

Fuelling safe and secure storage

Practical tips to managing fuel on your farm



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Fuel management is an important consideration when it comes to keeping farms moving. It can also be one of the hardest. Farmers must protect the environment and their staff. They must plan ahead to optimise fuel storage and consumption. And they must do all of this while defending their assets against theft. Unfortunately, the agriculture industry is facing rising instances of fuel theft, in which farmers are losing thousands of pounds every year. There has never been a more urgent time to take action.

This guide explores how farmers can overcome some of their biggest fuel challenges. Drawing on insights from farmers surveyed at LAMMA 2018, the UK's leading agricultural machinery show, it includes practical tips on reducing fuel theft and selecting the right fuel tanks to meet specific requirements. The guide explains how investing in the right fuel storage system - and managing it correctly - can save money through improved security and health and safety.



How to combat fuel theft

In 2015 over

£2m



worth of fuel was reported stolen across the UK*

Commercial thefts account for



75%

of the fuel stolen*

22%



of farmers have been a victim of fuel theft**

*Data obtained by Certas Energy from the Freedom of Information Act **LAMMA survey 2018

How to combat fuel theft

Each year, thousands of businesses in the UK fall victim to fuel theft. Farmers are particularly exposed, due to the difficulty of securing their land against trespassers. It's a growing problem driven by professional gangs and rising oil costs and requires coordination between victims, police and the public to track down culprits. However, unsecured tanks make an easy target for casual, opportunistic thieves and there are several practical steps that can be taken to help ensure safe and secure storage of fuel:

- **Never miss a drop** - ask the fuel provider about telemetry and fuel monitoring systems which will issue an alert if there is a sudden drop in fuel level caused by theft or a spillage.
- **Hide and seek** - wherever possible, ensure fuel tanks are kept away from prying eyes (but don't put them in a place that makes it difficult or dangerous to access).
- **Smile, you're on camera** - CCTV is becoming an ever popular deterrent and with tanks, and the fuel inside them being a valuable asset, protecting them by installing cameras could be a worthwhile investment.
- **Shine a light** - high power beams, or indeed any amount of lighting can be enough to keep casual thieves at bay.
- **Upgrade your lock** - most thieves will come with bolt croppers, so opt for close shackle padlocks or a tank with in-built locking mechanisms for the most resistance.
- **Sound the alarm** - a tank alarm could be added to emit a piercing sound if thieves try their luck.
- **Protect vehicles and machinery** - any equipment with a significant amount of oil can be a target so remember to protect the fuel tanks. Float-valves can be fitted that allow fuel to flow into the tank, but lock off once filling is stopped to prevent siphoning.
- **Secure irrigation pumps** - these are becoming a popular target for thieves, who follow the pipework back to the pump. As above, aim to store the minimum amount of fuel and remember to take the pump back to the farmyard when not in use.
- **Choose a more secure fuel tank** - there are a range of options to protect your fuel tanks, from FOBs and key codes to lockable cabinet houses. In addition, it's worth investigating portable tanks for jobs around the farm because they're easy to move around and can be taken back to the farmyard and locked up when not in use.



How to stay safe and compliant

Farming is one of the UK's most hazardous industries, both to individuals and the environment. With the threat of prosecution and fines for failing to follow DEFRA's guidance on storing agricultural fuel oil, there are multiple considerations that need to be taken into account to ensure the safe and secure storage of fuel on a farm. It's also just good business. Most reputable fuel suppliers will only deliver if the fuel tank is set up correctly.

Here's how to stay on the right side of the Environment Agency

84% of respondents to the LAMMA survey claimed that they were aware of their legal obligations and regulations when it came to storing fuel.

84%



are aware of their legal obligations and regulations

How much of the SSAFO regulations do you know?

Ensuring compliance with SSAFO

Are you planning to alter your fuel oil store or add a new one? If storing more than 1,500 litres of agricultural fuel oil farmers must comply with the requirements of the SSAFO¹ regulations:

- **Double up on containers** - fuel oil must be stored in a container with an impermeable secondary containment structure or bund. The second container must have a capacity of 110%. Drums must have at least 25% of the total volume that could be stored at any time.
- **Keep away from water** - the system must be at least 10 metres away from any source of water, including inland freshwaters, coastal waters, yard drains, dry ditches and land drains.
- **Ensure it's watertight** - the entirety of the secondary containment structure must be impermeable to oil and water (and not have a drain down pipe).
- **Keep everything in the bund** - this includes sight gauges, tank drain-down valves and shut-off valves associated with fixed or flexible draw-off delivery pipes. Tanks and valves must be directed down in the bund and locked shut when not in use.
- **Secure your pipes** - any flexible delivery pipes that are permanently attached must be fitted with a self-closing tap or valve and must be locked inside the bund when not in use.
- **Choose durable equipment** - the secondary containment/bund, when new, must have a 15-year life expectancy with maintenance.

¹The Water Resources (Control of Pollution) (Sludge, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 (as amended 2013). These are commonly referred to as SSAFO and apply in England.

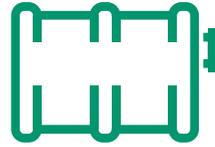
Plastic or steel tanks?

53%

of farmers owned plastic tanks while...

37%

owned steel tanks*



Check your tanks meet the available standards:

Standards	Plastic	Steel
BS EN ISO 9001	✓	✓
OFS T100	✓	
OFS T200		✓
BS 799-5:2010		✓
European Standard EN13341 2005 +A1 2011	✓	

Single-skinned, double-skinned... or self-bunded tanks?

There are lots of different options, but not all are compliant for fuel storage:

- **Single-skinned tanks** - do not comply on their own and always need a separate bund, constructed in situ. Brick or concrete bunds must be reinforced and made waterproof.
- **Double-skinned tanks** - provide extra support but because none of the pipework or ancillary equipment is contained, they are not classed as a bund. This means they don't comply with SSAFO regulations on their own.
- **Underground tanks** - are not governed by SSAFO regulations, but it's recommended to use double-skinned tanks and monitor the space between tanks for leaks.
- **Self bunded or integrally bunded tanks** - are specially-designed tanks that have an integral bund that protects the container, its pipes and other ancillary equipment. Self bunded tanks are the go-to option for new or upgraded tanks.

*LAMMA survey 2018

Dispensing options

Not all bunded tanks adhere to SSAFO regulations. They must also have the correct dispensing systems. There are lots of different configurations, split into two main types:

- **Bottom offtake tanks** - have the outlet from the primary tank at the bottom. There are lots of different configurations, only some of which are compliant with SSAFO (see table).
- **Top offtake tanks** - are safer than bottom offtake tanks because they use a pump and non-return valve to dispense fuel from the top of the tank. Tank systems with all valves and pipework within the bund act as complete fuelling stations and fully comply with SSAFO regulations.

Type of bottom off take tank	Compliant with SSAFO?
Relies on gravity to feed external factory-fitted offtake point fitted with a flexible delivery hose	✓
Flexible delivery is fitted but is kept in a lockable cabinet fitted to the end of the tank	✓
Offtake serves fixed plant, such as a grain dryer, via a solid feed pipe	✓
Pumped system and flexible delivery hose can be kept inside the bund after use Does not rely on gravity for the fuel delivery, and everything is contained. Also enables facility to be sited at ground level, avoiding risks with high-level supports, and allows easy access for filling and inspection	✓
Pump-set external to the tank, connected to the tank by a fixed pipe The flexible delivery hose doesn't need to sit within the bunded area to be compliant with the SSAFO regulations, but it should have its own protection from spillage and unauthorised use	✓

Source: Environment Agency

Look for tanks with an accessible shut-off valve inside the bund to activate in the event of a leak or during maintenance.

Where to position containers

Container placement is critical, not only for security as previously discussed, but for safety. Place your tanks away from driveways and the turning circles of tankers and fork lift truck routes and use bollards or barriers to protect them from the risk of impact.

Static containers are by their nature immovable. But they can be combined with more flexible options to fit in with specific demands:

- **Transportable containers** - drive down risk and cost and are invaluable during busy times, such as harvest, where equipment needs ready access to fuel around the farm. They can be moved and stored in a secure place when not in use.
- **Containerised tanks** - containerised tanks give you the ability to stack six high when storage space is limited and store multiple products with split fuel compartment capability.

9 out of 10

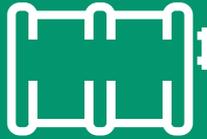
farmers are missing out on the
benefits of transportable
containers*



Ensuring correct setup and maintenance

Tanks are a valuable investment and require ongoing maintenance to ensure they remain fully operational and compliant with regulations. Without regular maintenance of the tank and the surrounding area, farmers run the risk of costly spills and leaks. If a tank is deemed to be unsafe for refuelling, most reputable suppliers will refuse to deliver, which can impact productivity.

75%



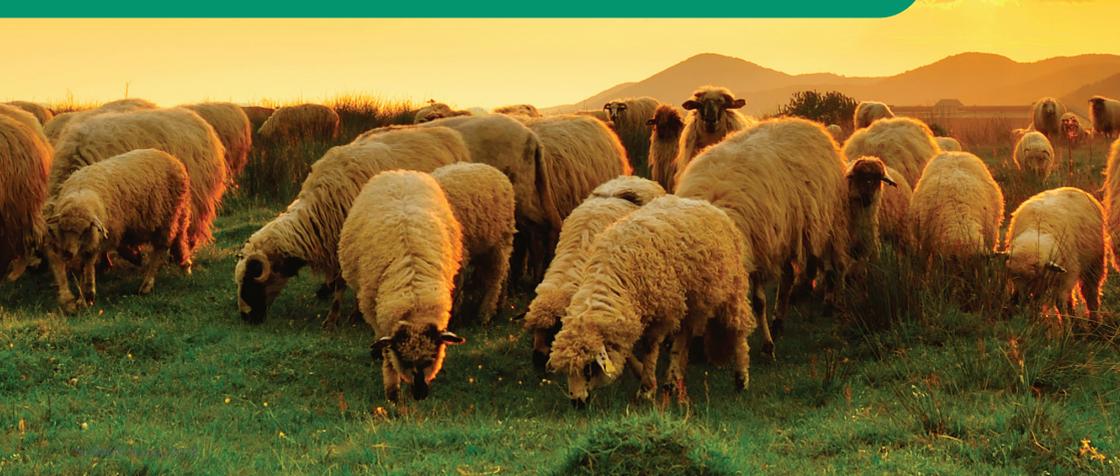
of tanks are between
2–10 years old*

14%

are between 11–20 years old*

6%

of tanks are over
20 years old*



Managing oil spills

Despite taking every precaution, accidents do happen so it's important to be prepared. Always keep a spill kit close by to your oil tanks, including commercial sorbent products (or use sand or earth) and ensure your staff are fully trained on how to use it safely.

Leaks are an issue for **20%** of farmers*



1 in 10 have experienced a spillage*



If a spillage occurs, the first thing to do is to try and stop the oil getting into any sources of water. Soak up the oil with your spill kit, while staying safe, and don't hose it down or use detergents as this could make the problem worse. Then notify the Environment Agency on 0800 80 70 60. If oil soaks into the ground you will need to call in a professional company to prevent long term pollution. Make sure any contaminated materials are stored in oil containers until they can be properly disposed of.

If pollution occurs, it's the responsibility of whoever owns the tank. So it's a good idea to place an Oil Care Campaign sticker on all tanks so people know what to do in the event of a spill.

For additional guidance on storage, see: <https://www.gov.uk/guidance/storing-oil-at-a-home-or-business#where-to-position-your-container>



*LAMMA survey 2018

How to manage fuel optimally

When running a busy farm it can be difficult to juggle competing responsibilities - fuel management is just one of many considerations. However, accurate fuel monitoring delivers total peace of mind for your business to ensure you never run out with access to usage levels, wherever you are. It also allows you to stay alert and vigilant to theft and spills.

Over 50%
of farmers struggle
with fuel monitoring*



The best way to manage fuel is to invest in a fuel monitoring and management telemetry system. Designed to control, monitor and accommodate the efficient storage of your diesel and oil, this will enable you to focus on your business while keeping a close eye on fuel levels.

A good fuel management system should include a level display, with alarms for both high and low levels of fuel, and leak detection. Many also include fuel monitoring apps for your phone so tanks can be checked on the go.

The benefits include:

- **Full traceability and visibility** - always know how much stock has been purchased and how much is left
- **Protect your fuel** - sudden drop and leak alerts can help identify when damage has occurred or theft is in progress
- **Monitor multiple locations remotely** - save time traveling between different sites
- **Automate deliveries** - being aware of fuel levels, can ensure you plan ahead to fill up just when required
- **Eliminate manual error** - the high-level leak alarm gets rid of manual measurements and over-filling
- **Reduce insurance premiums** - safer filling helps to reduce accident claims and cuts down on premiums

*LAMMA survey 2018

The path to safer, more secure fuel management

Fuel management is critical to profitable, productive farming. And the rising cost of fuel places more emphasis on employing every strategy to get the most out of critical assets.

Effective fuel management requires close management of logistics to ensure a steady supply, while also protecting staff and deterring thieves. Farmers must combat ever more inventive and organised criminals while investing in the right technology to stay ahead in a competitive, tough industry. Multiple factors must be considered, from choosing the right tank, to maintaining and monitoring it to ensure compliance and optimal operation.

The practical advice in this guide is intended to help simplify your choices and provide peace of mind while you focus on running your farm.

To find out how Certas Energy can help you store your fuel safely and securely on your farm:

Visit certasenergy.co.uk

Call 0345 600 4040



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