



# 2017 IPLOCA Health, Safety & Environmental Statistics Report

issued September 2018

## Message from the HSE & CSR Committee

This report combines IPLOCA members' health, safety and environmental statistics received for 2017.

The good news is that the number of fatalities is decreasing. However, nine fatal accidents on our work sites is still too many, and we are a long way from the 2020 target of zero fatalities. We need to focus on near-miss reporting and health and safety training, which were both well below the targets set. The HSE & CSR Committee strongly encourages IPLOCA members to focus on these matters and to adopt behavioural safety programmes, which are considered best practice in the industry. Significant work still needs to be done to eliminate fatalities in the pipeline industry.

There was only a minor increase of lost-time injuries and in total recordable incident rates since last year. The committee recognises 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](http://www.iploca.com/hseplatform)

On the environmental incidents reporting, the frequency of incidents has slightly decreased for liquid releases and shows a slight increase for air and waste releases. In all cases most environmental incidents are minor. There has been a spike in the reporting of other environmental incidents, the committee has taken this as a sign that companies are giving more focus to the reporting of minor incidents, hopefully the lessons learnt from the minor incidents will be used to prevent larger incidents from happening. The continuous reduction over the last two years of the number of overall training hours (both for safety and environment) remains a real concern. There is no doubt

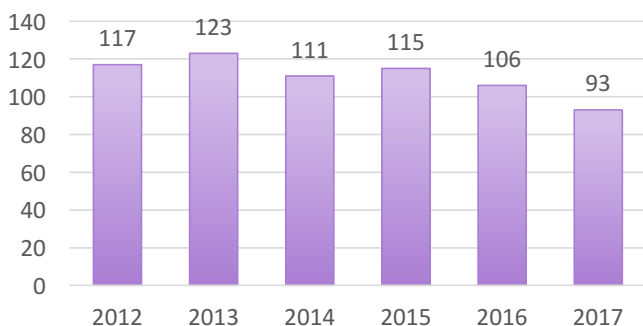
that commitment to a formal environmental management system (EMS) leads to a reduction in accidental releases, but the statistics indicate an overall decline in applying a formal system such as ISO 14001 or similar. A growing requirement on many pipeline projects is to implement a formal EMS to protect 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.

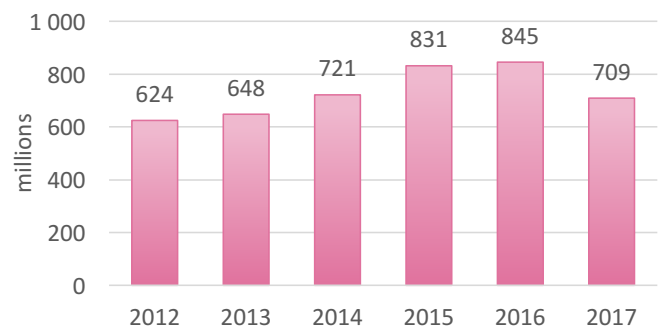
The committee would like to bring to members' attention the introduction of ISO 45001 in March 2018, which will replace OHSAS 18001. The new standard is the first occupational health and safety standard that is recognised globally and is designed to provide a safe and healthy workplace for employees. 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 three years 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)

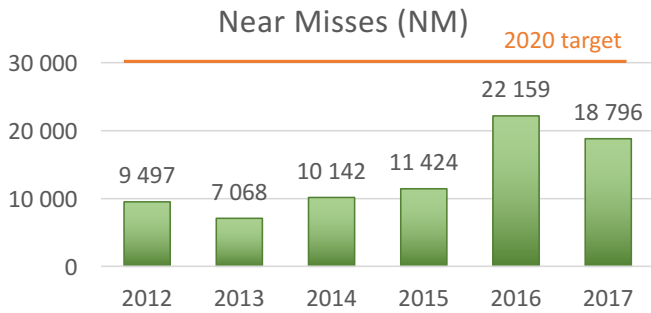


The 2017 IPLOCA HSE statistics were derived from data provided by 85 Regular Members (96,6% of total Regular Membership), and 8 Associate Members.

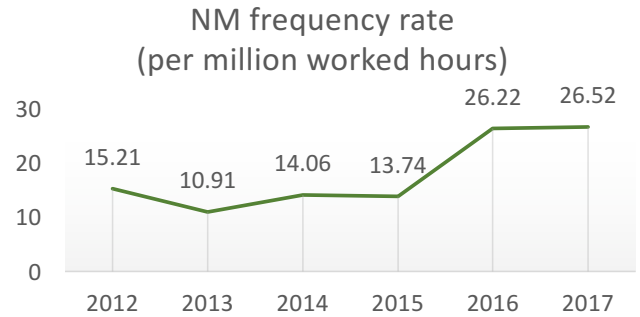
The number of hours worked during which the employee is present in the work environment as a condition of his or her employment, plus the extra hours put in as overtime.

# Health & Safety (H&S)

## Leading Indicators

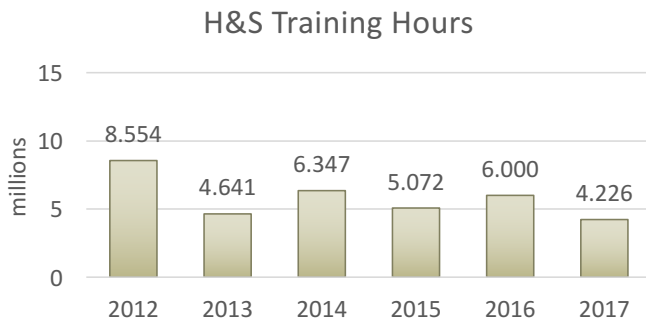


Near Miss: Any event which had the potential to cause injury and/or damage and/or loss but which was avoided by circumstances. The term "incident" includes "near misses".

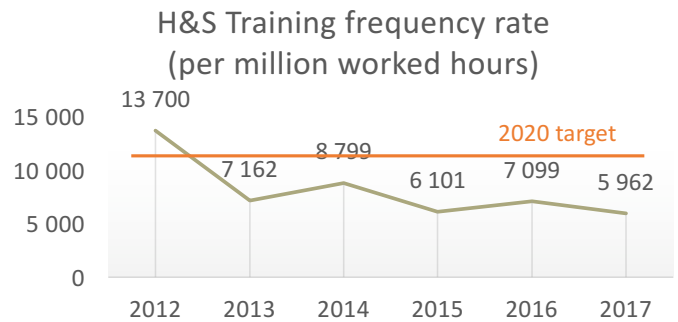


**Near Misses frequency rate:**  

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



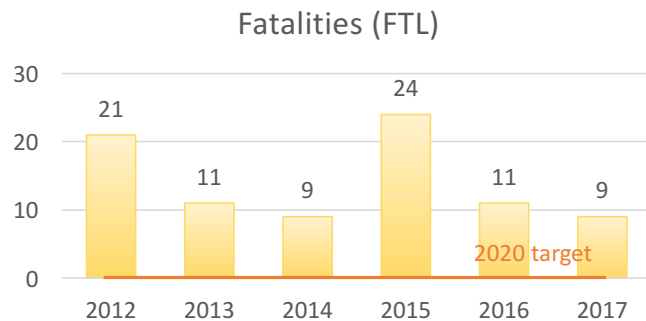
H&S Training Hours are the number of hours spent by personnel to get trained to H&S standards (includes all the hours spent by all the personnel to get trained).



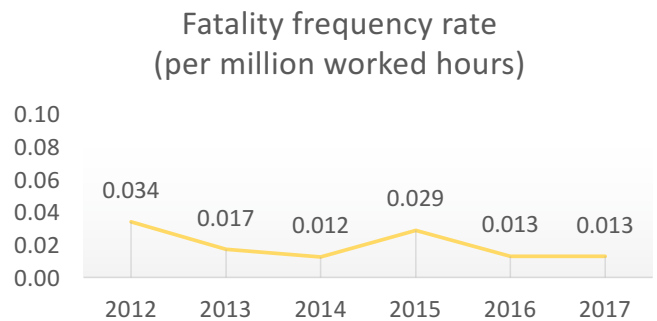
**H&S Training frequency rate:**  

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

## Lagging Indicators

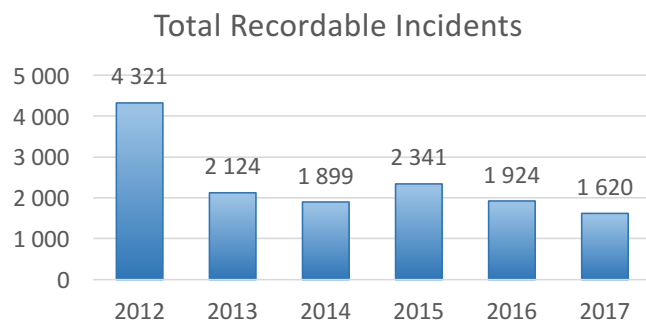


A fatality is a death resulting from a work injury or occupational illness, regardless of the time intervening between injury and death.



**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).

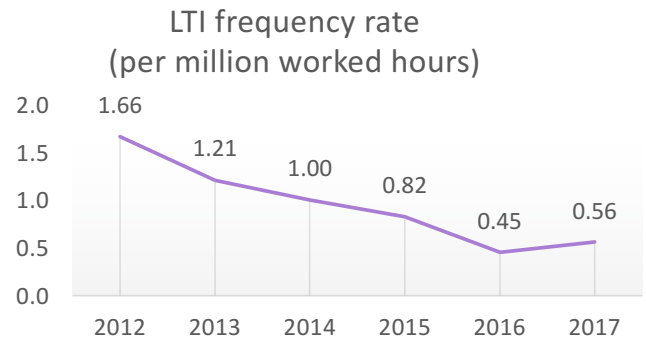
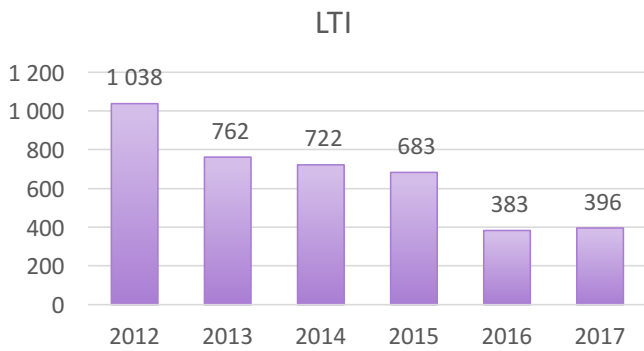


**TRIR:**  

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

# 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:**  

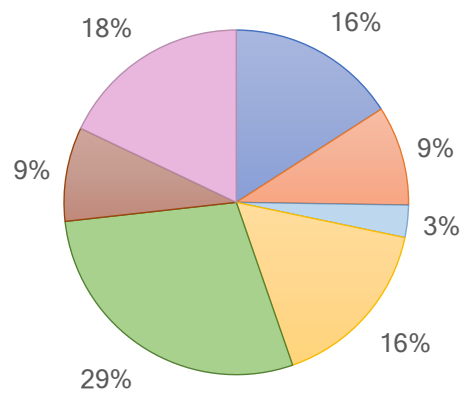
$$\frac{\text{number of LTI} \times 1\,000\,000}{\text{total worked hours}}$$

## Description of Incidents/Accidents

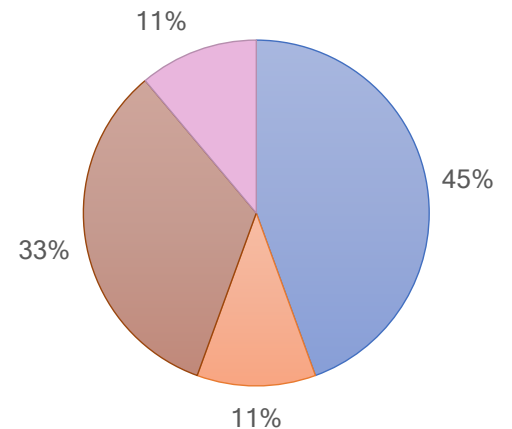
### Causes of Incidents/Accidents

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

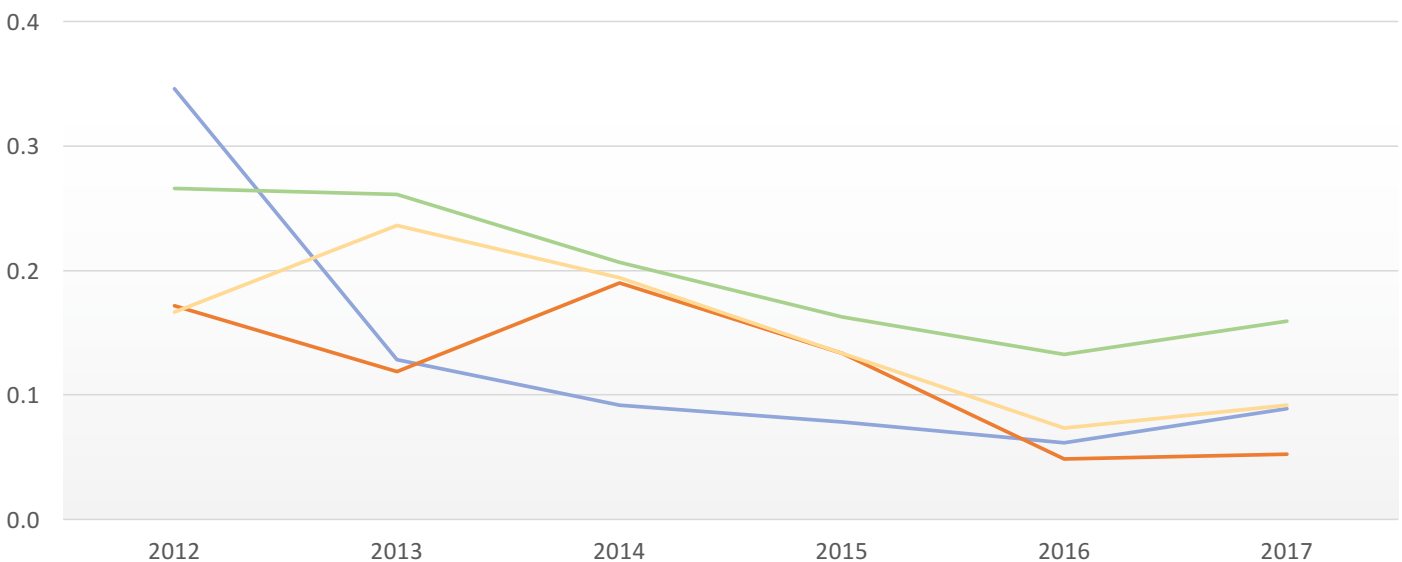
### Split of LTI



### Split of Fatalities

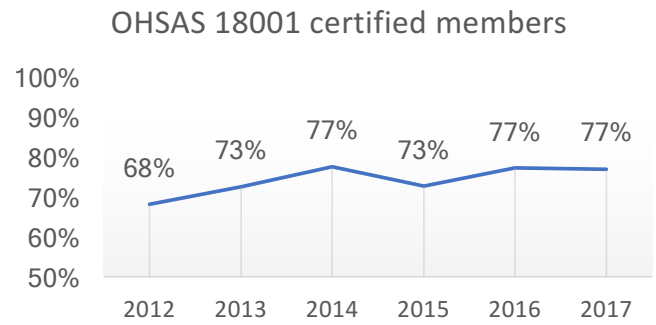


### LTI frequency rate for the four most frequent causes (per million worked hours)



# Health & Safety (H&S)

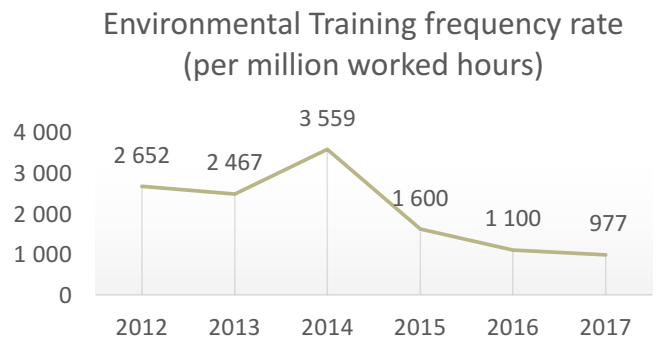
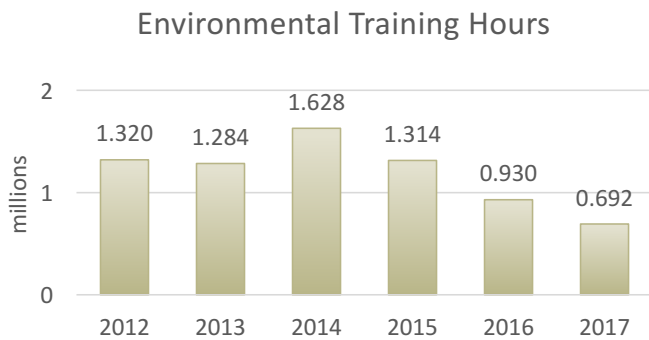
## Health & Safety Management Systems



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

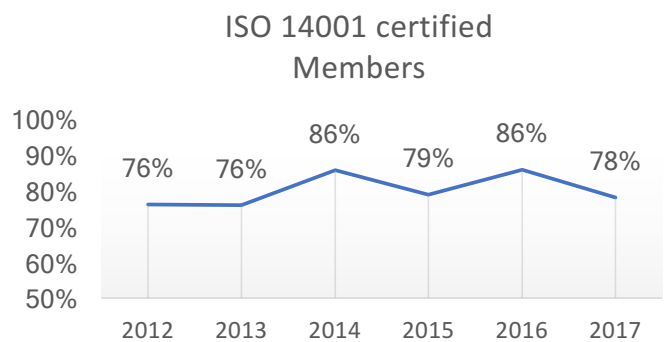
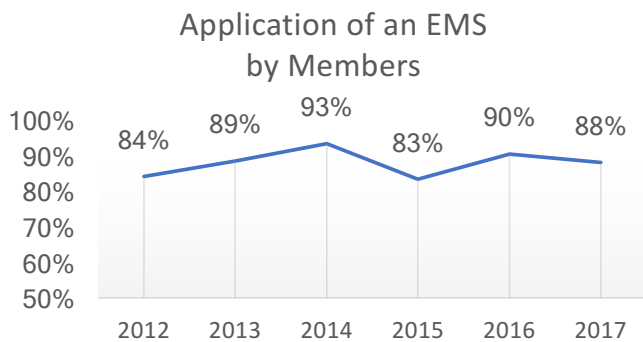


Environmental Training Hours are the number of worked-hours spent by personnel to get trained to environmental standards (includes all the hours spent by all the personnel to get trained).

**Environmental Training frequency rate:**  

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

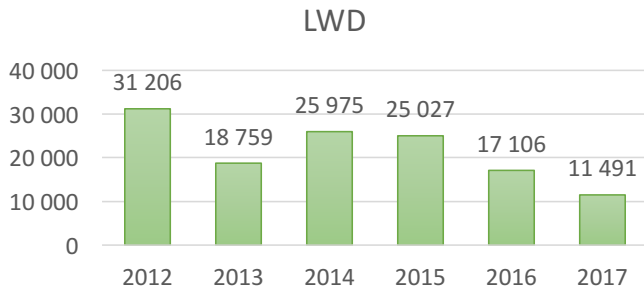
## Environmental Management Systems (EMS)



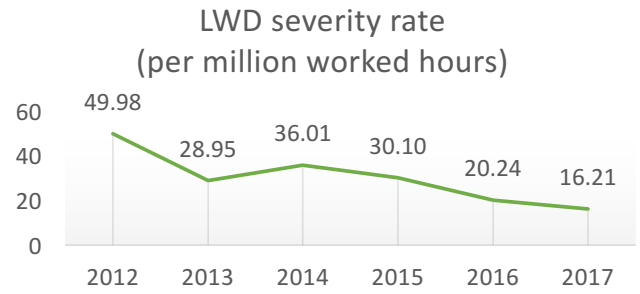
The ISO 14001 environmental management system certification has a high adoption rate – clearly a leading certification in the pipeline industry.

# Health & Safety (H&S)

## Lost Work Days (LWD)



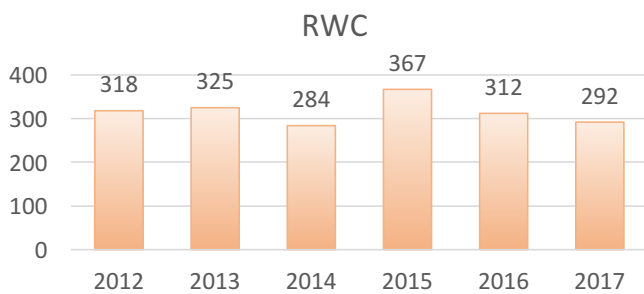
Lost Work Days are the sum of calendar days lost as a result of a work-related accident.



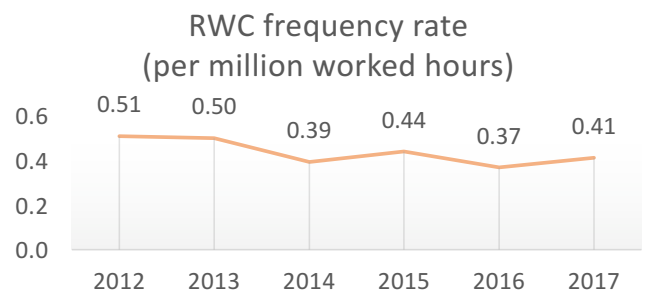
**LWD severity rate:**  

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

## Restricted Work Cases (RWC)



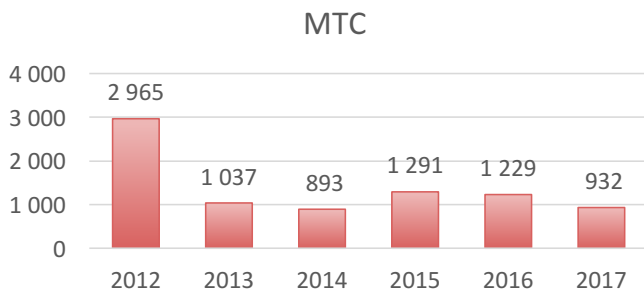
A Restricted Work Case is any work injury, which results in an employee not being able to conduct normal duties, after the day the Incident occurred.



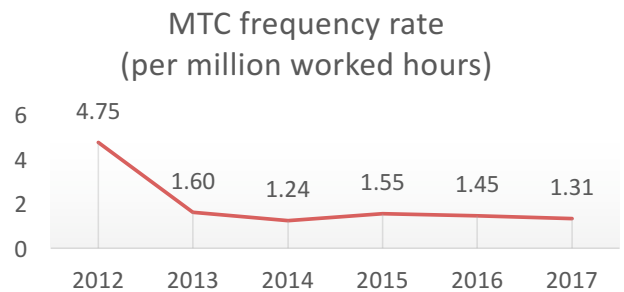
**RWC frequency rate:**  

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

## Medical Treatment Cases (MTC)



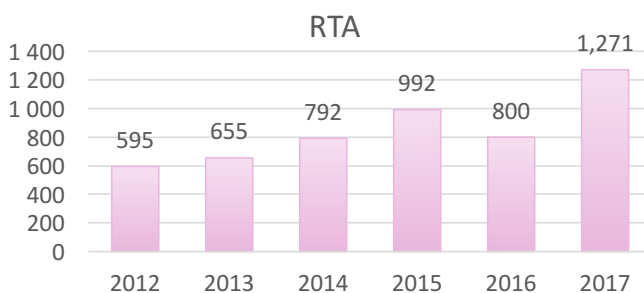
A medical treatment case is any work related injury that involves neither Lost Work Days nor Restricted Workdays but which required treatment by medical personnel.



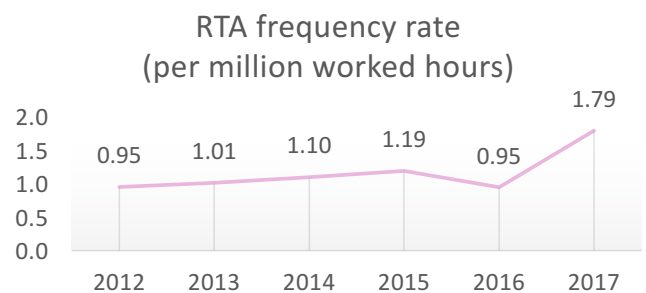
**MTC frequency rate:**  

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

## 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:**  

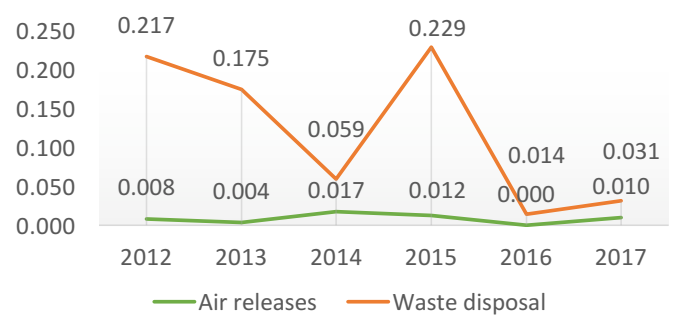
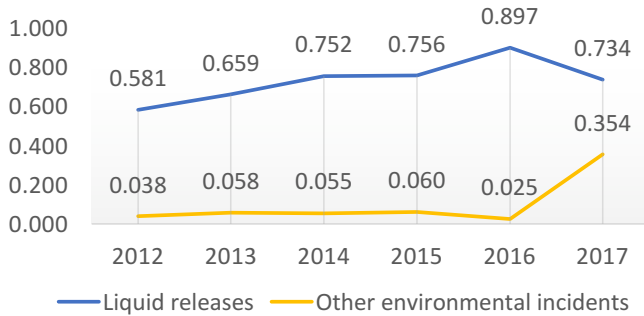
$$\frac{\text{number of RTA} \times 1\,000\,000}{\text{total worked hours}}$$

# Environment

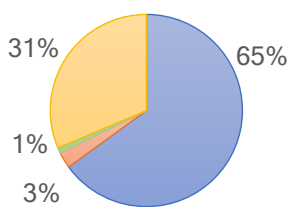
## Environmental Incidents

Environmental Incident frequency rates (per million worked hours)

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

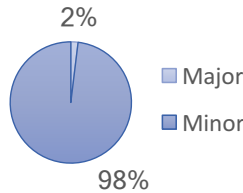


### Split of Incidents

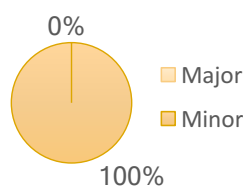


### Major vs. Minor Environmental Incidents

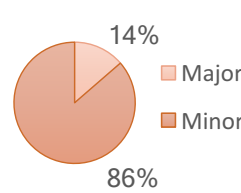
Liquid releases



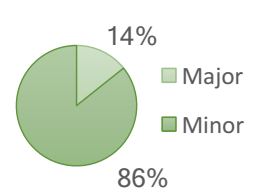
Other incidents



Waste disposal



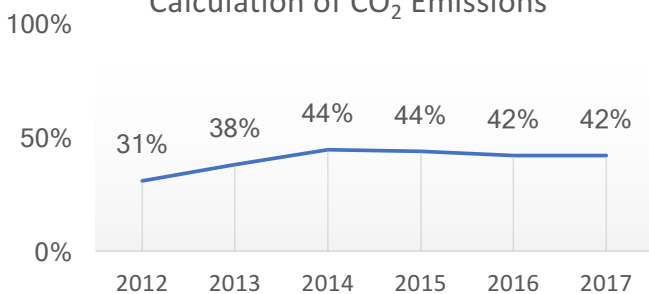
Air releases



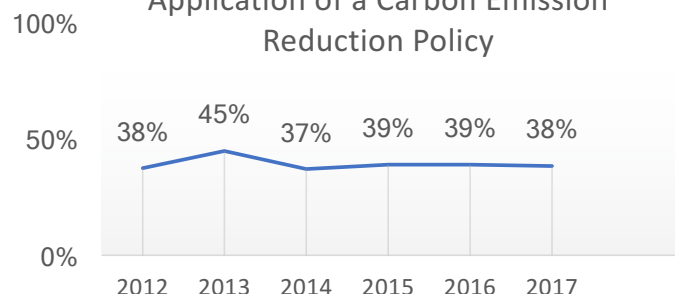
For complete details on classification of incidents, please visit our website [www.iploca.com/hsestatistics](http://www.iploca.com/hsestatistics)

## CO<sub>2</sub> Emissions

Calculation of CO<sub>2</sub> Emissions



Application of a Carbon Emission Reduction Policy



42% of the members chose to use CO<sub>2</sub> emissions as an indicator of their environmental performance, and 38% 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'*

## Disclaimer

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