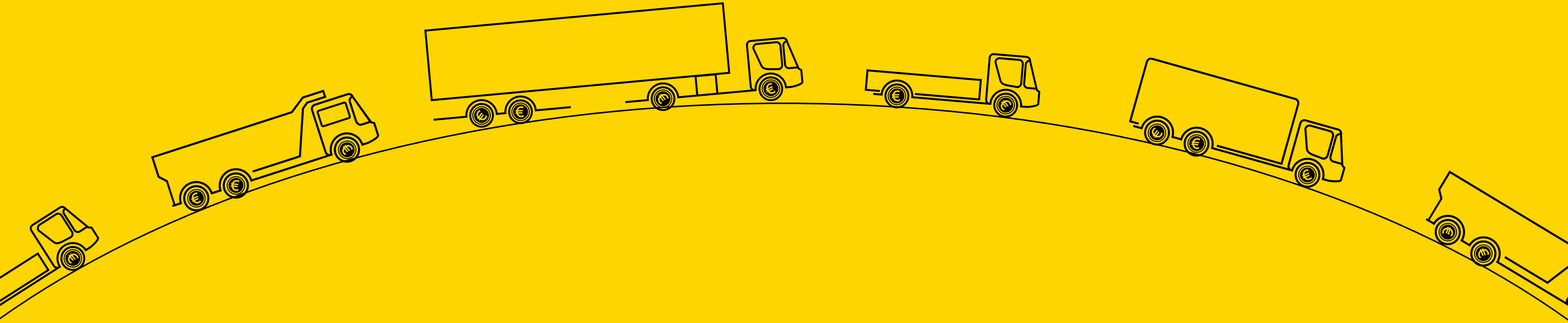
Mobil Delvac™

Performance by ExxonMobil

# Total Cost of Ownership

A guide produced by ExxonMobil



# Contents

# 1. Introduction

With the commercial vehicle industry under more pressure than ever, a focus on efficiency and cost control is shared by all – from governing bodies to fleet owners.

As a result, TCO – Total Cost of Ownership – has become a popular term. Analysts discuss the benefits of reducing it, vehicle manufacturers promote platforms to calculate it. But for fleet owners and managers, what does it really mean? And how do they go about reducing it in real terms?

Put simply, Total Cost of Ownership is the lifetime cost of owning an asset.

**What is TCO?**
Put simply, Total Cost of Ownership is the lifetime cost of owning an asset. For the commercial vehicle industry, TCO concerns the trucks themselves. Fleet operators need to account for the upfront purchase costs, the truck's sale or end of life disposal, and just about everything in between.

**Why is it important?**
To understand why TCO is so important for fleet owners, consider the current landscape in the commercial vehicle industry:

- In a recent ExxonMobil survey of European fleet managers, 40% of those polled cited continued challenging economic conditions and volatile markets as their biggest business challenges.[1]
- Emissions regulations are changing rapidly, such as the impending EU 2020 Carbon Directive, which some 35% of European fleet managers in the same survey suggested will cause them significant extra cost.

40%

40% of fleet owners polled cited continued challenging economic conditions and volatile markets as their biggest business challenges.

1. ExxonMobil Future of Fleets Survey, 2016

Emissions regulations are changing rapidly, such as the impending EU 2020 Carbon Directive…

35%

of European fleet managers surveyed suggested it will cause them significant extra cost.

- In urban areas, height, weight and noise restrictions continue to limit business opportunities.
- The demands of the consumer are changing too, with online retail boosting next day delivery services and putting many logistics businesses under increased pressure. Cross border commerce is also on the rise, particularly in the Fast Moving Consumer Goods industry.

TCO requires the asset's entire lifecycle to be costed. Truck or fleet ownership brings costs far beyond the initial purchase – incurred as a result of operating, installing, deploying, using, upgrading, and maintaining those same vehicles.

The after-purchase costs can be substantial so accurate TCO analysis often highlights how the cost of purchase can be very different from the cost of total lifecycle. When ownership covers a long time period, as with trucks, this difference can be especially large.

TCO analysis should be a key consideration for managers when purchasing a truck or fleet, and controlling costs should remain a high priority for the business from that moment on.

Particularly as the nature of fleets is changing at pace…

Chapter 2

# Changing nature of the industry

# 2.1 Changing nature of the industry

The UK's new trading relationship with the EU. The operational and economic disruption caused by the COVID-19 pandemic. An environmental target of a climate-neutral economy by 2050. Online European retail sales set to reach 717 billion euros in 2020.
**Kevin Green, Marketing & Communications Director, Logistics UK**

The logistics sector is going through a period of unprecedented change, and, like many other facets of our industry, these developments have the potential to shake up the heavy-duty vehicle (HDV) market. But with change comes an ideal opportunity to re-evaluate, reassess and re-shape our approach to HDVs to ensure the industry is delivering most the cost-effective, sustainable, and efficient solutions. This overview examines the forces at play driving change within the HDV market and offers advice on how to make the right purchase decisions during these challenging times.

**The rise of LCVs**
Light commercial vehicles (LCVs) are taking business share away from HDVs, particularly in urban areas due to their suitability:

ONE

Emergence of self-established businesses make vans the preferable option due to their price point and simple licensing.

TWO

Consumer behaviour (such as the rise in on demand online retail) is driving lower average consignment size.

THREE

The rise of the gig economy makes LCVs the preferable option for those with a flexible working lifestyle.

**Regulatory challenges**

In 2018, the UK government launched Road to Zero, a document outlining how it will support the transition to zero emission road transport and reduce emissions from conventional vehicles during the transition. Within the document, the government shares its strategy to reduce emissions from HDVs, which includes working with industry to develop an ultra-low emission standard for trucks.

In 2019, $CO_2$ standards for new HDVs were introduced to begin phasing out the highest polluting vehicles and to encourage uptake of more sustainable, environmentally responsible HDVs. However, the growth in LCV use and the increased regularity restrictions placed on HDVs do not take away from the fundamental need for HDVs. LCVs cannot be a complete solution to many business' transport needs and HDVs will remain an integral part of the industry for the foreseeable future. It is essential manufacturers seek technological solutions, such as the development of alternatively fuelled HDVs, to ensure the market is evolving in line with environmental needs. Equally, the responsibility lies on the government to ensure the right infrastructure, framework, and incentives are in place to support their development and viability as a mass market solution.

When looking to purchase a new HDV, controlling the total cost of ownership (TCO) and looking after the bottom line is business critical. The disposal rate of a new purchase is key; a high mileage fleet will have a lifetime of three to four years, whereas complex HDVs - such as those with a cement mixer body - have 20-year lifespan approximately. Make sure to choose the most cost-effective solution for your business needs.

The fuel mix is changing, with more sophisticated alternatively fuelled vehicles coming to market.

The uncertain political ramifications of the UK's departure from the EU adds complexity for fleets in the UK. But this should not cloud judgement when it comes to deciding on HDV purchases. While it is near impossible to foretell a definite outcome, in all likelihood there will still be one standard for trucks operating in Europe, limiting upheaval in the UK market.

While we wait for an agreement between the UK and EU to be reached, and we continue to see impending regulations and LCV growth, we recommend putting TCO at the heart of any purchase decision.

The HDV market has every opportunity to continue to flourish, but government and industry must take action to adapt now, ahead of upcoming changes we cannot control.

**Kevin Green, Marketing & Communications Director, Logistics UK**

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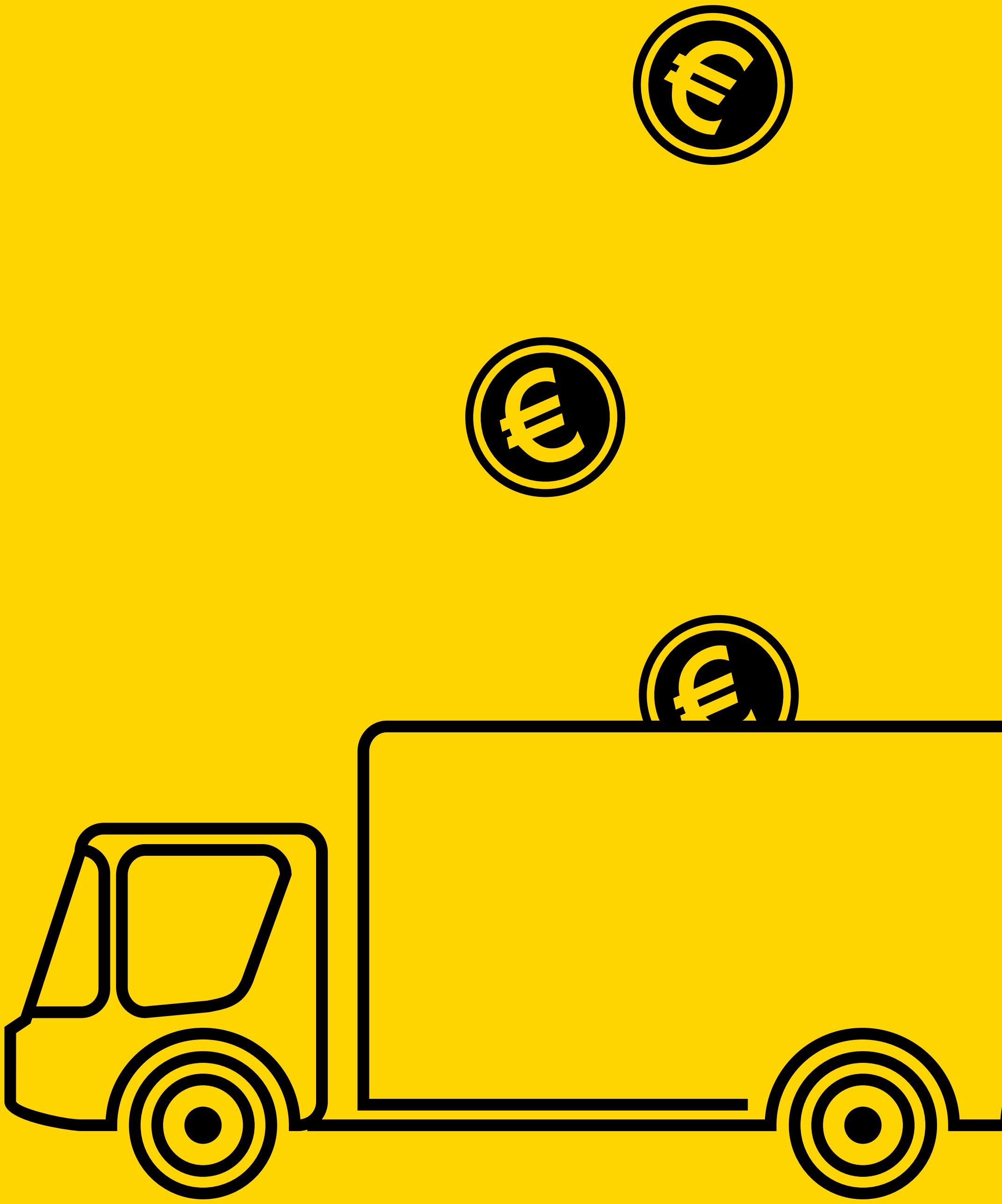
Chapter 3

# Measurables



# 3.1 Buy or lease

Now that we've covered the fundamentals of TCO, let's take a closer look at what understanding the lifecycle costs of your trucks could mean for your business. In this guide, you'll find practical advice on what to consider, measure, and control when it comes to Total Cost of Ownership...

What do you, or your team, look at first when acquiring a truck? It may well be whether to purchase or lease the vehicle.

**Leasing can be a wise decision for fleets:**

ONE

Less up-front spend for fleets with smaller purchasing power.

TWO

You can incorporate maintenance and support as part of the leasing deal giving you a steady month by month cost plan, protected from unexpected costs associated with unplanned downtime.

THREE

Original Equipment Manufacturers (OEMs) are developing new model advances at a rapid rate. Leasing allows upgrades to new vehicles with new technology sooner than with owned vehicles. Benefits from owning newer vehicles such as reduced engine and body wear can go a long way to help to reduce TCO.

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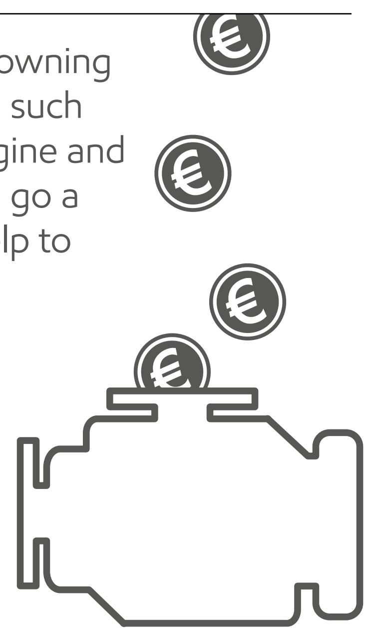


**But there are a lot of benefits to purchasing a vehicle outright too:**

ONE

Hard assets can help boost company value

TWO

Spend can be focused on vehicle maintenance throughout the vehicle's lifecycle rather than monthly lease payments.

THREE

You have an adaptable fleet. You decide when vehicles should be traded, scrapped or sold to suit your business' needs. Most importantly, you can control where and when you trade or sell in your vehicle. Optimising on a competitive market can maximise your return on your initial investment.

Price is, of course, a key consideration at acquisition. Upfront pricing is the very first spend on an asset and can be a strong influence on choice of vehicle.

The cheapest option may appeal to reduce immediate spend. However, the most expensive option may appear the best choice in terms of performance.

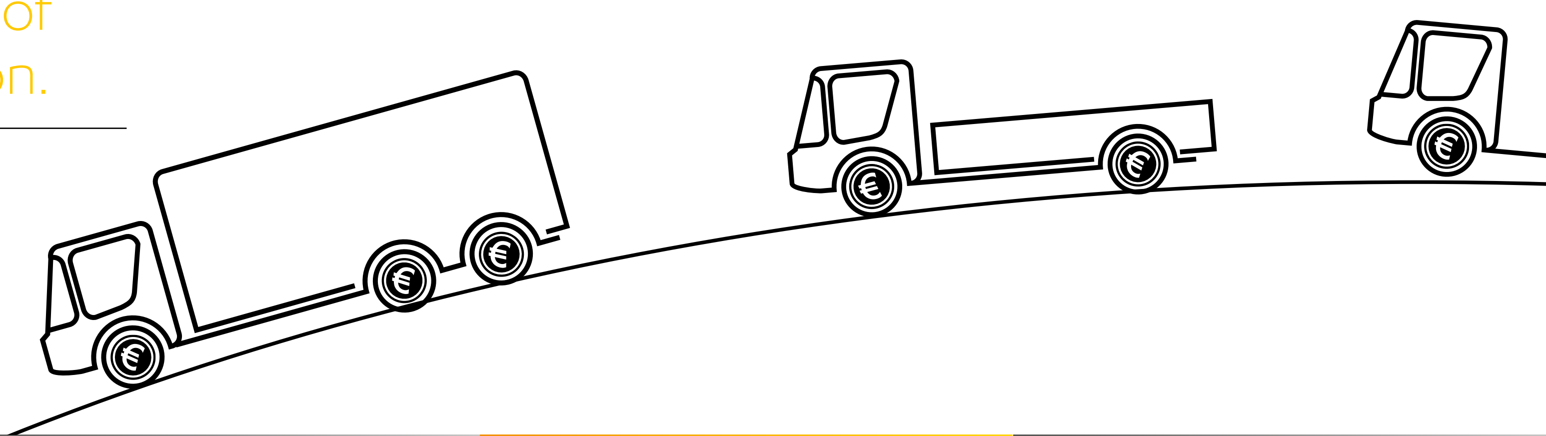
The wisest purchase decisions look beyond the up-front cost to factor in the entire lifecycle – and associated costs – of the HDV in question.

Regardless of your outlook, it's important not to base your decision on initial purchase price alone. The wisest purchase decisions look beyond the up-front cost to factor in the entire lifecycle – and associated costs – of the HDV in question.

Viewing the purchase as a long-term investment is key and at the heart of understanding Total Cost of Ownership. For example, the age of a truck could mean that despite a lower purchase price, TCO could exceed that of a newer, more expensive truck because of poorer fuel efficiency and greater equipment wear.

The same considerations apply when negotiating leasing payment plans.

Whether you decide to lease or buy, it doesn't need to be an either-or decision across your fleet. Different vehicles may suit either a leasing or buying method to optimise operations and profitability. Understanding the correct mix for your fleet is fundamental in managing your TCO.



# 3.2 Fuel and efficiency

With the rapid development of engine and fuel technologies, there are an increasing number of different power options for your fleet. But it's important to understand how this can affect TCO.

**Fuel Options**

With the rapid development of engine and fuel technologies, there are an increasing number of different power options for your fleet. But it's important to understand how this can affect TCO.

When it comes to choosing a fuel, an advanced diesel formulation can help deliver savings. If you invest in these fuels, you can save money from benefits such as:

- **Lower fuel consumption**
- **Removing dirty fuel injector deposits**
- **Excellent fuel system corrosion protection**
- **Lower emissions**
- **Give you a faster, cleaner fill (anti-foaming)**

There are other fuel options to consider as well. For example, CNG/LNG fuels are typically sold at a lower price point in comparison with diesel. However, the infrastructure to fill up with these fuels is still being developed and far from widespread at this stage.

Additionally, purchasing a vehicle with a CNG/LNG ready engine is more expensive than a standard diesel engine.

These factors underline why it's important to look at the full picture of your fleet's fuel needs. Assess which fuel(s) will be most suited to your fleet to provide the most cost-effective solutions in the long term.

Saving a few litres of fuel here and there is always a bonus for business, but you can imagine how those savings can add up over a truck's life.

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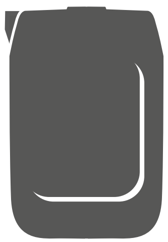

**Fuel efficiency**

One of the best ways to safeguard your fuel spend is to ensure your fleet is running as fuel efficiently as possible.

Saving a few litres of fuel here and there is always a bonus for business, but you can imagine how those savings can add up over a truck's life. Multiplied across your fleet, that total amount saved can be significant.

Truck manufacturers are making considerable progress in boosting fuel efficiency with the use of new technologies in their latest models.

From updated electronic architecture and powertrain technologies to advances in structure creating a lightweight, more aerodynamic truck, the industry really is developing fast.

Whether you have the latest truck on the market, or an older model, understanding your vehicle's capabilities and additional options is key to calculating your TCO accurately and reducing it where possible. Here are a few things to consider

## Technology

### Telematics

To manage a fleet efficiently, it is vital that you know where your vehicles are and how they are being driven. By bringing cutting-edge technology on board, you can track your fleet's location, speed, fuel use, driver performance and more, all in real time.

The increased operational data that telematics provides enables you to make smart decisions to ensure your fleet is driving in the most fuel efficient way possible, ultimately helping to reduce costs and manage TCO effectively.

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### Aerodynamic vehicle enhancements

Efficiency improvements are often described by the term streamlining. And trucks aren't any different.

Drag-reducing devices retrofitted on heavy vehicles can provide significant fuel savings. Typical fuel savings from using aerodynamic devices on a large truck doing an annual mileage of 80,000 miles (128,000 kms), can range from less than 1% to almost 9% of total fuel costs.

Studies have shown that the performance of these aerodynamic devices depends both on their functions and how the vehicles are operated. Vehicles on long-haul routes generally save twice as much fuel as those in urban areas. So again, it's important to take into account the make-up of your fleet and the environment in which it operates in order to make smart purchases that help reduce TCO.

**1–9%**

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## Topographical Sat Nav

Topographical (TOPO) satellite navigation systems not only inform your drivers of road markings, but also provide route guidance that takes into account elevation in the road.

So for example, if a driver can see a hilly area ahead, they will know to use the momentum a truck gathers on flat terrain to get over the landscape more economically. Small wins such as this can add up to a big fuel saving if implemented consistently.

## Miles Per Gallon meters

How about installing a Miles Per Gallon meter into your trucks?

These devices enable drivers to track in real-time how many miles per gallon they are achieving. By assessing the data across the fleet and looking at how driving changes in varying conditions, you will have greater insight into what aspects of your operation consume the most fuel and how improvements can be made for a more efficient fleet. By optimising performance across your fleet, you will help reduce fuel spend, ultimately lowering each truck's TCO.

## Fuel Mizer

If you want to take things a little further, you could look at installing a fuel mizer. It will alert your drivers if they aren't abiding by the pre-set list of driving behaviours. For example, if a driver is driving inefficiently – perhaps by braking too hard or accelerating too fast – an alarm will sound, or a light will become visible.

## Driver training

It's not just about the truck. The person behind the wheel can have a big impact on fuel savings too.

There are many measures that can be taken to help drivers drive more cost efficiently.

**Here are some top tips for your drivers:**

### ONE

Fuel consumption is directly proportional to speed. Going too fast will significantly increase aerodynamic drag, thus making your vehicle consume more fuel. By monitoring vehicle speeds you could make big savings.

For example, reducing speed from 56mph to 50mph could cut fuel consumption by up to 22%.

### TWO

Operating in as high a gear as safely possible, and skipping gears when practical can help improve efficiency by reducing fuel consumption.

### THREE

Reducing the amount of time and pressure applied to brakes can also save energy Drivers should be encouraged to anticipate potential hazards and take preventative measures early.

### FOUR

Find the 'sweet spot'. Drivers should find the speed at which the truck's fuel economy is at its optimum and use it wherever possible. This is where the engine's rotational speed is at its most efficient, usually no higher than 1500 RPM. Your truck manufacturer should be able to advise where the sweet spot is and help your drivers identify it.

This brings us to another measure that is key to reducing TCO, which can help increase fuel economy, boost the overall productivity of a fleet, help prevent unexpected downtime, and increase your business' bottom line...

# 3.3 Maintenance

Regular maintenance will help your vehicle to stand the test of time, and ensure avoidable costs are minimised throughout its lifecycle.

Upgrade to fuel efficient tyres: Leading tyre manufacturers have developed advanced options to help reduce fuel consumption.

**Tyres**

Checking tyres is simple, but essential.

The increase in fuel consumption from under-inflated tyres can be twice as high for HDVs as for cars so failing to conduct regular checks can be a costly mistake.

Here are some key points to remember to keep unnecessary costs down when it comes to tyre maintenance:

- **Ensuring correct pressure**

Low pressure can increase rolling resistance and waste fuel. Tyres at the optimal pressure with good grip are critical to operating safely.

- **Regular checks**

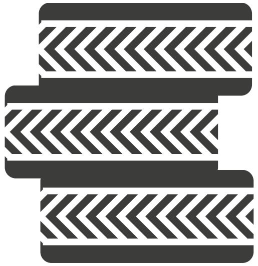
By regularly checking tyres, problems can be picked up early and adjustments made to keep each vehicle running at the optimum rate. This should be an essential part of a regular maintenance routine, at least twice a month.

- **Outside temperature matters**

Hotter outside temperatures will expand the air in tyres, raising the pressure, and cooler temperatures will cause a reduction. Check tyre pressure regularly to ensure your fleet is performing at optimum efficiency.

- **Upgrade to fuel efficient tyres**

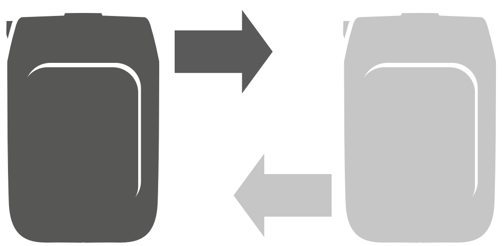
Leading tyre manufacturers have developed advanced options to help reduce fuel consumption.



Tyres at the optimal pressure with good grip are critical to operating safely.

**Lubrication**

If engines are the heart of your truck, lubricants are most certainly the lifeblood. They provide protection for the most important parts of your vehicle, and in the case of the engine, the most costly part when it comes to downtime. So, when selecting lubricants, it's important not just to see them as a short-term cost, but a long-term, strategic investment that can have positive benefits throughout the lifecycle of a truck.



Tests have shown that a change from mineral to synthetic lubrication in commercial vehicles also provides potential for significantly improved fuel economy on-the-road.

Limiting unexpected downtime and engine wear – and the associated costs that come with this – can be achieved through the use of high-performance lubrication.

Take note of the vehicle manufacturer's guidance on oil change intervals, but more than that, consider the type of oil used too. Switching from a mineral engine oil to a fully synthetic high performance alternative has many benefits.

Synthetic lubricants provide excellent protection in some of the harshest conditions. Whether your fleet requires efficient cold start-up or oil that can perform optimally in the hottest temperatures, the formulation of synthetics provides stability that will enhance protection and help to avoid costly maintenance.

When selecting lubricants, it's important not just to see them as a short-term cost, but a long-term, strategic investment that can have positive benefits throughout the lifecycle of a truck.

Oil drain intervals can be extended through the use of high performance lubricants – a great way of driving savings in the frequency of maintenance and new oil purchases.

But don't forget, disposing of used oil often comes at a cost too so you can achieve further savings by using high performance lubricants with extended oil change intervals.

Designed to deliver improved performance for longer periods, tests have shown that a change from mineral to synthetic lubrication in commercial vehicles also provides potential for significantly improved fuel economy on-the-road.

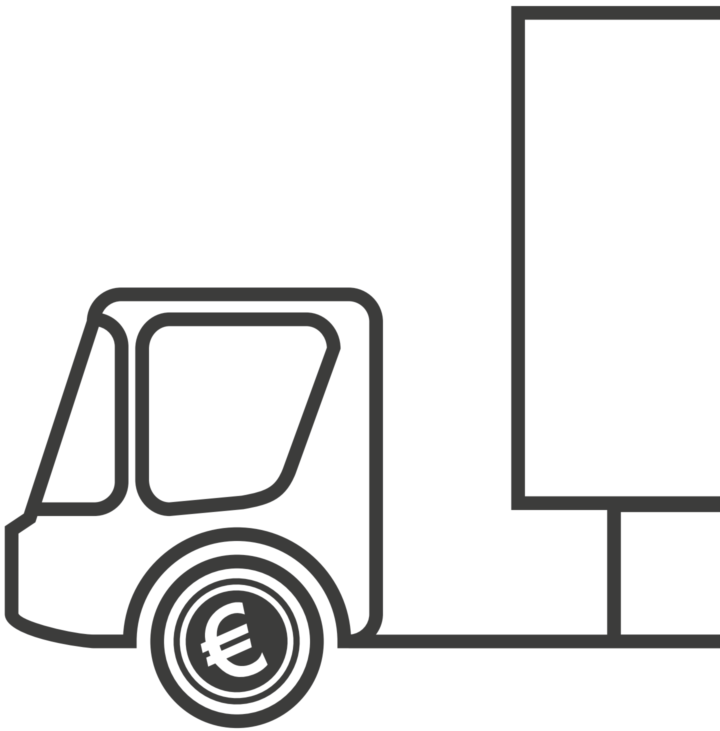
For example, a leading Nordic haulage company, SPF Danmark, trialled fully-synthetic Mobil Delvac lubricants in truck engines, rear axles and transmissions, in place of mineral based products. It achieved a fuel consumption saving of 3.5% versus the previous eight months' consumption figures. Based on these trial results, a theoretical fuel savings potential per vehicle was calculated at approximately 1,196 EUR*.

It is not just engine oils that can deliver business benefits either. Investing in high performance oils can also extend the life of gear boxes, rear axles and transmissions – all costly to replace or repair should they fail.

**Regular servicing**

You should refer to your truck manufacturer's recommendations on servicing intervals. Typically the recommendation is around every 15,000 miles, but if your truck is subject to harsh driving conditions, it's worth getting it serviced more regularly.

Investing in regular, quality assured services is important. Not only will it help avoid unexpected downtime and save you money in the long run, it can also provide big benefits in terms of your vehicle's residual value. If you're planning to sell on your vehicle, regular servicing will help to ensure you get a better return, ultimately helping to reduce your TCO.



*This Proof of Performance is based on the experience of a single customer. Actual results can vary depending upon the type of equipment used and its maintenance, operating conditions and environment, and any prior lubricant used.

# 3.4 Insurance

Insurance rates are also a consideration when calculating your TCO. Premiums can be affected by a whole host of factors.

For small fleets, the fleet rating will largely depend on the value of each vehicle covered, but some adjustment for expense savings will be allowed.

**Value of vehicle**

The value of a vehicle and its features can have a big impact. It's worth checking average rates with your insurance company prior to purchase to understand how this will affect your cost plan.

**Understand your fleet rating**

For small fleets, the rating will largely depend on the value of each vehicle covered, but some adjustment for expense savings will be allowed. Larger fleets will mostly be rated through experience rating* and the credibility of this rating will increase according to the size of the fleet.

**Maintenance**

The age and condition of vehicles can affect your premium so ensuring your trucks are well maintained can help to minimise insurance costs.

**Dash cams**

Installing dashboard video cameras can safeguard your drivers if an accident should occur. The camera footage will provide a clear recording of an incident, which can prove invaluable in case of an insurance claim.

The age and condition of vehicles can affect your premium so ensuring your trucks are well maintained can help to minimise insurance costs.

* The amount of loss that an insured party experiences compared to the amount of loss that similar insureds experience

# 3.5 End of life

It's very important to factor in end of asset ownership when analysing TCO.

There are a range of different options to re-market your vehicles, potentially gaining back valuable capital. But if you decide to use a third party, you should ensure they are trustworthy and can be relied on to get the highest possible return for your vehicle.

For those vehicles that have reached the end of their working life, it's worth checking with your truck builder if they offer a disposal scheme. OEMs are under increased legislative pressure to dispose of vehicles in an environmentally sound way and many now offer a free of charge disposal service. Heavy duty vehicles have the potential to release harmful substances into the environment if they are not handled and disposed of properly. So, this approach can prove to be a cost effective method of disposal, and one that will have a positive impact on the environment.

If you choose to scrap your vehicle with an independent company you should ensure they are registered as an Authorised Treatment Facility (ATF).

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Chapter 4

# Conclusion

# 4.0 Conclusion

Cost control is an essential part of your business. That's why you should consider Total Cost of Ownership when acquiring a vehicle and throughout its time in your fleet.

Weigh up the needs of your fleet and match that to the trucks in which you invest.

Here are our top tips to ensure TCO success for your fleet:

**Acquisition**

Understand if buying or leasing vehicles suits your business best. Whichever you choose, don't immediately look for the cheapest option, or assume that expensive is best – weigh up the needs of your fleet and match that to the trucks in which you invest.

Assess which fuel option will be most beneficial. Once decided, focus on fuel efficiency and understand how:

ONE

Advances in technology can significantly reduce costs for your fleet.

TWO

Invest in driver training to ensure your vehicles are driven as efficiently as possible.

THREE

Maintenance is key, so focus on your lubrication and tyres and view them as an investment that can deliver real business benefits, not simply a cost to keep low.

**End of life**

Don't overlook the final piece of the jigsaw – make sure you're on top of cost effective ways to dispose of your truck

For further advice on making lubricants a strategic focus for your fleet, or for more information about the TCO guide, contact our network of distributors, who will be able to provide you with the expertise you need.

You can locate your closest lubricants expert **here** to start your TCO journey today...

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