



2018 IPLOCA Health, Safety & Environmental Statistics Report

issued September 2019

Message from the HSE & CSR Committee

This report combines IPLOCA members's health, safety and environmental statistics received for 2018.

The good news is that the number of fatalities is decreasing; however, six fatal accidents on our work sites are still too many. This shows that we have not yet achieved our 2020 target of zero fatalities.

We all need to promote near-miss reporting and health & safety training, which were still below the targets set. The HSE & CSR Committee strongly encourages IPLOCA members to focus on these matters while adopting behavioral safety programmes which are considered best practice in our industry. Significant work still needs to be done to totally eliminate fatalities in the pipeline industry.

There was only a minor increase in the total recordable incident rates since last year. The committee recognizes these results and highly recommends all members to focus on training and share industry best practice, using the IPLOCA shared experience portal www.iploca.com/hseplatform

Special attention should be put in the 22% of incidents involving falls. On the environmental incidents reporting, the frequency of incidents has decreased for liquid releases and shows a decrease for air and waste releases. The slight increase in the overall training hours (for environment) still falls short of expectations.

There has been a good increase in training hours (for safety) that goes over the 2020 target. It is worth mentioning the increase in the CO₂ calculation and Emission Policies shown this year.

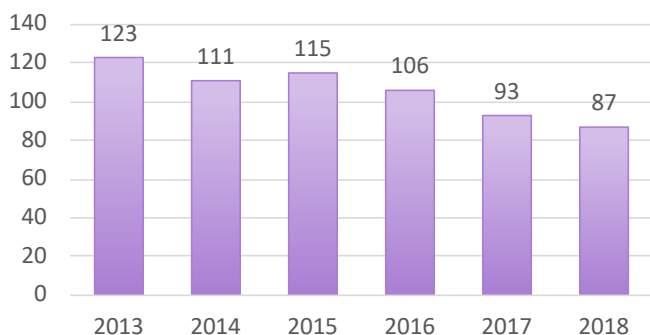
There is no doubt that a commitment to a formal environmental management system (EMS) leads to a reduction in accidental releases, but the statistics indicate an overall increase in applying a formal system such as ISO 14001 or similar. A growing requirement on many pipeline projects is to implement a formal EMS to protect natural resources and minimise the potential for prosecution.

The committee is also seeking to gain a better understanding of the type of environmental incidents occurring and will be collecting more detailed information on the nature of incidents to improve reporting of major and minor environmental incidents. We encourage members to submit best practice environmental case studies onto the HSE portal.

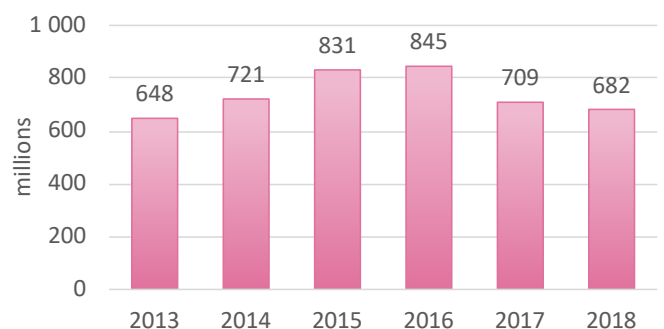
The committee would like to remind members' of the introduction of ISO 45001 in March 2018, which replaces OHSAS 18001. The new standard is the first occupational health and safety standard that is recognised globally and is designed to provide a safe and healthy workplace for employees. The new standard has also been updated to allow smoother integration with other ISO standards such as ISO 9001 (quality) and ISO 14001 (environmental). Organisations already certified to OHSAS 18001 will have until March 2021 to transition to the new ISO 45001 standard, although certification of conformity to ISO 45001 is not a requirement of H&S legislation. The committee is seeking to assist companies to adopt best practice by working together and providing training and networking within the industry to minimise the risks associated with design, construction, operation and decommissioning of pipeline projects.

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

Number of submissions



Worked Hours (inclusive of overtime)

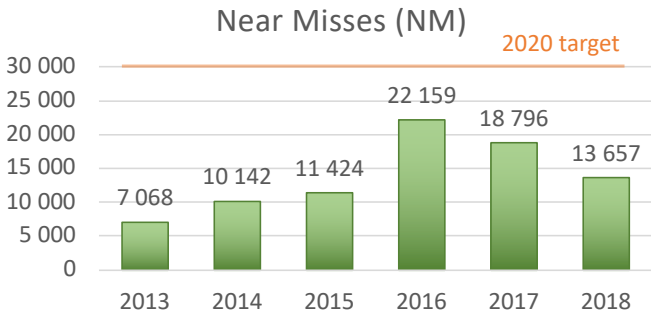


The 2018 IPLOCA HSE statistics were derived from data provided by 80 Regular Members (96,6% of total Regular Membership), and 7 Associate Members.

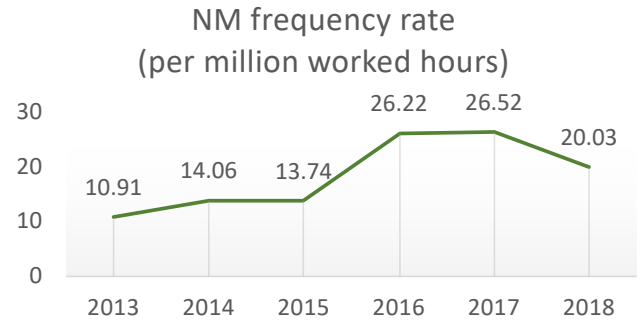
The number of hours worked during which the employee is present in the work environment as a condition of his or her employment, plus the extra hours put in as overtime.

Health & Safety (H&S)

Leading Indicators

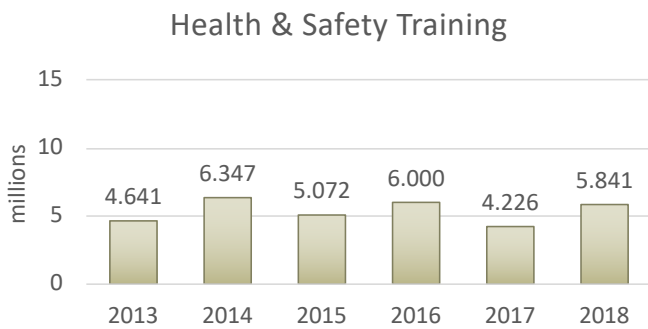


Near Miss: Any event which had the potential to cause injury and/or damage and/or loss but which was avoided by circumstances. The term "incident" includes "near misses".

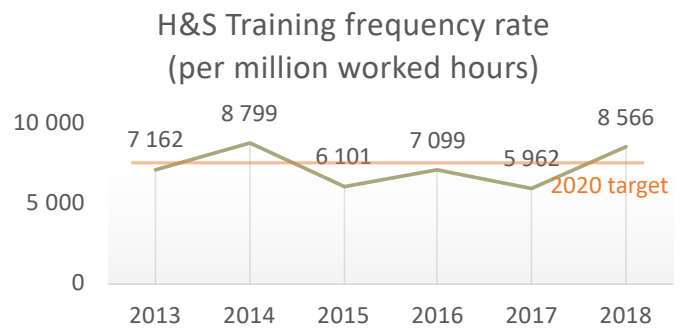


Near Misses frequency rate:

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



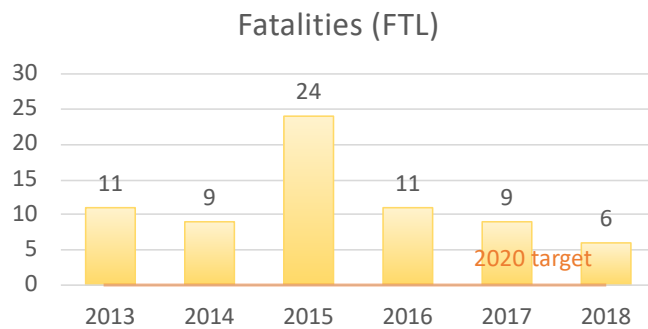
H&S Training Hours are the number of hours spent by personnel to get trained to H&S standards (includes all the hours spent by all the personnel to get trained).



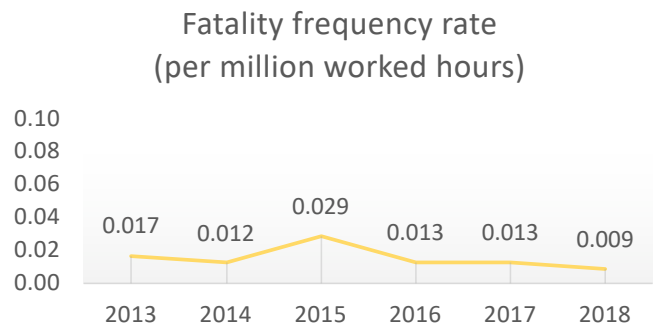
H&S Training frequency rate:

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

Lagging Indicators

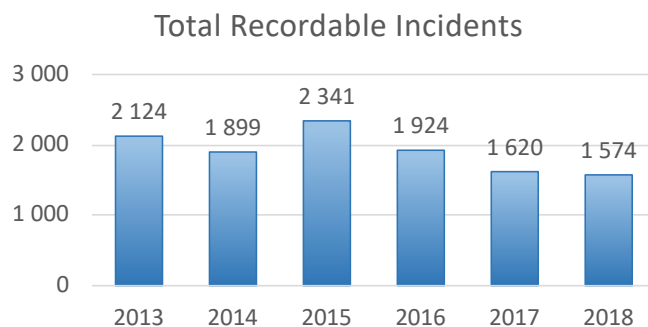


A fatality is a death resulting from a work injury or occupational illness, regardless of the time intervening between injury and death.

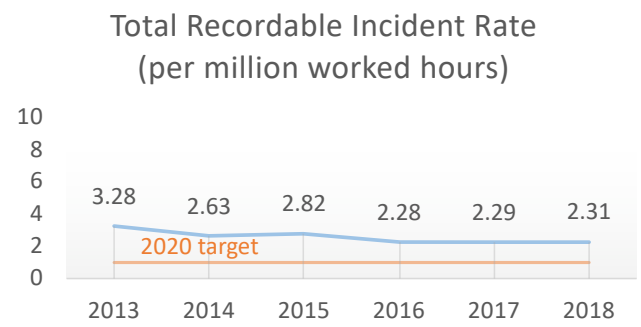


Fatalities frequency rate:

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



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

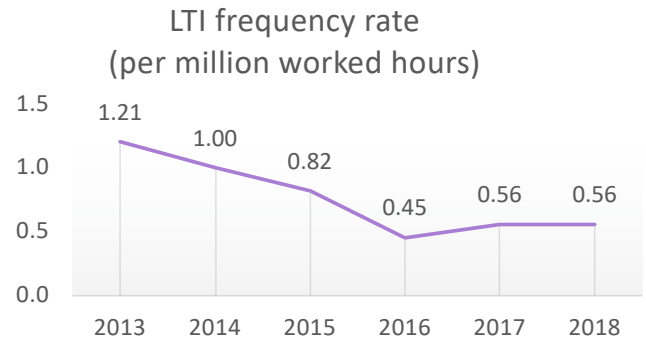
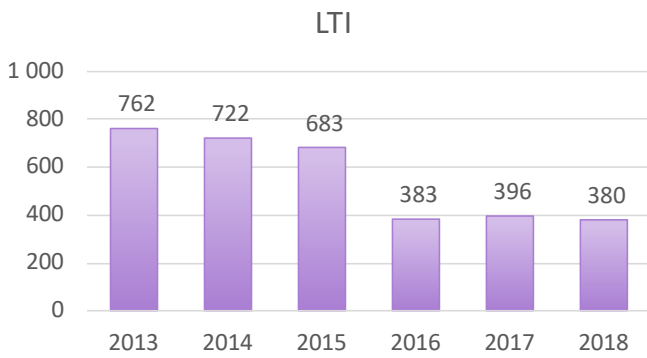


TRIR:

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

Health & Safety (H&S)

Lost Time Injury Cases (LTI)



Lost Time Injuries 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 Time Injuries, then it is accounted for corporate reporting purposes as 20 LTIs (not 1 LTI).

LTI frequency rate:

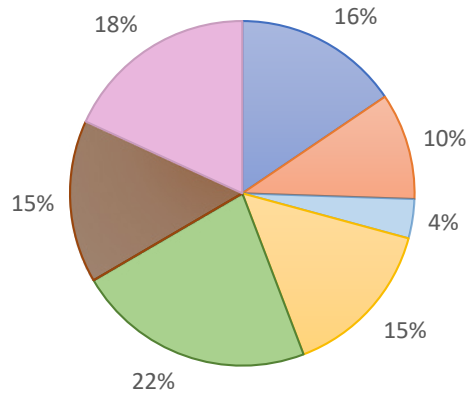
$$\frac{\text{number of LTI} \times 1\,000\,000}{\text{total worked hours}}$$

Description of Incidents/Accidents

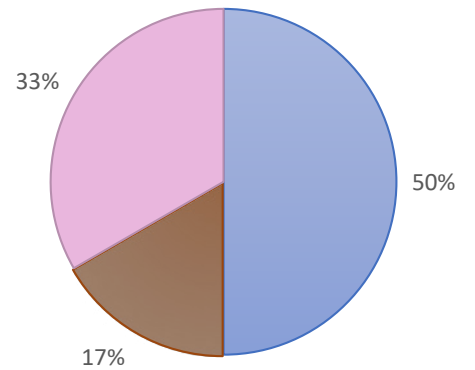
Causes of Incidents/Accidents

- Vehicle accidents
- Lifting Operations
- Work at height / scaffolding
- Hand tool
- Involving fall
- Impact with construction equipment
- Others

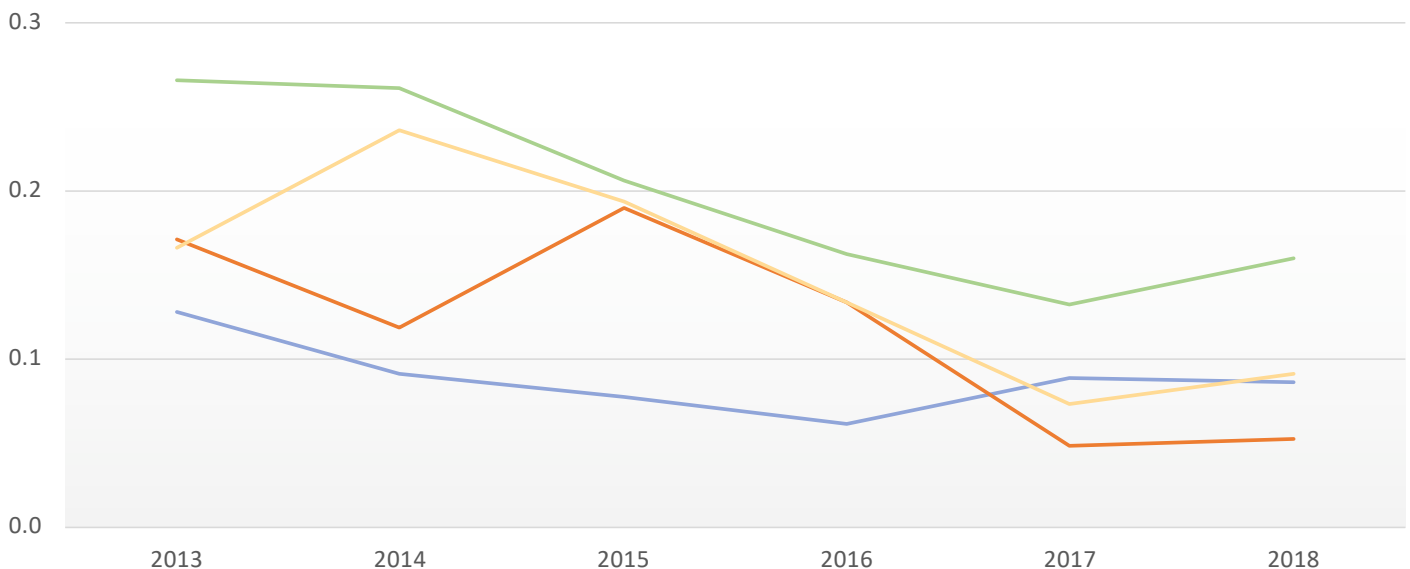
Split of LTI



Split of Fatalities

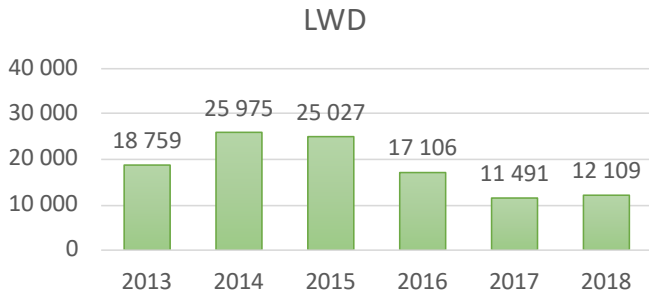


LTI frequency rate for the four most frequent causes (per million worked hours)

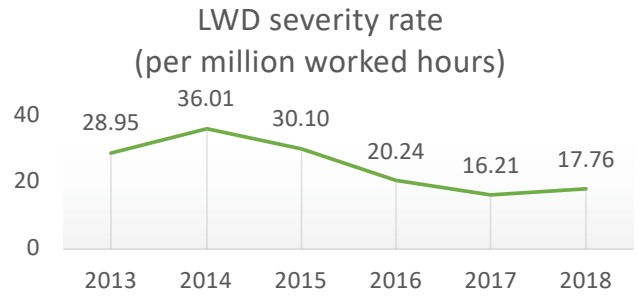


Health & Safety (H&S)

Lost Work Days (LWD)



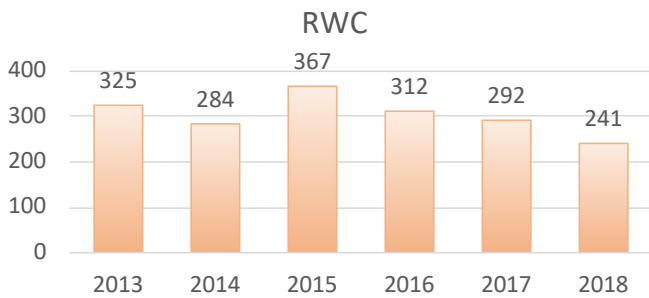
Lost Work Days are the sum of calendar days lost as a result of a work-related accident.



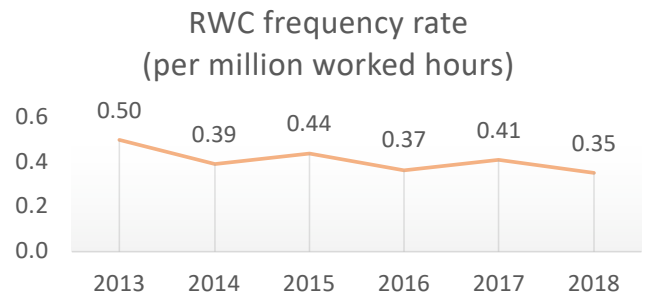
LWD severity rate:

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

Restricted Work Cases (RWC)



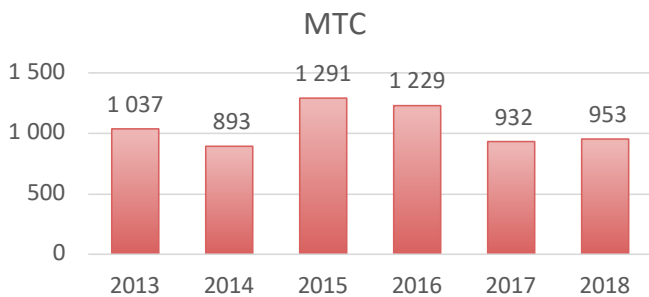
A Restricted Work Case is any work injury, which results in an employee not being able to conduct normal duties, after the day the Incident occurred.



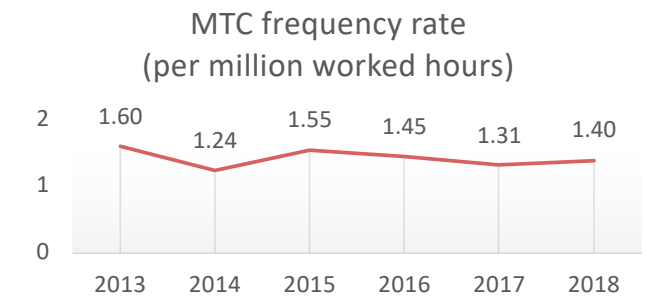
RWC frequency rate:

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

Medical Treatment Cases (MTC)



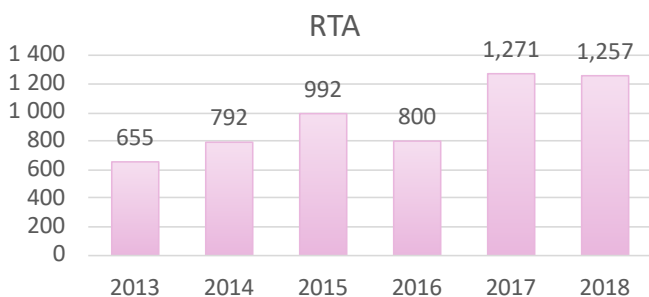
A medical treatment case is any work related injury that involves neither Lost Work Days nor Restricted Workdays but which required treatment by medical personnel.



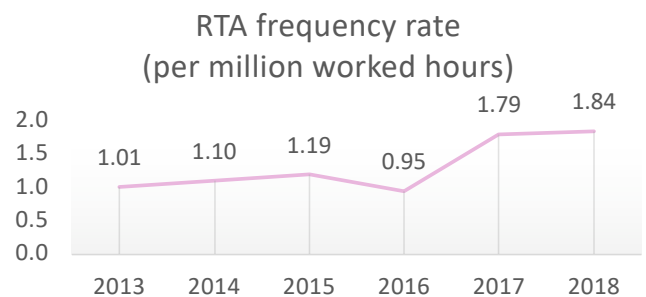
MTC frequency rate:

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

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.

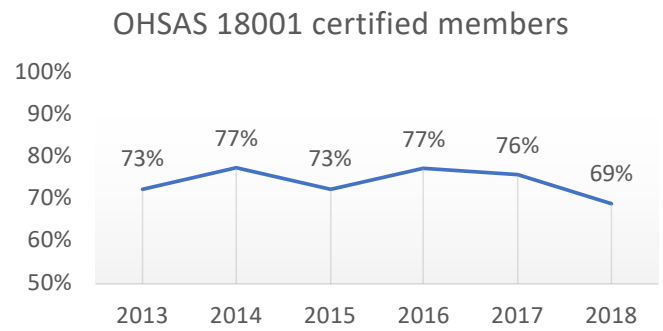
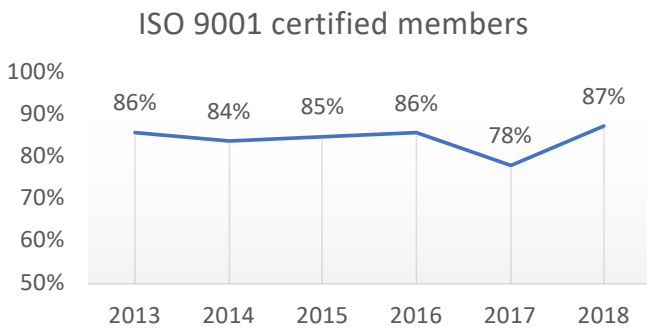


RTA frequency rate:

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

Health & Safety (H&S)

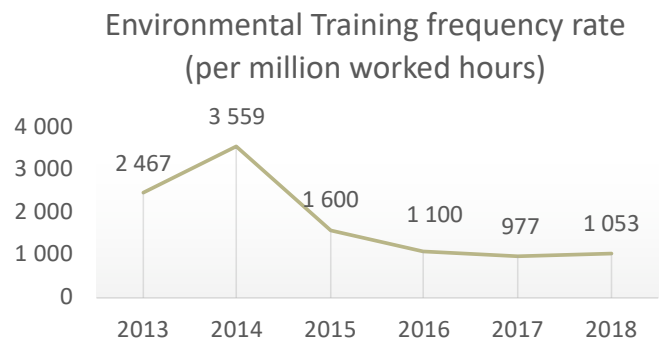
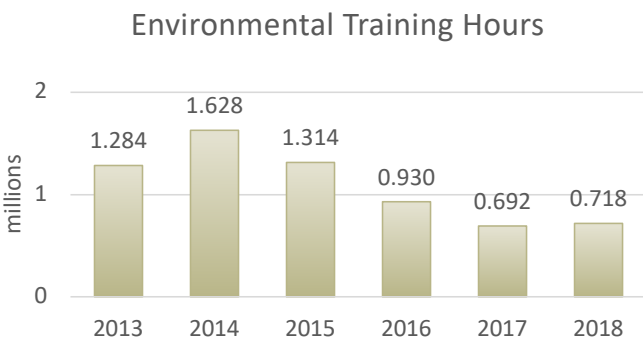
Health & Safety Management Systems



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

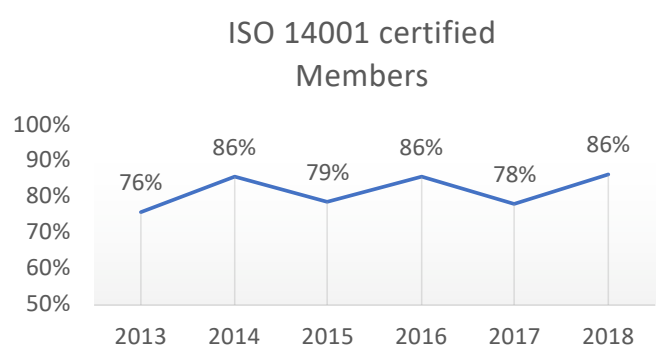
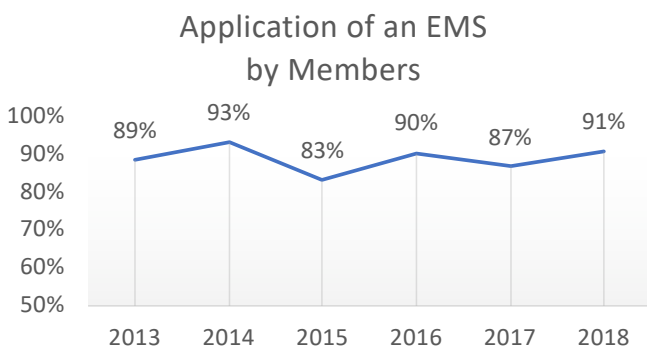


Environmental Training Hours are the number of worked-hours spent by personnel to get trained to environmental standards (includes all the hours spent by all the personnel to get trained).

Environmental Training frequency rate:

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

Environmental Management Systems (EMS)



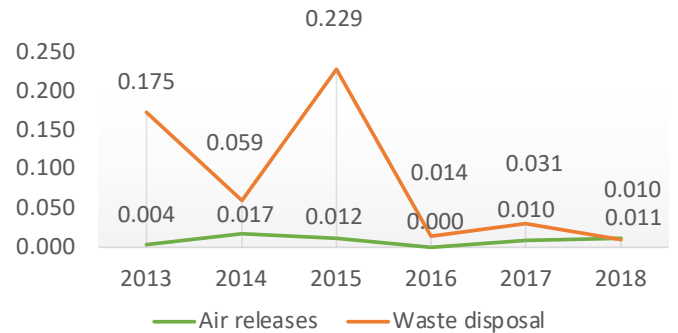
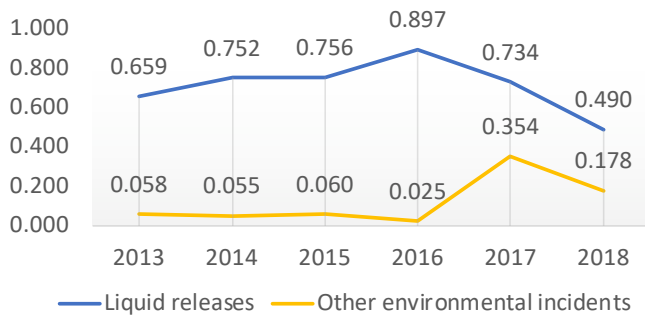
The ISO 14001 environmental management system certification has a high adoption rate – clearly a leading certification in the pipeline industry.

Environment

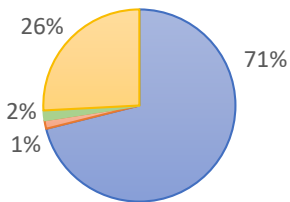
Environmental Incidents

Environmental Incident frequency rates (per million worked hours)

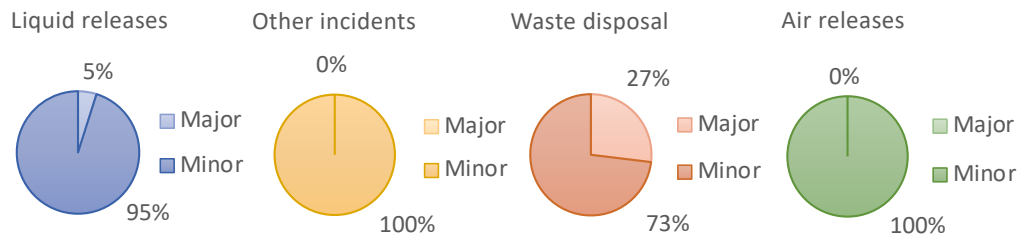
$$\text{Environmental incident frequency rates:} \\ \frac{\text{number of Environmental Incidents} \times 1\,000\,000}{\text{total worked hours}}$$



Split of Incidents



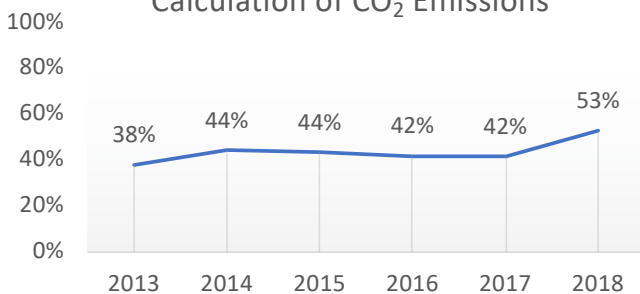
Major vs. Minor Environmental Incidents



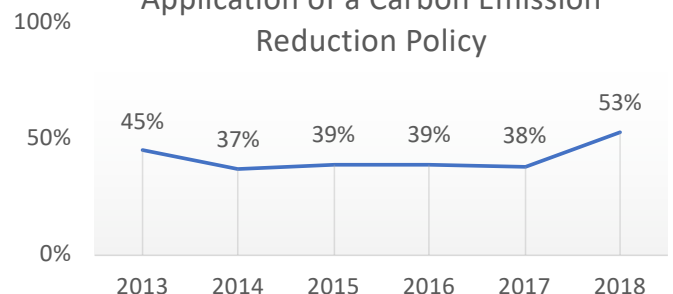
For complete details on classification of incidents, please visit our website www.iploca.com/hsestatistics

CO₂ Emissions

Calculation of CO₂ Emissions



Application of a Carbon Emission Reduction Policy



53% of the members chose to use CO₂ emissions as an indicator of their environmental performance, and 53% 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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