ANNUAL REVIEW 2025

Annual review of the bulk storage and energy infrastructure sector

TSA is an industry based organisation whose members are engaged in bulk storage and energy infrastructure and in 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

ARUN SRISKANDA

Managing Director

Oikos Storage

Welcome to the tenth edition of the TSA Annual Review.

The Annual Review serves as a valuable resource for the bulk storage and energy infrastructure sector. It provides a broad range of statistics and insights on terminals, process safety, occupational health and safety as well as the industry's contribution to the UK economy. The publication also includes information on global tank storage assets, expansions and construction projects. It further introduces data on regional tank storage capacity and market share. Our sector is the pulse of our day-to-day life and supports a complex network of stakeholders, including commercial businesses, residential consumers and international traders. Bulk storage terminals and tank farms are strategically located at ports, airports, logistics platforms and along rivers, canals, and pipelines. This vital infrastructure facilitates the efficient movement of products from producers to end-users and acts as a buffer during market fluctuations. It plays a pivotal role in the supply chain for a large variety of substances, from food-grade products - such as animal feeds and fats, oils and molasses - to transport and heating fuels, chemicals, and gases such as LNG. In the UK, around twenty-two of the terminals operated by TSA members are designated by the Government as Critical National Infrastructure (CNI) due to their importance in providing energy to industrial, transport and defence markets. Storage capacity also includes strategic reserves held for emergencies and supply disruptions. The bulk storage and energy infrastructure sector is also a vital component in our journey toward carbon neutrality. Looking ahead, the sector is set to play a central role in carbon capture and storage, while also providing logistical solutions for energy vectors such as hydrogen, methanol, ammonia, and other low-carbon and renewable fuels. It will also be instrumental in enabling the transition to future energy carriers and carbon neutral feedstocks for emerging sectors and technologies. I hope you enjoy reading our 2025 Annual Review of the bulk storage and energy infrastructure sector. As always, thank you to the companies and individuals who have supported its production.

Arun Sriskanda, June 2025

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 80 member companies engaged in the storage of bulk liquids and gases and in the provision of products and services to the sector. Through our work, and collective voice, we champion the UK's bulk storage and energy infrastructure sector and its role in supporting growth and prosperity.

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Managing Director
Oikos Storage

PETER HOLLISTER
TSA Vice President
Group Head of Fuels and Lubricants
ASCO

MARTYN LYONS
TSA Director
Independent Director

PETER DAVIDSON
TSA Chief Executive
Tank Storage Association

NUNZIA FLORIO
TSA Communications 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 employment of over 6,800 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 the 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 range of issues relevant to the bulk storage and energy infrastructure 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, Energy, Skills, Health and Environmental matters 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 storage and energy infrastructure 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, Energy, Skills, Health and Environmental work by sharing learnings, experience, new products, innovation and services and by contributing to the development of new guidance where appropriate.

Our aim is to build a strong community of businesses engaged in bulk storage and energy infrastructure 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, skills and technical matters. TSA facilitates dialogue in key policy-making forums producing solutions on issues of interest to the sector.

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.

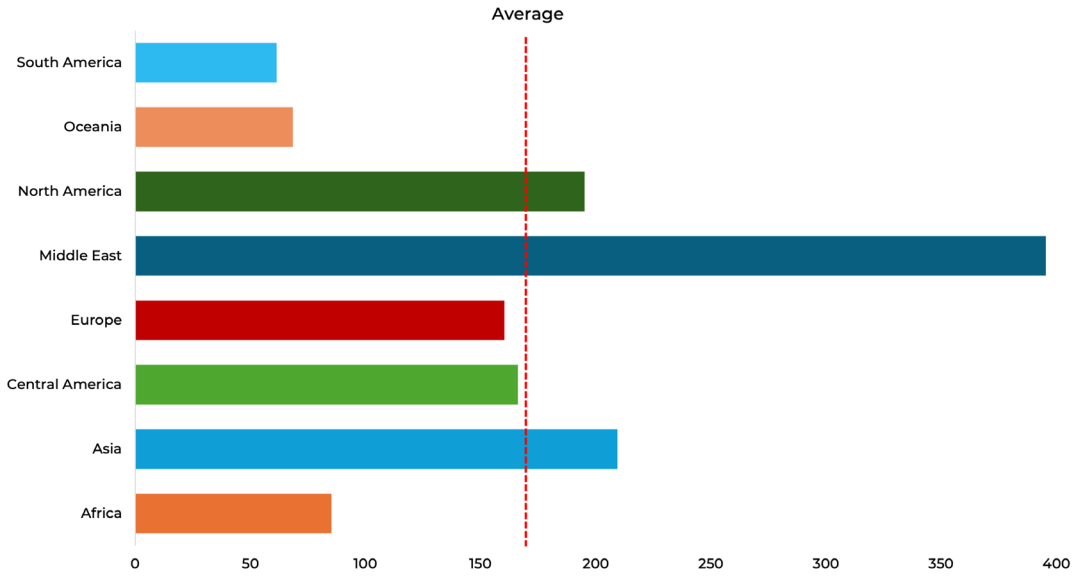
WE SHAPE PRIORITIES AND CONNECT INDUSTRY

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.

GLOBAL TANK STORAGE ASSETS

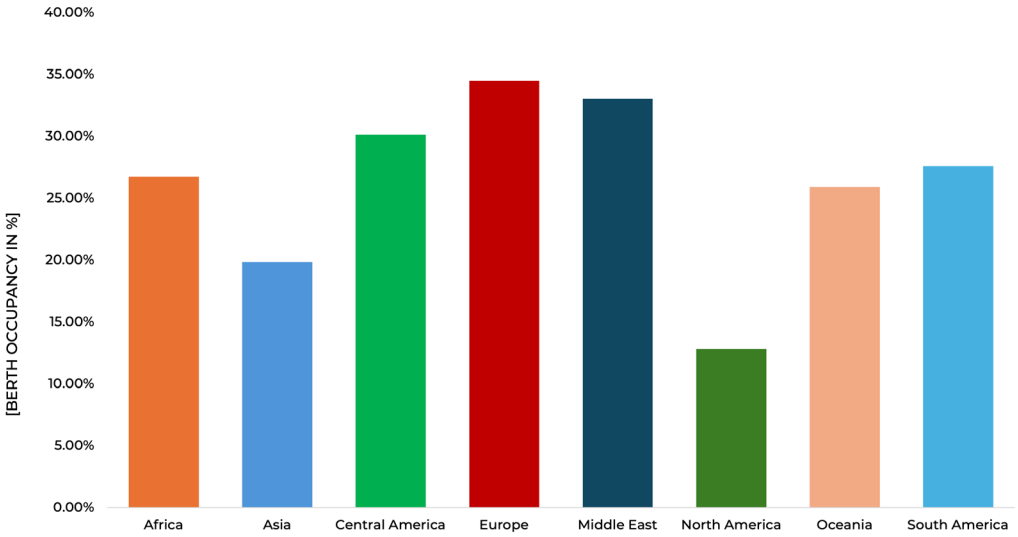
Tank storage infrastructure is an integral part of a complex web of global activities and supply chains. Terminals may either store single products or multiple products within a single facility and can provide supplementary services such as blending, heating, product treatment and analysis, warehousing, as well as bonded facilities for duty suspended products. Terminal operations are present throughout the world with storage hubs having become established in Europe, the United States, Middle East and Asia.

AVERAGE CAPACITY PER TERMINAL (kcbm)



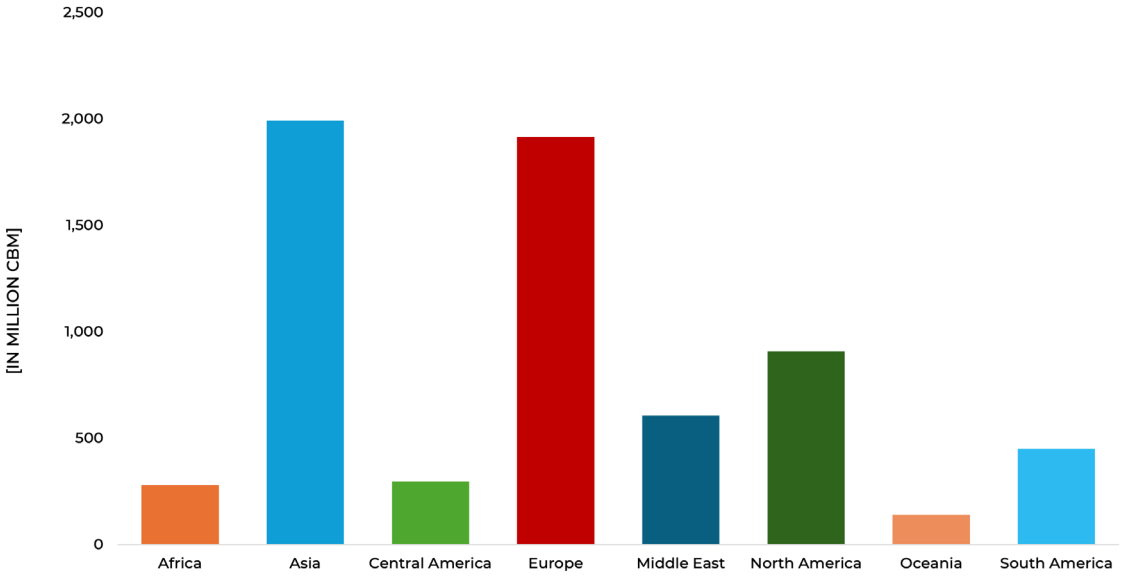
The Middle East holds the most capacity per terminal, far above the average capacity of 167 kcbm. In the Middle East, the average capacity is ~395 kcbm. Asia ranks second with 209 kcbm and North America ranks third with ~195 kcbm. The average capacity per terminal in Europe is ~160 kcbm.

AVERAGE BERTH OCCUPANCY (annualised)



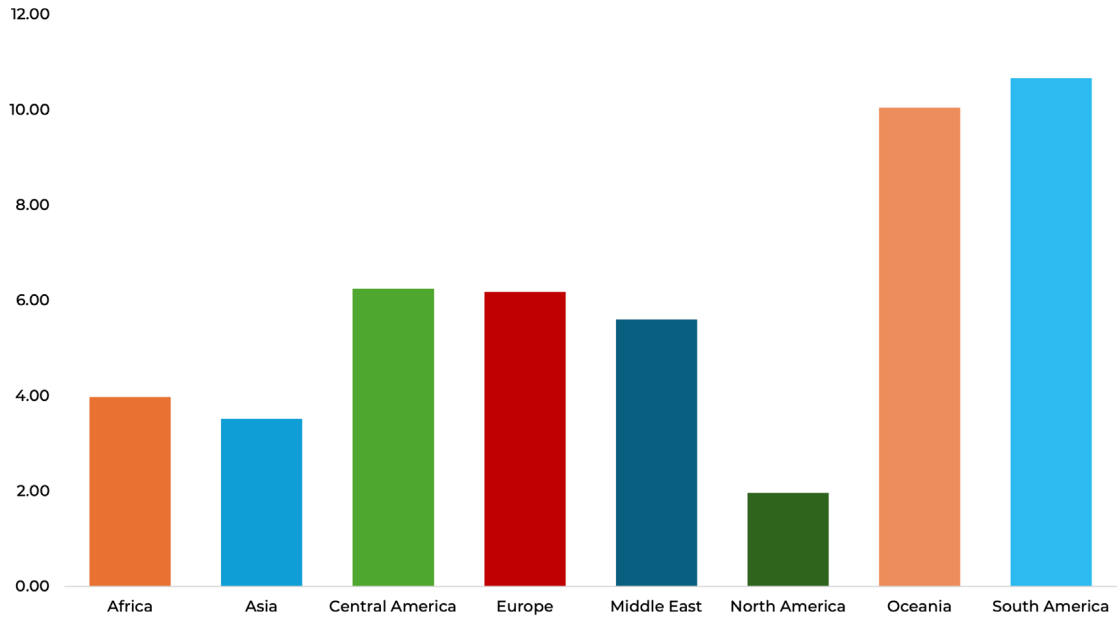
Berth occupancy relates to the time that berths are occupied by a vessel to either offload or load cargo.

2024 THROUGHPUT (in million cbm)



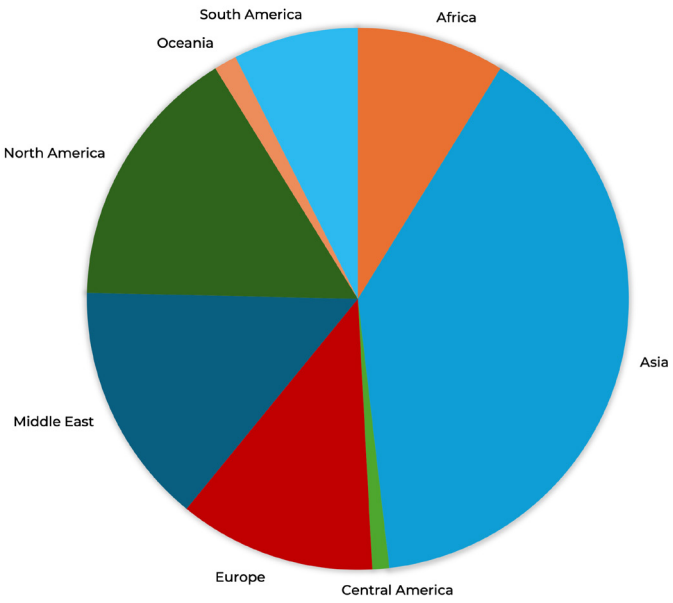
Throughput is the sum of the flow to and from a terminal. In the North American region, a lot of push boat-tug combinations are used. This is not incorporated in these logistical performance calculations as it is not possible to estimate the number of push barges that are used in such combinations. This has a notable effect on throughput levels and tank turns (see below).

TANK TURNS (annualised)



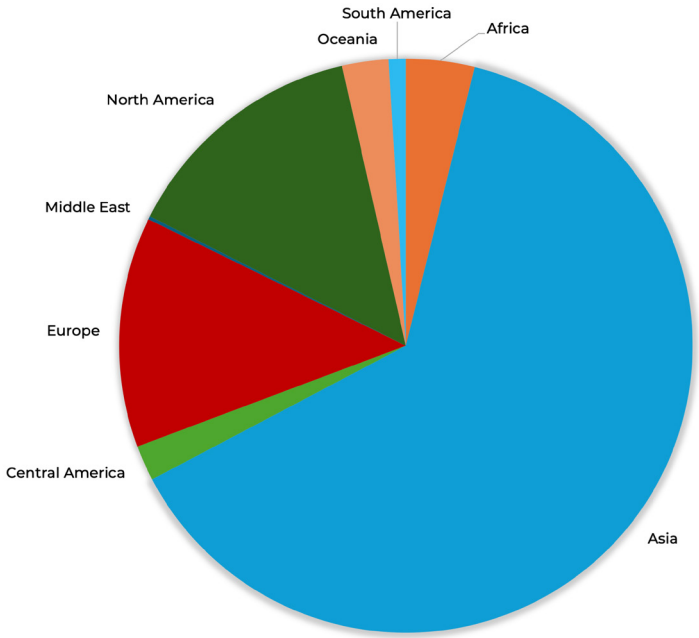
Tank turns are the number of times a tank is filled and subsequently emptied. For example, twelve tank turns per year are considered to be a large number of turns. For example, Oceania has fewer tank terminals than other regions and it will therefore show more tank turns to make up for the region's lack of capacity compared to other regions.

TERMINALS PLANNED (cbm)



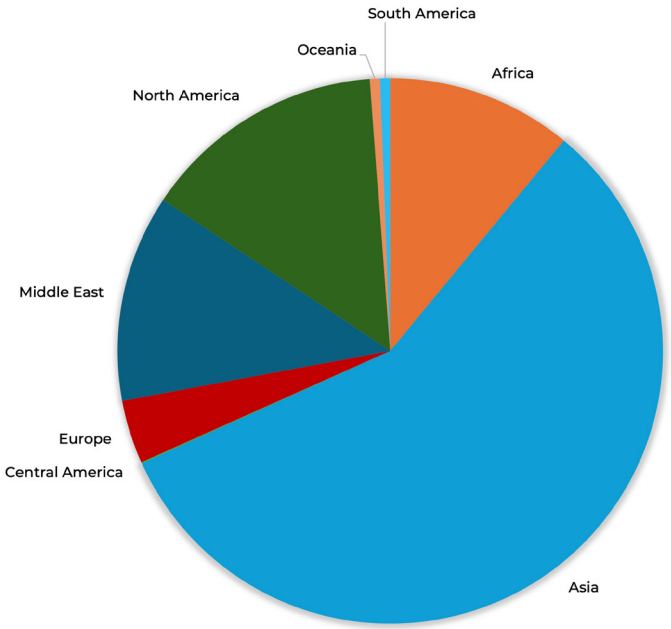
A number of projects have been announced with most storage investment planned located in Asia (17,584 kcbm or 39% of the total), followed by North America (7,074 kcbm or 16% of the total), the Middle East (6,466 kcbm or 14% of the total) and Europe (5,247 kcbm or 12% of the total).

TERMINALS UNDER CONSTRUCTION (cbm)



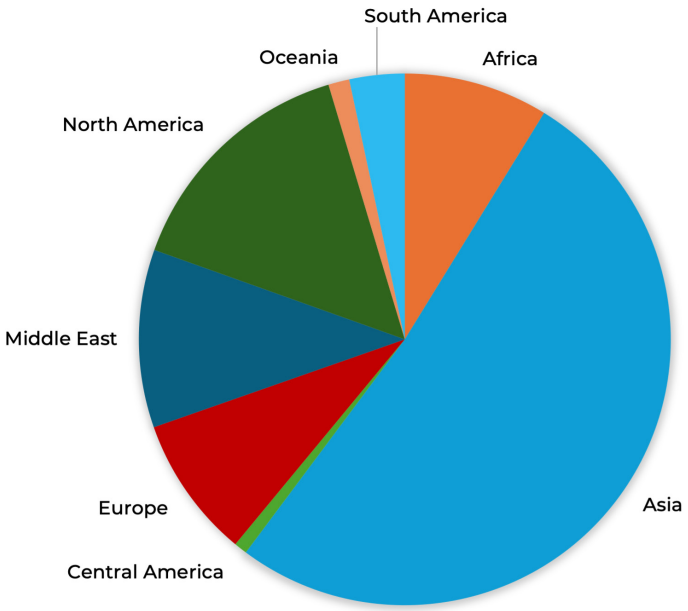
Most tank storage capacity is being constructed in Asia with 63% of the total (~13,809 kcbm), followed by North America with 14% of the total (~3,044 kcbm) and Europe with 13% of the total (~2,825 kcbm). Other regions have less capacity under construction, ranging between 0% and 4%.

TERMINALS UNDER EXPANSION (cbm)



Globally, there are 163 terminal expansion projects being realised with most tank storage expansions taking place in Asia with 57% of the total (27,332 kcbm) followed by North America with 14% of the total (6,903 kcbm), the Middle East with 12% of the total (5,856 kcbm) and Africa with 11% of the total (5,242 kcbm). Expansions in other regions range from 0% to 4% of the total in Europe.

TOTAL ADDITIONS



Adding up all capacity projects under construction, under expansion or planned, the main growth area is Asia, more than doubling its storage capacity. Globally, some 114 Mcbm will be added.

THE BULK STORAGE AND ENERGY INFRASTRUCTURE SECTOR IN THE UK

The bulk storage and energy infrastructure sector plays a vital role in providing products and services that are critical to UK consumers. Tank Storage Association members provide and support an essential interface between sea, road, rail and pipeline logistics for many different substances including transport and heating fuels, chemicals, animal feed and foodstuffs. A large number of terminal operators are third-party providers which means they do not own the products they handle, but provide logistical services on behalf of their customers

TSA MEMBERS AND ASSOCIATE MEMBERS

REVENUE IN 2024

£5.3bn

PLANNED INVESTMENT IN THE NEXT 5 YEARS (in the UK and ROI)

£1.5bn

EMPLOYEES IN THE UK AND ROI (including long-term contractors)

6,848

TSA ASSOCIATE MEMBERS (SUPPLIERS)

REVENUE IN 2024

£459m

PLANNED INVESTMENT IN THE NEXT 5 YEARS (in the UK and ROI)

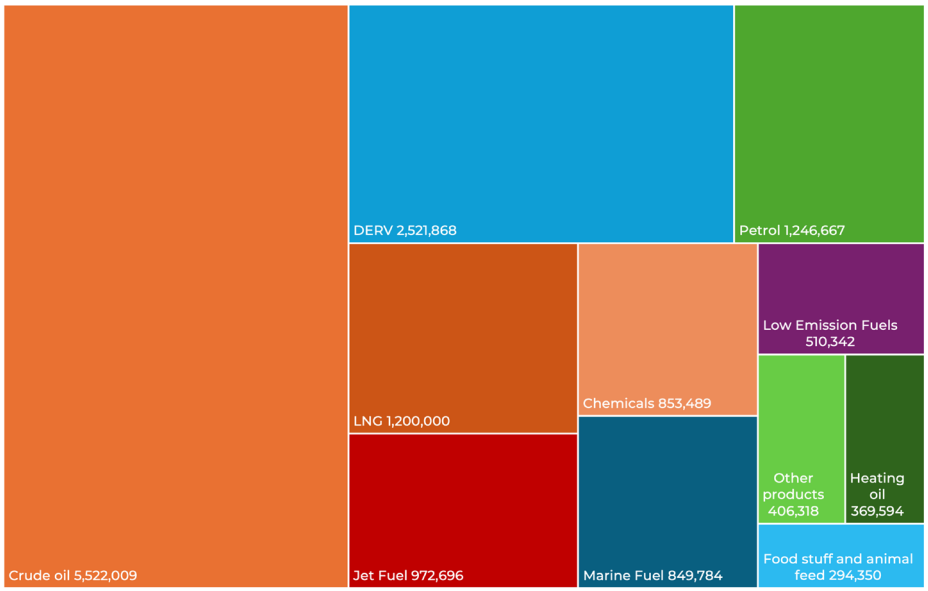
£383m

EMPLOYEES IN THE UK AND ROI (including long-term contractors)

4,412

TERMINAL STATISTICS

STORAGE CAPACITY (cbm)

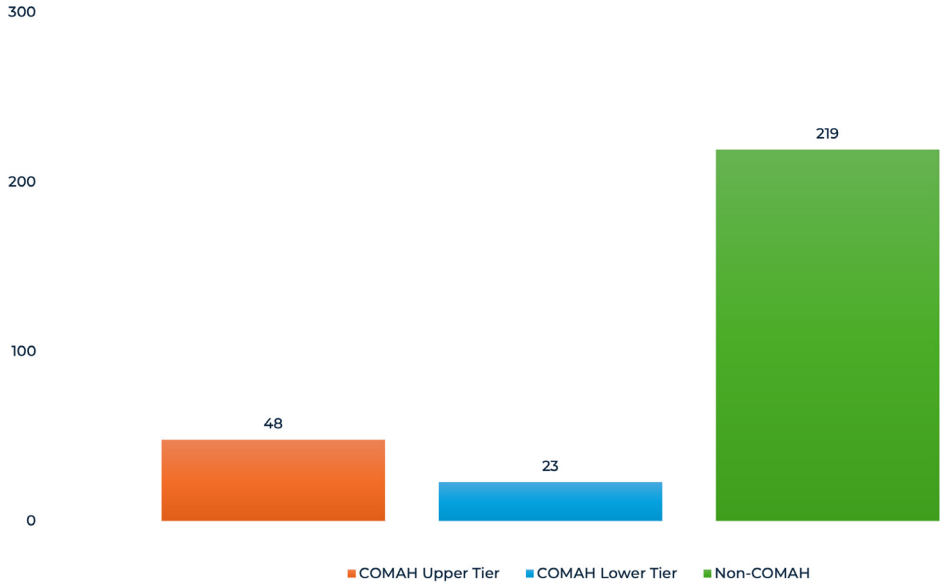


TSA members operate a wide variety of terminals across the UK and Republic of Ireland and store many different substances including transport and heating fuels, low emission fuels (as seen in the breakdown below), chemicals, LNG, animal feed and foodstuffs. Collectively, TSA members have around 14.7 million cubic metres of storage capacity.

STORAGE CAPACITY (cbm) - LOW EMISSION FUELS

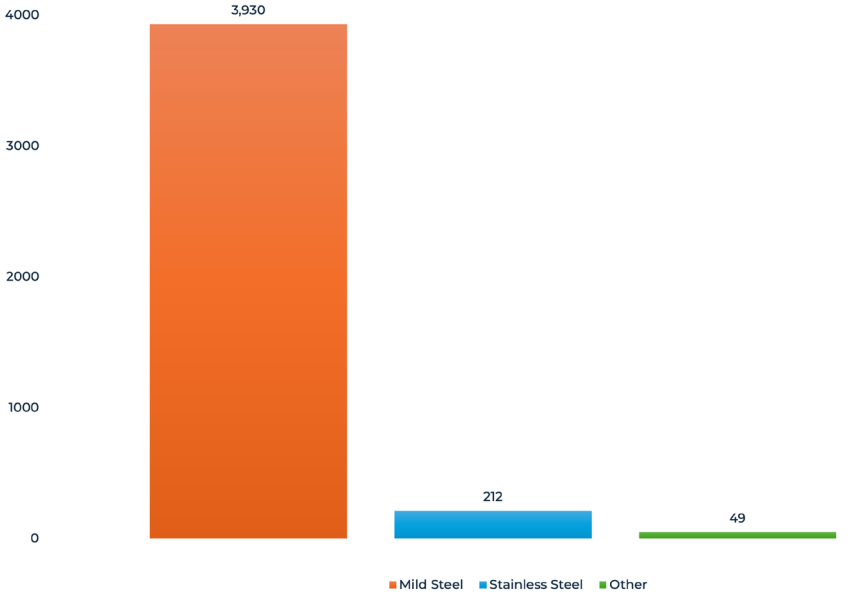
Well over 500,000 cubic metres of storage capacity is used for low emissions fuels including biofuels, methanol, ammonia and sustainable aviation fuels (SAF).

NUMBER OF TERMINALS



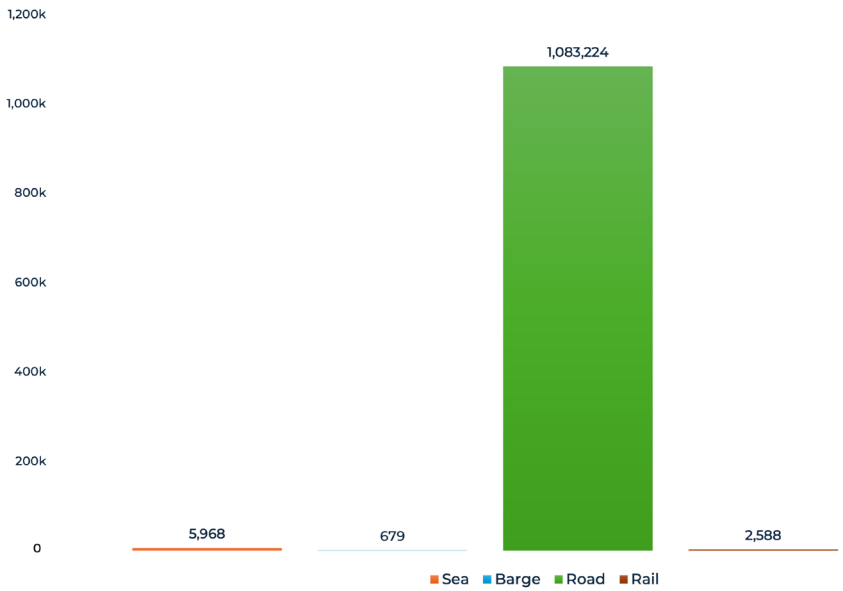
TSA members operate 290 terminals and distribution hubs in the UK. A COMAH site is defined as a business which stores above a certain volume of named substances on site. 48 terminals operated by TSA members are Upper Tier COMAH sites and 23 are Lower Tier COMAH sites. Around 22 of the terminals operated by TSA members are also designated by the Government as Critical National Infrastructure (CNI) due to their importance in providing energy to industrial, transport and defence markets.

NUMBER OF STORAGE TANKS



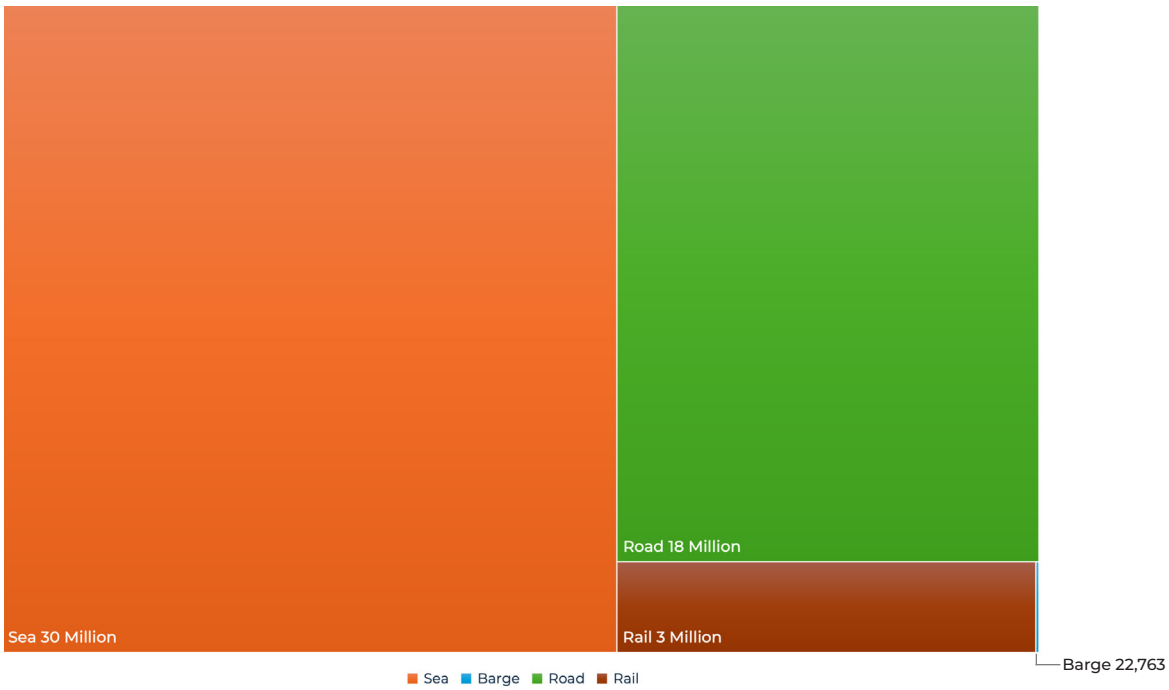
Terminals consist of a number of individual storage tanks. Storage tanks can be made of different materials, most commonly steel. Collectively, terminals operated by TSA members have 4,191 storage tanks.

NUMBER OF MOVEMENTS



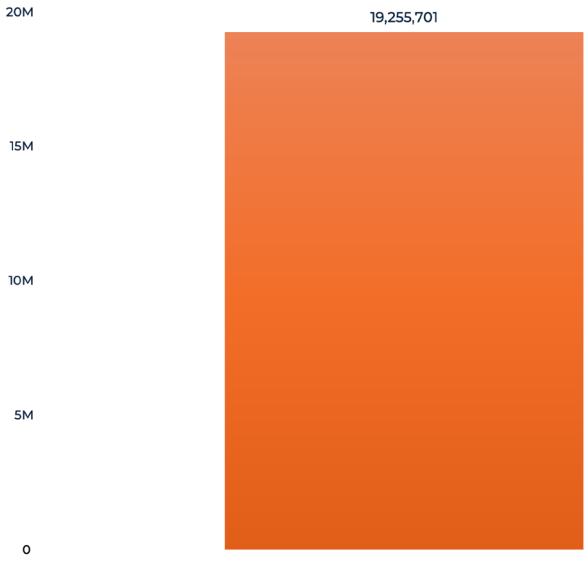
Movement of product into or out of terminals can be by seagoing vessel, inland barge, road tanker, rail tanker or pipeline. TSA members safely execute over one million movements each year. By far the greatest number of movements is carried out by road tanker. However, this is not representative of the 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.

VOLUME OF PRODUCT MOVED BY TYPE (tonnes)



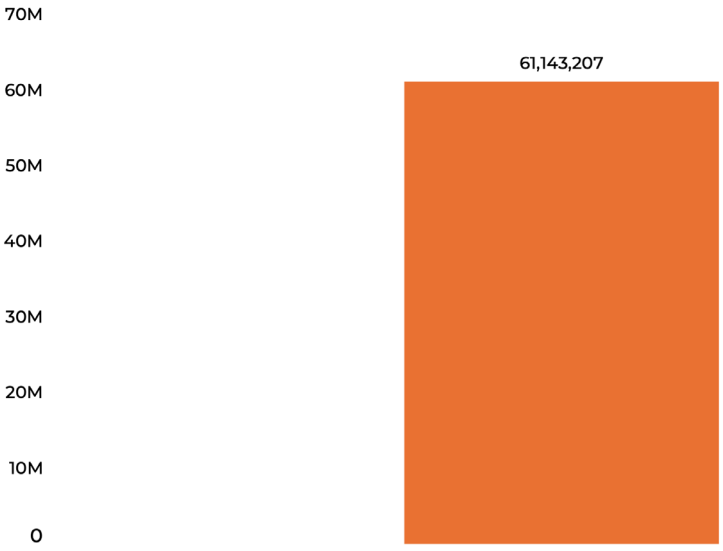
In 2024, around 30 million tonnes of product were moved by coastal shipping and around 18 million tonnes by road haulage. Around 3 million tonnes of product were moved by rail and 22,763 tonnes by barge.

PIPELINE THROUGHPUT (cbm)



Terminals also move product via pipeline and throughput is measured in cubic metres. A number of TSA members own and operate pipeline networks across the UK. Pipeline throughput reported by TSA member companies in 2024 was well over 19 million cubic metres (this figure excludes regasified LNG).

AGGREGATED THROUGHPUT (tonnes)

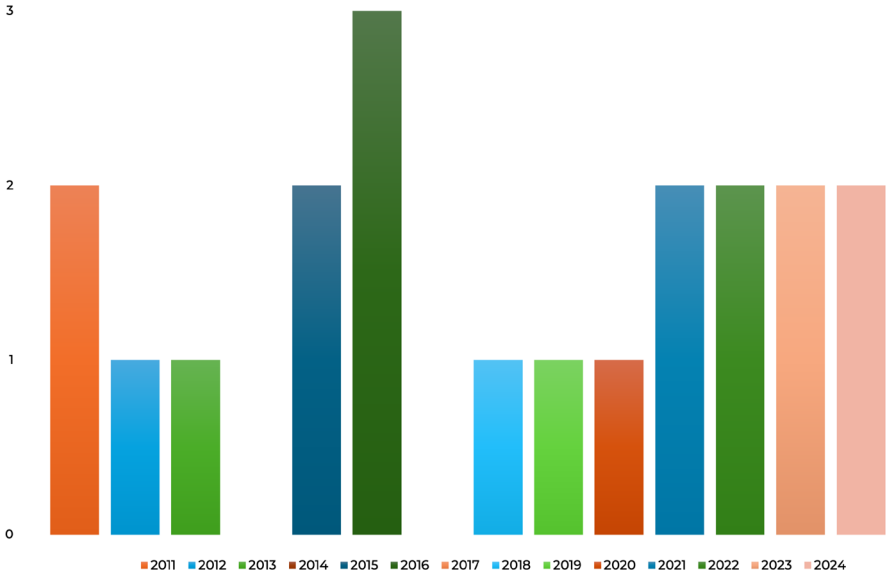


Throughput is the sum of the flow to and from a terminal. 2024 saw an aggregated throughput of just over 61 million tonnes.

PROCESS SAFETY

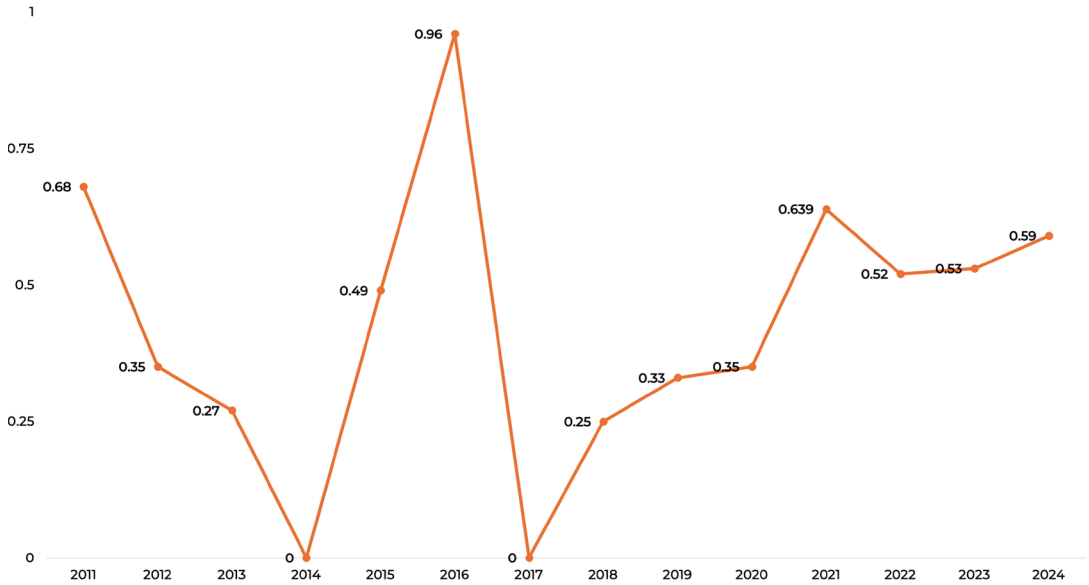
TSA members are fully committed to the Process Safety Leadership Group Principles of Process Safety. Our dedicated Safety, Health and Environment committee works closely with our peers, other industry sectors and regulators to share knowledge and good practice relevant to safe operations. To monitor 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 as well as our own leading indicators.

NUMBER OF TIER 1 EVENTS



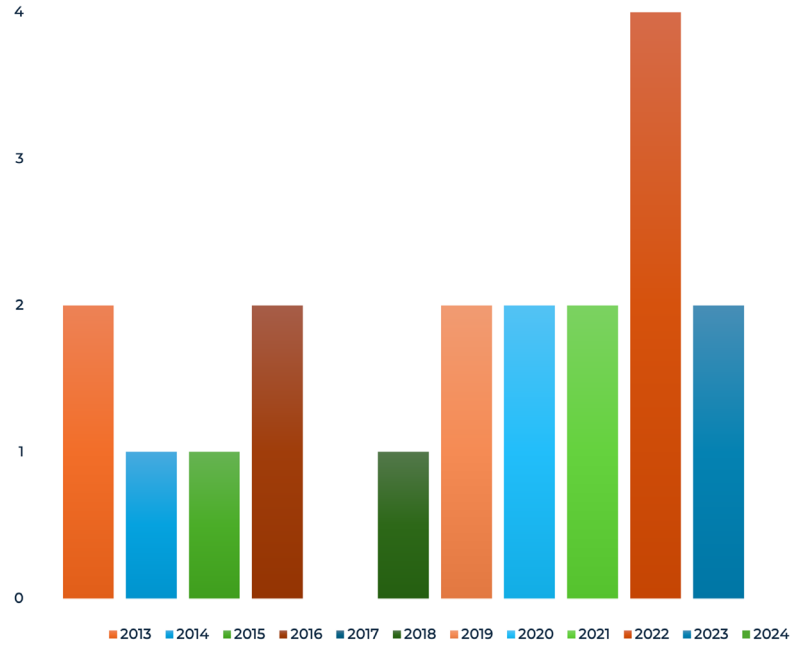
Tier 1 events are significant losses of containment (relevant to the hazard of the product stored). The number of Tier 1 events experienced by our members are very small, with two reported in 2024. The work that the TSA does with the UK regulator helps to ensure that we operate safely.

TIER 1 EVENT RATE (per million hours worked)



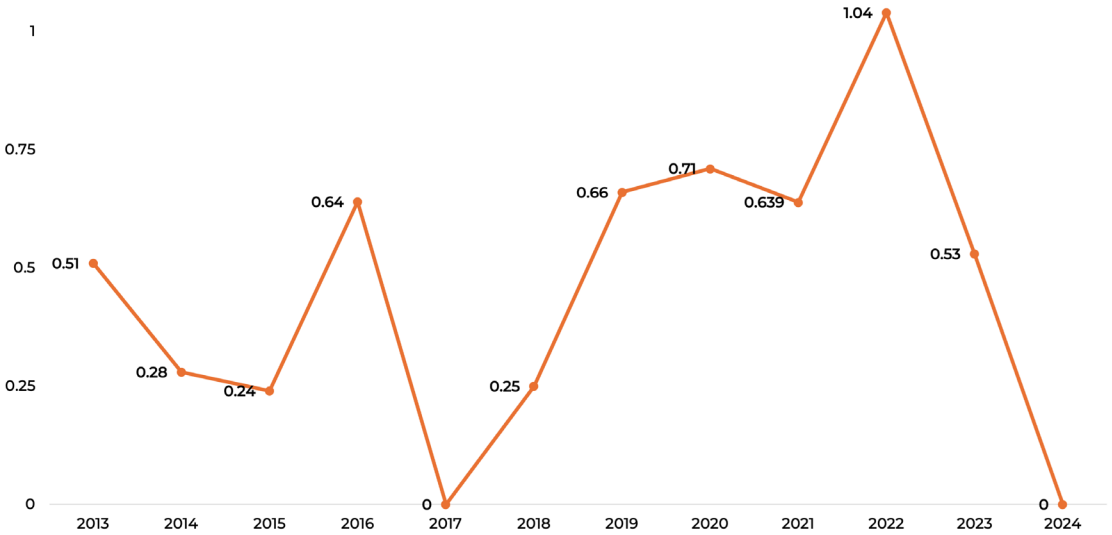
The event rate is calculated as the number of Tier 1 events divided by the total number of hours worked (including contractor hours) expressed per million hours worked.

NUMBER OF TIER 2 EVENTS



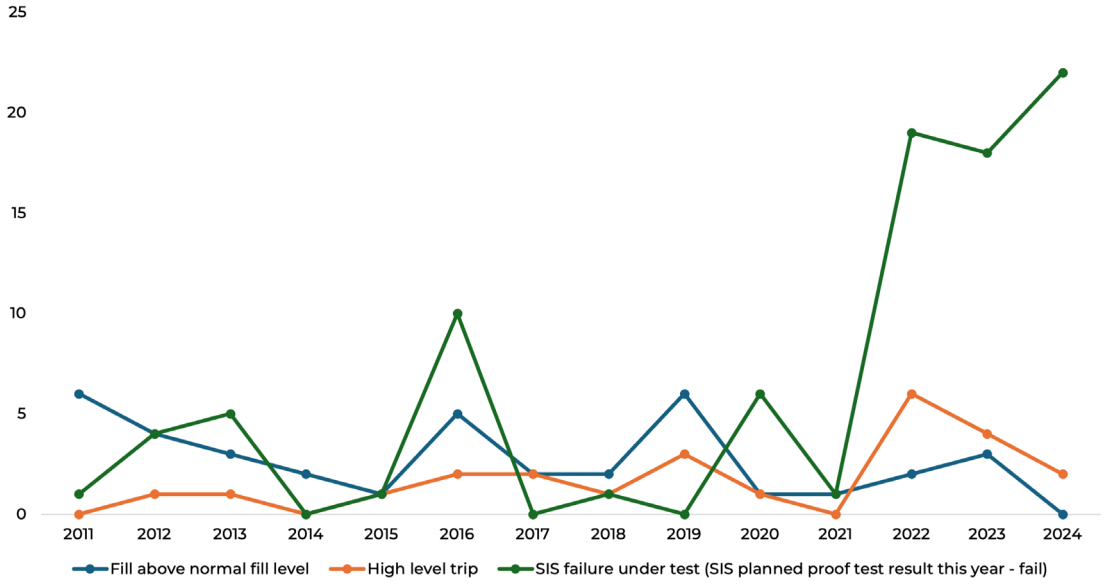
Tier 2 events are smaller losses of containment (relevant to the hazard of the product stored). No Tier 2 events were reported in 2024.

TIER 2 EVENT RATE (per million hours worked)



The event rate is calculated as the number of Tier 2 events divided by the total number of hours worked (including contractor hours) expressed per million hours worked.

TIER 3 LEADING INDICATORS

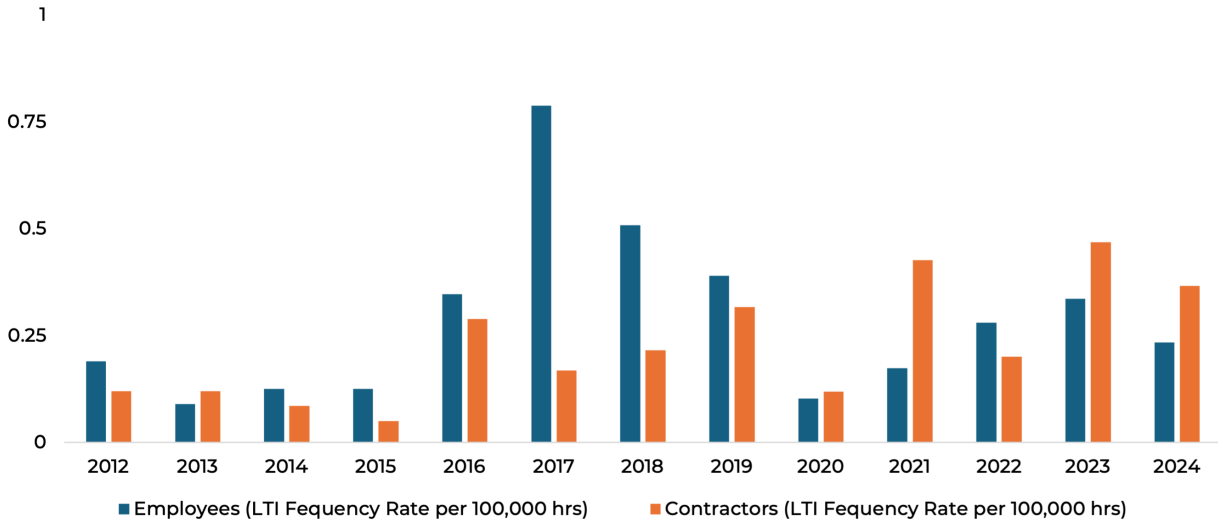


Tier 3 indicators (leading indicators) can be extremely useful in identifying areas of weakness before a more significant Tier 1 or Tier 2 event takes place. The TSA uses this information to determine if any further work is required in improving good practice or knowledge and skills. Throughout 2024, the TSA has shared safety messages regarding Tier 3 leading indicators in its quarterly statistics report to members. The TSA is also leading and contributing to several technical working groups in the COMAH Strategic Forum (CSF), the Chemical and Downstream Oil Industries Forum (CDOIF) and the Energy Institute (EI). The TSA is also chairing the CDOIF working group tasked to develop guidance on *Understanding Major Hazard Human Harm Risk Assessment for COMAH* which will be invaluable to ensure consistency and accuracy in predictive risk assessment across all major accident hazard potential industries.

OCCUPATIONAL HEALTH & SAFETY

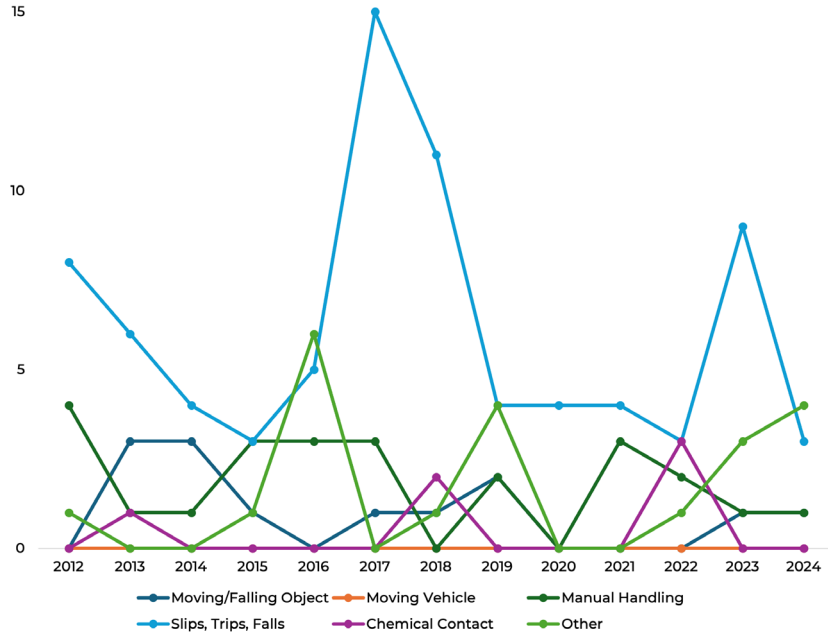
Our members inform the UK regulator in accordance with the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). The TSA collates and shares this information with its membership on a quarterly basis.

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 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.
- Tank 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.
- The industry has a key role to play in the energy transition and in creating the necessary infrastructure flexibility to manage change in support of the UK's net zero goals.

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