i7	
Sedan	2023	Lotus	Sedan	
Sedan	2023	Tesla	Roadster	620

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Know what is supported

Is dealer local?

Is parts distributor local?

Who has warranty? (if there is a warranty)

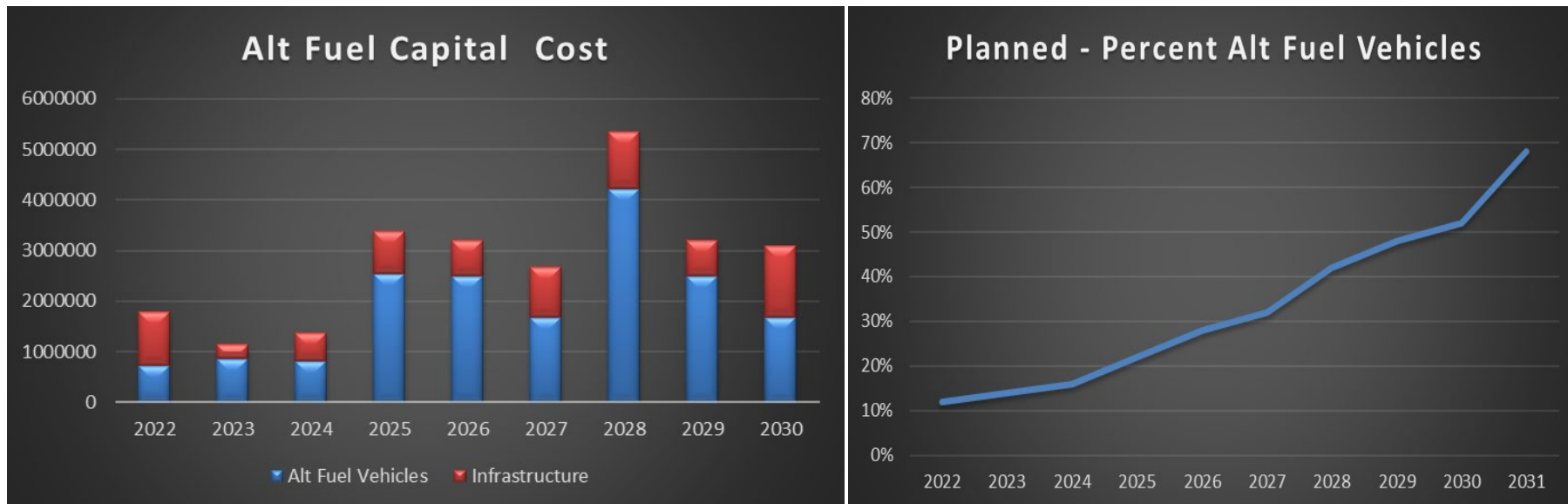
How long has company been in business?

Is company sound?

Does the company have a good track record for support?



Plan your Rollout





Randy Owen

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704-906-8898

- **CST Fleet Services Analyst**
- **Fleet manager and fleet management consultant for 35 years**
- **Provided fleet management consulting services to hundreds of governments, corporate, and utility clients from green fleet projects to implementation of fleet MIS**
- **Founding partner at Mercury Associates and a Senior Manager at Maximus**
- **Previous Fleet Manager at City of Charlotte and Los Angeles County DPW**
- **NAFA CAFM Certified**



Utility Fleet
Electrification
Program

Background



Large multi-state fleet



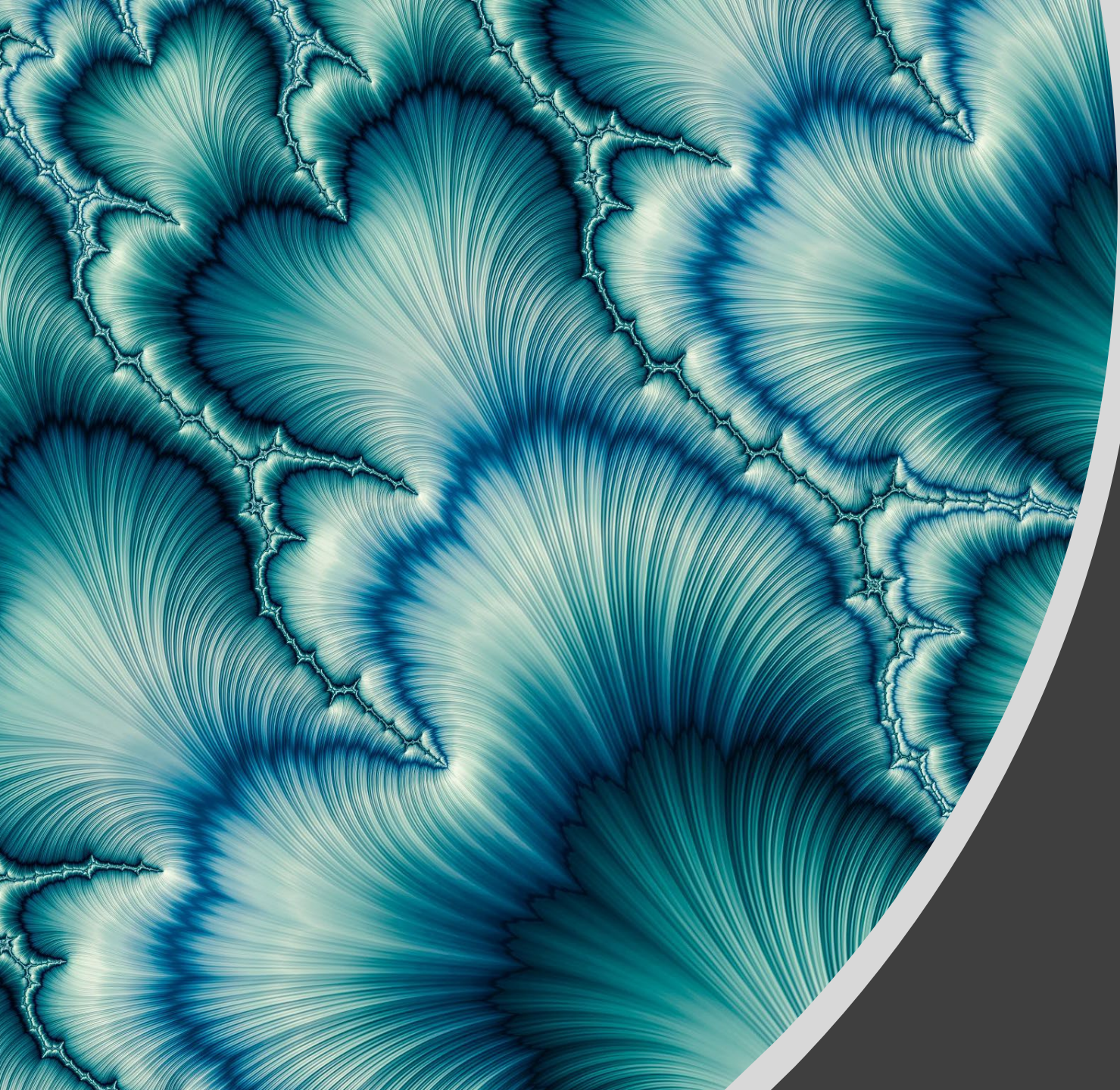
Primarily consists of work truck



Most light-duty vehicles are pickups rather than passenger vehicles



Board has made a commitment to clean energy including transitioning the company fleet to BEVs



Initiatives

Infrastructure

- Conducted a comprehensive review of grid to ensure company can support public and commercial adoption of BEVs
- Upgraded company sites to support installation of charging stations
- In process of installing chargers at all company sites to support both public and fleet charging

Truck Fleet

- Purchased 50 medium-duty trucks and converted them to BEVs through a grant from the EPA
- Partnered with a start-up EV company to deliver 100 BEV medium-duty work trucks
- Equipped many bucket trucks with auxiliary battery system

Light Fleet

- Have purchased several hundred Chevy Bolts, and PHEV SUVs and Vans
- Have plans to purchase several hundred BEV SUVs when supplies are available
- Will purchase BEV pickups as supplies become available

Other Initiatives

- Supporting a home garaging/charging program for company staff
- Making significant effort to partner with commercial and government fleets to promote BEVs
- Implemented a telematics system in all company vehicles

Lessons Learned

- Lead or follow
- Emergency response
- Balance between corporate goals and market realities
- Can't believe car company ads
- Charging infrastructure is the tail that wags the dog



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