

BY FLEET LEADERS - FOR FLEET PROGRESS

Q1
2025

SUSTAINABLE FLEET FORUM

**FIRST
ISSUE**

FIRST QUARTERLY FLEET ELECTRIFICATION FORUM

Join the Discussion Around Navigating
Sustainable Fleet Goals Practically with
Fleet Pro's From Around the World

C-SUITE

TECHNICIANS

FLEET PROS

A LETTER TO CARB

The Panel Drafts a Letter to CARB
Supporting the Case for Hybrid
Electrification for Work

**SUSTAINABILITY
LEADS**

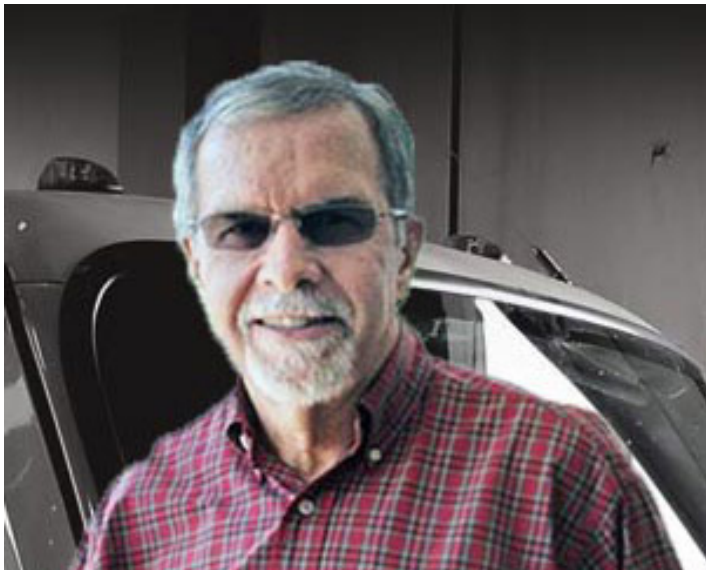
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WHAT IS SFF?

“Sustainable Fleet Forum” is a quarterly magazine driven by a private forum of experienced fleet managers. It focuses on the integration of electric and hybrid vehicles into fleets, capturing discussions from the forum and translating them into actionable insights. The magazine addresses key challenges like range anxiety and charging infrastructure, aiming to optimize fleet efficiency and environmental impact.



This Issue's Moderator: Mike Allison

FLEET ELECTRIFICATION FORUM DISCUSSION

Moderated by Michael Allison, a respected industry veteran with 41 years of experience at Duke Energy, where he retired as Director of Fleet, Sustainable Fleet Forum provides a forum for fleet professionals to share knowledge, challenges, and successes. Allison, now a Board Member and Industry Advisor at Viatec, brings his extensive expertise and community-minded approach to guide discussions on the future of successful sustainable fleets.

FLEET LEADERS DISCUSS. WE PUBLISH.

- 1.** Quarterly, exclusive forum held with utility and municipality fleet leaders from across the U.S. and Canada.
- 2.** Digital & print periodical published and distributed directly through industry events and panel members.
- 3.** Sustainability Hub Website updated with resources & information garnered from the forum.

SUSTAINABLE
FLEET FORUM

SUSTAINABLE
FLEET MAGAZINE

SUSTAINABILITY
HUB WEBSITE

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Welcome to Sustainable Fleet Forum

With regulatory pressures and sustainability initiatives gaining momentum, fleet professionals face a critical question: How do we bridge the gap while we wait for EV fleets to meet the operational needs of work vehicles? For utility fleets, municipalities, cities, counties, and private organizations alike, the challenge is finding practical, scalable solutions that balance sustainability goals with operational reliability.

This is where Sustainable Fleet Forum comes in. Our publication serves as a hub for fleet managers, procurement specialists, and sustainability officers to share insights, strategies, and real-world solutions. From Los Angeles to Quebec, professionals are coming together quarterly to tackle the pressing challenges of today while preparing for the future.

The industry needs to provide a practical, scalable way to navigate the demands of sustainability and regulatory compliance while laying the foundation for full EV adoption.

As the conversation continues to evolve, we invite fleet professionals to join us—whether you manage utility vehicles, municipal fleets, or private assets. Engage with your peers, share your challenges, and discover actionable solutions by reaching out to us at info@sustainablefleetforum.org. Together, we're shaping the future of sustainable fleet operations.

THE FIRST QUARTERLY Sustainable Fleet Forum FORUM OVERVIEW

A Discussion by Fleet Pros, for Fleet Pros

The first quarterly Sustainable Fleet Forum Forum was designed to be more than just a discussion—it was an opportunity for professionals managing utility and municipal fleets to share their successes, struggles, and real-world strategies for fleet sustainability. Held in a collaborative, industry-driven environment, the forum connected experts from Los Angeles to Quebec, all working toward the same goal: finding practical solutions for reducing emissions and improving fleet efficiency while maintaining operational reliability.

To protect the privacy of participants and encourage candid discussion, the names and identities of individuals and organizations have been anonymized in this summary.



"Regulations are moving faster than infrastructure. We're being told to electrify, but the charging capacity and operational support we need aren't always there. Utilities need real solutions, not just mandates."

- Sustainable Fleet Forum Panel Member

The landscape of utility fleet management is undergoing a significant transformation as companies across North America embrace electrification. A recent meeting of industry professionals, led by Mike Allison, revealed the diverse approaches and motivations driving this shift towards more sustainable fleet operations.

Driving Factors for Electrification

A senior manager of electric transportation at **PowerCo 1**, highlighted several key factors propelling the utility industry towards fleet electrification:

- 1. Environmental goals and emissions reduction
- 2. Load growth opportunities in a historically stagnant industry
- 3. Leadership by example from CEOs
- 4. Potential cost savings
- 5. Gaining firsthand experience to advise customers

Utility Approaches to Electrification

Different utilities are at various stages of their electrification journey, each with unique challenges and strategies:

PowerCo 2: Reported that the company is open to testing various technologies, from electric vehicles to hybrid systems. They're exploring alternative fuels and combined engines, acknowledging the rapid pace of change in the industry.

PowerCo 3: Shared the utility's long history with electric solutions, dating back to experimental systems in the 1980s. PowerCo 3 has been an early

adopter of various technologies, including Altec JEMS systems, Odyne hybrid solutions, and more recently, Viatic ePTO systems.

PowerCo 4: Outlined ambitious goals for fleet sustainability by 2030. The company aims to electrify 75% of its passenger vehicles and achieve 50% "green" status for work vehicles, including off-road equipment and heavy-duty trucks.

Challenges and Considerations

- 1. **Regulatory Pressure:** CARB regulations are pushing utilities towards electrification.Challenges remain for heavy-duty trucks.
- 2. **Emergency Resilience:** Concerns exist about relying on fully electric heavy-duty trucks during power outages and disasters, where these vehicles may be deployed for extended periods.
- 3. **Hybrid Solutions:** ePTOs, Electric GenSets, and other workforce products offer a middle ground, achieving over 80% emissions reduction while maintaining operational flexibility.
- 4. **Crew Involvement:** Engaging crews and technicians throughout the process, from product selection to installation, is crucial for successful implementation.
- 5. **Cost Considerations:** While environmental goals are important, there's pressure to demonstrate returns on investment.
- 6. **Change Management:** Implementing new technologies requires a comprehensive change management process, including engagement, education, and recognition of crew impacts.

SUSTAINABLE FLEET FORUM REVIEW

7. **OEM Adaptation:** Aerial device manufacturers need to redesign their products to optimize performance for electric power sources, as efficiency becomes increasingly important.

Collaborative Approach

The meeting emphasized a strong collaborative spirit among utility companies. Participants expressed a willingness to share knowledge and learn from each other's experiences, recognizing the complexities of their respective electrification journeys.

Hybrid and Partial Electrification Benefits

The discussion highlighted the advantages of hybrid solutions and partial electrification:

- 1. Achieving significant emissions reductions (over 80%) while maintaining operational flexibility
- 2. Increasing safety and resiliency in emergency situations

3. Allowing for gradual transition and adaptation of workflows

Future Directions

As the utility industry continues to navigate this transition, several key areas of focus emerged:

- 1. Rethinking aerial device design for electric power sources
- 2. Balancing environmental goals with operational requirements
- 3. Developing comprehensive change management strategies
- 4. Continuing collaboration and knowledge sharing among utilities

The evolving landscape of fleet electrification presents both challenges and opportunities, driving utilities to innovate and collaborate in their pursuit of more sustainable, efficient operation.





Mike Finnern
BATTERY CHEMISTRY
& SAFETY
Previously of Pheonix Motor
Cars, Proterra

Join us for the second quarter

**SUSTAINABLE
FLEET FORUM**

as we discuss battery chemistry and
safety with special guest, Mike Finnern.

MAY 21st 2025



If you'd like to be invited to future
forum events contact
Eddie@SustainableFleetForum.org

KEY TAKEAWAYS

Critical System Requirements

Successful implementation requires a parallel system that allows conventional operation if the ePTO fails, proper sizing for a full day's work, and transferability without impacting OEM warranties.

Operator Acceptance

Operators should prefer using the new system over the conventional truck engine. This ensures smooth adoption and maximizes the benefits of the technology.

Strategic Implementation:

A well-planned 3-year implementation strategy, coupled with strong executive support, is essential for successful fleet electrification.

Partnering for Success:

Choosing the right technology partner provides crucial support, training, and change management throughout the transition process.

Significant Operational Benefits:

Successful implementation results in longer-lasting trucks, 50% reduction in maintenance-related downtime, 66% reduction in fuel usage, improved safety, and upgraded organizational skills for managing a digital fleet.

DEAR CALIFORNIA AIR AND RESOURCES BOARD MEMBERS

THE CASE FOR HYBRID ELECTRIFICATION

Request for Consideration of Low Annual Mileage, High Idle Vehicles in Fleet Goals

Dear California Air Resources Board (CARB) Members,

As electric utility fleet managers committed to advancing sustainable practices while ensuring reliable service delivery, we are reaching out to propose a critical consideration regarding the classification of low annual mileage, high idle vehicles within your fleet emission reduction goals. We believe these changes create an opportunity for the industry to reduce our average emissions by up to 80% among our heavy duty vehicles and to do so immediately while the BEV technology, charging infrastructure and generation capacity continue to mature.

The Case for Inclusion

Many of our utility vehicles, including bucket trucks, step vans, trouble trucks, and diggers, operate under unique conditions that significantly differ from standard vehicle usage. These vehicles typically have low annual mileage due to their specialized functions and the nature of their work, which often involves long periods of idling while crews perform essential tasks.

We believe that recognizing these vehicles as eligible for full or substantial credit toward fleet goals would not only reflect their operational realities but also accelerate the adoption of plug-in electric solutions such as electric power take-offs (ePTOs), electric gensets, and auxiliary power units (APUs).

Benefits of Inclusion

1. Accelerated Adoption of Electric Solutions:

By allowing low mileage and high idle vehicles to count towards fleet goals, we can incentivize the transition to partial hybrid electric technologies. This would facilitate the deployment of ePTOs and other electric solutions that can significantly reduce emissions during idle periods.

2. Significant Emission Reductions:

Implementing these technologies in our fleets can lead to an estimated 80-90% reduction in idling emissions from this sector. This aligns with CARB's mission to improve air quality and combat climate change while supporting the operational needs of utility services.

3. Operational Efficiency:

Transitioning to electric solutions will not only reduce emissions but also enhance operational efficiency. Electric technologies provide quieter operation and lower maintenance costs, ultimately benefiting both our fleets and the communities we serve.

4. Support for Emergency Response:

Our vehicles play a crucial role during emergencies such as wildfires or power outages. By adopting partial hybrid solutions that can operate independently from the grid, we ensure that our crews remain effective even in challenging circumstances.

Conclusion

We urge CARB to consider our request to include low annual mileage, high idle vehicles in your fleet emission reduction goals. This change would be a significant step towards fostering the adoption of innovative electric technologies within our fleets while achieving substantial environmental benefits.

We appreciate your ongoing efforts to promote sustainable practices and look forward to collaborating with CARB in creating a cleaner, more efficient future for California's utility services.

*Thank you for considering this important request. Sincerely,
The Fleet Electrification Forum, January 2025*



FLEET ELECTRIFICATION FORUM: A FEW SUGGESTIONS FOR OEMS

HYDRAULIC SYSTEMS FOR PARTIAL HYBRIDS

Set of recommendations for the OEMs

Original Equipment Manufacturers (OEMs): To improve the efficiency of hydraulic systems in hybrid bucket trucks using battery-powered Electric Power Take-Offs (EPTOs) consider the following:

Control System Enhancements

- 1. Electric-over-Hydraulic Controls:** Implement electric-over-hydraulic control systems for all equipment types, including buckets and diggers. This allows for more precise control and easier integration with EPTOs.
- 2. Direct CAN Bus Communication:** Develop EPTOs that can receive commands directly from the CAN bus controls in the operator's seat or radio remote. This would streamline communication and improve overall system efficiency.
- 3. Fiber Optic Control with Radio Backup:** For

bucket trucks, transition to fiber optic control systems with radio backup. This would allow the EPTO to respond only when a control is operated, significantly reducing wasted battery potential.

- 4. Advanced Control Algorithms:** Implement sophisticated control algorithms for valve and actuator management to optimize energy usage and reduce throttling losses.

Hydraulic System Improvements

- 1. Closed-Center Load-Sensing Systems:** Transition all equipment from open-center to closed-center load-sensing hydraulic systems. This change would minimize energy losses and improve operational efficiency across all equipment types.
- 2. Higher Operating Pressures:** Increase system operating pressures, similar to those used in articulating cranes (above 5000 PSI). This allows for smaller, lighter components and reduced fluid



volume, leading to efficiency gains.

- 3. Energy Recovery Systems:** Incorporate hydraulic accumulators to capture and store energy during boom descent for reuse, reducing wasted energy and extending battery life.
- 4. Digital Hydraulic Actuators:** Replace traditional counterbalance valves with digital actuators to enable bidirectional energy flow and reduce pressure losses.
- 5. Advanced Pump Technology:** Integrate variable displacement pumps with electronic displacement control (EDC) to optimize power usage and enable configurable "eco modes" for extended battery runtime.

Design Considerations

- 1. Lightweight Boom Design:** Focus on reducing the weight of boom components, particularly for bucket trucks. Lighter booms require less energy to lift, improving overall efficiency.
- 2. Standardized EPTO Communication:** Develop industry standards for EPTO communication protocols, encouraging OEMs to provide open communication interfaces for their equipment.
- 3. Efficient Component Selection:** Prioritize the use of more efficient hydraulic components

throughout the system, balancing the trade-off between upfront costs and long-term efficiency gains.

Implementation Strategy

- 1. Phased Approach:** Implement changes gradually, starting with the most cost-effective improvements that offer the highest efficiency gains.
- 2. Solve Diggers:** Initially prioritize improvements for digger trucks, as they are more commonly using electric-over-hydraulic controls and are easier to adapt to EPTO systems.
- 3. Collaborative Development:** Encourage collaboration between EPTO manufacturers and OEMs to develop integrated solutions that maximize efficiency across different equipment types.
- 4. Cost-Benefit Analysis:** Conduct thorough cost-benefit analyses for each proposed improvement, considering both the upfront costs and long-term savings in battery usage and energy consumption.

By implementing these recommendations, OEMs can significantly improve the efficiency of hydraulic systems in hybrid bucket trucks using EPTOs, leading to extended battery life, reduced energy consumption, and improved overall performance.

GARRET'S CASE STUDY: CHANGE MANAGEMENT IN MAINTENANCE

FRONT LINE OF IMPACT FOR NEW TECH

The Electrification Challenge: A Technician's Perspective

Garret, a seasoned service technician, has witnessed numerous technological shifts in his two-decade career. When news of electrification and hybridization of medium and heavy-duty trucks in the fleet reached him, he approached it with a mix of curiosity and caution.

"I've been working on diesel engines my whole career," Garret shared. "At first, I wasn't sure how electric systems would fit into what we do every day."

Real Challenges in the Transition

The shift towards electrification presents several significant challenges for technicians:

1. **High Voltage Systems:** Working with high voltage components requires new safety protocols and expertise.
2. **Software-Based Troubleshooting:** Diagnosing hardware issues now often involves software tools, a significant departure from traditional methods.



EXCERPT: SUSTAINABLE FLEET FORUM

For technicians, the biggest challenge with fleet electrification isn't the concept—it's the execution. New systems must be easy to service, compatible with existing infrastructure, and reduce complexity rather than add to it. As one technician in the industry put it, fleets have tested everything—ePTOs, hybridized systems, alternative fuels. The key is finding a solution that works without increasing downtime or requiring a complete overhaul of maintenance operations.

3. **Digital Control Strategies:** Understanding and managing digital control systems is a new skill set for many technicians.
4. **Changing Service Paradigms:** Historically, electrified equipment was serviced by OEMs, not fleet technicians.

Adapting Maintenance Routines

The transition to electrified systems has brought notable changes to maintenance schedules:

- **Reduced Oil Changes:** Electrified trucks require about half the number of oil changes compared to traditional vehicles.
- **Aerial Device Maintenance:** While many service intervals decrease, aerial devices still require regular attention.
- **Schedule Adjustments:** Capturing the benefits of reduced maintenance needs requires proactive schedule changes to avoid unnecessary servicing.

Training and Safety

Proper training is crucial for technicians working with electrified systems:

- **Comprehensive Programs:** Some providers offer training for both installation and support of their technologies.
- **High Voltage Safety:** Technicians must complete specialized high voltage training.
- **Personal Protective Equipment (PPE):** Using proper PPE is essential when working with electrified systems.

Overcoming Initial Hurdles

The transition period can be challenging as technicians encounter new issues:

- **Learning Curve:** Each problem with electrified systems is initially a "first time" experience for

technicians.

- **Building Familiarity:** Over time, solutions become familiar, transitioning from learned responses to recalled knowledge.

Success Through Collaboration

A Canadian utility demonstrated the power of involving technicians in the transition process:

- **Crew Involvement:** Technicians helped size ePTO systems and determine optimal locations for controls.
- **Partnership Approach:** The solution was rolled out collaboratively, rather than imposed from above.
- **Impressive Results:** This approach led to eliminating over 80% of jobsite idling and 69% of total engine hours.

Long-Term Benefits for Technicians

Despite initial challenges, electrification offers several advantages for technicians:

- **Reduced Workload:** Electrified systems generally have fewer issues and require less regular service.
- **Skill Development:** Installing and supporting these products provides technicians with valuable, transferrable skills.
- **Remote Diagnostics:** Many electrified systems can be monitored and sometimes fixed remotely, reducing unnecessary downtime.

The transition to electrified and hybrid vehicles presents both challenges and opportunities for fleet technicians. While it requires learning new skills and adapting to new technologies, it also offers the potential for more efficient maintenance routines and valuable career development. As the industry continues to evolve, technicians who embrace these changes will be well-positioned for the future of fleet maintenance.



JOHN’S CASE STUDY: STRATEGIC HYBRIDIZATION

RELIABLE SERVICE & CHANGE MANAGEMENT - A MUST



Navigating Fleet Electrification: A Fleet Manager’s Perspective

John, a fleet manager with over 14 years of experience, has witnessed the evolution of fleet technology firsthand. Early attempts at hybridization presented his team with significant challenges, but with increasing pressure for sustainability, John recognized the need to find practical solutions for his fleet.

“Our previous experiences with hybrid systems were disappointing,” John explained. “We needed solutions that could truly meet our operational demands.”

The Real-World Challenges

For utility fleets, reliability is paramount. Vehicles must always be ready for deployment, especially during emergencies. Early hybrid and electric solutions often fell short in this regard, with issues like long charging times and insufficient capacity. Deeply integrated components made the truck dependent on the hybrid system even when the truck was running. If the hybrid failed, the truck was out of service.

EXCERPT: SUSTAINABLE FLEET FORUM

“We’ve had JEMs units, we’ve had international, the driveline electrical, ePTO systems. They had their flaws. We’re open to anything, we’re testing everything. We’re always looking at alternative fuels, combined engines. This has been a long time coming, and I think we’re being forced to go this way. Whether or not it hurries too quickly, we’re generally leading the charge.”

Exploring Diverse Technologies

As the industry evolves, a variety of technology providers are offering solutions to address these challenges.

Telematics and Fleet Management

GEOTAB and Samsara provide advanced telematics systems to improve driver behavior and monitor truck engine health.

Heavy-Duty Electrification

Viatec offers solutions for heavy-duty vehicle electrification, particularly suited for utility trucks.

Hybrid Systems

Odyne Systems provides hybrid drivelines with regenerative braking capabilities for step vans.

Medium and Light Duty Solutions

Vanair and Altec JEMS offer electrification options for medium and light-duty utility and other vocational trucks.

Chassis Idle Mitigation

Major manufacturers like Ford, International, and Freightliner are incorporating chassis idle mitigation technologies into their vehicles.

Finding the Right Approach

Full electrification may not be feasible for all work truck fleets. Instead, fleet leaders must evaluate a

mix of solutions tailored to their specific operational needs. This may include:

- Partial electrification of certain vehicle types
- Adoption of hybrid systems where appropriate
- Gradual transition to fully electric vehicles in suitable roles
- Implementation of telematics for improved fleet management
- The Path Forward

The goal for fleet managers isn’t simply to deploy new technology for its own sake. Rather, it’s to develop a comprehensive fleet transition plan that:

- Maintains operational reliability

- Meets sustainability targets
- Manages costs effectively
- Ensures crew safety and efficiency

While the transition to more sustainable fleet operations presents significant challenges, it also offers opportunities for innovation and improvement. By carefully evaluating available technologies from various providers and considering operational needs, fleet managers like John can navigate the path to electrification while maintaining the reliability and efficiency their operations demand. As the industry continues to evolve, new solutions will likely emerge, offering even more options for fleet electrification and optimization.



Shae Davies FLEET MANAGER

Portland General Electric



"The business of fleet management is an extremely community-minded industry in which its leaders seek opportunities to knowledge share and learn from each other. As our focus turns more and more toward sustainability, many of us are realizing that nobody has it all figured out yet. No fleet has perfected this transition. The Sustainable Fleet Forum is going to support our sense of community for learning, idea sharing, exploring new technology, and problem solving specific to this niche, imperfect, promising and important corner of fleet management."

KEY TAKEAWAYS

Scalable Solutions Work:

Gradual adoption of hybrid systems minimized disruption and allowed for steady progress toward sustainability.

Reliability is Key:

Fully enclosed plug-and-play systems enabled John’s fleet to operate efficiently without sacrificing performance.

Fuel and Maintenance Savings Add Up:

A 66% reduction in fuel consumption and 50% less maintenance downtime directly improved operations and budgets.

Training is Crucial:

Empowering operators and technicians with the right knowledge ensured smooth integration of hybrid technology.

MURIAL'S CASE STUDY: ALIGNING SUSTAINABILITY AND FLEET

BALANCE GOALS & PRACTICALITY



A sustainability officer for a large utility company faced increasing pressure to meet strict environmental targets. While ensuring her fleet remained operationally efficient, and with carbon reduction mandates on the rise, Murial needed a solution that balanced ambitious sustainability goals with the practical realities of daily fleet operations.

“Our fleet is essential to what we do,” Murial explained. “We couldn’t afford to implement changes that compromised reliability, but we also had to show measurable progress toward reducing emissions.”

The Challenge: Bridging the Gap to Electrification

While EV fleets offer long-term sustainability benefits, they’re not yet practical for utility and municipal work fleets. Limited battery ranges, lengthy charging times,

and unreliable infrastructure make full electrification unsuitable for vehicles that require operational flexibility and rapid deployment during emergencies.

Murial’s challenge was clear: How could her fleet significantly reduce emissions now, without waiting years for EV technology to mature?

Sustainability in Fleet Management: More Than Just EVs

For sustainability officers, fleet electrification is about more than just emissions reduction—it’s about finding the most practical pathway to meet ESG goals without disrupting operations. While full electrification remains the long-term objective, achieving sustainability today requires a mix of solutions, including hybridization, biofuels, infrastructure improvements, and strategic

EXCERPT: SUSTAINABLE FLEET FORUM

“We have some ambitious fleet goals, green fleet goals, with a 2030 timeframe for our company. So we kind of broke everything down into two different paths. We have passenger vehicles—just sedans and SUVs—we’d like to electrify 75% of those by 2030. Then everything else—off-road vehicles, warehouse equipment, pickup trucks, bucket trucks—falls under a work vehicle class, and we’d like to get to 50% green by 2030. That includes not just electric, but CNG, propane, and other renewable fuels as well.”

deployment of electric vehicles where they make sense.

Key Considerations for Sustainability Officers:

Regulatory Compliance vs. Operational Needs:

Stricter emissions targets are coming, but work fleets must still meet performance expectations.

Technology Mix: Hybridization, ePTO, alternative fuels, and power management systems all contribute to sustainability—there is no one-size-fits-all solution.

Long-Term Planning: Electrification infrastructure requires significant investment and planning, meaning gradual adoption strategies may be necessary.

Fleet sustainability isn’t a single technology decision—it’s an evolving strategy that balances regulatory demands, financial feasibility, and operational effectiveness.



KEY TAKEAWAYS

Hybridization Reduces Today:

Plug-and-play systems like ePTOs offer immediate and scalable reductions in idle-related emissions.

Cost and Sustainability - Hand in Hand:

Reducing fuel consumption through hybridization directly supports both financial goals and sustainability targets.

Operational Flexibility is Essential:

Hybrid systems maintain fleet reliability while enabling organizations to meet evolving environmental mandates.

A Foundation for EV Adoption:

Hybridizing now positions fleets to transition smoothly to full electrification when the technology becomes viable.

ALEX: THE FINANCIAL GUIDE TO FLEET SUSTAINABILITY

COST SAVINGS & LONG TERM INVESTMENTS



For Alex, the question was clear: How do we make meaningful progress toward sustainability without overextending the budget?

At the same time, operational costs like fuel and maintenance were eating into the budget, highlighting the need for more immediate, cost-saving solutions.

EXCERPT: SUSTAINABLE FLEET FORUM

“When it comes to fleet electrification for utilities, there’s a number of things driving that push. Utilities have always invested in new and emerging technologies that can result in cost savings or improve operations. But this is a little unique. In the case of electric vehicles, and partial hybrids, there’s a couple of motivations behind that push. One is trying to meet environmental goals, but there’s also an industry-wide recognition that transportation electrification offers an opportunity for financial growth in a sector that has historically been stagnant. A lot of utilities implemented programs to support this transition—whether through direct investments, rebate programs, or alternative funding models.”

Alex’s main job is “simple”, to ensure his city’s running in a financially responsible manner, reducing costs while improving efficiency in operations. “These efficiencies allow us to invest in new people and technologies to support city’s goals and meets the expectations of our community.”

“Sustainability initiatives are important, but they have to make financial sense,” Alex explained. “It’s not just about cutting emissions—it’s about balancing today’s costs with tomorrow’s opportunities.”

Managing Costs in a Transitional Era

Fleet electrification presents financial hurdles that are hard to ignore. High upfront costs, long ROI periods, and infrastructure limitations make EV fleets a risky investment for many organizations.

A CFO’s Lens on Fleet Investment:

CFOs evaluate fleet transitions based on financial viability, long-term savings, and capital risk. The key question is not just cost savings, but how investments align with overall financial strategy.

Key Financial Considerations:

- 1. Upfront Costs vs. Long-Term Savings:** Electrification and hybridization require upfront investment—a CFO needs clear ROI before committing to any major shift.

- 2. Budget Flexibility:** Multi-year implementation strategies (gradual fleet hybridization, infrastructure phasing) help spread costs and lower risk.

- 3. Regulatory & Incentive Alignment:** Taking advantage of grants, tax incentives, and funding programs helps offset capital costs and improve feasibility.



KEY TAKEAWAYS

Hybridization Delivers Quick ROI:

Plug-and-play systems provide significant savings in fuel and maintenance, with investments paying off in just a few years.

Scalability Matters:

Gradual implementation spreads costs across budget cycles, making hybridization financially manageable.

Operational Savings Add Up:

Cutting idle time reduces both emissions and operating costs, creating immediate budget relief.

Supports Long-Term Strategy:

Hybridization positions fleets for a future transition to EVs while maintaining financial stability today.

SARAH: FLEET ELECTRIFICATION STRATEGY IN ACTION

NAVIGATING ESG IN A SHAREHOLDER ECONOMY



Leading a regional utility company, Sarah understood that her organization's success relied on more than operational efficiency. Increasing regulatory pressure and public demand for sustainability were reshaping the industry, and fleet electrification was becoming a central part of the conversation. But with EV fleets still facing significant limitations, Sarah needed a solution that aligned with both the company's goals and its operational needs.

"Our fleet is critical to our operations, especially during emergencies," Sarah said. "We had to find a way to meet sustainability goals without sacrificing reliability."

EXCERPT: SUSTAINABLE FLEET FORUM

"CEOs want, from that top level, to walk the walk on electric transportation and lead the way by electrifying their own fleets... But that wasn't only just motivated by grandstanding. There are a lot of potential benefits. The CEOs wanted to understand how this process works. How can we realize the potential cost savings? How can we make the numbers that show up on an Excel sheet actually translate into savings? How should we deploy these vehicles at scale? How can we incorporate them into the fleet? And then finally, how should we advise other customers that are trying to electrify their own fleets based upon our own experience?"

The Challenge: Setting a Realistic Path to Electrification

For Sarah, the challenge wasn't just about meeting immediate sustainability targets—it was about charting a clear, achievable path to fleet electrification. Fully electric fleets still faced hurdles like limited battery ranges, slow charging times, and infrastructure gaps. Meanwhile, her organization was under growing pressure to reduce emissions, improve efficiency, and lead the way in sustainability.

"The big question was, how do we show leadership in sustainability without over-promising or compromising our ability to serve customers?" Sarah explained.

What Matters for a CEO?

For a CEO, no single technology is the answer—only a strategy that balances sustainability goals with operational and financial realities. Electrification, hybridization, and alternative

fuels are all on the table, but the key is ensuring alignment with business priorities and shareholder expectations.

What Defines a Strong Plan?

A successful fleet strategy must be flexible, balancing ESG goals with cost-effectiveness and ensuring any transition does not disrupt reliability. CEOs are not looking to invest in technology for the sake of innovation alone—they need solutions that scale effectively without putting the organization at financial or operational risk.

Strategic Priorities in Implementation:

- 1. Strategic Alignment:** Any fleet initiative must align with long-term corporate goals and financial health.
- 2. Scalability & ROI:** CEOs focus on investments that scale realistically, offering measurable returns over time.
- 3. Risk Management:** Full fleet electrification is too risky right now—hybridization, infrastructure investments, and alternative fuels may be more viable interim steps.



KEY TAKEAWAYS

Leadership Requires Action:

Hybridization demonstrates proactive leadership in sustainability while balancing operational needs.

Reliability is Non-Negotiable:

Plug-and-play systems ensure uninterrupted performance, even during critical operations.

Sustainability Builds Trust:

Taking measurable steps to reduce emissions reinforces a company's reputation and strengthens stakeholder relationships.

A Transitional Step Forward:

Hybridization bridges the gap to EV fleets, laying the groundwork for long-term electrification.

A LETTER FROM THE STAFF: REFLECTIONS FROM THE FARM

SUSTAINABILITY HAPPENS IN EVERY DAY LIFE



it gives me the privilege of supporting a blue-collar workforce. These are the operators and technicians whose expertise drives the critical infrastructure and services we rely on every day. My role is to help make their jobs safer, greener, and more rewarding.

My father spent 42 years in the foundry, pouring iron to craft piston rings. When he retired, he'd finally made it to the top of the seniority roster—a hard-earned milestone after decades of labor in challenging conditions. Even now, nearly seven years after his retirement, I'm reminded of the occupational hazards he faced daily. On a hot summer day, I can still catch a trace of cutting oil in his sweat, a vivid reminder of the substances he worked with for so many years.



Photo by Trinity Kubassek on StockSnap

Yesterday morning, I stepped away from my usual routine to mow the field behind our house. Rising early, I bundled up, hooked up the bush hog to our tractor, topped off the diesel, and set out to tame the overgrown acres. The rumble of the engine and the scent of diesel brought back memories of a simpler time—a time when I first understood what it meant to work in a blue-collar world.

That understanding started in childhood. My mom showered in the mornings before heading to work, but my dad? He showered when he got home. His boots, left at the door, were caked with dust and grime from the foundry floor. His work clothes were always washed separately, carrying the unmistakable scent of cutting oils and solvents. He often left before I woke up and returned home long after the sun had set, tired from the day's labor.

Now, as an adult with a white-collar career, I find myself reflecting on those days with a profound sense of gratitude and respect. I manage marketing for a small manufacturer making a big impact in the utility fleet industry. While my work rarely requires boots on the ground or the smell of diesel in the morning,

It's a sobering thought: the long-term health impacts of blue-collar careers often linger far beyond the final shift.

As I lay in bed last night, I could still feel the residual hum of the tractor under me—a subtle echo of the morning's work. It brought with it a wave of gratitude for my dad and for all the hardworking individuals in industries where physical demands and exposure to risk are part of the job. Their dedication inspires me in my work to support clean fleet technology—

innovations that help fleets achieve emissions goals, lower operating costs, reduce fuel consumption, and drive shareholder value. But the heart of this mission goes beyond efficiency and sustainability. At its core, we're doing this work so that operators—those who build, maintain, and serve the systems that power our communities—can come home healthier, safer, and happier at the end of each day. Because at the intersection of innovation and tradition lies the opportunity to honor their contributions while paving a better path forward.



Photo by Bonnie Moreland on StockSnap

SILENCE IS GOLDEN

SAFETY IN ELIMINATING HEAVY-DUTY IDLING

Addressing Workplace Noise: A Safety Imperative for Utility and Forestry Fleets

As fleet managers for utility companies, public power providers, cooperatives, and forestry services, we constantly seek ways to enhance safety, efficiency, and environmental impact. One area that deserves closer attention is workplace noise, particularly from heavy-duty trucks and power equipment. While often overlooked, the safety implications of a quieter worksite are significant and merit careful consideration.

Understanding the Impact of Workplace Noise

Utility crews, forestry workers, and contractors face numerous daily hazards. The constant background noise from idling trucks and power equipment adds a subtle yet significant risk to their work environment. Let’s explore some of the key impacts:

Cognitive Performance and Stress

Prolonged exposure to noise can affect mental acuity, potentially leading to increased stress levels and fatigue. For workers performing complex and dangerous tasks, these effects can impair decision-making and reaction times.

Communication Challenges

High noise levels can interfere with crucial communication between team members. This is particularly critical when working at heights, in dense forest environments, or near live electrical systems.

Masking of Important Sounds

Persistent background noise can obscure important auditory cues such as equipment malfunctions, approaching vehicles, or warning shouts from colleagues.

Noise and Workplace Accidents

The construction industry, which shares similarities with utility and forestry work, identifies four leading causes of worker fatalities, known as “the Fatal Four”: falls, being struck by objects, electrocutions, and caught-in/between incidents. Noise can contribute to the risk in each of these scenarios by impairing communication, reducing situational awareness, and increasing fatigue.

It’s worth noting that the fatality rate for lineworkers is nearly 400% higher than the national average for all occupations, with similar risks faced by forestry workers. While multiple factors contribute to this



statistic, workplace noise is an often-overlooked variable that deserves attention.

Exploring Noise Reduction Strategies

There are various approaches to reducing workplace noise, each with its own set of benefits and challenges:

Equipment Modernization

Some companies are exploring electric and hybrid-electric vehicles, which can produce less noise when stationary and often power onboard equipment without idling. However, the high initial costs and charging infrastructure requirements can be significant hurdles.

- 1. Portable Power Solutions**
Battery banks and electric generators can provide necessary power without constant engine noise, though they may have limitations in remote locations or during extended operations.
- 2. Idle Reduction Technologies**
For fleets not ready for full electrification, technologies like automatic start-stop systems can reduce unnecessary idling and noise.

These systems require less investment but don’t eliminate noise entirely.

- 3. Alternative Tools**
Battery-powered hand tools and chainsaws can significantly reduce localized noise. While they’ve improved greatly, some operators find they still lack the power of traditional gas-powered tools for heavy-duty tasks.
- 4. Operational Changes**
Some organizations have found success in modifying work schedules to minimize simultaneous noisy operations or implementing “quiet periods” during the workday.
- 5. Maintenance and Retrofitting**
Regular maintenance of existing equipment can help reduce noise levels. Some fleets have explored retrofitting vehicles with improved insulation or muffler systems.

Case Study: Balancing Act

A mid-sized electric cooperative in the Midwest implemented a multi-pronged approach to noise reduction. They introduced two electric bucket trucks for urban work, upgraded to battery-powered hand tools, and implemented stricter idling policies for their remaining diesel fleet. While they saw improvements in urban noise complaints and worker satisfaction, they faced challenges with range anxiety on the electric vehicles and some resistance from workers accustomed to traditional tools. The cooperative is still evaluating the long-term impacts on safety metrics and overall efficiency.



Beyond Safety: Additional Considerations

While safety is paramount, noise reduction strategies can offer additional benefits:

- Potential fuel savings from reduced idling
- Decreased emissions and improved local air quality
- Reductions in maintenance costs for some equipment types

However, it’s important to weigh these benefits against potential drawbacks such as higher initial costs, changes in operational procedures, and the need for worker training on new equipment.

Takeaways

As industry professionals, we must continually evaluate how to best protect our workforce. The impact of noise on safety, while not always immediately apparent, is a critical factor to consider. There’s no one-size-fits-all solution to this complex issue, but by staying informed about various strategies and their trade-offs, we can make decisions that best serve our teams and communities.

We encourage you to assess your own operations: How does noise affect your workforce? What strategies might be most effective in your specific context? By engaging with these questions, we can work towards creating safer, more effective work environments across our industries.

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