



# ANNUAL REVIEW

## 2022

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Annual review of the UK's bulk storage and energy  
infrastructure sector



TSA is an industry based organisation  
whose members are engaged in the  
storage of bulk liquids and the provision  
of products and services to the sector.

**THE VOICE OF THE BULK STORAGE AND ENERGY INFRASTRUCTURE SECTOR** —



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## A MESSAGE FROM OUR PRESIDENT

Welcome to the seventh edition of the TSA Annual Review. The Annual Review continues to serve as a valuable resource for the bulk storage and energy infrastructure sector. It provides useful insights and data on terminals, process safety, occupational health and safety as well as on the industry's contribution to the UK economy. This year's spotlight presents an overview of the sector's vital contribution to energy resilience and security of supply as well as its important role in supporting the achievement of the UK's decarbonisation targets. In April of last year, as part of its sixth carbon budget, covering 2033-37, the Government has set a target for a 78% reduction in Green House Gases [GHGs] by 2035 relative to 1990. Leading up to COP26, the Government also launched its new strategy for Net Zero setting out how the UK will deliver on its commitment to achieve the target of net zero by 2050, while still ensuring economic growth. The strategy builds on the 2020 Ten Point Plan for a Green Industrial Revolution and recognises the importance of creating the necessary conditions for investment in achieving climate neutrality. Our sector is at the leading edge of the innovation and expertise that will be necessary to succeed going forward and, in recognition of its shared commitment to supporting the achievement of the UK's climate neutrality targets, it has recently launched a new Energy Transition Charter. The Charter has been developed in conjunction with the Tank Storage Association's Member organisations and is accompanied by strategic commitments to encourage leadership, innovation, skills development, promotion and engagement. Our sector is committed to 'leading from the front' in the journey to net zero. With efforts already underway, the Energy Transition Charter highlights our ambitions to seize future opportunities. By working with Regulators and other Stakeholders to ensure an effective transition to alternative energy sources, and by supporting the development of future skills, guidance and standards necessary to safely manage changing processes and inventories, our industry is committed to playing its full part in the journey ahead. I hope you enjoy reading our 2022 Annual Review of the bulk storage and energy infrastructure sector. As always, thank you to the companies and individuals who have supported its production.



**ADRIAN JACKSON**

Chief Executive  
Oil and Pipelines Agency



# THE BOARD OF DIRECTORS

The Tank Storage Association is the voice of the bulk storage and energy infrastructure sector. We represent the interests of over 60 member companies engaged in the storage of bulk liquids and the provision of products and services to the bulk liquid storage sector. Through our work, and collective voice, we champion the needs of our members in safety, health, environmental and technical matters.



**ADRIAN JACKSON**

TSA President

Chief Executive

Oil and Pipelines Agency



**WILMA KELLY**

TSA Vice President

HSE Director

Certas Energy



**MARTYN LYONS**

TSA Director

Independent Director



**PETER DAVIDSON**

TSA Executive Director

Tank Storage Association

## MEMBERS

Tank Storage Association's members provide and support an essential interface between sea, road, rail and pipeline logistics for a diverse range of essential products, including transport and heating fuels, chemicals, animal feed and foodstuffs. In the process, they are responsible for the direct employment of over 5,000 highly trained, specialised people. The association also takes a leading role in safety, encouraging cross-sector cooperation and knowledge transfer via a number of fora including the COMAH Strategic Forum and Process Safety Forum.



## ASSOCIATE MEMBERS

TSA plays a leading role in several industry, regulatory and Government forums and works to ensure that members' interests are at the top of the agenda. We tackle a wide scope of issues relevant to the bulk liquid storage sector and our committees are critical mechanisms for highlighting the most pressing matters facing businesses in our sector. Our Associate Members play an essential role in Technical, Safety, Health and Environmental matters, sharing and learning operational experience, and work with the association on a variety of sector specific issues.



## ASSOCIATE MEMBERS (SUPPLIERS)

The Tank Storage Association is the voice of the bulk liquid storage sector to Government, Parliament, Regulatory Agencies and in the media. We provide a wide range of support and services for our membership, including technical guidance and standards, insights, comprehensive monitoring, weekly updates and a quarterly digital magazine. Our Associate Members (Suppliers) make a valued contribution to our Technical, Safety, Health and Environmental work, by sharing learnings, experience, new products, innovation, services and contributing to the development of new guidance where appropriate.



Our aim is to build a strong community of businesses engaged in the storage of bulk liquids, terminal and port operations and those providing equipment and services to the sector.



Through our work and collective voice, we champion the needs of our members in safety, health, environmental and technical matters. TSA facilitates dialogue in key policy-making forums producing solutions on issues of

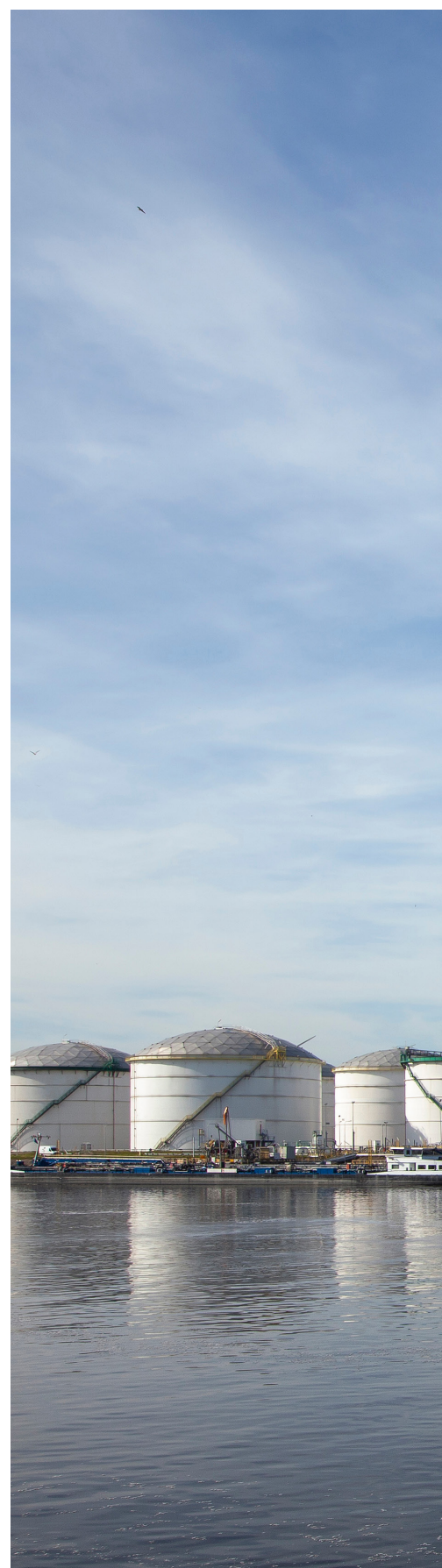
TSA is a founding member of several industry safety groups, including the COMAH Strategic Forum which helps to set the UK's regulatory strategy. It also adheres to an ESG Charter affirming the sector's shared commitment to environmental, social and governance principles.

## WE SHAPE PRIORITIES AND CONNECT INDUSTRY

TSA is tailored to serve its membership so that member organisations can have direct input on the issues most important to them. TSA's membership enables effective and dynamic industry-wide interaction, driving valuable connections across the sector in the UK and abroad.

## SHAPING THE FUTURE

In the run up to COP26 last year, the UK Government set out its new strategy for Net Zero. The UK's 'Net Zero Strategy: Build Back Greener' aligns with emissions targets of net zero by 2050 and a 78% reduction in GHGs from 1990 to 2035, including international aviation and shipping. It further includes commitments such as that to fully decarbonise electricity generation by 2035, to end the sale of new petrol and diesel cars by 2030 and for all cars to be fully zero-emissions capable by 2035. Funding to kick-start the UK hydrogen economy is also included along with support for two industrial clusters. The TSA has been vocal about the vital role of the sector in the energy transition. With regard to transport, for example, it is widely accepted that future solutions will encompass a wide range of technologies. Low-carbon liquid fuels will play an essential part for sectors that have limitations in using electricity directly, such as long-distance heavy-duty transport, aviation and shipping. The tank storage sector also has a vital role to play in unlocking the potential of hydrogen which is fast emerging as a potential energy solution for a range of transport modes, including large goods vehicles, where it is proving difficult to meaningfully reduce emissions. The decarbonisation of heat also brings its own set of challenges for the bulk liquid storage sector. Fuel oil is also used to heat homes and businesses that are 'off-grid' and not connected to the gas transmission network. Suppliers and distributors of domestic and commercial heating fuels will also play an important part in meeting the UK's net zero goals by providing liquid biofuels for homes and businesses across the country. For the tank storage sector, this may mean infrastructure upgrades, such as new tankage and loading arm facilities. Hydrogen may also play a part in helping to reduce carbon emissions in the context of domestic heating. Against this background, the TSA has recently launched a new Energy Transition Charter affirming the sector's shared commitment to supporting the achievement of the UK's climate neutrality targets. As industry changes and the breadth of products and services provided by terminals evolve, the sector is committed to investing in the next generation of talent. As part of its drive to promote the exciting opportunities that this exciting and growing sector affords, the TSA will soon be launching a new careers hub dedicated to jobs and apprenticeships in the bulk storage and energy infrastructure industry. The hub will include inspirational videos from industry's talent, informative resources helping to explain apprenticeships and careers in the sector, up-to-date opportunities and much more. People are our greatest strength and, as we look ahead, we are passionate about bringing talent on board to develop their careers with us and shape the future.





The bulk storage and energy infrastructure sector plays a vital role in providing services that are critical to the UK consumer.



Many of the strategic terminals in the UK, around 22, are designated by Government as Critical National Infrastructure.



Storage capacity also includes strategic reserves held for emergencies and supply disruptions.



Liquid storage terminals improve the flexibility of the entire supply chain and its ability to respond to market fluctuations by helping to balance out supply and demand.



As part of its drive to promote the exciting and unprecedented opportunities that this exciting and growing sector affords, the Tank Storage Association will soon be launching a new resource hub dedicated to careers and apprenticeships.

# CONTRIBUTION TO THE UK ECONOMY

## REVENUE IN 2021

+ **£18.9bn**

## EMPLOYEES IN THE UK AND ROI

INCLUDING LONG TERM CONTRACTORS

+ **5,160**

## PLANNED INVESTMENT IN THE NEXT 5 YEARS

IN THE UK AND ROI

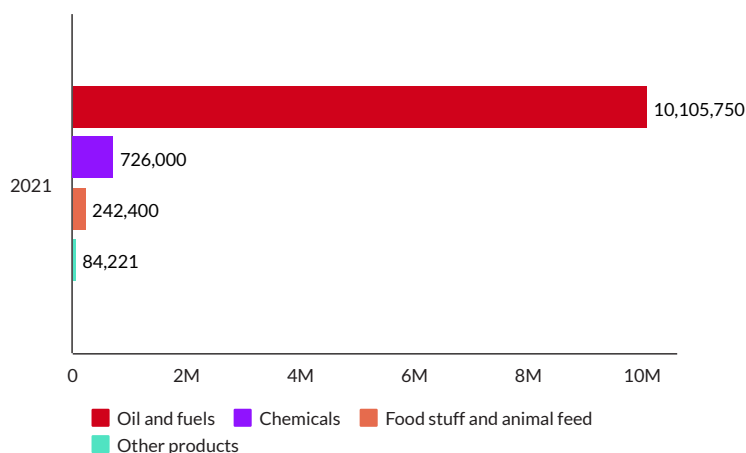
+ **£796m**

The bulk liquid storage sector in the UK is diverse, providing a critical component in the supply chain for many industries from transport fuels to animal feeds. Our members operate 303 terminals in the UK and Republic of Ireland, providing 11,158,371 m<sup>3</sup> of storage capacity.

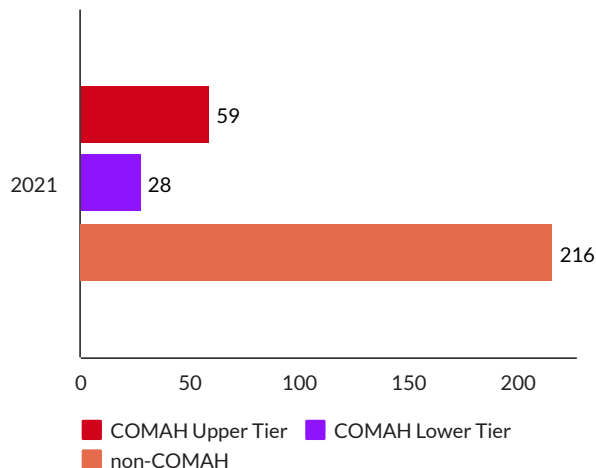


# TERMINAL STATISTICS

## STORAGE CAPACITY (m<sup>3</sup>)



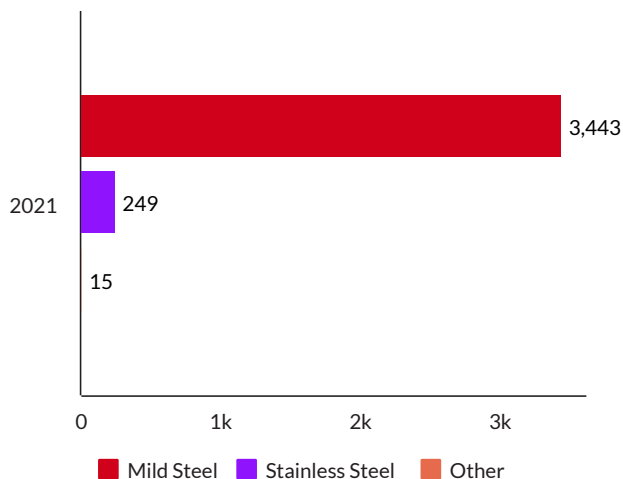
## NUMBER OF TERMINALS



## OVERVIEW

Our members operate a variety of terminals across the UK and Republic of Ireland storing both hazardous and non-hazardous liquids. Around twenty-two of these terminals are designated by HM Government as Critical National Infrastructure (CNI). Depending upon the type and volume of products stored, the terminal may be regulated under the Control of Major Accident Hazards (COMAH) Regulations, and designated as either upper or lower tier. Equally, many of our members are regulated by the environment agencies and hold Environmental Permits.

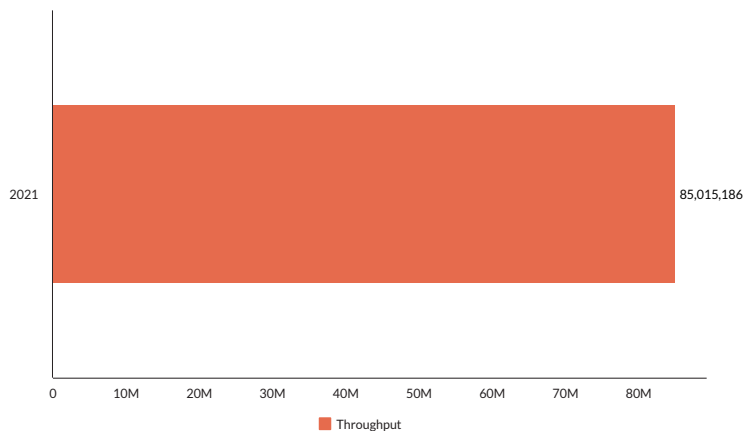
## NUMBER OF STORAGE TANKS



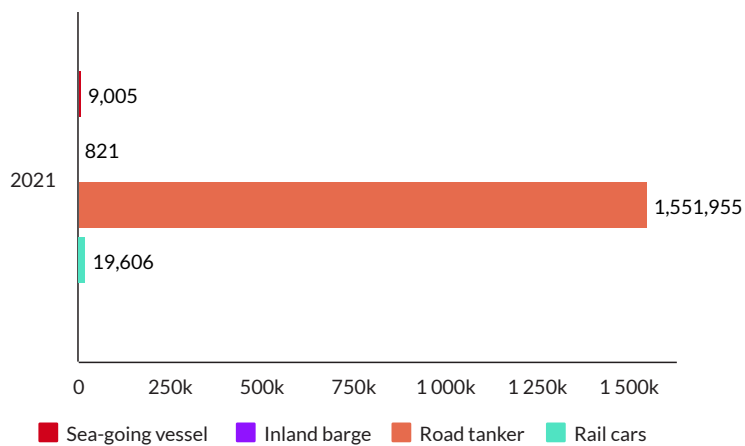
Movement of material into or out of terminals is either by seagoing vessel, inland barge, road tanker, rail tanker or pipeline.

Our members safely execute over a million movements each year. By far the greatest number of movements is carried out by road tanker. However, this is not representative of the volume of product moved by type - for example, there are far fewer movements by ship than road tanker, but the volume of product moved by ship is much higher.

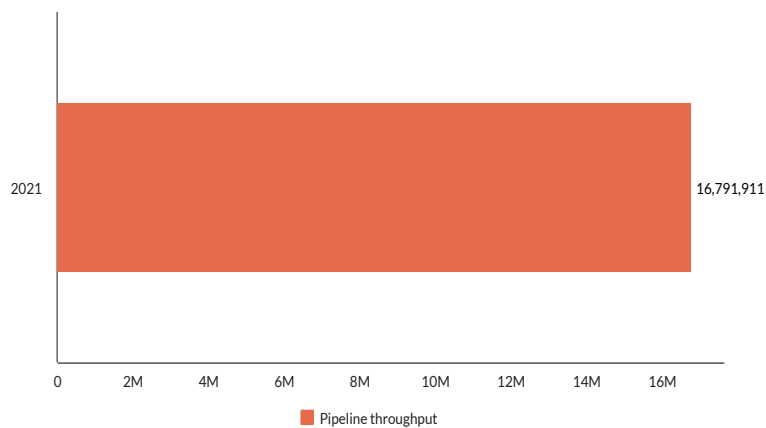
## AGGREGATED THROUGHPUT (tonnes)



## NUMBER OF MOVEMENTS



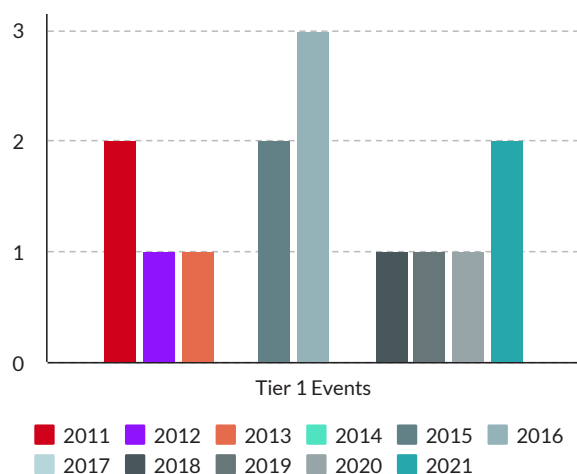
## PIPELINE THROUGHPUT (m<sup>3</sup>)



## PROCESS SAFETY

Our members are fully committed to the Process Safety Leadership Group Principles of Process Safety established following the Buncefield explosion and fires in 2005. These principles remain valid today and, in 2020, our members reconfirmed their commitment by signing a commitment to good major hazard leadership, an initiative we have been leading on behalf of the COMAH Strategic Forum. Our dedicated Safety, Health and Environment committee works closely with our peers, other industry sectors and regulators to share knowledge and good practice relevant to safe operations. To monitor our performance and highlight potential emerging issues, we collate, share and discuss process safety data quarterly with our members. We use the API RP 754 standard for our process safety performance indicators.

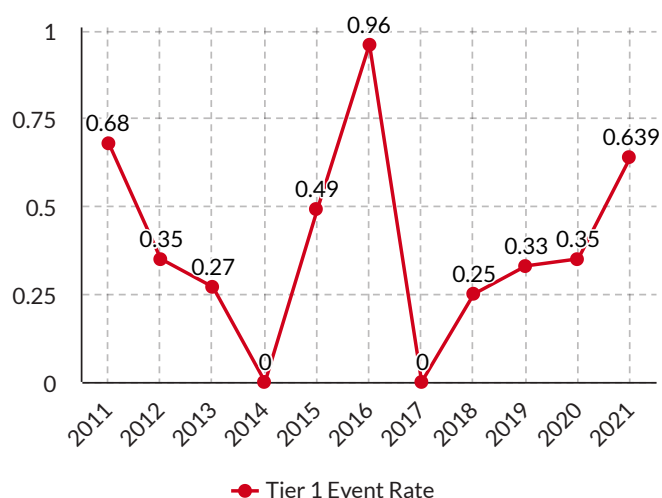
### NUMBER OF TIER 1 EVENTS



Tier 1 events are significant losses of containment (relevant to the hazard of the product stored).

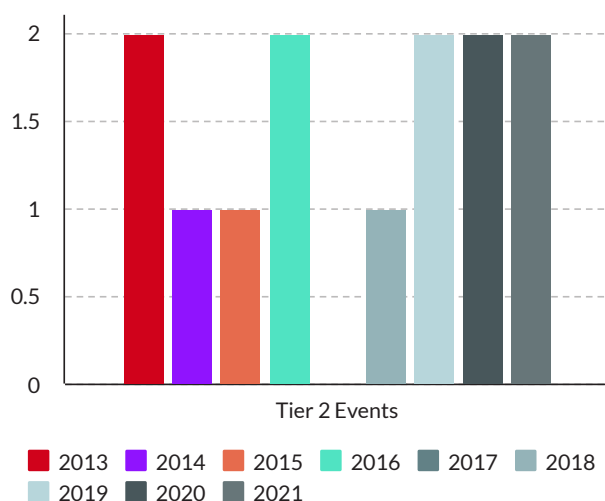
The number of Tier 1 events experienced by our members are very small, with two reported in 2021. The work that the TSA does with the UK regulator helps to ensure that we operate safely.

### TIER 1 EVENT RATE (per million hours worked)

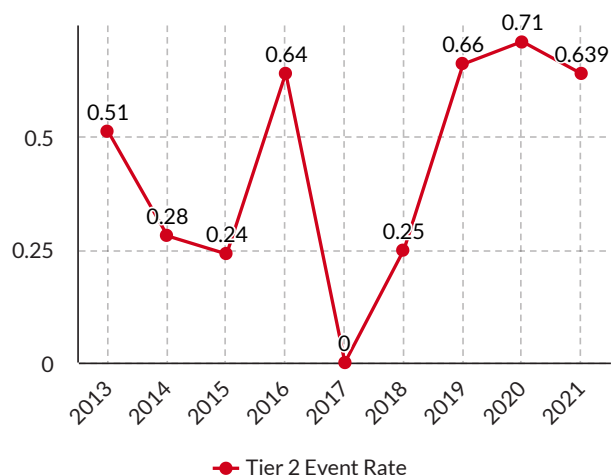


Tier 2 events are smaller losses of containment (relevant to the hazard of the product stored). Even though only two Tier 1 and Tier 2 events were reported in 2021, this does not mean we are complacent. Through our *Significant Indicators* programme, we collect detailed data on individual barrier failures that cover receipt, storage, processing and export of bulk liquids, highlighting where we need to focus our efforts in the future.

### NUMBER OF TIER 2 EVENTS

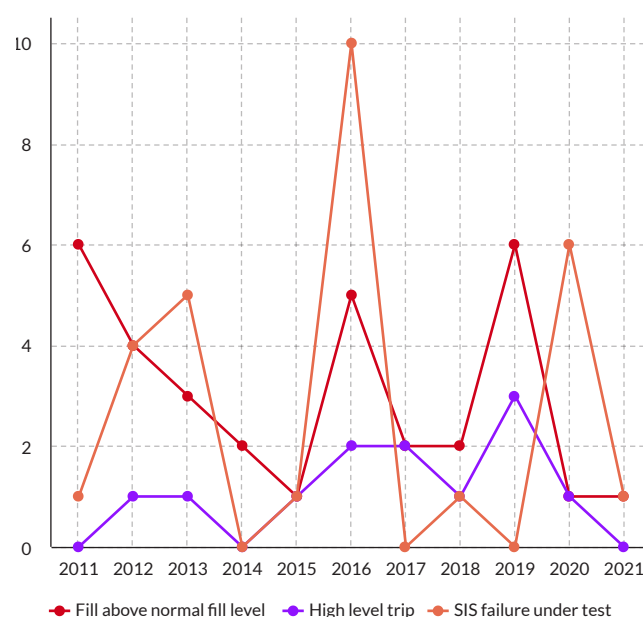


### TIER 2 EVENT RATE (per million hours worked)



Tier 3 indicators (leading indicators) can be extremely useful in identifying areas of weakness before a more significant Tier 1 or Tier 2 event takes place. The TSA uses this information to determine if any further work is required in improving good practice or knowledge and skills.

### TIER 3 LEADING INDICATORS



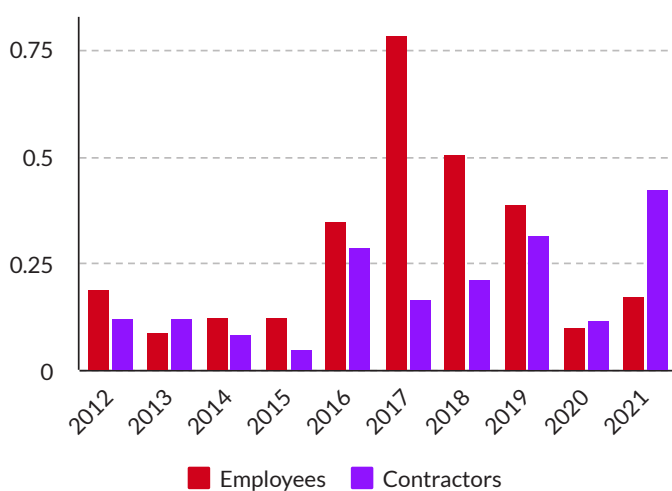
Throughout 2020, we have been sharing safety messages regarding the Tier 3 leading indicators in our quarterly statistics report to members. The TSA is also leading and contributing to several technical working groups in the Chemical and Downstream Oil Industries Forum (CDOIF) and Energy Institute (EI) which are producing guidance to assist in the design, management and maintenance of process facilities.

# OCCUPATIONAL HEALTH & SAFETY

Our members inform the UK regulator in accordance with the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).

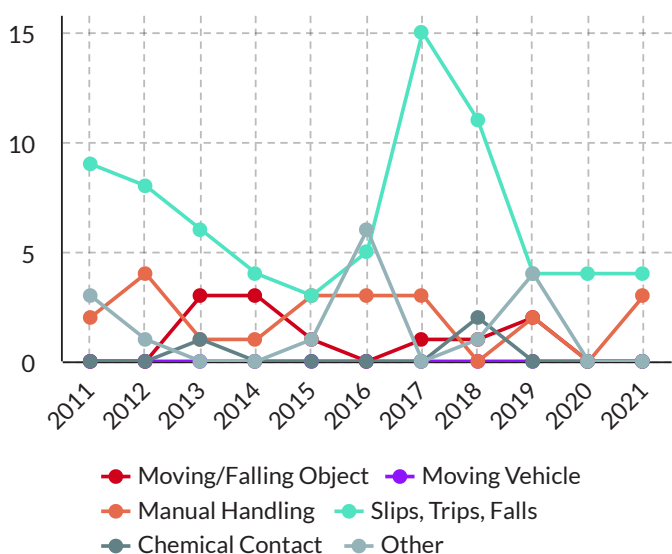
The Tank Storage Association collates and shares this information with its membership on a quarterly basis.

## RIDDOR LTI RATE (per 100,000 hours worked)



Lost Time Injuries (LTI) are those where an employee or contractor has been away from work due to a workplace injury, for more than seven days. This is normalised per 100,000 hours worked to give an LTI Rate.

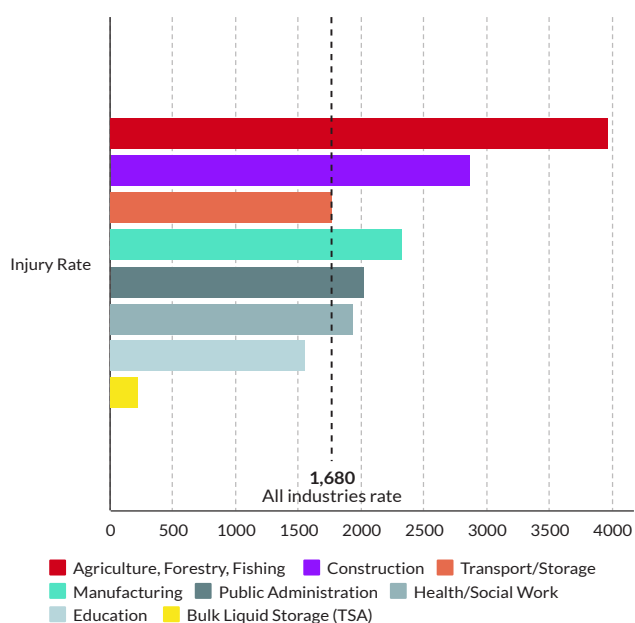
## LTA CAUSE ANALYSIS



Lost Time Accident (LTA) causes examine the nature of Lost Time Injuries.

The tank storage sector continued to maintain very high standards of occupational safety during 2021. It remains one of the safest industries in the UK with proportionally fewer injuries than almost all other sectors.

### WORKPLACE INJURY RATE (per 100,000 workers)



Source: HSE RIDDOR Statistics.  
See <https://www.hse.gov.uk/statistics/>



## JOIN US

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**TSA plays a leading role in several industry, regulatory and Government forums and works to ensure that members' interests are at the top of the agenda. We champion the UK's bulk liquid storage sector and its**

Join us. Choose your membership at  
[www.tankstorage.org.uk/join-us](http://www.tankstorage.org.uk/join-us)



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