



# 2015 IPLOCA Environmental Statistics Report

## Message from the HSE Committee

Having reviewed submissions from our members for 2015, unfortunately the HSE Committee has not noticed any substantial improvement in the data collected, with a rather steady rate of incidents, and even a significant increase of waste disposal incidents. At the same time, the environmental training rate has dropped by a factor of two. We all know there is a relationship between the level of training and the risk of incidents, as clearly evident in this report.

On the other hand, we have recorded a large number of very interesting initiatives, which are briefly described hereafter. We encourage members to look carefully at these initiatives, and to consider whether some can be applied to their own organisation.

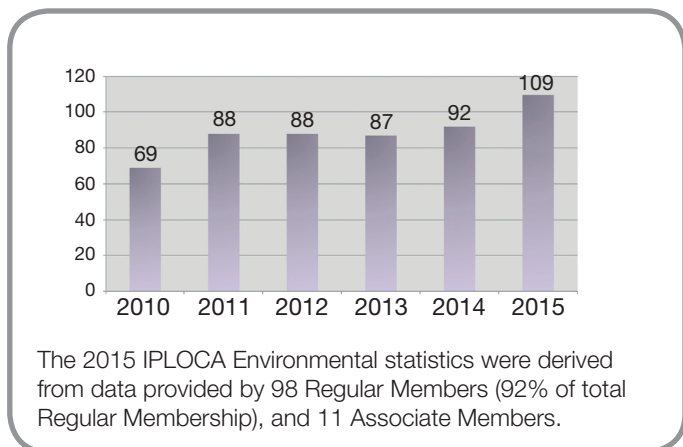
Collection of environmental statistics is of prime importance to IPLOCA, as it helps the Board of Directors, the HSE Committee, and IPLOCA members to better understand trends in the industry. IPLOCA can then define and implement initiatives to help members improve the preservation of the environment on their work sites. Up until the present time, there was no obligation for members to provide their environmental statistics, but their submission was highly encouraged and the submission rate has been steady for many years. The IPLOCA Board of Directors has decided to now make it obligatory for members to provide their environmental statistics, as is the case for health & safety statistics. This obligation will start with the 2016 statistics, collected during 2016 and submitted in 2017.

## IPLOCA Environmental Commitment

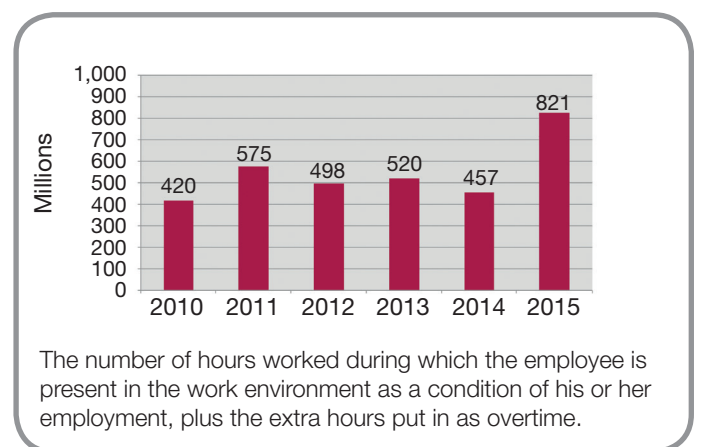
IPLOCA recognises the pipeline industry's responsibility to the community regarding social and environmental protection and is committed to actively promoting the adoption of all practicable measures to ensure that pipeline planning, engineering and construction are conducted efficiently in a sustainable, social and environmentally responsible manner.

As a condition of membership, Regular Members are required to submit their annual environmental statistics to IPLOCA, such that aggregate statistics for the industry can be monitored. IPLOCA's hope is that this report will serve members who are already active in the environmental assessment domain, and serve as an example to those who have yet to undertake any such action.

### Number of Submissions

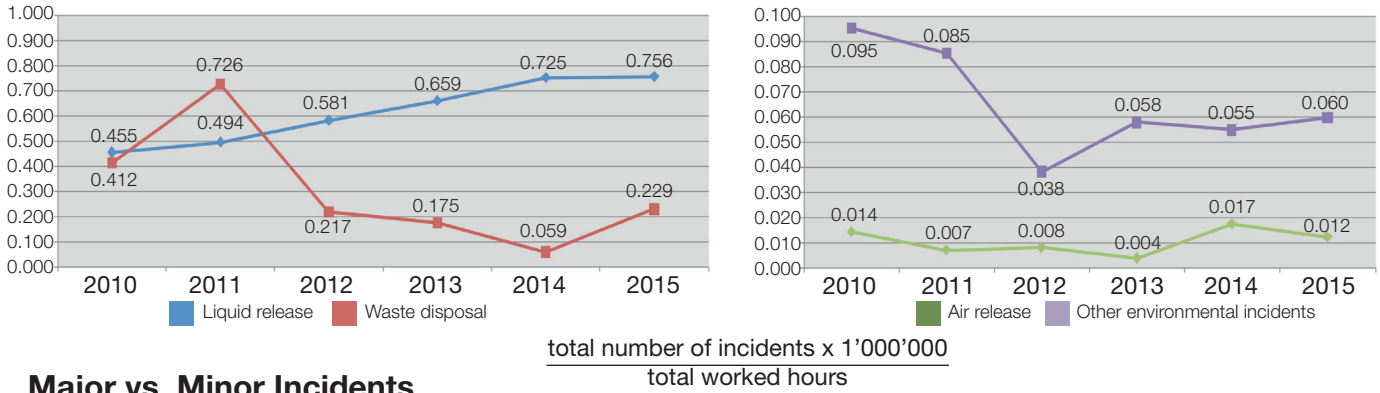


### Worked Hours (inclusive of overtime)

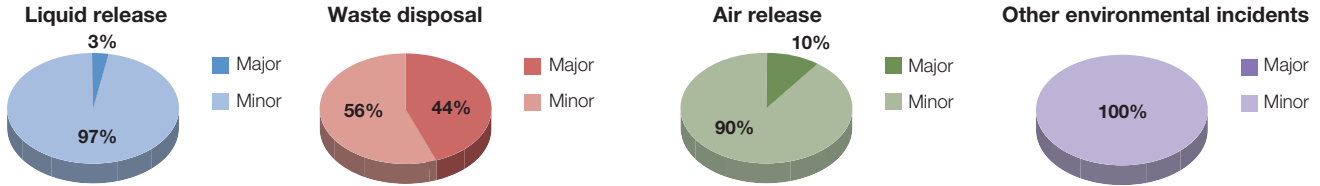


# Environmental Incidents

## Environmental Incident Frequency Rates (per million worked hours)



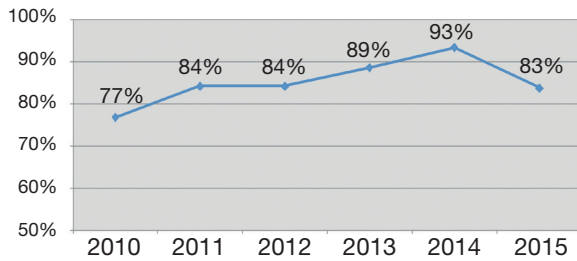
## Major vs. Minor Incidents



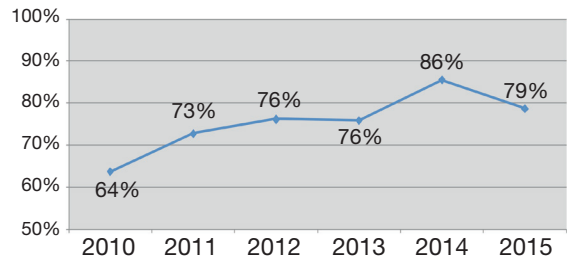
For complete details on classification of incidents, please visit our website: [www.iploca.com/environmentalstatistics](http://www.iploca.com/environmentalstatistics)

# Environmental Management Systems

## Application of an EMS by IPLOCA Members



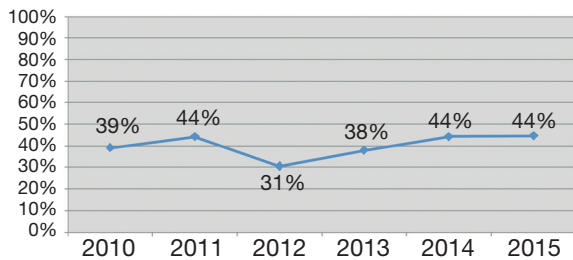
## ISO 14001 certified IPLOCA Members



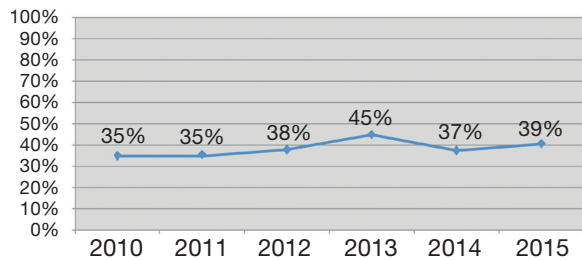
The ISO 14001 environmental management system certification has a high adoption rate - clearly a leading certification in the pipeline industry.

# CO<sub>2</sub> Emissions

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



## Application of a Carbon Emission Reduction Policy

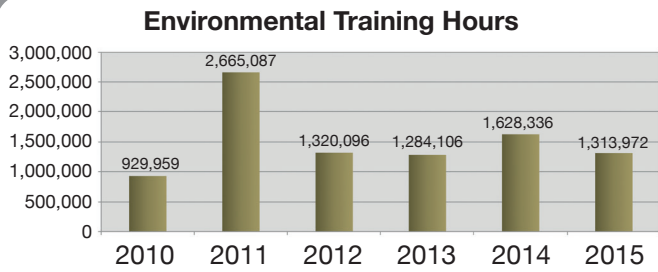


## Carbon Emissions Calculation

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

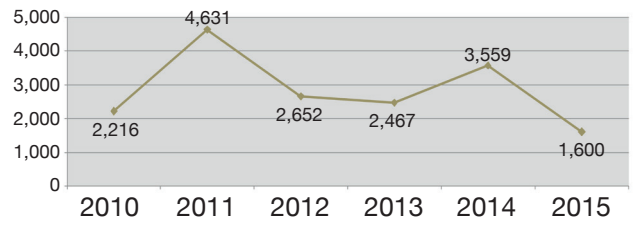
- In accordance with the Carbon Disclosure Project (CDP)
- In accordance with the Australian Federal Government, National Greenhouse and Energy Act 2007 (NGER Act)
- World Resource Institute (WRI) protocol and calculator
- Using IPCC Methodology and GHG Protocol Calculation Tools
- Using US EPA (US Environmental Protection Agency) estimation methods
- Based on Bilan Carbone developed by ADEME
- Based on guidelines from Shell and Energy- of Olie Forum (EPO) Denmark
- Using the program Envirometer of Stimulate
- According to the terms and rules valid in Russian Federation
- Based on total energy consumption (fuel, gas, electricity)
- Average figure of carbon emission: g/km calculation via average fuel consumption for vehicles and cars
- ISO 14064 based tool

# Environmental Training Hours



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

## Environmental Training Rate (per million worked hours)



Environmental Training Rate:

$$\frac{\text{number of Environmental training hours} \times 1'000'000}{\text{total worked hours}}$$

# Mitigation & Enhancement Methods

Below is an extract of various initiatives carried out by our members to mitigate, offset and enhance environmental matters.

## Waste Reduction

- ↳ Sewage treatment at project sites
- ↳ Implementation of environment friendly E-waste management procedures
- ↳ Campaign on Paper Printing Reduction
- ↳ Waste recycling policy
- ↳ Close monitoring of waste generation and efforts
- ↳ Septic tanks are provided and properly maintained at labour camps
- ↳ Implementation of environment-friendly e-waste management procedures
- ↳ Reduction of paper need in favour of electronic communication
- ↳ Office recycling of paper/cardboard, plastics, glass, batteries
- ↳ 10% Waste reduction
- ↳ Waste water treatment plant
- ↳ Recycling Concrete & Aggregates
- ↳ Avoidance, reuse, segregation and recycling of waste
- ↳ For hydraulic tests only the process water from the Housing and Communal Services is used and after testing it is sent back for recycling
- ↳ Hazardous waste minimization plan
- ↳ Recycling industrial waste
- ↳ Recycling of waste oil and lead acid batteries

## Management Initiatives

- ↳ Environmental awareness campaigns and in-house training sessions for staff
- ↳ Use and purchase of environmentally friendly equipments and machinery
- ↳ Developed and printed banners on Environmental Protection
- ↳ Developed and introduced Manual on Environmental Protection
- ↳ Company certification according to DIN EN 16247 related to Energy Management System
- ↳ Sourcing and disposing of water for hydro testing is done in consideration of The water (prevention and control of pollution) act 1974
- ↳ Involvement with environment agency approved personnel/consultancy
- ↳ Carbon Neutral in 2020
- ↳ Energy Audit as per Directive 2012/27/EC (Energy Efficiency Directive)
- ↳ Incentive & reward system for environmental protection

## Noise Reduction

- ↳ Noise monitoring
- ↳ Use of sound absorption technology

## Energy Efficiency

- Increasing the portion of renewable energies
- Reduce overall Energy consumption level by 10%
  - Gas consumption reduction in the pre-fab shop by rapid action doors
- Reduction of electrical power consumption by installation of LED lighting
  - Measures towards reducing per capita water consumption
- Shut down policy
- Idling Policy
- Monitor electricity, fuel, water consumption
- Purchase of new machines and devices in consideration of energy demand
  - Instructing employees how to handle machines in an energy-saving way

## Carbon Reduction

- Warehouse with solar panels
  - Reduction of single transports in favour of collective transports
- Preventive maintenance on machinery/equipment
  - Reduced usage of fossil fuel
- PhotoVoltaic Power Plant
  - PhotoVoltaic lighting systems
  - Solar heated water system
- Reducing fuel consumption from vessels operations
- New facilities will be equipped with photovoltaic panels
  - GHG Report is prepared and submitted to CEO annually
- Best Practices Manual for GHG emissions reduction
  - Biodiesel for machines

## Liquid Releases

- Zero spills on site of over 25 litres (improving on-site pollution prevention performance)
  - Use of drip trays and double banded walls
- Monitoring transportation and handling of chemicals
  - We involve independent certified laboratories to check the pollution of air, surface and sewage waters

## Habitat Preservation & Social Initiatives

- Fauna and reef guard
  - Mangrove engineering
- Water conservation practices
  - Our Oceans Challenge: ideas challenge for a sustainable offshore industry
- Soil decontamination
  - Use of existing access tracks as much as possible to avoid construction of new access roads and consequential changes in existing environment

## Air Releases

- Dust monitoring
  - Air quality monitoring
- Dust suppression and Green Belt Development
  - we monitor dust and gaseous emissions
- We involve independent certified laboratories to check the pollution of air, surface and sewage waters

### Disclaimer

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