



Green Fleets: Five Practical Ways To Improve on Sustainability Efforts

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Being green goes beyond hybrid trucks and fuel alternatives. It's about getting to the core issues—putting in place sensible practices and reinforcing these with simple fleet management solutions.

GREEN FLEETS ARE NOT ONLY MORE RESPONSIBLE

fleets, but more profitable ones as well. The bottom line is that if your fleet is not managed effectively, you will use more fuel and generate unnecessary emissions and excess costs that impact your profitability. Today's economic conditions and environmental concerns are providing ample impetus for more and more waste managers to implement green policies and solutions.

Green fleets are focused on reducing fuel consumption, mileage and exhaust emissions, and on driving more safely. Investing in new hybrid waste collection trucks and converting to alternative fuels—such as natural gas—will dramatically reduce emissions; however, these fleet upgrades may be out of scope for many budgets in tight economic times. Further, this only addresses some of the issues and should not stop you from implementing other green fleet practices to make a positive impact on your operations and the environment.

From driver behavior to vehicle maintenance to idling times, waste managers can set sustainability objectives and implement these for realistic and measurable results across five key areas.

#1: Improve Driver Behavior

One of the greatest factors directly impacting fuel consumption is individual driver behavior. From speeding to frequent braking, aggressive driving does not actually reduce travel time; it creates greater accident risks and can increase fuel consumption by more than 30 percent. Even the most fuel-efficient vehicles will perform poorly with an inefficient or aggressive driver behind the wheel. It is therefore critical for any green fleet program to tackle driver behaviour first and foremost.

Defensive driving has traditionally been the basis for safety programs, but is now also fundamental to fuel consumption reduction. Defensive driving effectively reduces the three key components of fuel-guzzling aggressive driving: over speeding, over accelerating and over braking. However, developing policies for defensive driving is one thing—executing on them is another.

To make this happen you need to have real-time visibility into driver activity and behavior. Fleet management technology solutions typically provide real-time monitoring of driver behavior and driving patterns, allowing fleet managers to influence and coach drivers on more fuel and emissions-friendly driving approaches. All departments usually have access to centralized fleet driving data for a completely transparent representation of a driver's performance.

Fleet mapping technologies deliver a real-time map view of individual vehicle's positions relative to towns, cities, highways and streets. Managers can select from a number of layers which determine the level of detail and plot the vehicle's position according to reported events. With fleet mapping capabilities, managers can further reconstruct the route taken by a driver on any given day, and view alarm criteria, such as exceeding a specified speed limit. Managers can also identify drivers that are deviating from assigned routes or making unscheduled side trips. Understanding how



In-cab touch screen for route management and driver direction.
Images courtesy of Fleetmind.



In-cab driver direction for optimal routing.

vehicles are being handled and identifying which drivers are generating alarms, enables fleet managers to reward defensive drivers and further train aggressive ones.

#2: Improve Control of Idling Times

For heavy-duty vehicles such as waste trucks, unnecessary idling can have a dramatic impact on fuel consumption and carbon emissions. The extent to which idling impacts fuel and emissions is dependent on drivers, truck types and the time of year; however, the American Trucking Association estimates that excessive idling increases yearly maintenance costs by up to \$2,000 per vehicle.

The best way to tackle excessive idling is to use fleet management solutions that include “real-time” alarm and report capabilities. Fleet managers can then identify and set idling thresholds that are within acceptable industry standards or as dictated by local laws. Such a system automatically notifies both the driver and management when these thresholds are exceeded. Alarms can first be set to alert drivers in the cab of the vehicle when they have approached the idling limit. This allows the driver to respond appropriately. If the idling persists, a second alarm can be set to alert the fleet manager. This allows managers to coach drivers individually to ensure compliance and improved performance.

In addition to the real-time alarms, fleet management report capabilities will typically track and compile data on all engine performance activity so that managers can identify any behavioral trends and coach drivers toward desired outcomes. For example, these performance reports can provide a variety of data including the total idling time and total engine hours for a specified period. It then calculates the percentage of vehicle usage, which is the drive time over the total engine time. The more idling you have, the lower the usage will be.

A fleet manager can then query such a report based on the “usage percentage” and easily determine performance trends that need improvement as well those that warrant recognition for compliance. This is a quick tool for managers who want to sustainably improve their fleet’s performance.

#3: Improved Maintenance

Another important element for greener fleets is regular vehicle maintenance. A well-maintained fleet improves fuel efficiency, reduces long-term maintenance costs and curbs emissions.

Central to effective fleet maintenance is maintaining average fuel consumption and adhering to pre-set maintenance schedules which control breakdowns. Onboard computing solutions can help control costs by monitoring vehicle maintenance and fuel data. Onboard computers record real-time vehicular and driver data using sensors to perform remote management and functionality updates, and download and upload information automatically between vehicles and the terminal.

For example, if two vehicles of the same type with the same engine are used for the same task, but show different fuel economy, this can be either a driver issue or a truck issue. If it is a truck issue, fleet managers can go back to the manufacturer to have the truck ‘tuned’ to ensure consistent and optimal fuel performance.

Another approach is to provide odometer updates to a maintenance system. That eliminates the need to manually note individual truck information or collect it from a driver’s run sheet.

Many onboard computing systems can provide odometer information daily so you can plan the maintenance of the vehicle based on mileage. Onboard computing may also be able collect ECM codes (engine malfunction) so that engines can be repaired before problems escalate. A healthy engine burns less fuel and is less prone to malfunction when on the road.

Good driver communication is also essential toward effective vehicle maintenance. Most fleet management systems provide handheld or in-cab touch screen units for drivers to send instant messages or updates. Drivers should have the ability to flag real-time engine issues and capture images of any truck damage to ensure appropriate maintenance and safety.

#4: Improved Route Management

Reducing overall mileage further cuts fuel consumption and reduces harmful emissions. Route and fleet management solutions are proven to reduce fuel consumption with efficient routing and by monitoring vehicles and drivers. The savings can be huge. ABI Research cites such benefits as more than a 12 percent increase in service profitability, a 13 percent improvement in vehicle use and a nearly 15 percent decrease in travel time with fleet and route management solutions.

Driver direction technologies can automatically provide driving directions to the truck’s next stop based on run sheet data without driver input. These solutions can further provide a graphical view of the calls to the driver, and automatically re-calculate routes when a driver selects an out-of-sequence manual stop. This ensures that each route is optimized for time and distance, thereby reducing overall mileage.

Real-time positioning features present a map view of your vehicles’ current positions, letting you know which driver is closest to a new pickup assignment, who can take the work a driver cannot complete and the driver’s proximity to a customer location.

Most driver direction solutions are designed to provide features similar to those of a GPS-equipped car—specifically, textual and audible driving directions for the

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Fleet mapping screen shot showing idling and speeding alarms.

driver. Ongoing route locations and directions are based on the driver's schedule and provided automatically. These could be the next stop in a predetermined sequence, or a driver-selected stop should he elect to run his route out of sequence. This ensures that both the driver's time and the truck's usage are used as efficiently as possible.

#5: Improved Fuel Consumption Management

Fuel costs account for a major portion of the total fleet operating cost. Therefore, managing your fuel consumption is a critical part of green fleet management. Studies have shown that fleet management solutions can reduce fuel costs by 4 to 10 percent.

Given that by simply increasing speeds by five to eight miles an hour you increase fuel consumption by up to 20 percent, setting thresholds for speeding can have a significant impact. Setting alerts for speeding, engine over-revving, hard braking, rapid acceleration or excessive idling let drivers quickly modify behavior and sends alarms to managers for frequent violations.

Driver direction capabilities also play a role to optimize each truck's routes to reduce time spent on the road and the number of engine hours per day. For residential routes, driver direction provides valuable assistance for new drivers and in the event of breakdowns or re-routing. For roll-off routes, real-time optimal routing will shave off unnecessary mileage and fuel costs.

The ultimate fuel saving is achieved by having a truck generate more or similar revenues in less time. Specifically, driver direction can increase density so that it takes less time (and therefore fuel) to service customers and optimize your routes to use less fuel and driving time.

Going Beyond

Being green goes beyond hybrid trucks and fuel alternatives. It's about getting to the core issues—putting in place sensible practices and reinforcing these with simple fleet management solutions. First and foremost, addressing driver behaviour with progressive training and ongoing monitoring will have the biggest impact. Running greener fleets is everyone's responsibility. Provide your drivers with the direction, training and tools to do their bit, and make sure that they do it every day. Your bottom line—and your environment—will thank you for it. | **WA**

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