

2022 IPLOCA Health, Safety & Environmental Statistics Report

issued August 2023

Message from the HSE & CSR Committee

This report combines IPLOCA members’ health, safety and environmental statistics received for 2022.

The number of fatalities has decreased compared to last year. Still, the 2025 target of zero fatalities has not yet been reached given that two fatal incidents on worksites have been reported by our members.

The good news is that the total recordable incident rate continues to decrease to reach 1.21 which is the lowest rate since 2003.

The HSE & CSR Committee advises IPLOCA members to adopt behavioural Safety programmes which are considered the best practice in the industry. Continuous efforts still need to be maintained to eliminate fatalities in the pipeline industry.

We all need to promote near-miss reporting and health & safety training, which were still below the targets these last three years. The HSE & CSR Committee strongly encourages IPLOCA members to focus on these matters while adopting behavioural safety programmes which are considered best practice. The Committee highly recommends all IPLOCA members to focus on training and share industry best practices and

case studies using the IPLOCA Shared Experiences Platform: www.iploca.com/hseplatform.

As the previous year, special attention should be given to incidents involving falls which account for 20% of Lost Workday Injuries (LWI). Incidents involving hand tools represents 15% of LWI.

On the environmental incidents reported, their frequency has reached its second lowest level over the last ten years and no single case of air releases has been reported in 2022. Another good point is that most environmental incidents are minor.

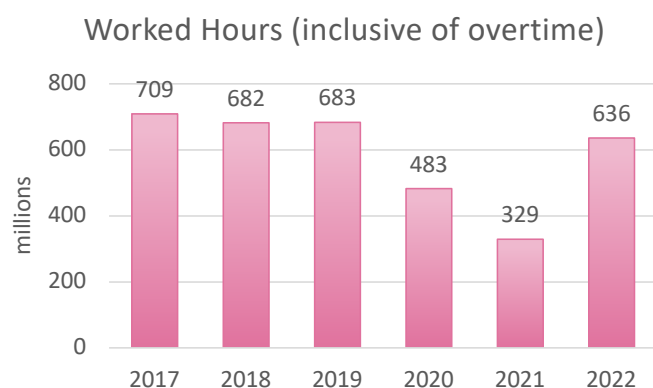
With regard to the health & safety training hours and the environmental training hours, graphics show the health & safety frequency rate is almost in the average of these last ten years but the environmental frequency rate is well below. It is then necessary to have management commitment reinforced.

The Committee is seeking to assist companies to adopt best practice by working together while providing training and networking within the industry so as to minimise the risks associated with the design, construction, operation and decommissioning of pipeline projects.

We urge you to read through this report in detail and take appropriate and purposeful action for the future.



The 2022 IPLOCA HSE statistics were derived from data provided by 50 Regular Members (67% of total Regular Membership).

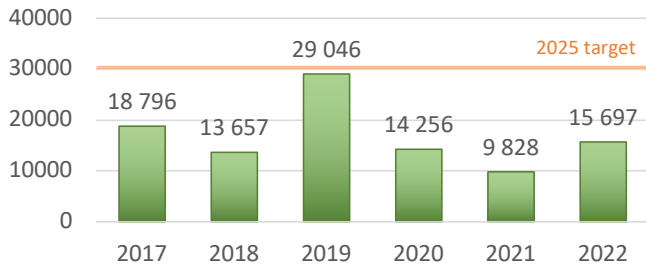


The number of hours worked during which the employee is present in the work environment as a condition of his or her employment, plus the extra hours put in as overtime.

Health & Safety (H&S)

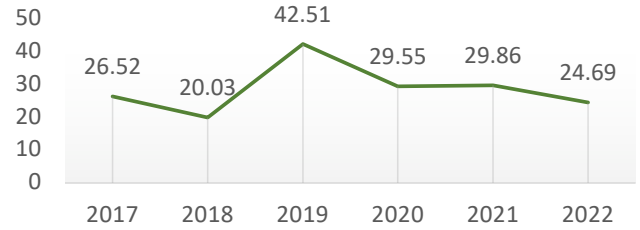
Leading Indicators

Near Misses (NM)



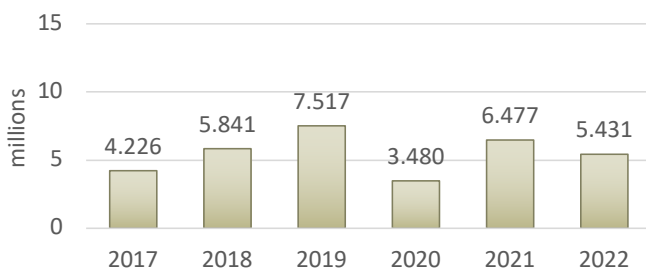
Near Miss: Any event which had the potential to cause injury and/or damage and/or loss but which was avoided by circumstances. The term "incident" includes "near misses".

NM frequency rate
(per million worked hours)



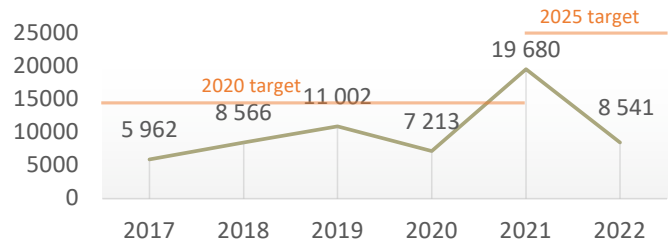
Near Misses frequency rate:
 $\frac{\text{number of NM} \times 1\,000\,000}{\text{total worked hours}}$

Health & Safety Training



H&S Training Hours are the number of hours spent by personnel to get trained to H&S standards (includes all the hours spent by all the personnel to get trained).

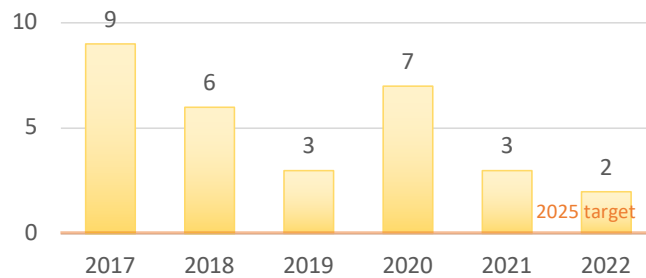
H&S Training frequency rate
(per million worked hours)



H&S Training frequency rate:
 $\frac{\text{number of H&S training hours} \times 1\,000\,000}{\text{total worked hours}}$

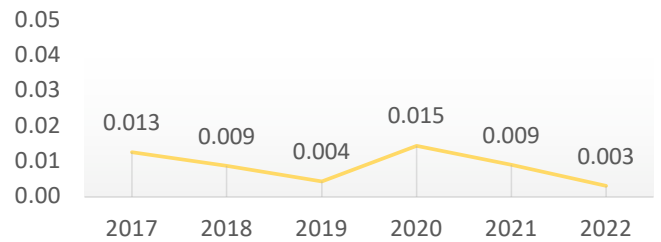
Lagging Indicators

Fatalities (FTL)



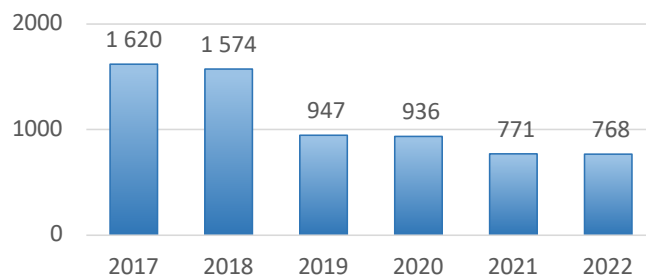
A fatality is a death resulting from a work injury or occupational illness, regardless of the time intervening between injury and death.

Fatality frequency rate
(per million worked hours)



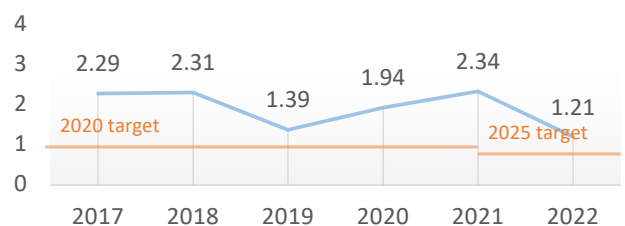
Fatalities frequency rate:
 $\frac{\text{number of fatalities} \times 1\,000\,000}{\text{total worked hours}}$

Total Recordable Incidents



Total Recordable Incident cases are calculated with number of Lost Time Injuries (LTI), Medical Treatment Cases (MTC), and Restricted Work Cases (RWC).

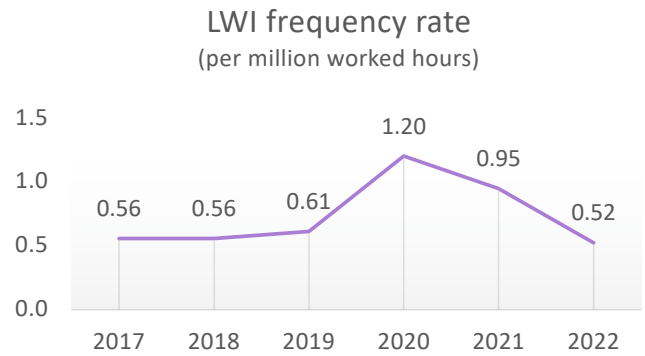
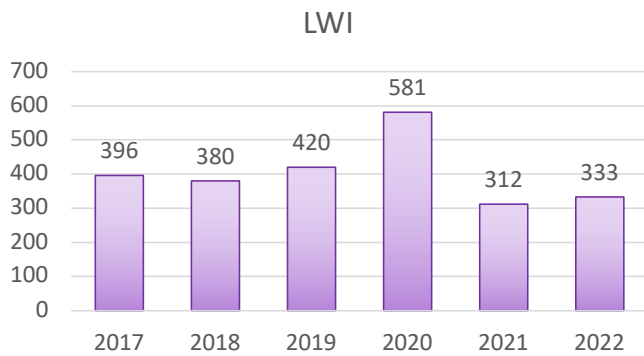
Total Recordable Incident Rate
(per million worked hours)



TRIR:
 $\frac{\text{number of TRI} \times 1\,000\,000}{\text{total worked hours}}$

Health & Safety (H&S)

Lost Workday Injury Cases (LWI)



Lost Workday Injury Cases are the sum of fatalities, permanent total disabilities, permanent partial disabilities and lost workday cases.

Note: if in a single incident 20 personnel receive Lost Workday Injury Cases, then it is accounted for corporate reporting purposes as 20 LWIs (not 1 LWI).

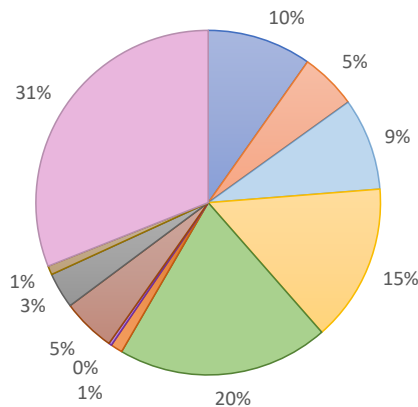
$$\text{LWI frequency rate} = \frac{\text{number of LWI} \times 1\,000\,000}{\text{total worked hours}}$$

Description of Incidents/Accidents

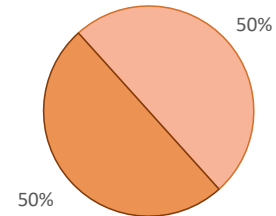
Causes of Incidents/Accidents

- Vehicle accidents
- Lifting Operations
- Work at height / scaffolding
- Hand tool
- Involving fall
- Excavation / Earth collapse
- Confined spaces
- Impact with construction equipment
- Welding operations
- Hazardous substances
- Others

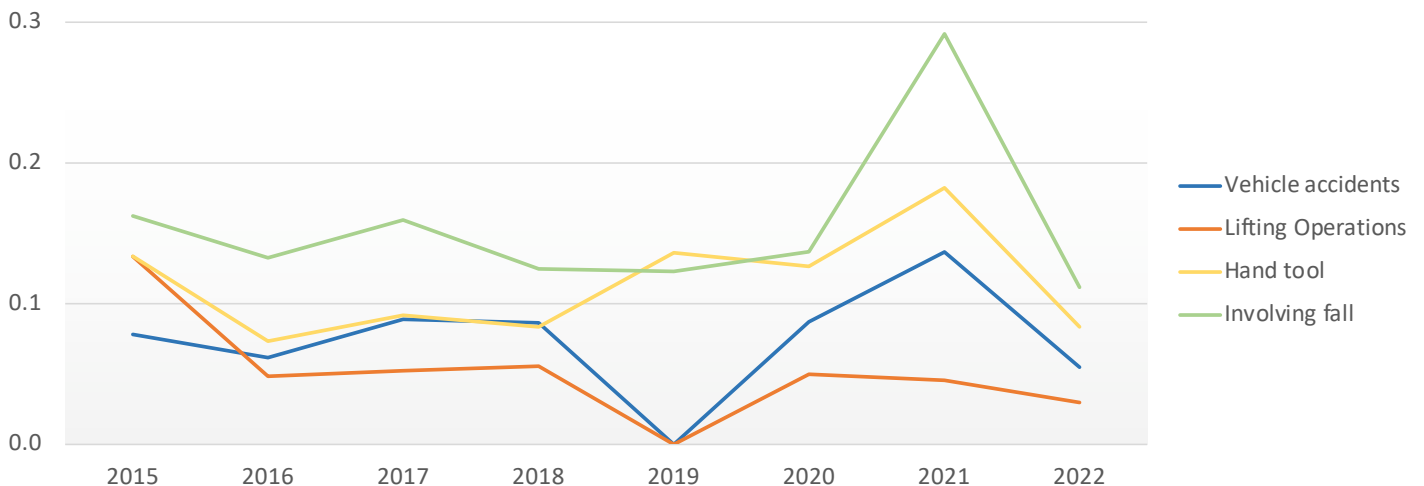
Split of LWI



Split of Fatalities

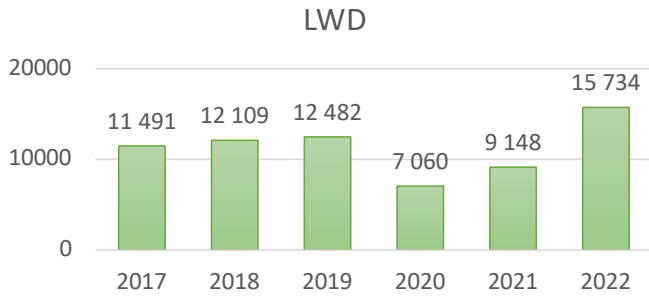


LWI frequency rate for the four most frequent causes (per million worked hours)

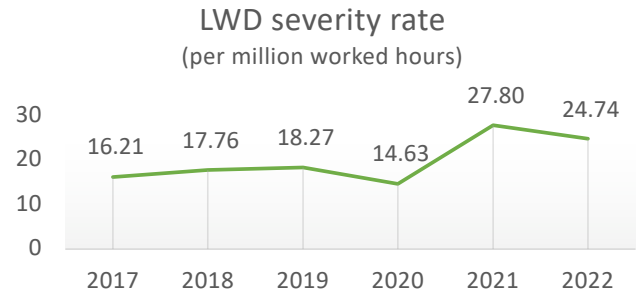


Health & Safety (H&S)

Lost Work Days (LWD)



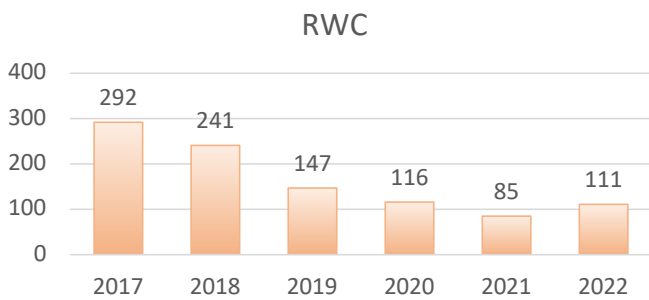
Lost Work Days are the sum of calendar days lost as a result of a work-related accident.



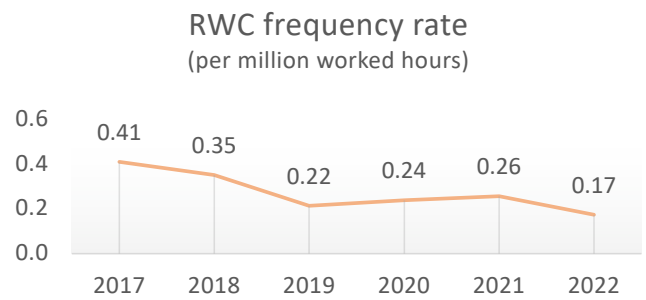
LWD severity rate:

$$\frac{\text{number of LWD} \times 1\,000\,000}{\text{total worked hours}}$$

Restricted Work Cases (RWC)



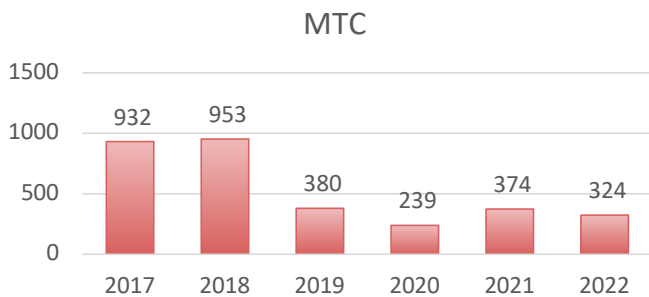
A Restricted Work Case is any work injury, which results in an employee not being able to conduct normal duties, after the day the incident occurred.



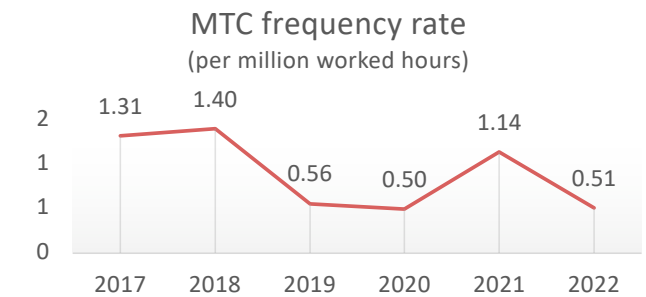
RWC frequency rate:

$$\frac{\text{number of RWC} \times 1\,000\,000}{\text{total worked hours}}$$

Medical Treatment Cases (MTC)



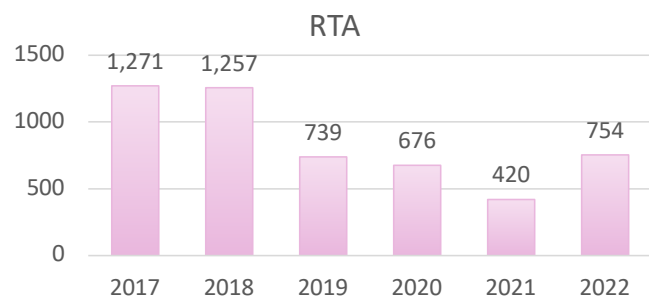
A medical treatment case is any work related injury that involves neither Lost Work Days nor Restricted Workdays but which required treatment by medical personnel.



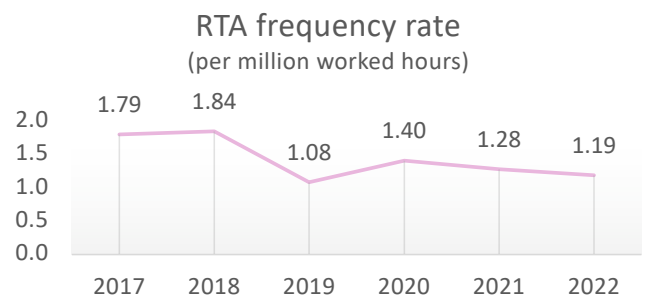
MTC frequency rate:

$$\frac{\text{number of MTC} \times 1\,000\,000}{\text{total worked hours}}$$

Road Traffic Incidents / Accidents (RTA)



A road traffic incident/accident is any incident involving one or more moving vehicles which result in injuries and/or damage to property, vehicle(s) or loads being moved or carried by vehicles. Incidents during travel from camp, home or any other location to and back from the worksite should be included.

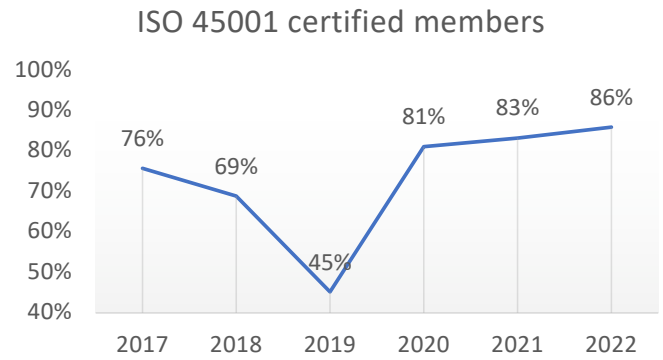
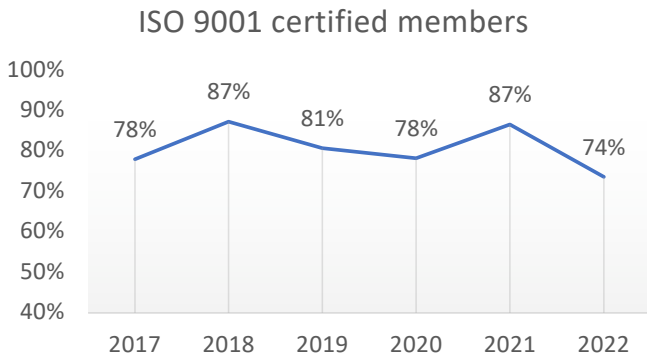


RTA frequency rate:

$$\frac{\text{number of RTA} \times 1\,000\,000}{\text{total worked hours}}$$

Health & Safety (H&S)

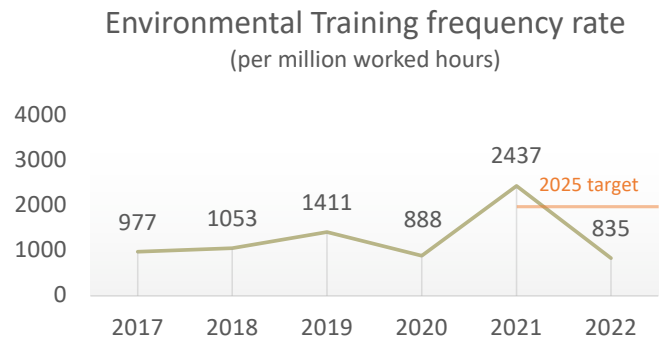
Health & Safety Management Systems



The ISO 9001 and OHSAS 18001 management system certifications have a high adoption rate – clearly leading certifications in the pipeline industry.

Environment

Environmental Training Hours

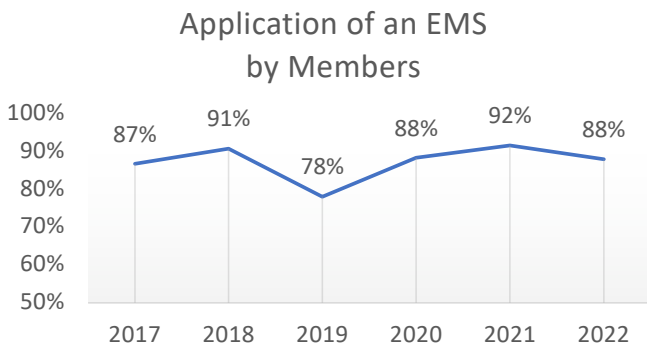


Environmental Training Hours are the number of worked-hours spent by personnel to get trained to environmental standards (includes all the hours spent by all the personnel to get trained).

Environmental Training frequency rate:

$$\frac{\text{number of Environmental Training hours} \times 1\,000\,000}{\text{total worked hours}}$$

Environmental Management Systems (EMS)

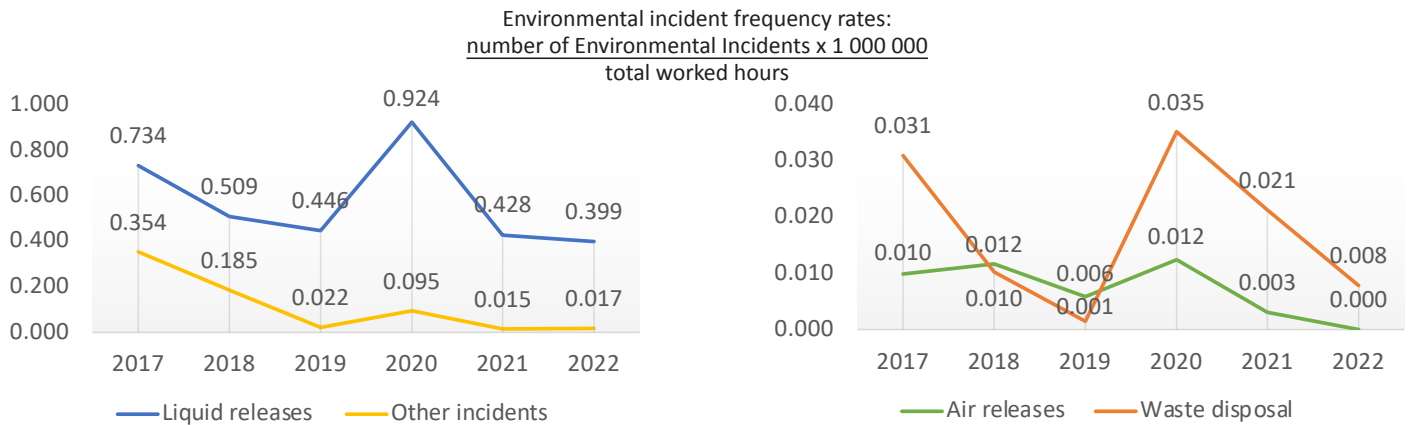


The ISO 14001 environmental management system certification has a high adoption rate – clearly a leading certification in the pipeline industry.

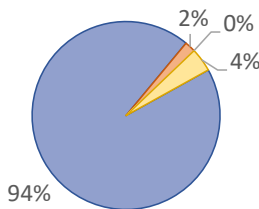
Environment

Environmental Incidents

Environmental Incident frequency rates (per million worked hours)

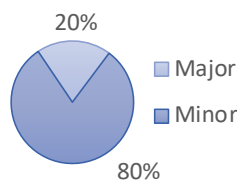


Split of Incidents

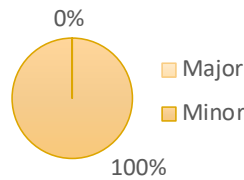


Major vs. Minor Environmental Incidents

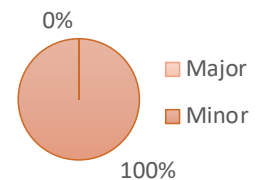
Liquid releases



Other incidents



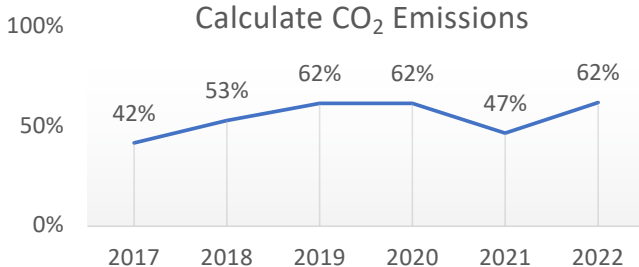
Waste disposal



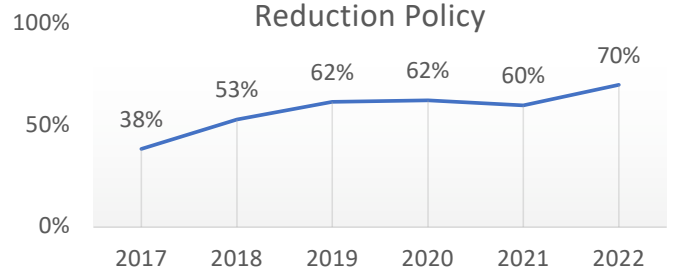
For complete details on classification of incidents, please visit our website www.iploca.com/hsestatistics

CO₂ Equivalents

Percentage of Companies that Calculate CO₂ Emissions



Application of a Carbon Emission Reduction Policy



62% of the members chose to use CO₂ emissions as an indicator of their environmental performance, and 70% apply a carbon emission reduction policy.

Carbon Emissions Calculation

Below is an extract of various methods used by the respondents to calculate their carbon emissions.

- 'In accordance with the Australian Federal Government National Greenhouse and Energy Act 2007 (NGER Act)'
- 'Using an ISO 14064 based software'
- 'Using US EPA (Environmental Protection Agency) estimation methods'
- 'Using DEFRA GHG conversion factors'

- 'Using IPCC Methodology and GHG Protocol Calculation Tools'
- 'Based on total energy consumption (fuel, gas, electricity)'
- 'Using the OMEGA TP software'
- 'Using the Panama Oil Record Book and Emissions according to MARPOL Annex VI'

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