2012 – 2021

A LOOK AT U.S. WORKPLACE SAFETY

API American Petroleum Institute

This report covers the rates of injuries and illnesses as published by the Bureau of Labor Statistics (BLS) and includes supplemental data from the Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Bureau of Safety and Environmental Enforcement (BSEE).

Workplace Safety Report (WSR)

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 U.S. Oil and Natural Gas industry's workplace safety record reflects the industry's commitment to safe and healthy working environments.

COMPARISON

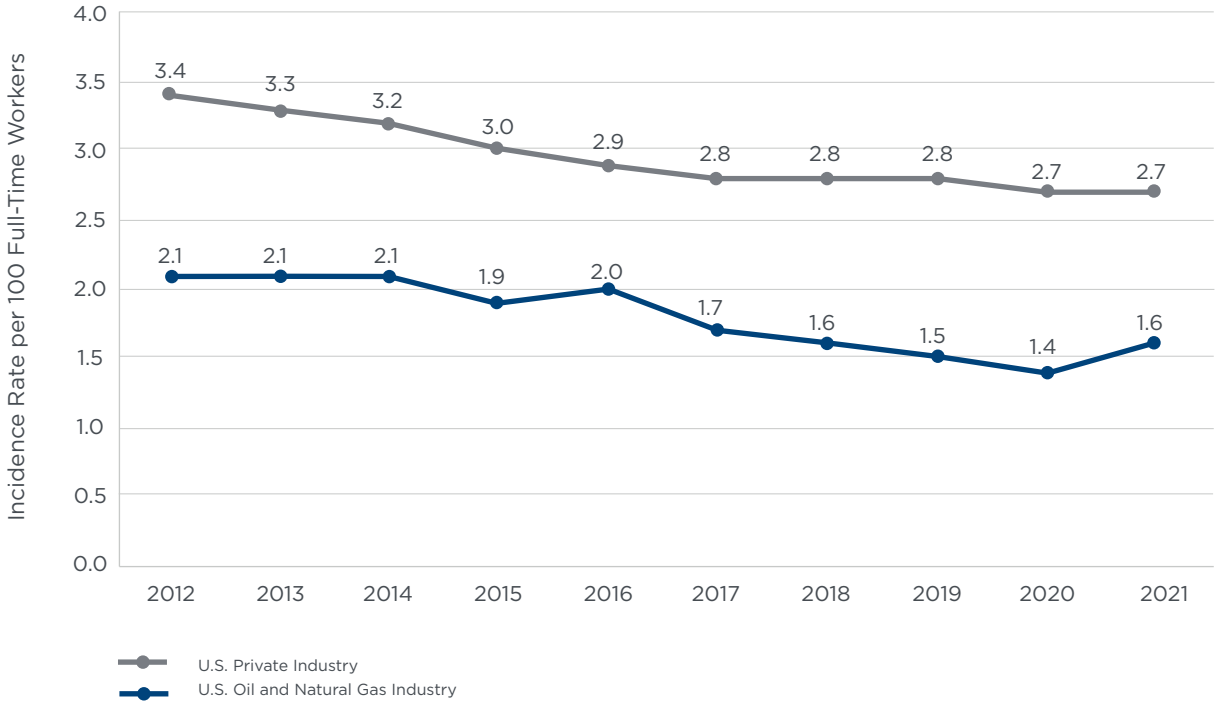
U.S. Oil and Natural Gas Industry vs. U.S. Private Industry

In 2021, the rate of job-related nonfatal injuries and illnesses for the U.S. Oil and Natural Gas industry was 1.6 per 100 full-time workers, compared to a rate of 2.7 for the entire U.S. Private industry.

Figure 1

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. U.S. Private Sector (2012-2021)



COMPARISON

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

In 2021, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas exploration and production workers was 0.8 per 100 full-time workers, compared with 1.3 for the U.S. Mining sector. BSEE has not released their 2021 U.S. Offshore industry[2] injury and illness data.

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. The BLS did not publish the 2014 rate of injuries and illnesses for oil and gas extraction (NAICS 211) nor the 2020 and 2021 rate of injuries and illness for Drilling Oil & Gas Wells (NAICS 213111) because they did not meet BLS publication guidelines..

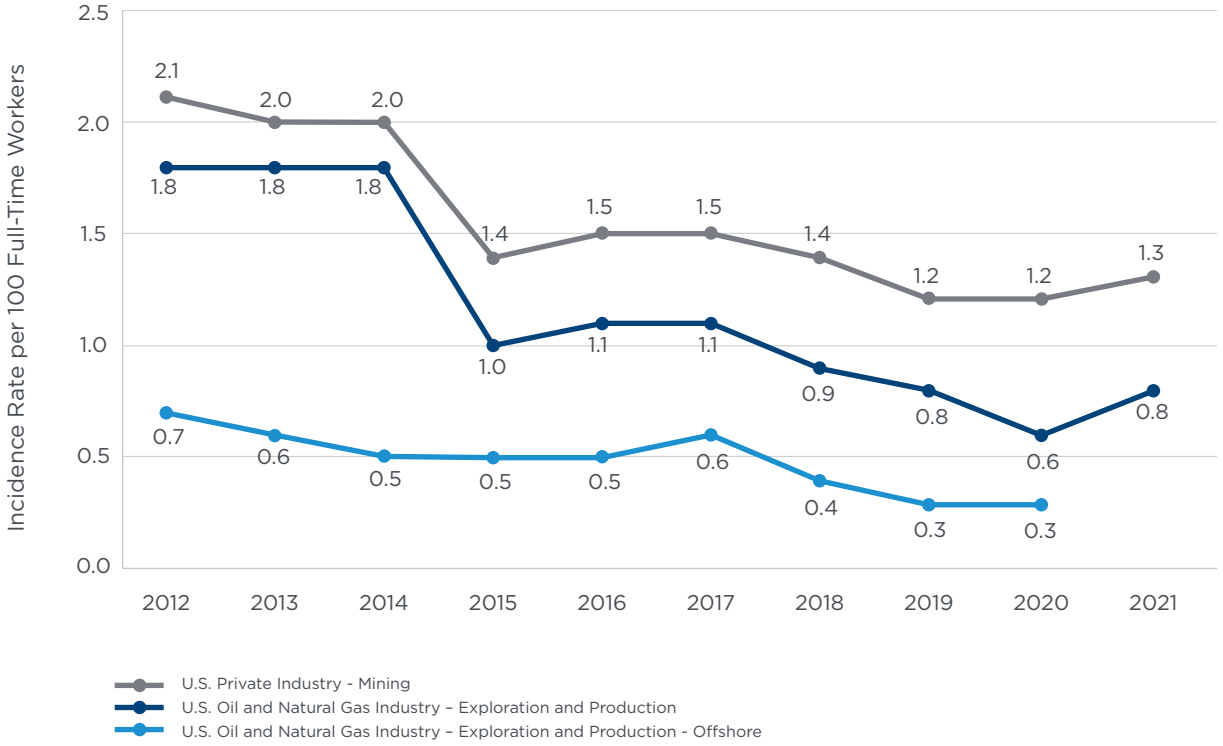
2 Offshore incidence rates were calculated using data from Bureau of Safety and Environmental Enforcement (BSEE). Beginning March 31, 2011, operators were required to submit their forms (previously MMS-131, now BSEE-0131) annually. Offshore Illness and Injuries rate excludes construction workers. Injuries and Illnesses rates are self-reported injuries for a sample. In the 2019 OCS Performance Measure Tables, BSEE noted a clarification in the definitions for the BSEE-0131 form:

> *Beginning 2018 and finalized with a revised form in 2019, BSEE clarified that non-DART recordable injuries should be reported separately from DART recordables. In the past some operators interpreted the "Recordables" line on BSEE-0131 as a request for "Total Recordables" and some interpreted it as a request for "Non-DART Recordables" since there was already a separate line for DART data (the form never specified whether to enter Total or non-DART Recordables).*

Figure 2

Injuries and Illnesses Incidence Rates

Exploration and Production vs. Mining (2012-2021)



COMPARISON

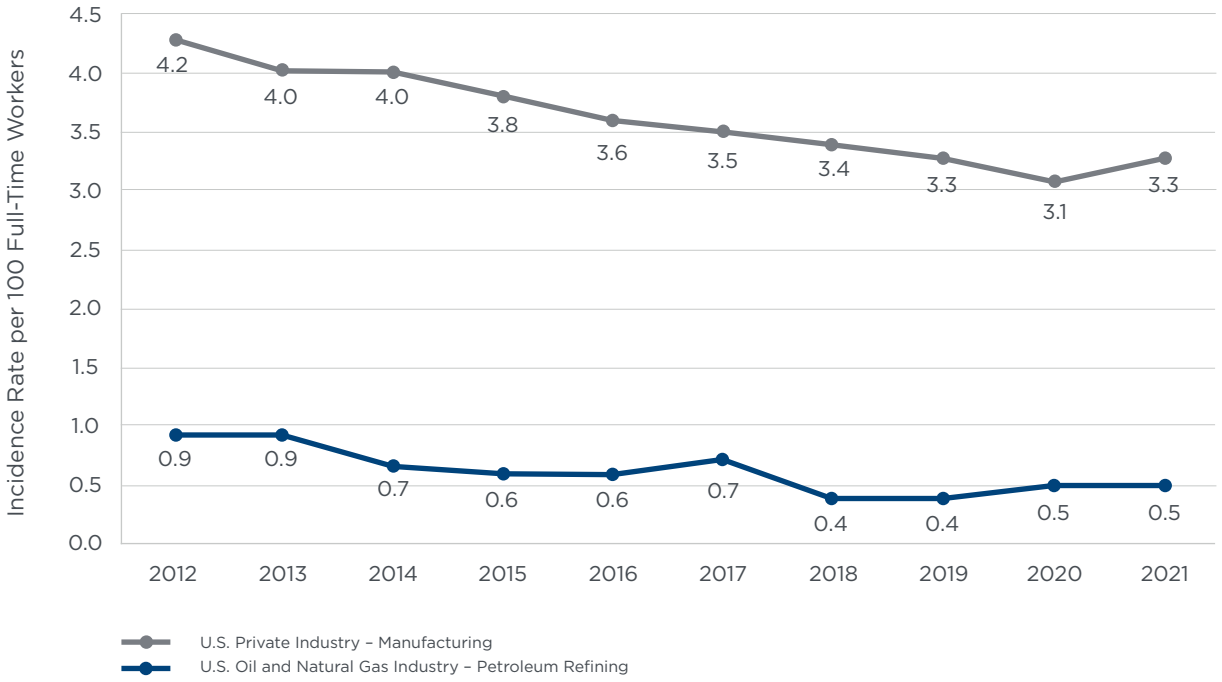
U.S. Petroleum Refining vs. U.S. Manufacturing

In 2021, the rate of job-related nonfatal injuries and illnesses for U.S. Oil and Natural Gas petroleum refinery workers was 0.5 per 100 full-time workers, compared to a rate of 3.3 for the U.S. Manufacturing sector.

Figure 3

Petroleum Refining vs. Manufacturing (2012–2021)

Petroleum Refining vs. Manufacturing (2012-2021)



COMPARISON

U.S. Petroleum Wholesale Marketing vs. U.S. Wholesale Marketing

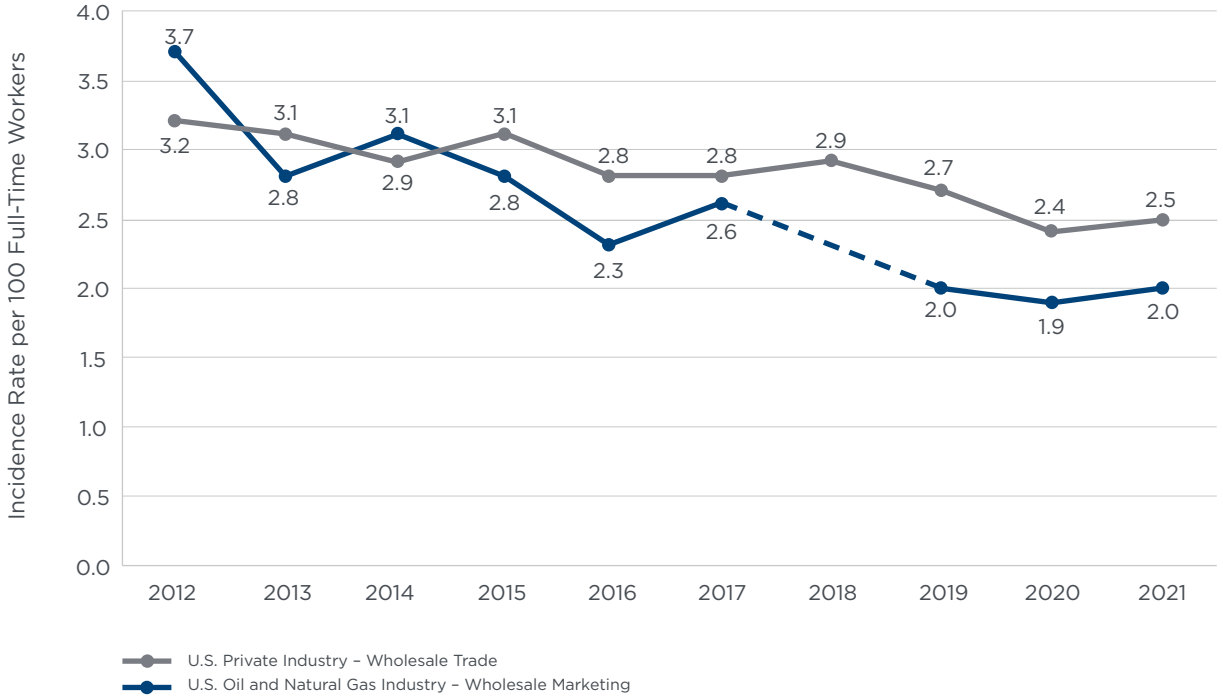
In 2021, the rate of job-related nonfatal injuries and illnesses for U.S. Oil and Natural Gas petroleum wholesale marketing[3] workers was 2.0 per 100 full-time workers, compared to a rate of 2.5 for the entire U.S. Wholesale Marketing sector.

3 The BLS did not publish the rate of job-related nonfatal injuries and illnesses for petroleum wholesale marketing (NAICS 4247) for 2018 because it did not meet BLS publication guidelines.

Figure 4

Injuries and Illnesses Incidence Rates

Petroleum Wholesale Marketing vs. U.S. Marketing (2012-2021)



COMPARISON

U.S. Oil and Natural Gas Retail Marketing[4] vs. U.S. Retail Marketing

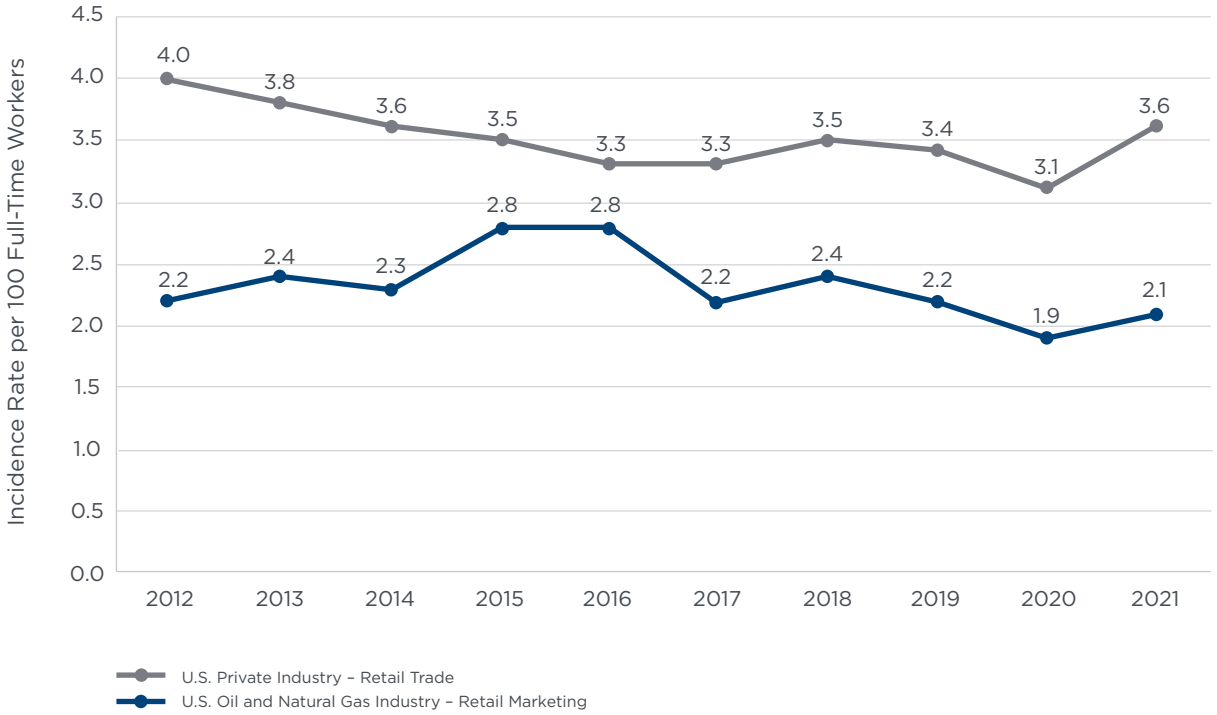
In 2021, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas retail marketing personnel was 2.1 per 100 full-time workers, compared to a rate of 3.6 for the U.S. Retail Marketing sector.

4 As of January 1, 2015, NAICS 4471, Gasoline Stations, is partially exempt from OSHA recordkeeping guidelines. For more information, please follow this link: **https://www.osha.gov/recordkeeping/ppt1/RK1exempttable.html.**

Figure 5

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry- Retail Marketing vs. U.S. Retail Marketing (2012-2021)



COMPARISON

U.S. Oil and Natural Gas Pipelines[5] vs. U.S. Transportation and Warehousing

In 2021, the rate of job-related nonfatal injuries among U.S. Oil and Natural Gas pipeline transportation personnel[6] was 0.0 per 100 full-time workers, compared to a rate of 4.6 rate of job-related nonfatal injuries and illnesses for the U.S. Transportation and Warehousing sector.

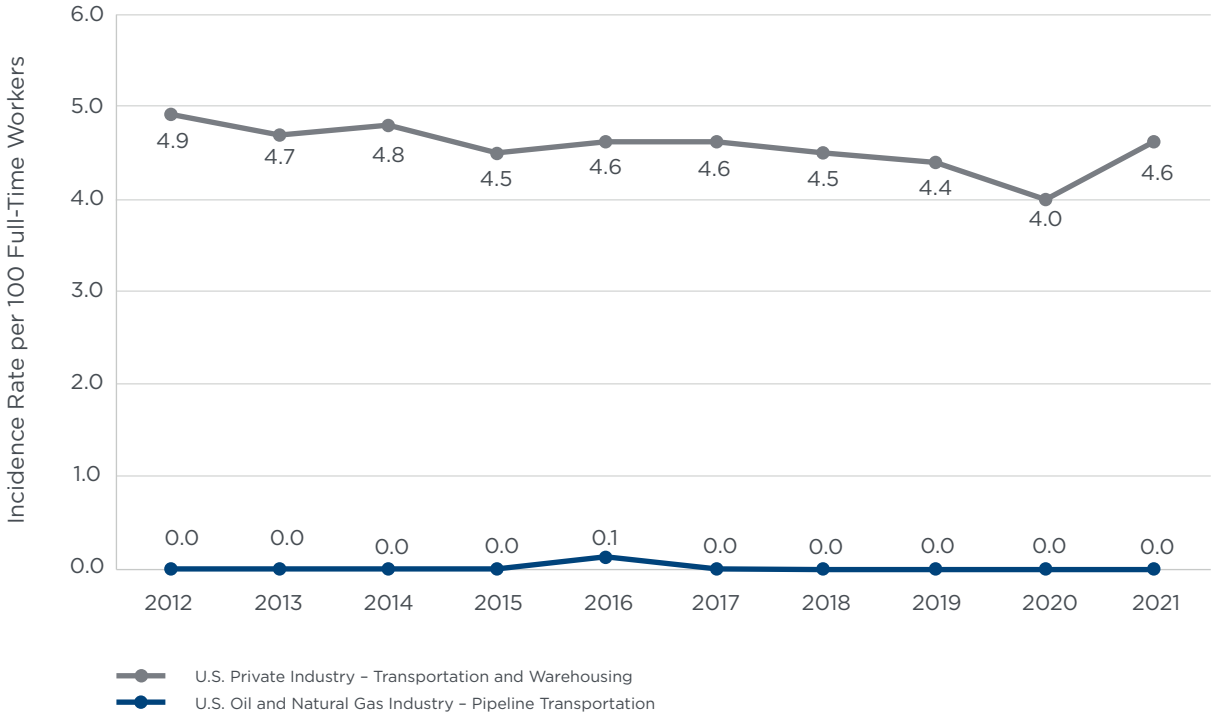
5 Pipeline injuries numbers are from PHMSA. BLS does not consistently report pipeline data.

6 Pipeline data includes contract workers and does not include illnesses.

Figure 6

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Pipelines vs. U.S. Transportation and Warehousing (2012-2020)



COMPARISON

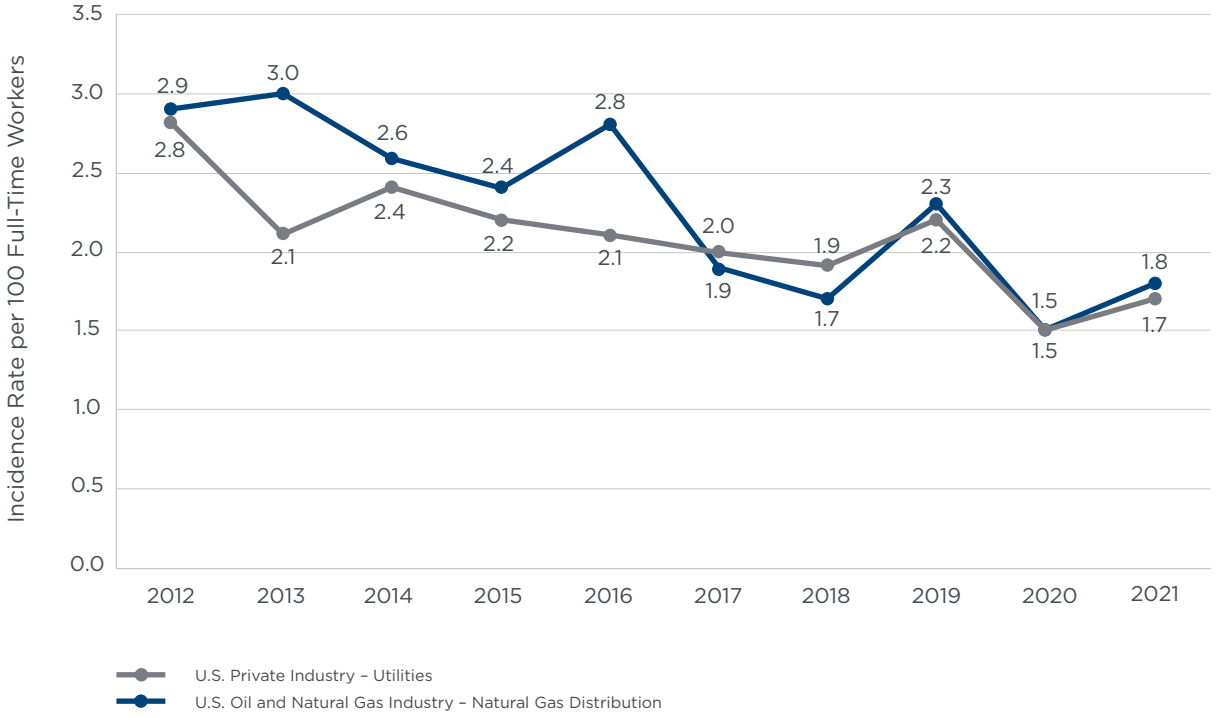
U.S. Oil and Natural Gas — Natural Gas Distribution vs. U.S. Utilities

In 2021, the rate of job-related nonfatal injuries and illnesses among U.S. Oil and Natural Gas Industry's natural gas distribution personnel was 1.7 per 100 full-time workers, compared to a rate of 1.8 of job-related nonfatal injuries and illnesses for the U.S. Utilities sector.

Figure 7

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry – Natural Gas Distribution vs. U.S. Utilities (2012-2021)



COMPARISON

U.S. Oil and Natural Gas Industry Segments and Comparable U.S. Industries: 2021 Job-Related Nonfatal Injury and Illnesses Incidence Rates

Figure 8

U.S. Oil and Natural Gas Industry Segments and Comparable U.S. Industries

Job-Related Nonfatal Injury and Illnesses Incidence Rates (2021)

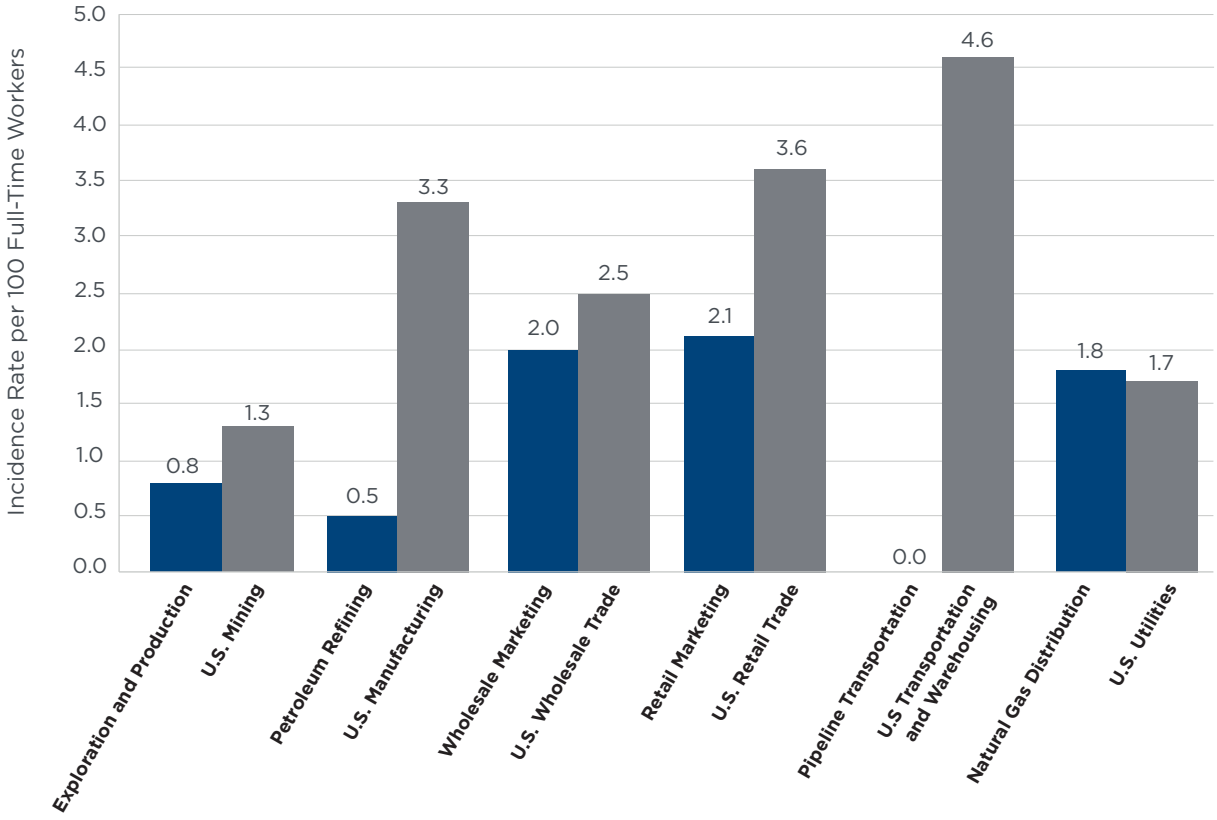


Table 1

U.S. Oil and Natural Gas Industry

Job-Related Nonfatal Injuries and Illnesses 2012-2021 (per 100 full-time workers)

Year	Exploration and Production	Petroleum Refining	Wholesale Marketing	Retail Marketing	Pipeline Transportation	Natural Gas Distribution	Oil and Natural Gas Industry
2012	1.8	0.9	3.7	2.2	0.0	2.9	2.1
2013	1.8	0.9	2.8	2.4	0.0	3.0	2.1
2014	1.8	0.7	3.1	2.3	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	2.3	2.8	0.1	2.8	2.0
2017	1.1	0.7	2.6	2.2	0.0	1.9	1.7
2018	0.9	0.4	ND	2.4	0.0	1.7	1.6
2019	0.8	0.4	2.0	2.2	0.0	2.3	1.5
2020	0.6	0.5	1.9	1.9	0.0	1.5	1.4
2021	0.8	0.5	2.0	2.1	0.0	1.8	1.6
% change							
2020-2021	33%	0%	-5%	11%	0%	20%	14%
2012-2021	-56%	-44%	-46%	-5%	0%	-38%	-24%

ND = No Data available

Table 2

Comparable U.S. Industries

Job-Related Nonfatal Injuries and Illnesses 2012-2021 (per 100 full-time workers)

Year	Mining	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing	Utilities	U.S. Private Sector
2012	2.1	4.2	3.2	4.0	4.9	2.8	3.4
2013	2.0	4.0	3.1	3.8	4.7	2.1	3.3
2014	2.0	4.0	2.9	3.6	4.8	2.4	3.2
2015	1.4	3.8	3.1	3.5	4.5	2.2	3.0
2016	1.5	3.6	2.8	3.3	4.6	2.1	2.9
2017	1.5	3.5	2.8	3.3	4.6	2.0	2.8
2018	1.4	3.4	2.9	3.5	4.5	1.9	2.8
2019	1.2	3.3	2.7	3.4	4.4	2.2	2.8
2020	1.2	3.1	2.4	3.1	4.0	1.5	2.7
2021	1.3	3.3	2.5	3.6	4.6	1.7	2.7
% change							
2020-2021	8%	6%	4%	16%	15%	13%	0%
2012-2021	-38%	-21%	-22%	-10%	-6%	-39%	-21%

Table 3

U.S. Oil and Natural Gas Industry

Job-Related Nonfatal Injuries and Illnesses: 2012-2021 (Percent 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][2]
2012	19.2	12.7	11.3	7.6	13.3	19.3	9.1	NA
2013	16.9	12.5	10.4	9.5	13.6	16.1	7.1	NA
2014	ND	16.3	8.5	8.8	13.8	18.3	8.0	NA
2015	15.4	11.9	11.1	10.6	10.9	13.5	9.7	NA
2016	22.2	18.4	14.4	5.6	15.4	20.6	8.1	NA
2017	26.7	13.1	11.4	8.8	15.3	14.7	9.7	NA
2018	28.4	15.3	13.5	12.9	14.5	ND	8.4	NA
2019	14.6	20.5	14.2	7.2	11.8	17.7	8.3	NA
2020	25.9	ND	13.1	7.5	11.7	19.7	6.5	NA
2021	23.7	ND	15.8	8.2	14.4	17.9	6.7	NA

[2] Pipeline injuries and illnesses are from PHMSA. BLS does not consistently report pipeline data.

Table 4

Comparable U.S. Industries

Job-Related Nonfatal Injuries and Illnesses: 2012-2021 (Percent Relative Standard Error)

Year	U.S. Private Sector	Mining [NAICS 21]	Utilities [NAICS 221]	Manufacturing [NAICS 31-33]	Wholesale Trade [NAICS 42]	Retail Trade [NAICS 44-45]	Transportation and Warehousing [NAICS 48-49]
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
2018	0.5	5.7	6.3	0.9	2.6	1.3	1.6
2019	0.6	5.6	6.2	1.0	2.7	1.2	1.4
2020	0.5	4.6	4.5	0.8	2.2	1.0	1.3
2021	0.4	4.6	5.0	0.7	2.0	1.0	1.2

NON-COMPARABLE INDUSTRIES

An in-depth look into the safety of six other industries demonstrates that the U.S. Oil and Natural Gas industry is generally safer than industries of similar characteristics. In this report, the rate of job-related nonfatal injuries and illnesses of the U.S. Oil and Natural Gas industry was compared to the following industries: Logging [NAICS 1133], 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

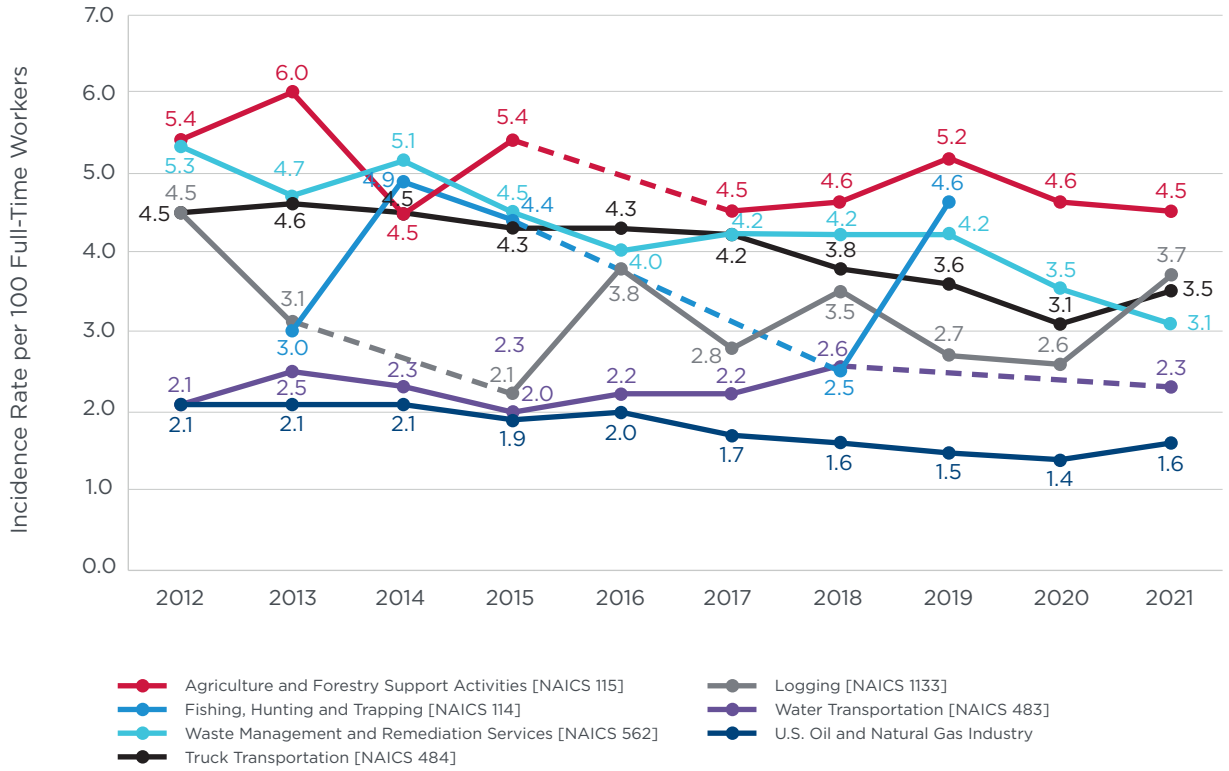
U.S. Oil and Natural Gas Industry vs. Non-Comparable Industries

In 2021, the rate of job-related nonfatal injuries and illnesses for the U.S. Oil and Natural Gas industry was 1.6 per 100 full-time workers.

Figure 9

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Non-Comparable Industries (2012-2021)



COMPARISON

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

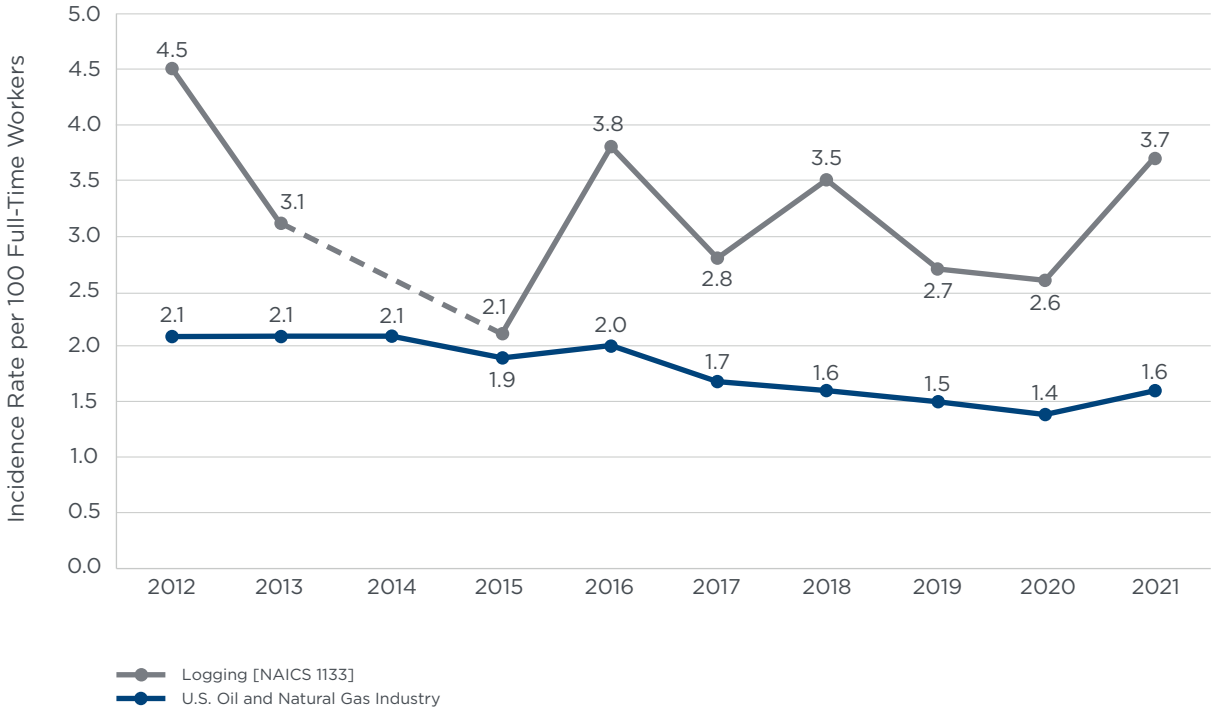
In 2021, the rate of job-related nonfatal injuries and illnesses for the Logging[7] industry was 3.7 per 100 full-time workers compared to 1.6 for the U.S. Oil and Natural Gas industry.

7 The BLS did not publish the rate of job-related nonfatal injuries and illnesses for the Logging industry (NAICS 1133) for 2014 because it did not meet BLS publication guidelines.

Figure 10

Injuries and Illnesses Incidence

U.S. Oil and Natural Gas Industry vs. Logging Industry (2012-2021)



COMPARISON

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

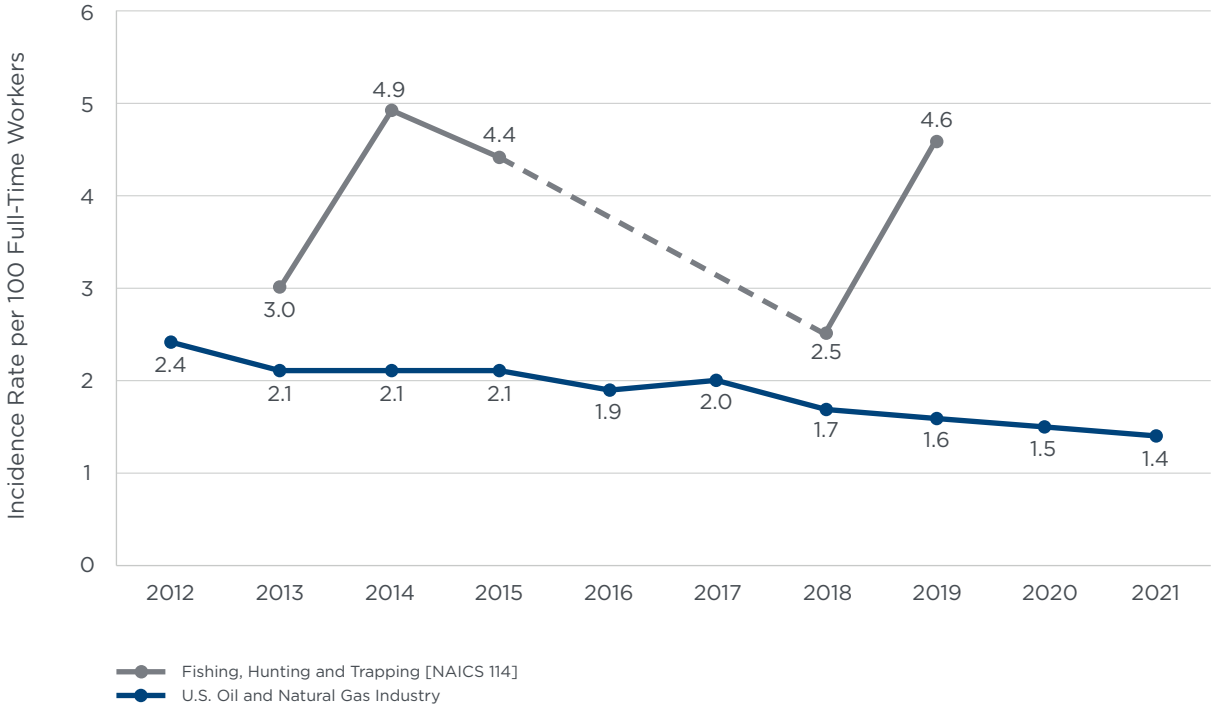
The BLS did not publish the rate of job-related nonfatal injuries and illnesses for the Fishing, Hunting, and Trapping[8] for 2021, but the rate for the U.S. Oil and Natural Gas industry was 1.6 per 100 full-time workers.

8 The BLS did not publish the rate of job-related nonfatal injuries and illnesses for the Fishing, Hunting, and Trapping industry (NAICS 114) for 2012, 2016, 2017, 2020, and 2021 because they did not meet BLS publication guidelines

Figure 11

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Fishing, Hunting, and Trapping Industry (2012-2021)



COMPARISON

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

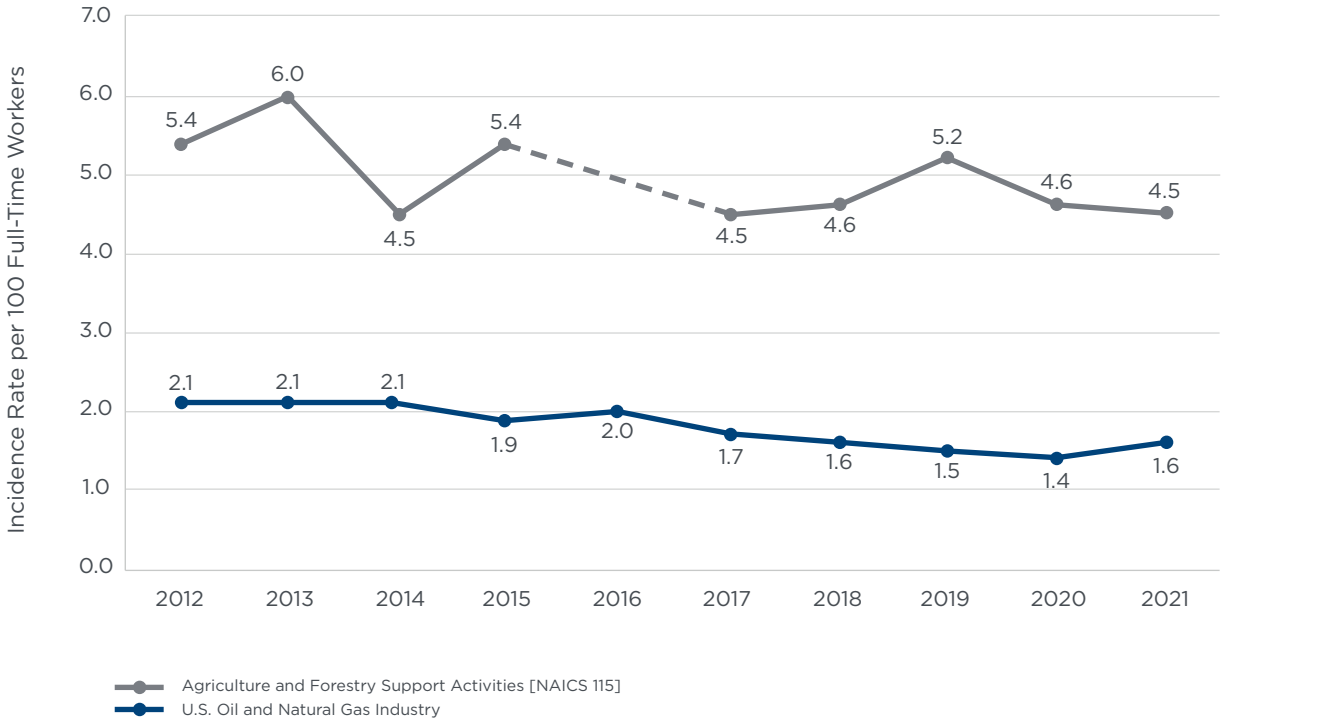
In 2021, the rate of job-related nonfatal injuries and illnesses for the Agriculture and Forestry Support Activities[9] industry was 4.5 per 100 full-time workers compared to 1.6 for the U.S. Oil and Natural Gas industry.

9 The BLS did not publish the rate of job-related nonfatal injuries and illnesses for the Agriculture and Forestry Support Activities industry (NAICS 115) for 2016 because it did not meet BLS publication guidelines.

Figure 12

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Agriculture and Forestry Support Activities Industry (2012-2021)



COMPARISON

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

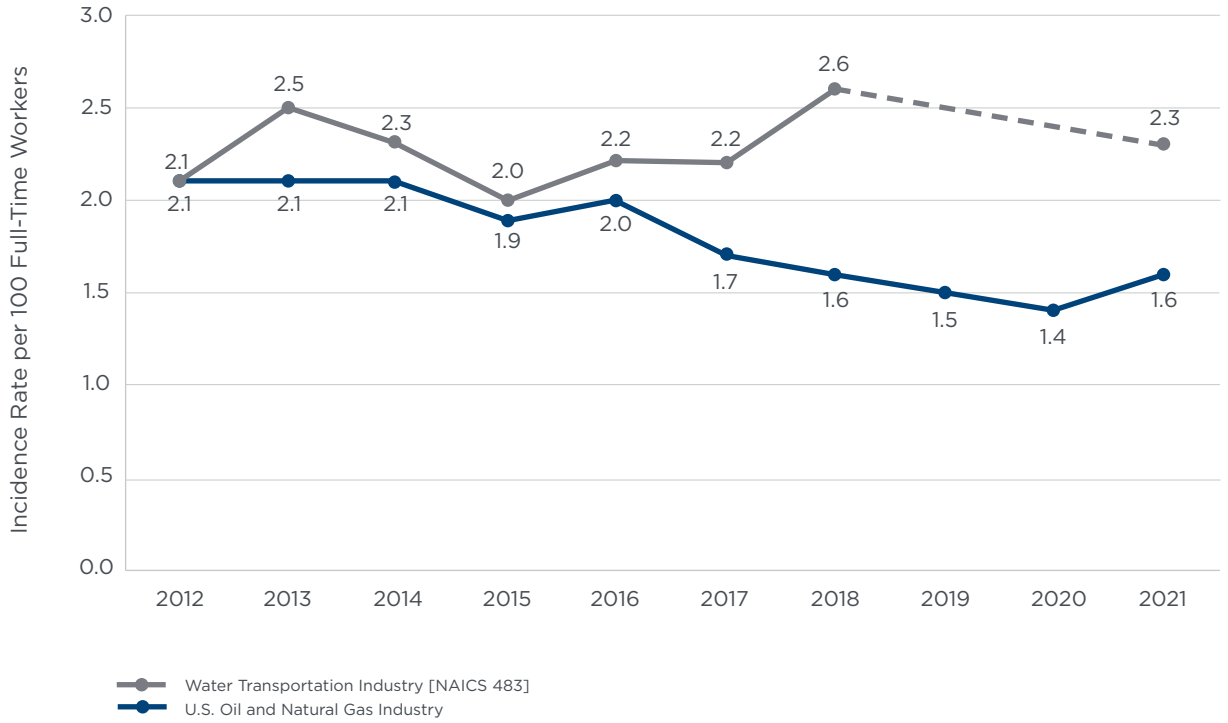
In 2021, the rate of job-related nonfatal injuries and illnesses for the Water Transportation[10] industry was 2.3 per 100 full-time workers compared to 1.6 for the U.S. Oil and Natural Gas industry.

10 The BLS did not publish the rate of job-related nonfatal injuries and illnesses for the Water Transportation industry (NAICS 483) for 2019 and 2020 because they did not meet BLS publication guidelines.

Figure 13

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Water Transportation Industry (2012-2021)



COMPARISON

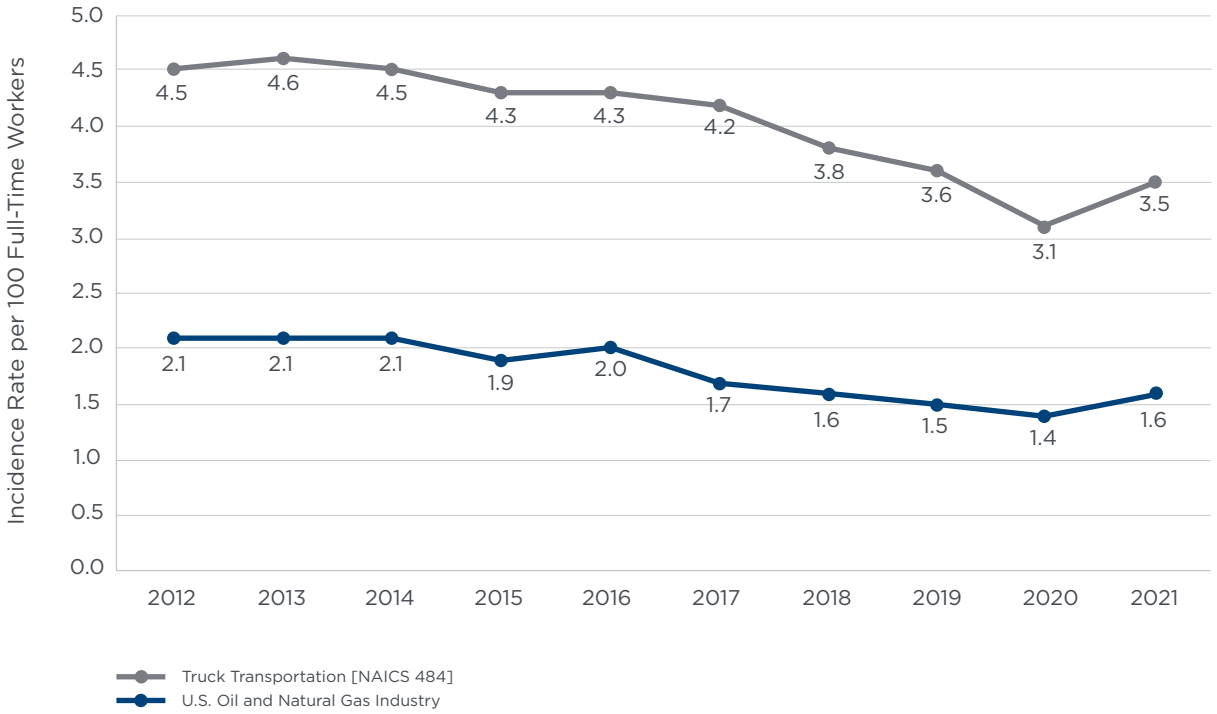
U.S. Oil and Natural Gas Industry vs. Truck Transportation Industry

In 2021, the rate of job-related nonfatal injuries and illnesses for the Truck Transportation industry was 3.5 per 100 full-time workers compared to 1.6 for the U.S. Oil and Natural Gas industry.

Figure 14

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Truck Transportation Industry (2012-2021)



COMPARISON

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

In 2021, the rate of job-related nonfatal injuries and illnesses for the Waste Management and Remediation Services industry was 3.1 per 100 full-time workers compared to 1.6 for the U.S. Oil and Natural Gas industry.

Figure 15

Injuries and Illnesses Incidence Rates

U.S. Oil and Natural Gas Industry vs. Waste Management and Remediation Services Industry (2012-2021)

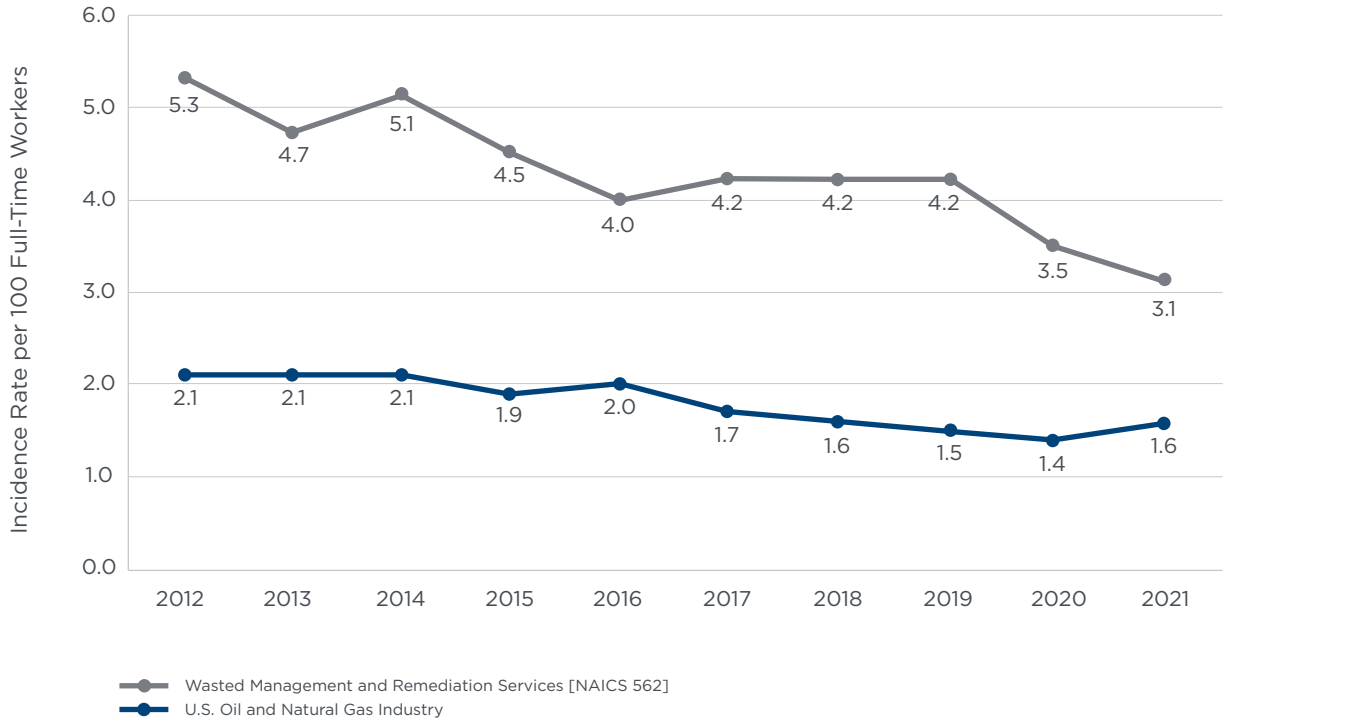


Table 5

Job-Related Nonfatal Injuries and Illnesses Rate: 2012-2021

Select U.S. Industries (Per 100 Full-time workers)

Year	Logging [NAICS 1133]	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
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
2018	3.5	2.5	4.6	2.6	3.8	4.2	1.6
2019	2.7	4.6	5.2	ND	3.6	4.2	1.5
2020	2.6	ND	4.6	ND	3.1	3.5	1.4
2021	3.7	ND	4.5	2.3	3.5	3.1	1.6
% change							
2020-2021	42%	ND	-2%	ND	13%	-11%	14%
2012-2021	-18%	ND	-17%	ND	-22%	-42%	-24%

ND = No Data available

ABOUT THIS REPORT

This report is based on information from the U.S. Bureau of Labor Statistics' (BLS) Survey of Occupational Injuries and Illnesses (SOII) **(https://www.bls.gov/iif/home.htm)**, the Bureau of Safety and Environmental Enforcement's (BSEE) **(https://www.bsee.gov/reporting-and-prevention/safety-and-environmental-management-systems)** OCS Performance Measure Tables, as well as the U.S. Department of Transportation Pipeline Hazardous Materials Safety Administration's (PHMSA) Accident and Incident Data **(https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data.)** The SOII 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 SOII provides estimates of the number and frequency (incidence rates) of job-related 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 requirements published by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

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.

Data for years prior to 2012, the total hours worked for the sectors were derived by multiplying the employment figures published in BLS's Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, YEAR by 2,000 hours (40 hours and 50 weeks per year per full time employee).

For the 2012 data, BLS stopped publishing the employment numbers in Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, YEAR. As a result, for the 2012-2018 data, the employment numbers and hours were 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.

For the 2019 data, BLS began publishing total hours worked figures in Table 3. Number of hours worked and percent relative standard errors - detailed industry level. Employment numbers are calculated by dividing the hours worked figures by 2,000 hours.

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 2011-2012 SOII data used the 2007 NAICS Manual and the 2013-2018 surveys utilized the 2012 NAICS Manual. The 2019-2021 surveys utilized the 2017 NAICS Manual.

DEFINITIONS

Full-time worker
For the 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, skin disease, respiratory disorder, or poisoning.

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