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AMERICAN PETROLEUM INSTITUTE

Workplace Injuries and Illnesses Safety (WIIS) Report

by the U.S. Oil and Natural Gas Industry

2008-2017

This report covers only the rates of injuries and illnesses as published by the BLS.

Workplace Injuries and Illnesses Safety (WIIS) Report

This report compares the safety rates of job-related nonfatal injuries and illnesses of the U.S. Oil and Natural Gas industry with comparable U.S. industries. The Oil and Natural Gas industry's workplace safety record reflects the industry's commitment to safe and healthy working environments.

Comparison

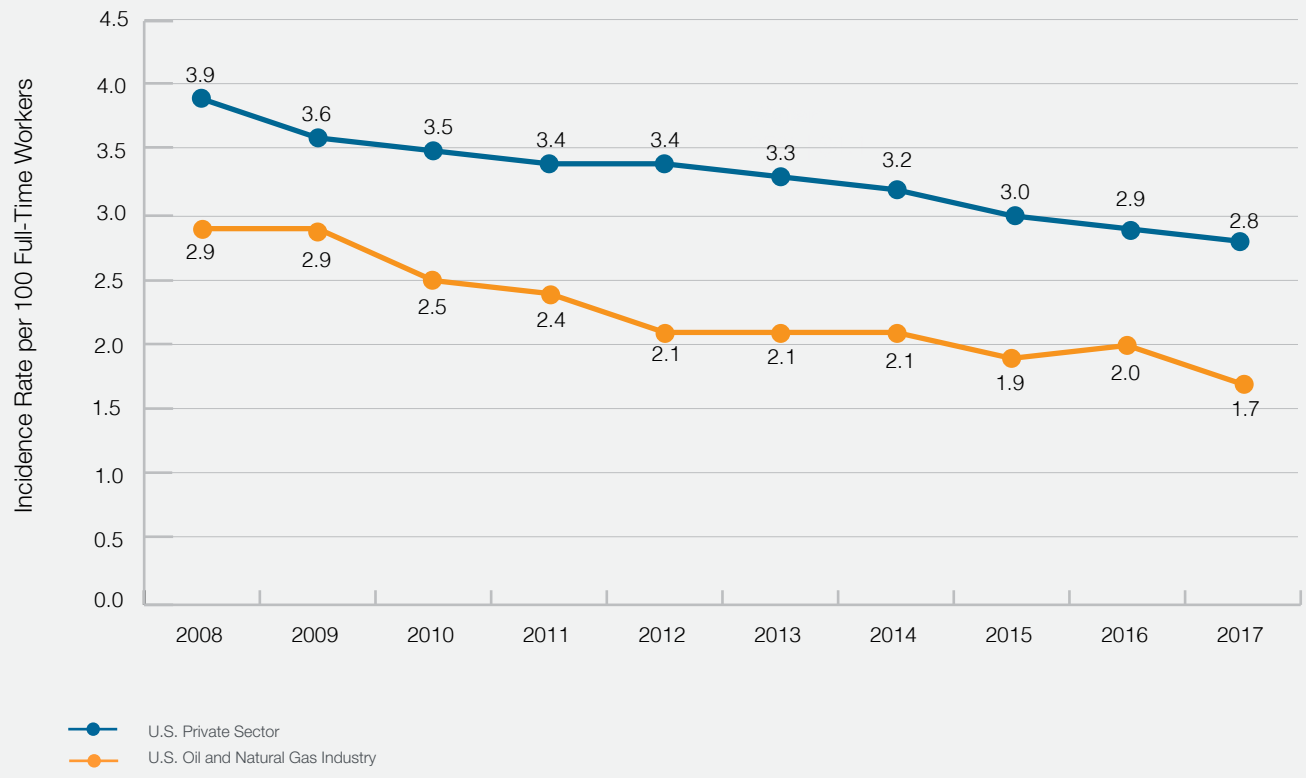
U.S. Oil and Natural Gas Industry vs. U.S. Private Sector

In 2017, the rate of job-related nonfatal injuries and illnesses for the Oil and Natural Gas industry was 1.7 per 100 full-time workers, compared to a rate of 2.8 for the entire U.S. Private sector.

Figure 1

U.S. Oil and Natural Gas Industry vs. U.S. Private Sector (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry – Exploration and Production[1] vs. U.S. Mining

In 2017, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas exploration and production workers was 1.1 per 100 full-time workers, compared with 1.5 for the U.S. Mining sector. The U.S. Offshore industry[2], a segment of the U.S. Oil and Natural Gas Exploration and Production sector had a rate of 0.6 per 100 full-time workers.

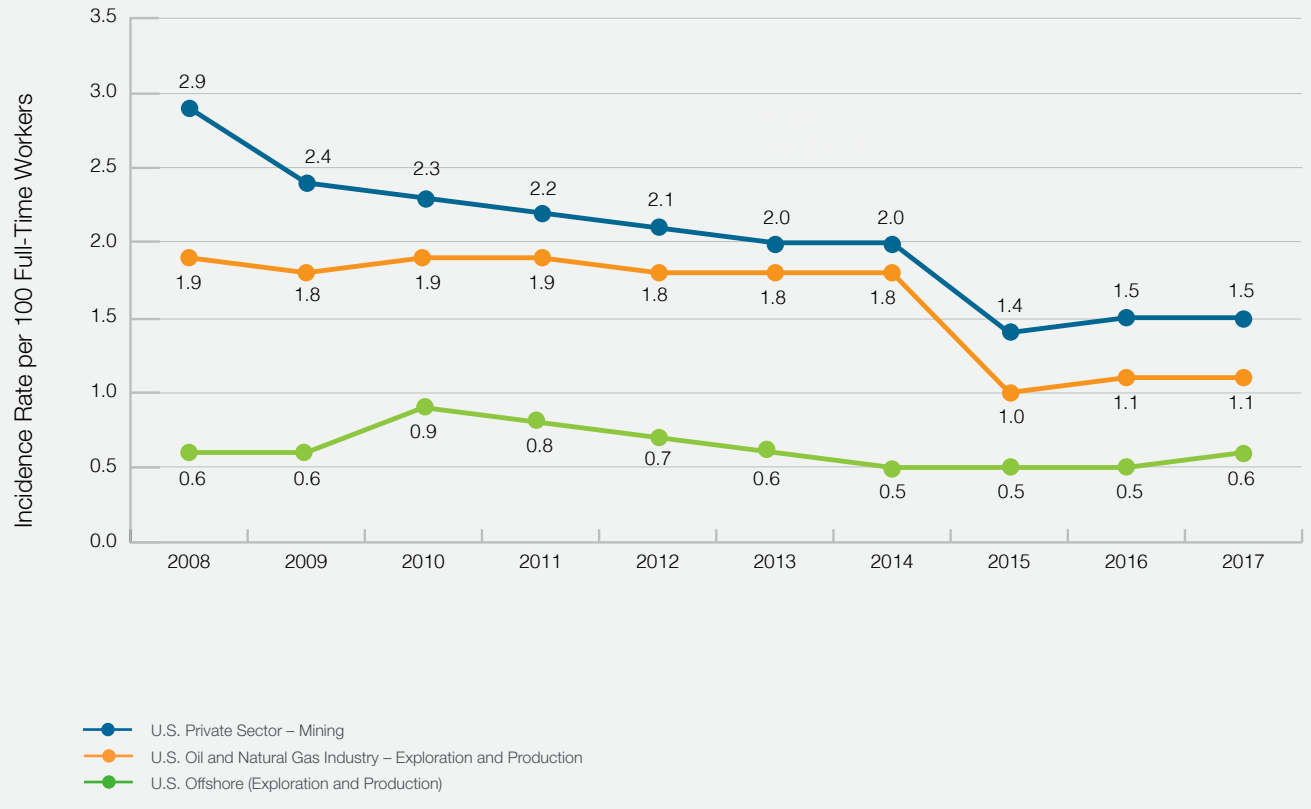
1 E&P is a weighted average calculated by API using BLS data. Support activities for oil and gas operations, drilling oil and gas wells, and oil and gas extraction make up the Exploration and Production sector. In 2008 and 2009, BLS did not publish the rates of injuries and illnesses for drilling oil and gas wells because they did not meet BLS criteria. In 2014, BLS did not publish the rates of injuries and illnesses for oil and gas extraction because it did not meet BLS criteria.

2 Offshore incidence rates were calculated using data from Bureau of Safety and Environmental Enforcement (BSEE). Beginning March 31, 2011, operators were required to submit their forms (previously MMS -131, now BSEE, 131) annually. Thus, the number of incidents shown for 2010 and beyond may be affected by this change when compared to previous years. Offshore Illness and Injuries rate excludes construction workers. Injuries and Illnesses rates are self-reported injuries for a sample.

Figure 2

Exploration and Production vs. Mining (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

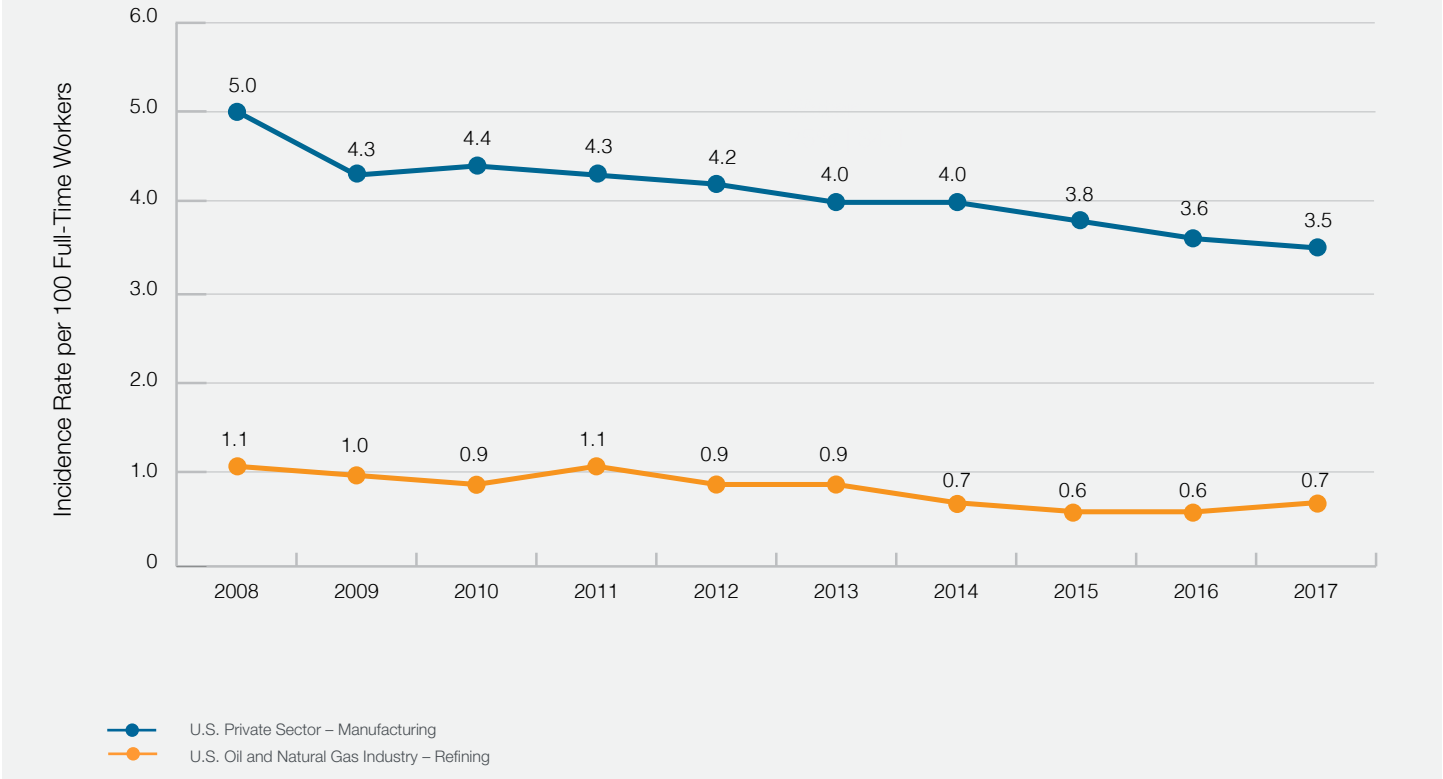
U.S. Oil and Natural Gas Industry – Petroleum Refineries vs. U.S. Manufacturing

In 2017, the rate of job-related nonfatal injuries and illnesses for petroleum refinery workers was 0.7 per 100 full-time workers, compared to a rate of 3.5 for the U.S. Manufacturing sector.

Figure 3

Petroleum Refining vs. Manufacturing (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

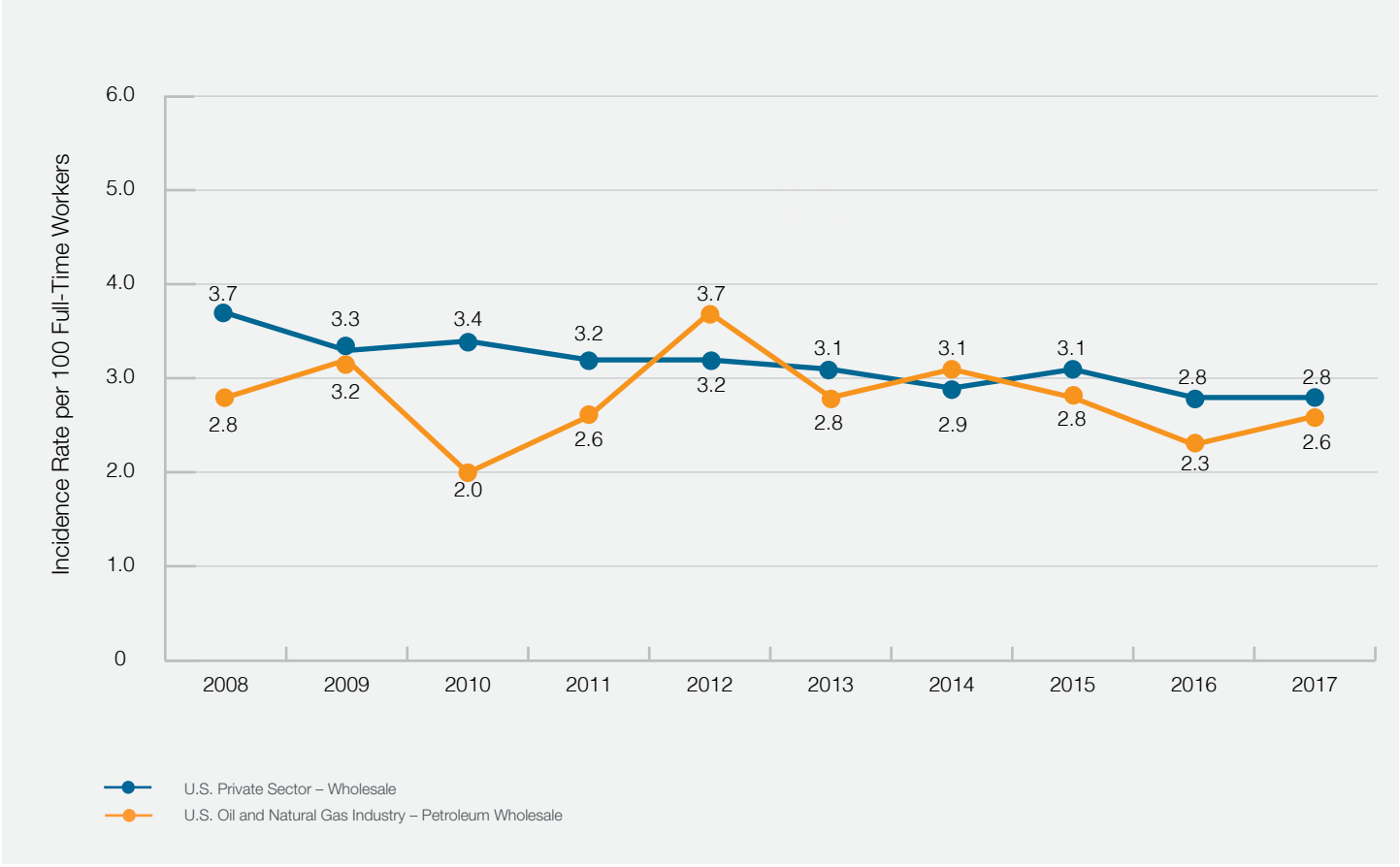
U.S. Oil and Natural Gas Industry – Petroleum Wholesale Marketing vs. U.S. Wholesale Marketing

In 2017, the rate of job-related nonfatal injuries and illnesses for petroleum wholesale marketing was 2.6 per 100 full-time workers, compared to a rate of 2.8 for the U.S. Wholesale marketing sector.

Figure 4

Petroleum Wholesale Marketing vs. U.S. Wholesale Marketing (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

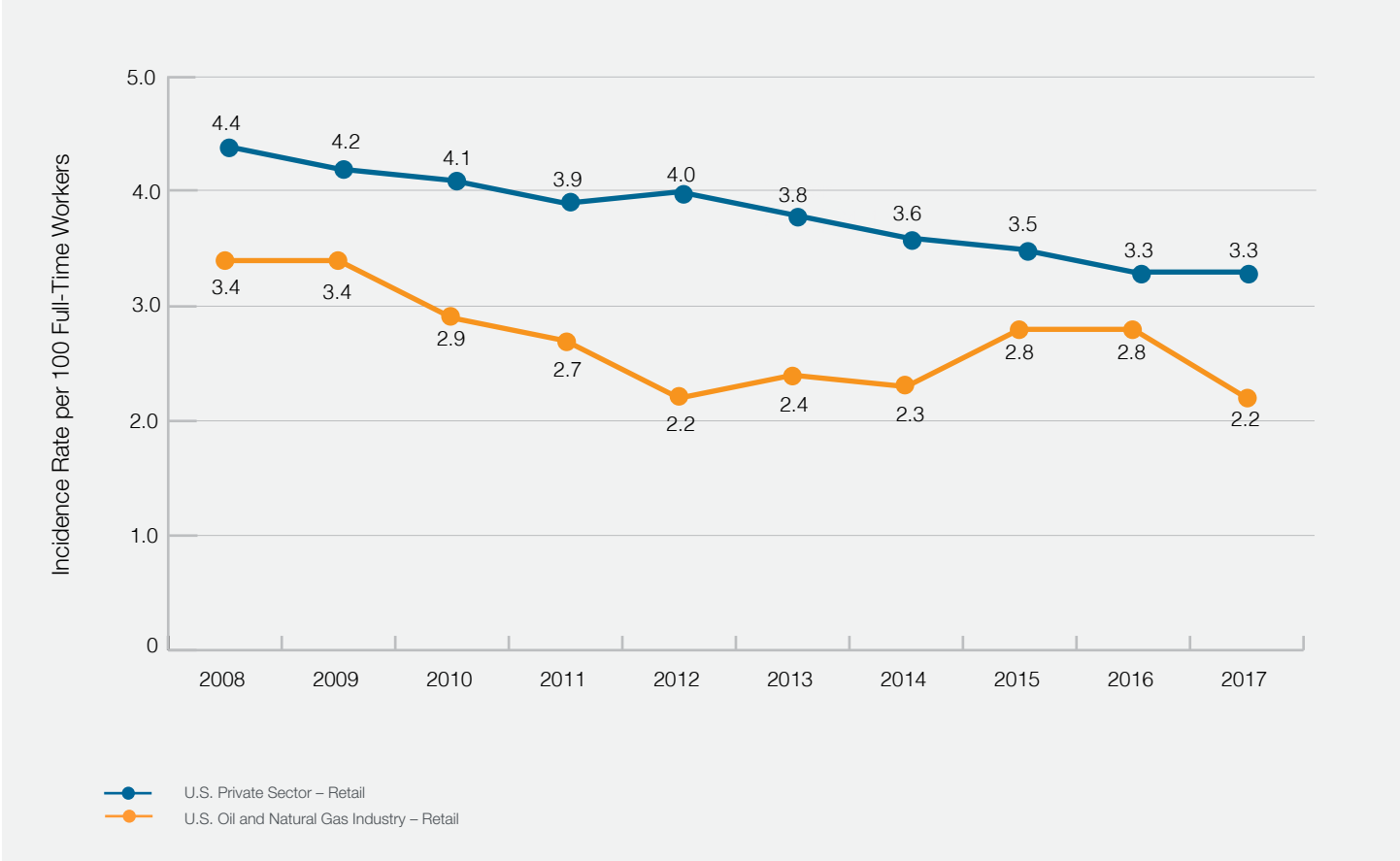
U.S. Oil and Natural Gas Industry – Retail Marketing vs. U.S. Retail Marketing

In 2017, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas retail marketing personnel was 2.2 per 100 full-time workers, compared to a rate of 3.3 for the U.S. Retail Marketing sector.

Figure 5

U.S. Oil and Natural Gas Industry- Retail Marketing vs. U.S. Retail Marketing (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry – Pipelines[3] vs. U.S. Transportation and Warehousing

In 2017, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas pipeline transportation personnel[4] was 0.0 per 100 full-time workers, compared to a rate of 4.6 for the U.S. Transportation and Warehousing sector.

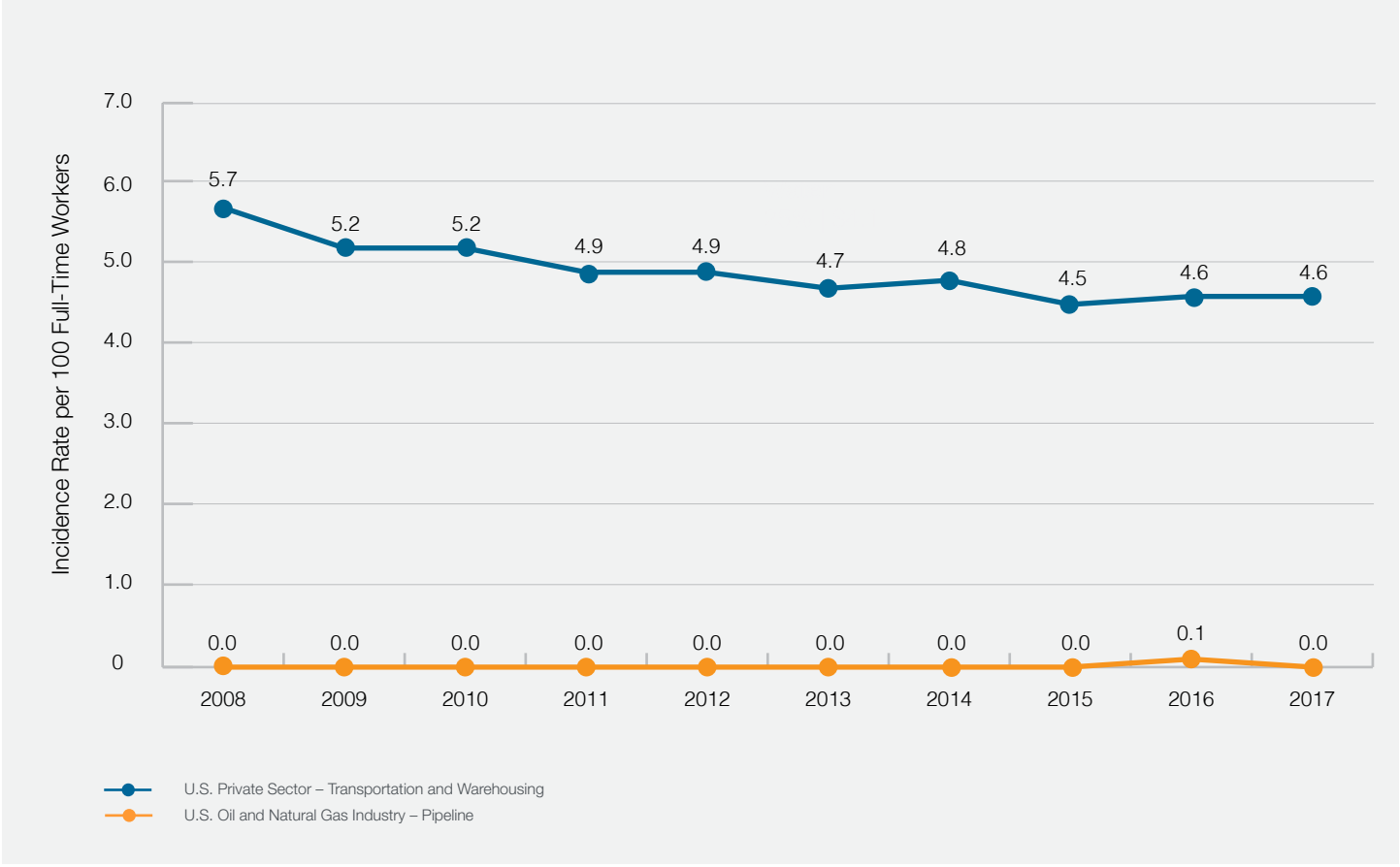
3 Pipeline injuries and illnesses numbers are from PHMSA. BLS does not consistently report pipeline data.

4 Pipeline data includes contract workers.

Figure 6

U.S. Oil and Natural Gas Pipelines vs. U.S. Transportation and Warehousing (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry – Natural Gas Distribution[5] vs. U.S. Utilities

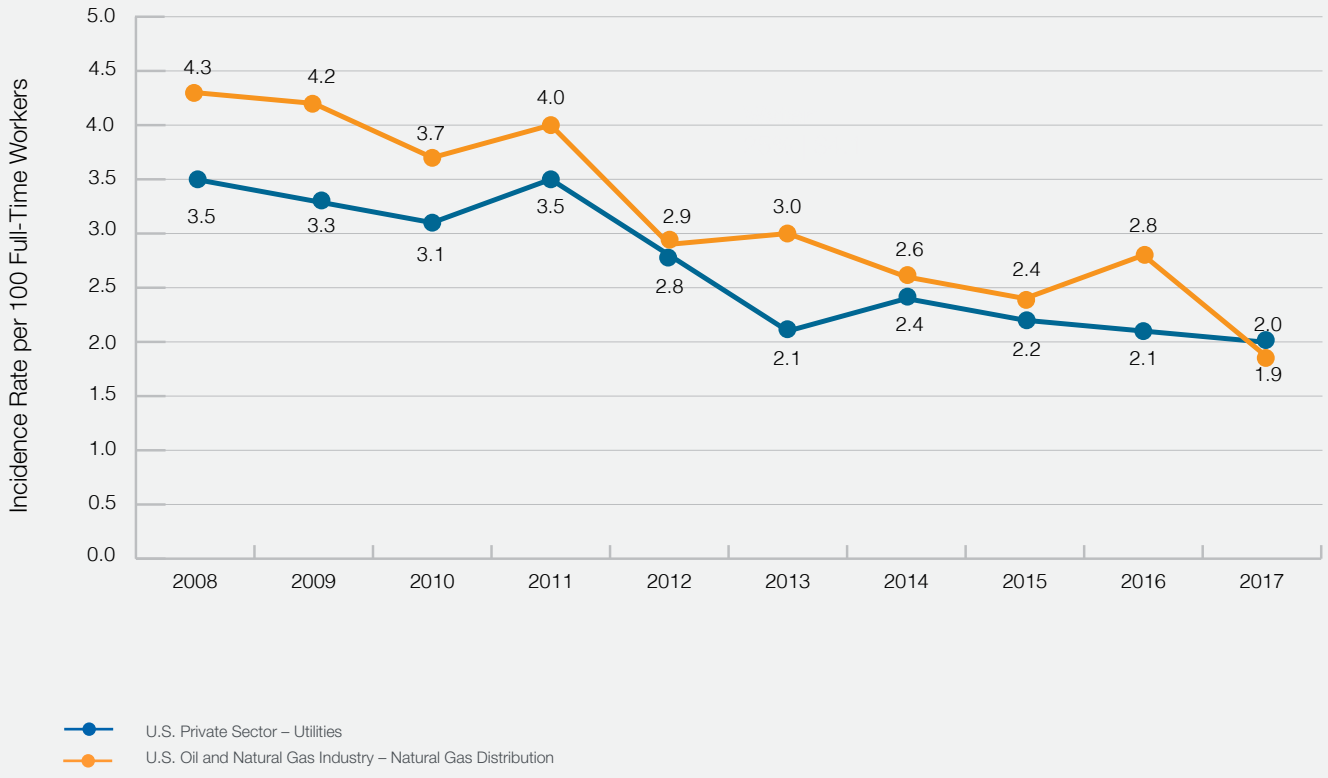
In 2017, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas Industry's natural gas distribution personnel was 1.9 per 100 full-time workers, compared to a rate of 2.0 for the U.S. Utilities sector.

5 Natural Gas Distribution incidents where fire/explosion was the primary cause of failure, such as a house fire that subsequently resulted in, but was not caused by, a distribution line failure are excluded.

Figure 7

U.S. Oil and Natural Gas Industry – Natural Gas Distribution vs. U.S. Utilities (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry Sectors and Comparable U.S. Segments: 2017 job-related nonfatal Injury and Illnesses Incidence Rates

Figure T

U.S. Oil & Natural Gas Industry Sectors and Comparable U.S. Segments: 2017 Job-related Nonfatal

Injuries and Illnesses Incidence Rates

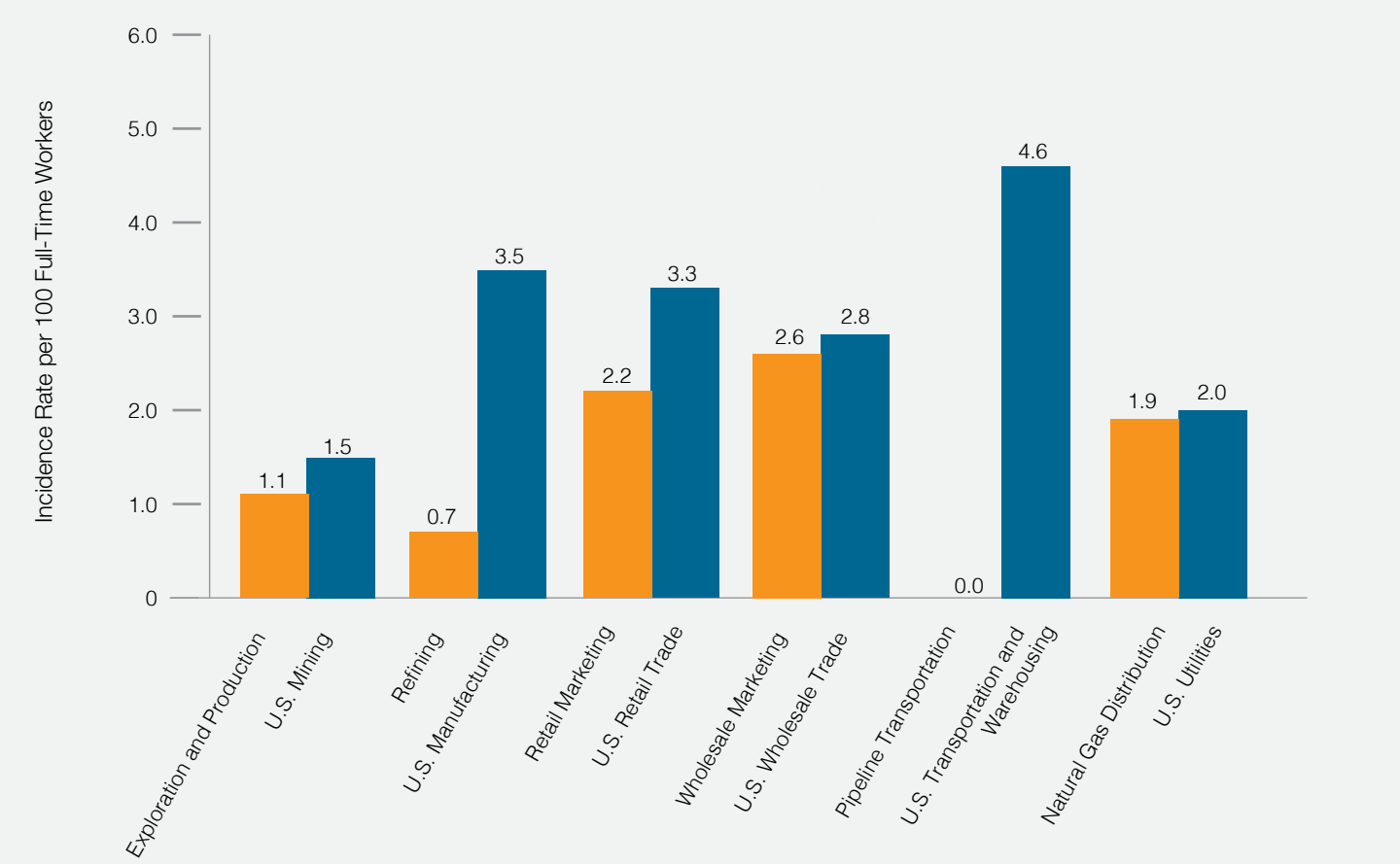


Table 1
U.S. Oil and Natural Gas Industry Job-Related Nonfatal Injuries and Illnesses:
2008-2017 (per 100 full-time workers)

Year	Exploration and Production	Refining	Retail Marketing	Wholesale Marketing	Pipeline Transportation	Natural Gas Distribution	Oil and Natural Gas Industry
2008	1.9	1.1	3.4	2.8	0.0	4.3	2.9
2009	1.8	1.0	3.4	3.2	0.0	4.2	2.9
2010	1.9	0.9	2.9	2.0	0.0	3.7	2.5
2011	1.9	1.1	2.7	2.6	0.0	4.0	2.4
2012	1.8	0.9	2.2	3.7	0.0	2.9	2.1
2013	1.8	0.9	2.4	2.8	0.0	3.0	2.1
2014	1.8	0.7	2.3	3.1	0.0	2.6	2.1
2015	1.0	0.6	2.8	2.8	0.0	2.4	1.9
2016	1.1	0.6	2.8	2.3	0.1	2.8	2.0
2017	1.1	0.7	2.2	2.6	0.0	1.9	1.7
% Change*							
2016-2017	0%	17%	-21%	13%	-100%	-32%	-15%
2008-2017	-42%	-36%	-35%	-7%	0%	-56%	-41%

* % change may not be exact due to rounding

Table 2
Comparable U.S. Industries Job-Related Nonfatal Injuries and Illnesses:
2008-2017 (per 100 full-time workers)

Year	Mining	Manufacturing	Retail Trade	Wholesale Trade	Transportation and Warehousing	Utilities	Private Sector
2008	2.9	5.0	4.4	3.7	5.7	3.5	3.9
2009	2.4	4.3	4.2	3.3	5.2	3.3	3.6
2010	2.3	4.4	4.1	3.4	5.2	3.1	3.5
2011	2.2	4.3	3.9	3.2	4.9	3.5	3.4
2012	2.1	4.2	4.0	3.2	4.9	2.8	3.4
2013	2.0	4.0	3.8	3.1	4.7	2.1	3.3
2014	2.0	4.0	3.6	2.9	4.8	2.4	3.2
2015	1.4	3.8	3.5	3.1	4.5	2.2	3.0
2016	1.5	3.6	3.3	2.8	4.6	2.1	2.9
2017	1.5	3.5	3.3	2.8	4.6	2.0	2.8
% Change*							
2016-2017	0%	-3%	0%	0%	0%	-5%	-3%
2008-2017	-48%	-30%	-25%	-24%	-19%	-43%	-28%

* % change may not be exact due to rounding

Table 3
U.S. Oil and Natural Gas Industry Job-Related Nonfatal Injuries and Illnesses:
2008-2017 Relative Standard Error

Year	Oil & Gas Extraction [NAICS 211]	Drilling Oil & Gas Wells [NAICS 213111]	Support Activities for Oil & Gas Operations [NAICS 213112]	Natural Gas Distribution [NAICS 2212]	Petroleum Refineries [NAICS 32411]	Petroleum Wholesale Trade [NAICS 4247]	Gasoline Stations [NAICS 447]	Pipeline Transportation [NAICS 486]
2008	20.0	ND	18.0	4.0	13.0	16.0	8.0	20.0
2009	19.0	ND	10.0	7.0	11.0	15.0	8.0	24.0
2010	19.0	8.4	8.7	6.0	4.9	12.3	6.8	28.5
2011	21.3	12.3	10.1	13.2	10.0	19.7	9.2	44.1
2012	19.2	12.7	11.3	7.6	13.3	19.3	9.1	26.6
2013	16.9	12.5	10.4	9.5	13.6	16.1	7.1	30.8
2014	ND	16.3	8.5	8.8	13.8	18.3	8.0	23.0
2015	15.4	11.9	11.1	10.6	10.9	13.5	9.7	34.6
2016	22.2	18.4	14.4	5.6	15.4	20.6	8.1	28.4
2017	26.7	13.1	11.4	8.8	15.3	14.7	9.7	41.6

ND = No Data available

Table 4
Comparable U.S. Industries Job-Related Nonfatal Injuries and Illnesses:
2008-2017 Relative Standard Error

Year	Private Sector	Mining [NAICS 21]	Utilities [221]	Manufacturing [NAICS 31-33]	Wholesale Trade [NAICS 42]	Retail Trade [NAICS 44-45]	Transportation and Warehousing [NAICS 48-49]
2008	1.0	11.0	3.0	1.0	2.0	1.0	1.0
2009	1.0	4.0	4.0	1.0	3.0	1.0	1.0
2010	0.5	3.7	4.0	0.7	2.9	1.0	1.5
2011	0.5	5.3	6.8	0.8	2.3	1.1	1.5
2012	0.5	5.1	5.0	0.8	2.6	1.1	1.6
2013	0.5	4.9	4.7	0.9	2.6	1.2	1.7
2014	0.5	4.9	5.0	0.8	2.3	1.2	1.5
2015	0.5	4.4	5.7	0.8	2.2	1.2	1.5
2016	0.6	5.7	4.3	0.8	2.5	1.2	1.5
2017	0.5	5.2	5.3	0.8	2.7	1.2	1.6

Non-Comparable Industries – Workplace Injuries and Illnesses Safety (WIIS) Report

An in-depth look into the safety of six other industries demonstrates that the Oil and Natural Gas industry is generally safer than industries of similar characteristics. In this report, the safety rate of job-related nonfatal injuries and illnesses of the Oil and Natural Gas industry was compared to the following industries: Logging [NAICS 11331], Fishing, Hunting and Trapping [NAICS 114], Agriculture and Forestry Support Activities [NAICS 115], Water Transportation [NAICS 483], Truck Transportation [NAICS 484], and Waste Management and Remediation Services [NAICS 562].

Comparison

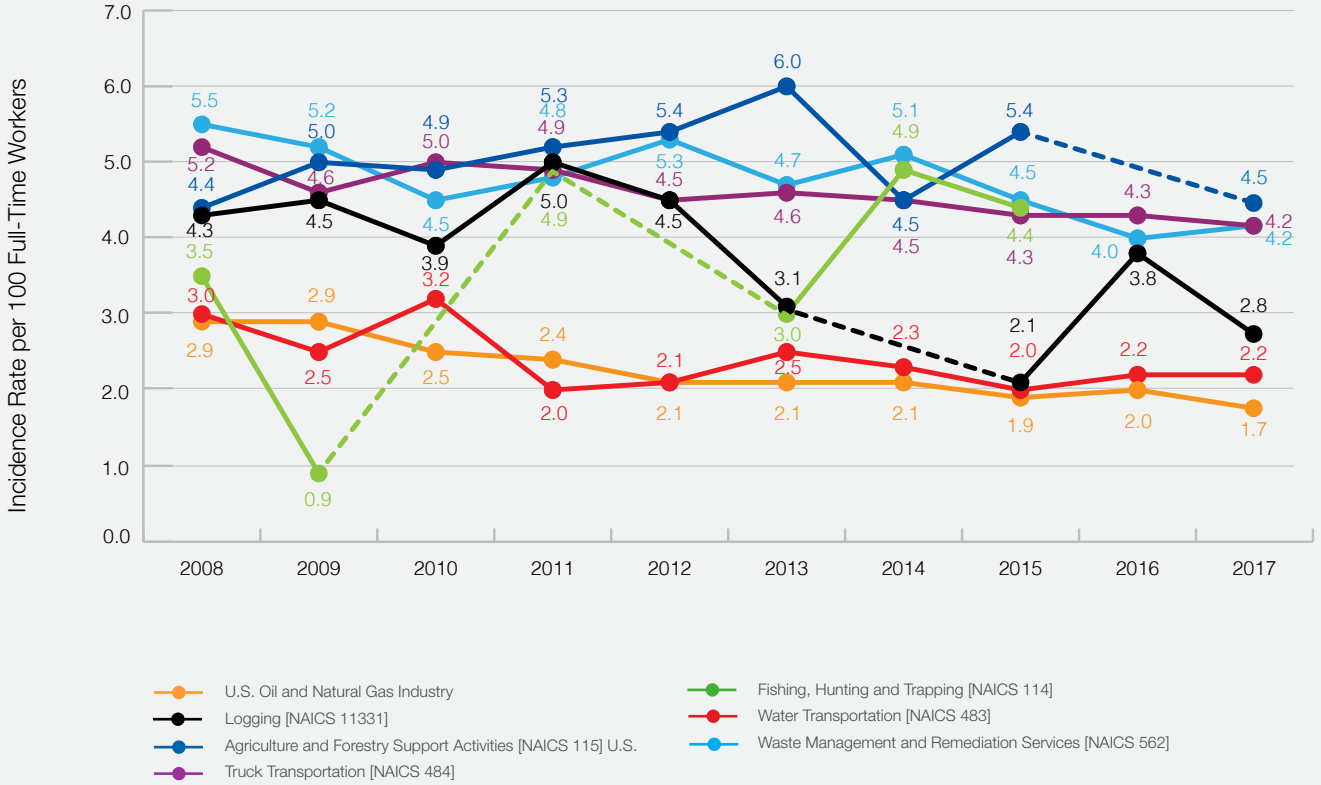
U.S. Oil and Natural Gas Industry vs. Non-Comparable Industries

In 2017, the rate of job-related nonfatal Injuries and Illnesses for the Oil and Natural Gas industry was 1.7 per 100 full-time workers.

Figure 8

U.S. Oil and Natural Gas Industry vs. Non-Comparable Industries (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry vs. Logging Industry

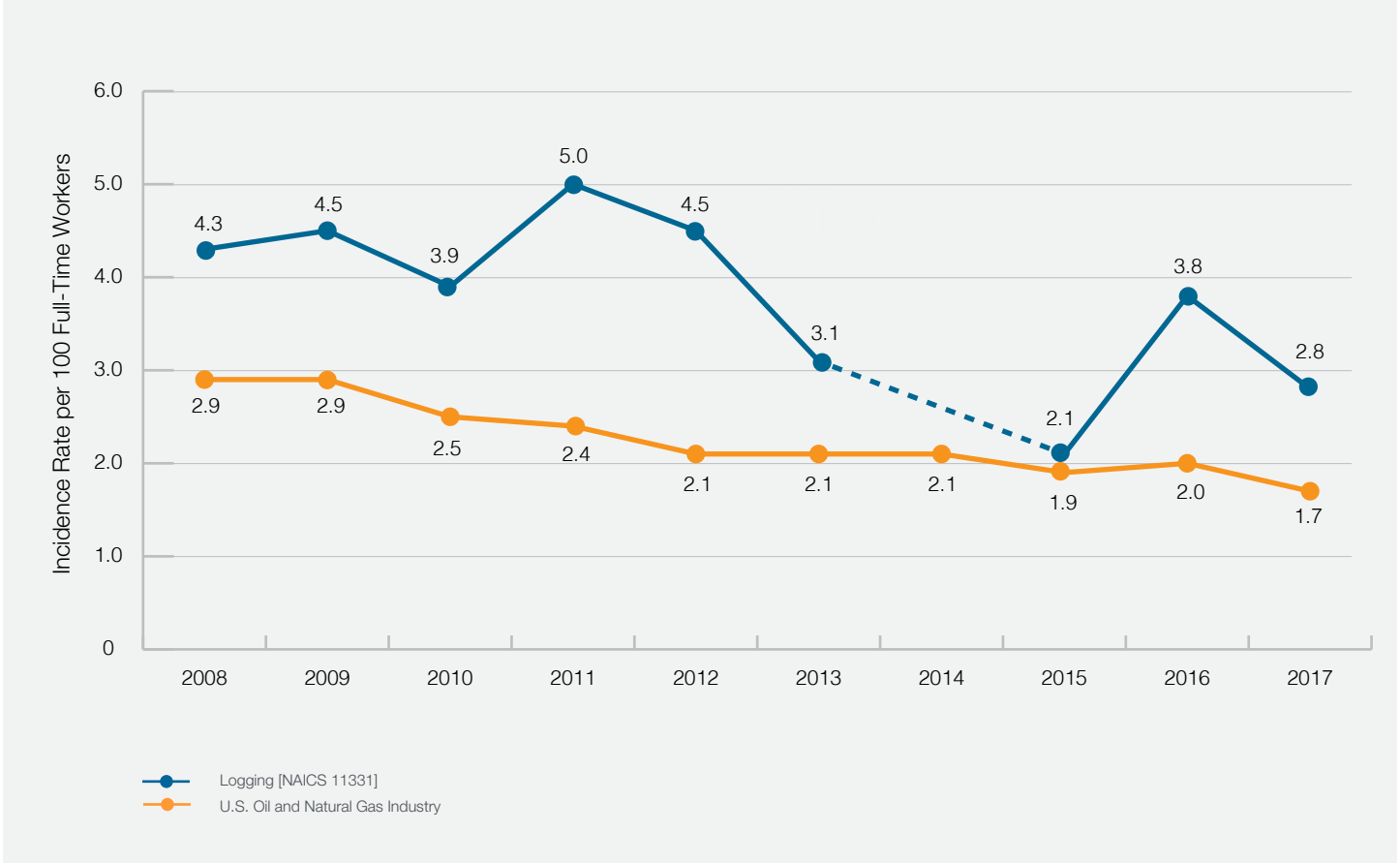
In 2017, the rate of nonfatal Injuries and Illnesses for the Logging[6] industry was 2.8 per 100 full-time workers compared to 1.7 for the Oil and Natural Gas industry..

6 In 2014, BLS did not publish the rate of injuries and illnesses for the Logging Industry because it did not meet BLS criteria.

Figure 9

U.S. Oil and Natural Gas Industry vs. Logging Industry (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry vs. Fishing, Hunting, and Trapping Industry

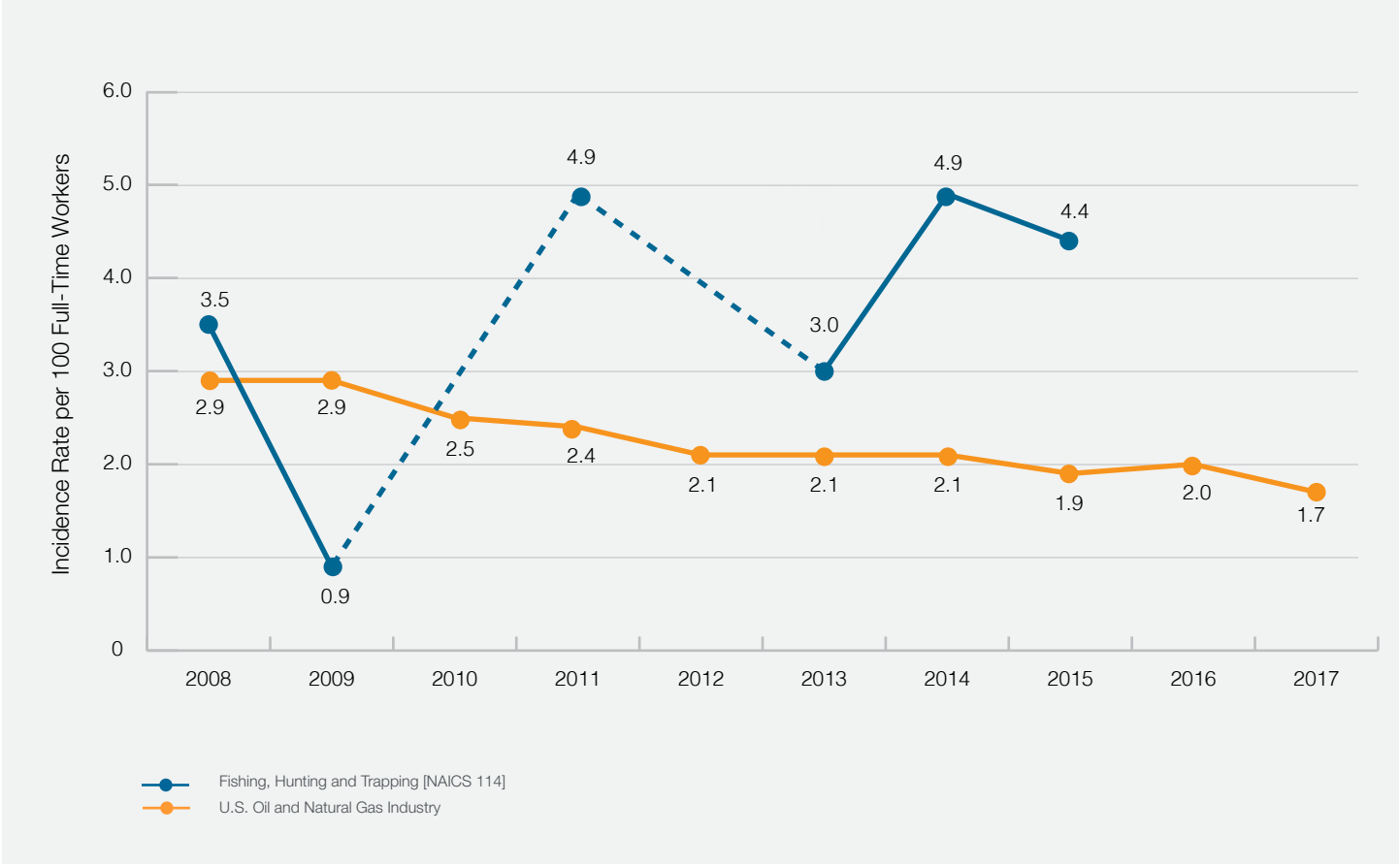
In 2017, the BLS did not publish the rate of job-related nonfatal Injuries and Illnesses for the Fishing, Hunting, and Trapping[7] industry because it did not meet BLS criteria. However, the rate of job-related nonfatal Injuries and Illnesses for the Oil and Natural Gas industry was 1.7 per 100 full-time workers.

7 In 2010, 2012, 2016, and 2017, BLS did not publish the rate of job-related nonfatal Injuries and Illnesses for the Fishing, Hunting, and Trapping industry because it did not meet BLS criteria

Figure 10

U.S. Oil and Natural Gas Industry vs. Fishing, Hunting, and Trapping Industry (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

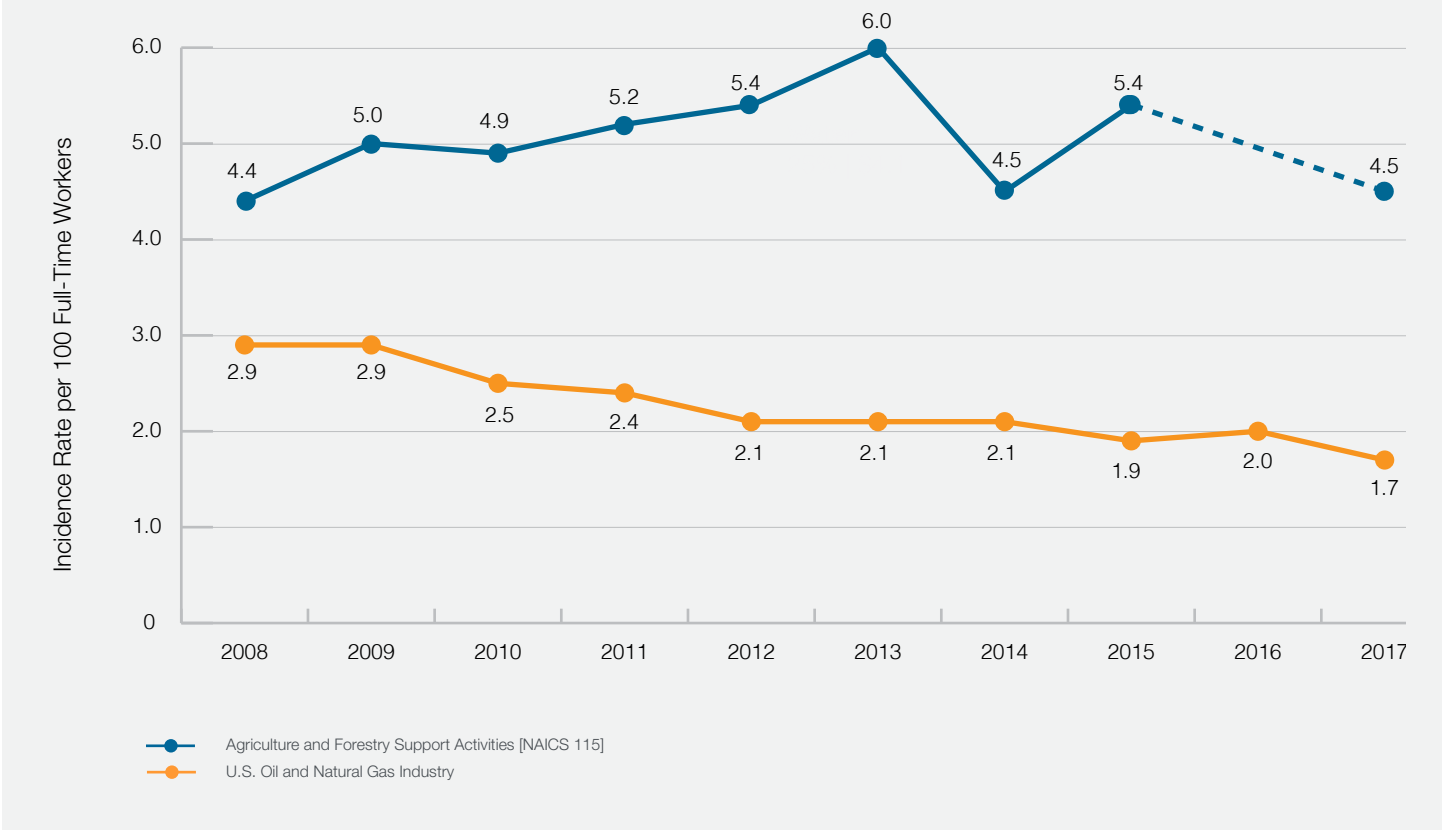
U.S. Oil and Natural Gas Industry vs. Agriculture and Forestry Support Activities Industry

In 2017, the rate of job-related nonfatal Injuries and Illnesses for the Agriculture and Forestry Support Activities[8] was 4.5 per 100 full-time workers compared to 1.7 for the Oil and Natural Gas industry.

8 In 2016, BLS did not publish the rate of job-related nonfatal Injuries and Illnesses for the Agriculture and Forestry Support Activities industry because it did not meet BLS criteria.

Figure 11

U.S. Oil and Natural Gas Industry vs. Agriculture and Forestry Support Activities Industry (2008-2017) Injuries and Illnesses Incidence Rates



Comparison

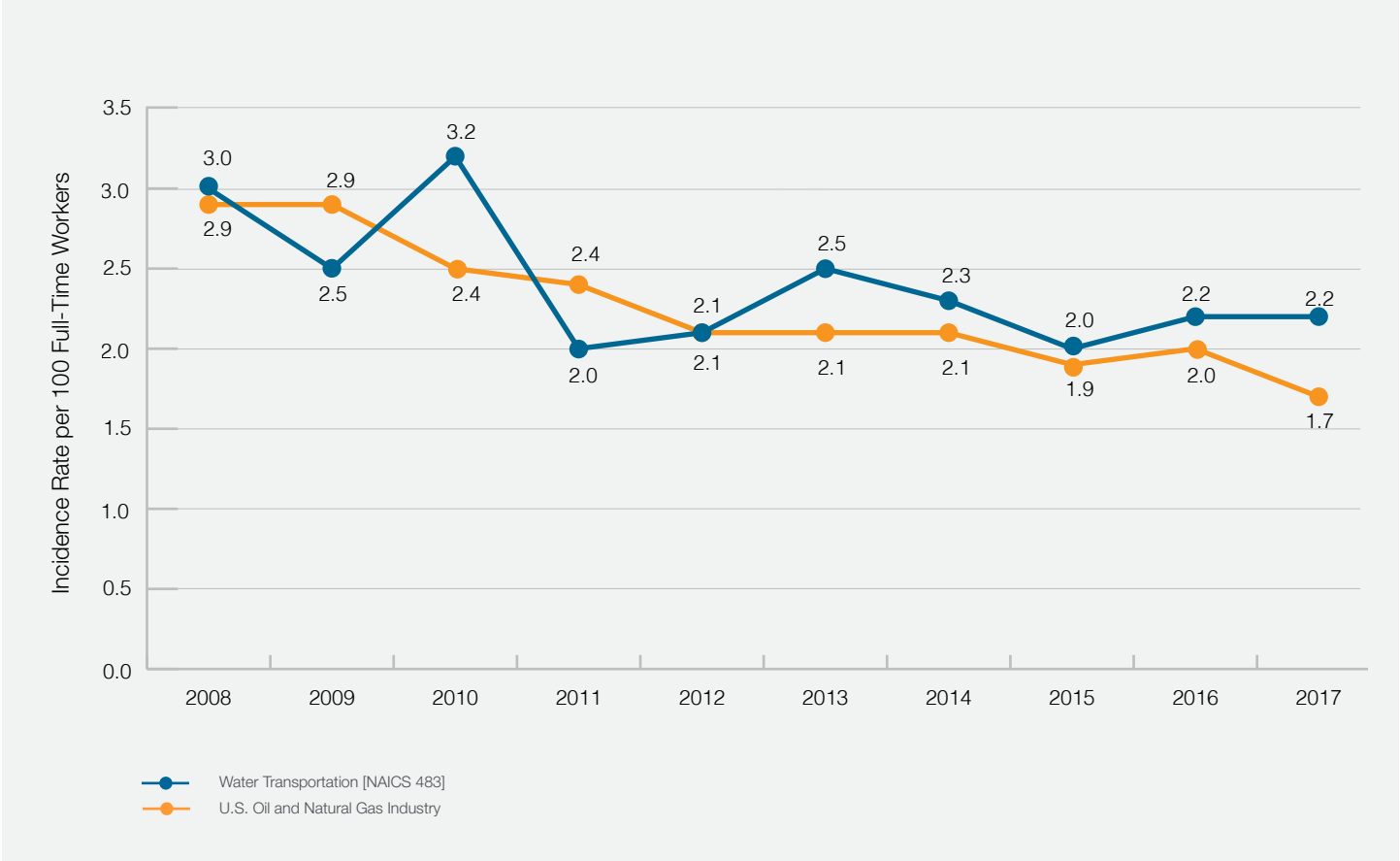
U.S. Oil and Natural Gas Industry vs. Water Transportation Industry

In 2017, the rate of job-related nonfatal Injuries and Illnesses for the Water Transportation industry was 2.2 per 100 full-time workers compared to 1.7 for the Oil and Natural Gas industry.

Figure 12

U.S. Oil and Natural Gas Industry vs. Water Transportation Industry (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

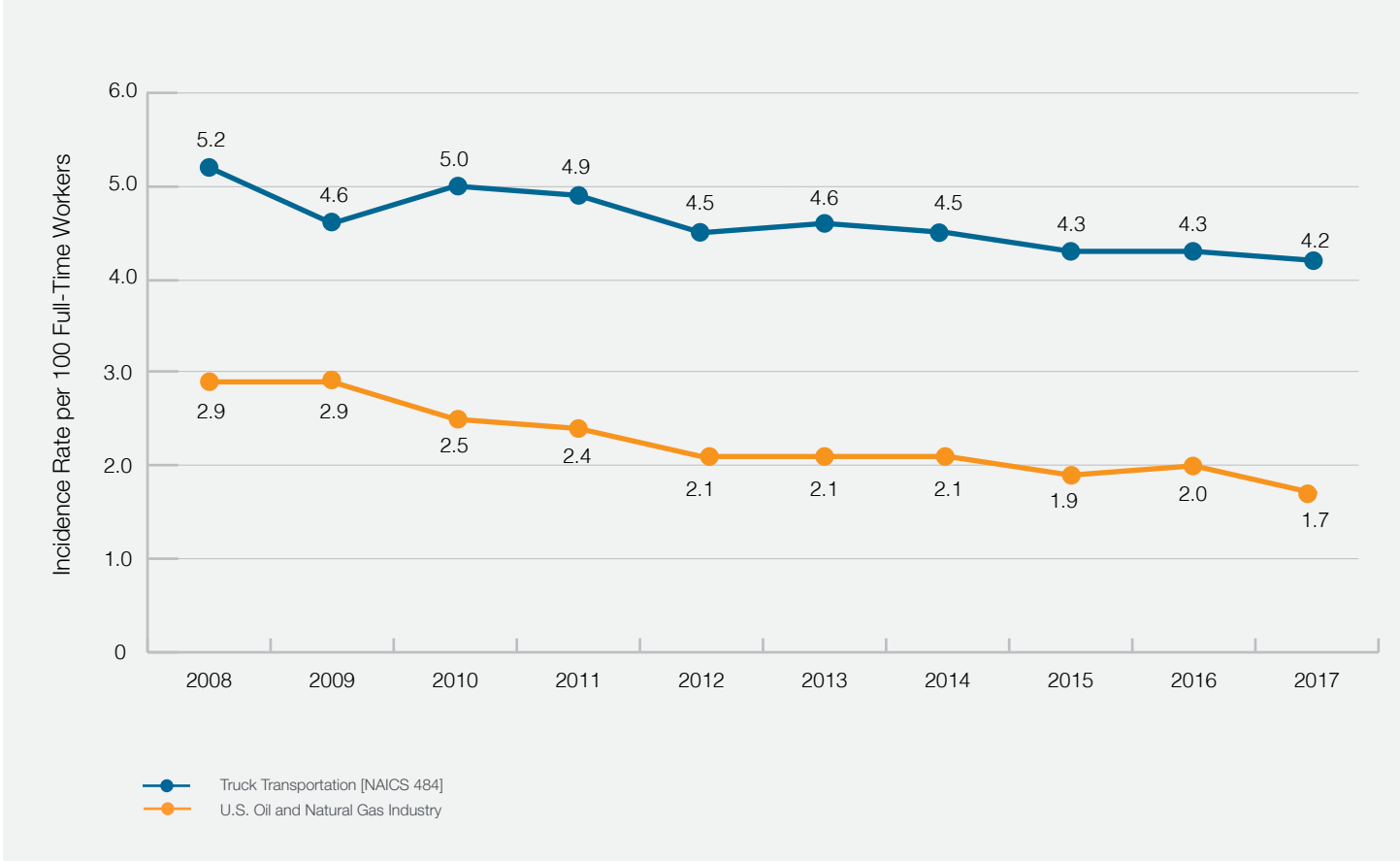
U.S. Oil and Natural Gas Industry vs. Truck Transportation Industry

In 2017, the rate of job-related nonfatal Injuries and Illnesses for the Truck Transportation industry was 4.2 per 100 full-time workers compared to 1.7 for the Oil and Natural Gas industry.

Figure 13

U.S. Oil and Natural Gas Industry vs. Truck Transportation Industry (2008-2017)

Injuries and Illnesses Incidence Rates



Comparison

U.S. Oil and Natural Gas Industry vs. Waste Management and Remediation Services Industry

In 2017, the rate of job-related nonfatal Injuries and Illnesses for the Waste Management and Remediation Services industry was 4.2 per 100 full-time workers compared to 1.7 for the Oil and Natural Gas industry.

Figure 14

U.S. Oil and Natural Gas Industry vs. Waste Management and Remediation Services Industry (2008-2017) Injuries and Illnesses Incidence Rates

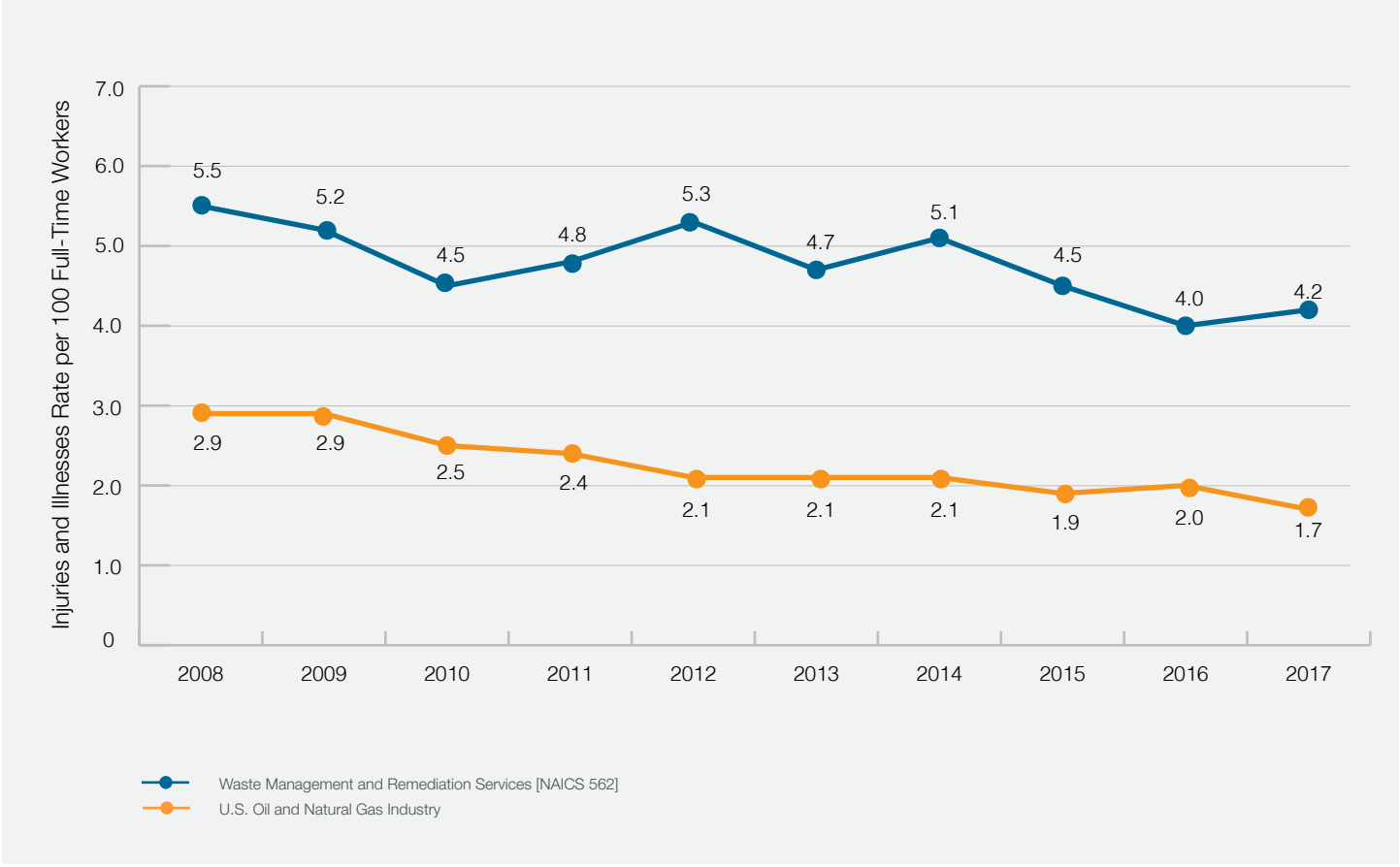


Table 5:
Select U.S. Industries Job-Related Nonfatal Injuries and Illnesses Rate:
2008-2017 (per 100 full-time workers)

Year	Logging NAICS [11331]	Fishing, Hunting and Trapping NAICS [114]	Agriculture and Forestry Support Activities NAICS [115]	Water Transportation NAICS [483]	Truck Transportation NAICS [484]	Waste Management and Remediation Services NAICS [562]	U.S. Oil and Natural Gas Industry
2008	4.3	3.5	4.4	3.0	5.2	5.5	2.9
2009	4.5	0.9	5.0	2.5	4.6	5.2	2.9
2010	3.9	ND	4.9	3.2	5.0	4.5	2.5
2011	5.0	4.9	5.2	2.0	4.9	4.8	2.4
2012	4.5	ND	5.4	2.1	4.5	5.3	2.1
2013	3.1	3.0	6.0	2.5	4.6	4.7	2.1
2014	ND	4.9	4.5	2.3	4.5	5.1	2.1
2015	2.1	4.4	5.4	2.0	4.3	4.5	1.9
2016	3.8	ND	ND	2.2	4.3	4.0	2.0
2017	2.8	ND	4.5	2.2	4.2	4.2	1.7
% Change*							
2016-2017	-26%	ND	ND	0%	-2%	5%	-14%
2008-2017	-35%	ND	2%	-27%	-19%	-24%	-40%

ND = No Data available

* % change may not be exact due to rounding

About This Report

This report is based on information from the U.S. Bureau of Labor Statistics' (BLS) Survey of Occupational Injuries, Illnesses, and Fatalities (www.bls.gov/iif), the Bureau of Safety and Environmental Enforcement (BSEE), formerly part of the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) (https://www.bsee.gov/resources-and-tools/compliance/), as well as the U.S. Department of Transportation Pipeline Hazardous Materials Safety Administration (PHMSA) (http://www.phmsa.dot.gov/pipeline/library/data-stats). The Survey of Occupational Injuries, Illnesses, and Fatalities is a Federal and State program in which employer reports are collected from the private sector. It excludes the self-employed; farms with fewer than 11 employees; private household workers; volunteers; Federal government agencies.

The annual survey provides estimates of the number and frequency (incidence rates) of workplace nonfatal injuries and illnesses based on logs required to be kept by private industry employers throughout the year. These records reflect not only the year's injuries and illnesses experience, but also the employers' understanding of which cases are work-related under recordkeeping rules revised by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor and made effective on January 1, 2002. These revisions affected how employers record various nonfatal job-related injuries and illnesses, and how the information is aggregated by BLS.

The pipeline incidence rates in this report were calculated by dividing the number of injuries reported to PHMSA by the total hours worked by all employees during a calendar year. The offshore incidence numbers were calculated by dividing the number of injuries reported to BSEE by the total hours reported to BSEE.

The total hours worked for the sectors are derived by multiplying the employment figures published in BLS's Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and cases types, YEAR by 2,000 hours (40 hours and 50 weeks per year per full time employee).

In 2012, BLS stopped publishing the employment numbers in Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and cases types, YEAR. As a result, beginning with 2012 data, the employment numbers and hours will be derived by 'reverse engineering'. i.e., calculating the employment numbers using the published rates, injuries based on 2,000 hours. The employment numbers are an annual average aggregate.

The North American Industry Classification System (NAICS) is the industry classification system used by the statistical agencies of the United States. It is the first economic classification system to be constructed based on a single economic concept. Establishments that use the same or similar processes to produce goods or services are grouped together. It was developed jointly by the United States, Canada, and Mexico, and reflects the structure of today's economy in these three countries, including the emergence and growth of the service sector and new and advanced technologies. The 2007 survey was based on the 2002 NAICS Manual, while the 2012 survey used the 2007 NAICS Manual. Surveys for subsequent years (2013-2017) utilized the 2012 NAICS Manual.

Definitions

Full-time worker: For purposes of this report, the equivalent of someone who works 40 hours per week for 50 weeks a year or 2,000 hours per year. Thus, two people working 1,000 hours apiece count as one full-time worker.

Nonfatal injury or illness: A nonfatal job-related injury or illness is an abnormal condition or disorder that results in days away from work, restricted work, or transfer to another job, medical treatment beyond first aid, or loss of consciousness. Injuries include cases such as, but not limited to, a cut, fracture, sprain, or amputation. Illnesses include both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning.

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