



**TRUE
TRANSITION**

THE FUTURE OF ENERGY & WORK IN THE UNITED STATES: THE AMERICAN OIL & GAS WORKER SURVEY

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Cover Image: Ingleside, Texas – Bureau of Safety and Environmental Enforcement personnel traverse a stairwell to inspect safety equipment and systems aboard Shell's Vito platform on Federal OCS on May 11, 2022. Credit: BSEE, public domain



A BSEE inspector prepares to land for a scheduled pre-production inspection in, Feb. 2, 2022, on a platform approximately 100 nautical miles off the coast of Houma, Louisiana in Federal OCS.

Credit: BSEE, public domain

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**MEGAN MILLIKEN BIVEN
& LEO LINDNER**

MARCH 2023

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FORWARD

WHY TALK TO WORKERS?

From the moment workers struck oil at the Drake Well in 1859, the American oil and gas industry experience has been a tug and pull between excess and restraint, boom and bust, and the boss and the worker. There is no singular experience which can distill what it means to be an American oil and gas worker. The work is as varied as American topography: Small crews in the Permian or Appalachian harken back to the wildcat crews of the same regions of the 1910s while the 24-hour manned permanent installations in the deep waters of the Gulf of Mexico are the closest experience to living in space we have on Earth. Wherever this work takes place, it is universally understood to be hard labor which can net proportional rewards. It's a hard job, but the pay is good. Or at least it was.

The ever shifting tides of the oil and gas industry have been well publicized, but the impacts on oilfield workers are less understood. While "oil and gas jobs" are frequently invoked to advance preferential policy for the overall industry, regular workers are not typically consulted or given a media platform. Their fealty is a given.

By the beginning of 2020, oil and gas firms had fired over 118,000 American oil and gas workers.¹ Even before that, companies let go 55,000 people employed in oil and gas extraction, or 28% of the total workforce between 2015 and 2019.² There's a lot of talk about how the energy transition will displace workers, but less talk about how the oil and gas industry is already shedding its workforce. For oil and gas workers, the transition has already begun. True Transition is an organization that began out of this observation.

From oil and gas production to pipeline construction to refinery operation, American oil and gas workers are a highly specialized workforce. While oil and gas firms may consider those workers expendable and those skills increasingly obsolete, True Transition recognizes that those skills are desperately needed in parallel sectors of the economy. Some of those sectors include renewable energy like offshore wind which offshore oil and gas workers are uniquely qualified to build. But there's also cleanup. After 150 years of oil and gas production in the United States, over ten million wells have been drilled. Many of these wells will need to be plugged or re-plugged with modern methods to protect water aquifers and protect local communities. And that is just the tip of the iceberg. There is plenty of work to do, and American oil and gas workers are precisely the workforce to do it. The questions for us was what do American oil and gas workers experience in their careers now and what do they want in the future?

EXECUTIVE SUMMARY

At the end of 2021 and beginning of 2022, we circulated a cross sectional survey via social media platforms and through word of mouth. In total, 1,635 workers completed the survey. While responses revealed shared themes, such as the desire for employment stability, workers who participated in the survey were not a monolith. Workers expressed unique and individual views specific to their career and life experiences, oftentimes revealing contradictions that all humans possess. No one is perfectly consistent and respondents to this survey are no different in that regard. One recurring theme, however, emerged. Workers expressed gratitude for the opportunity to say their piece to a larger audience. As one survey respondent said, “I wish people knew our stories.”

Of course, a few dozen questions can only tell part of a story. We followed up with several survey participants to ask additional questions and learn more about their individual experience and attitudes towards their work and the future of the industry in their own words. We feature those conversations throughout this report as case studies.

The key survey results show:

JOB SECURITY

- Over half of the survey respondents have lost their jobs at least once previously to 2020, evidence that the oil and gas industry has already been systematically reducing its workforce.
- More than half of the survey respondents lost their jobs in 2020.
- Workers expressed anxiety about not being able to do anything else outside of the oil and gas industry and a preference for work that utilized existing competencies.

PAY & BENEFITS

- Average wages in the oil and gas industry have declined. Workers complained about having been fired and then re-hired for the same work at lower pay.
- Just under a quarter of survey respondents are 1099 independent contractors.
- Wages in emerging alternative energy industries are not competitive enough to attract oil and gas workers.

SAFETY AND WORKING CONDITIONS

- Just under half of survey respondents believe that their company’s safety program was explicitly or implicitly designed to shift liability of an accident onto the worker.
- A third of survey respondents indicated that they had been ordered to engage in unsafe working practices that were in direct violation of established safety practices.
- Crew sizes are shrinking with more work expected of each worker. Smaller upstream operators appear to be under staffed intentionally to save money.
- Newer, younger hires are not being trained adequately.

FUTURE OPPORTUNITIES

- Many workers expressed deep distrust of the government, but also acknowledged a potential role for certain agencies. If oil and gas companies do not rehire workers to previous levels, then many respondents said that the government should provide wage replacement (37%), health insurance benefits (35%), and fund training for workers to find new employment (42%).
- Certain geographic regions expressed a greater interest in renewable energy. For example, Gulf of Mexico regional respondents demonstrated a greater interest in offshore wind.
- Over half of workers supported a federal jobs guarantee defined in the survey as a guaranteed public job in

infrastructure repair and other public good projects with baseline benefits of health insurance, paid sick leave/vacation, and retirement.

- Just under half of workers supported direct federal employment to plug oil and gas wells.

Compared to oil and gas employment data, the survey tells a story of a workforce already in transition. All segments of the oil and gas industry have learned to do more with less. Each worker's individual productivity has skyrocketed, as more and more products are being extracted, transported, and processed with fewer and fewer workers. As the directional driller, "Archer" put it, "in the long run these crews drill themselves out of work." Workers complained that current trends places greater pressure on remaining, smaller crews and compounds the risk each worker must face each shift.

Survey responses reveal that workers know what needs to be done to improve current conditions: increase the size of crews, provide more comprehensive training to newer hires, decrease length of shifts and increase time between shifts, and improve oversight. Workers know what will attract them to other industries: better pay, full time contracts with benefits, job security, and paid training linked to actual jobs on the other side. American oil and gas workers know that their skills are transferable, but businesses and the government have to be better at putting those skills to work.

Workers also acknowledge that an energy transition, at least in part, is underway. Survey respondents expressed support of American energy security whatever form that energy takes. As one Texas upstream worker put it, "the transition away from O&G needs to be planned and managed so as to happen smoothly over the next 20 to 50 years." Who will be in charge of that transition and where benefits will flow are yet to be determined.

Workers shared explicit recommendations which we feature as testimonials throughout the report. Workers also expressed preferences towards workplace improvement

and needs for an energy transition. True Transition is both a worker advocacy organization and a public policy collaborative with direct experience in energy management and government regulation. We built upon worker responses with our knowledge of domestic energy policy to offer up new public policy ideas to improve the quality of American energy jobs. Below is an abbreviated version of the public policy recommendations we make at the end of the report.

1. IMPROVE WORKING CONDITIONS.

- Anonymous Worker Hotline: True Transition recently recommended that the federal regulator the Bureau of Safety and Environmental Enforcement (BSEE) establish a 24-hour tip line and email address for workers to anonymously report unsafe practices or working conditions and a new protocol to physically investigate those tips. This recommendation could be extended onshore to the Department of Labor's Occupational Safety and Health Administration's Whistleblower division who could staff an anonymous tip line and email.
- Penalize overtime infractions & wage theft: Many workers complained about sharp decreases in pay despite increases in hours worked. We recommend an increase in the Department of Labor's Wage and Hour Division funding and staffing to increase oversight and investigate and enforce oilfield wage theft.
- Oilfield Safety & Health Administration: Oil and gas regulation is fragmented and split between dozens of regulators. State regulators and companies are both failing to provide a basic floor for safety. We recommend the creation of a new federal regulator with inspection and enforcement capabilities, with mandated ratios of inspectors to infrastructure specifically for oil and gas related production, transportation and refining.

2. DON'T ABANDON DISPLACED WORKERS.

- Paid Training for Industry Crossover: Through one office, workers should be able to qualify for educational support, easily find local training at approved trade colleges and trade union apprenticeship programs, and that training should link directly to a job with either

public or private employers. Private employers participating in Project Labor Agreements (see below in Wage Standards) and other labor standards as defined by workers and unions, for large scale projects like offshore wind can register as prospective employers, and workers signing up for these training programs can forge forward confident that their newly acquired skills find a use.

- **Bridge to Retirement:** Of the 1,635 survey respondents, 30% supported pension guarantees, and 24% supported a federal glide path to retirement (or wage replacement for early retirement if 60-64). Several survey respondents spoke of the physical toll their careers in the oil and gas industry has wrought. American oil and gas workers toil to power our nation and communities and they deserve a retirement with dignity and comfort.

3. JOB OPPORTUNITIES THAT LEVERAGE EXISTING SKILL SETS.

- **Federal Job Guarantee:** The government would act as an employer of last resort and provide a national base salary (with annual adjustments), Social Security, health insurance, childcare, paid sick leave, paid family medical leave, and paid leave. The kinds of jobs in such a program would vary by geographic region, but would likely plug into ongoing public works projects matching job seekers' skills to jobs.
- **The Abandoned Well Administration:** The Abandoned Well Act is proposed federal legislation that will create the Abandoned Well Administration (AWA), a new executive-level agency that will recruit and directly employ a new federal workforce of oil and gas workers. AWA staff will identify, decommission, and monitor the millions of oil and gas wells and related infrastructure across national field offices with an arsenal of rigs and equipment owned and maintained by the AWA.
- **Strategic Refinery Reserve:** The United States, under the Department of Energy, or as a majority state owned (51% or more) company, would acquire recently shuttered refineries that are currently sitting dormant and in need of repairs. These refineries could directly employ recently displaced downstream workers, ensure

strategic spare capacity, and provide price stability and regional reliability to American residents during the energy transition.

- **Publicly Owned Energy:** The United States forms and operates its own energy companies for the benefit of the American public. State owned entities can invest more into research and development, build large capital assets like offshore wind installation vessels, and commit to longer time horizons than investor owned companies constrained by quarterly returns. They can also retain workforces during periods of instability.

4. INCREASE WORKER POWER & LEVERAGE

- **Marcora's Law for America:** Survey respondents made a recurring request: loans or grants to start their own business. Through Marcora Law, unemployed workers can receive their unemployment insurance payments in one lump sum and pool with other workers to establish their own employee owned cooperatives.
- **Project Labor Agreements (PLAs) on federal energy leases:** A frequent refrain from survey participants is that wages in oil and gas have declined in the last three years, and wages in the renewable energy sector are not high enough to attract oil and gas workers. We recommend that regional PLAs should be developed for all public leasing programs, including oil and gas, and incorporated into lease sale stipulations and lease contracts. PLA's establish standard pay and benefit rates for each trade and address labor supply issues through provisions that commit the signatory unions to use their job referral procedures to ensure a steady supply of highly skilled workers.
- **The PRO Act:** Throughout the report we document several cases of employer retaliation, from refinery lockouts for striking workers to being "chased off" job sites for discussing working conditions. The Protecting the Right to Organize Act of 2021 would prohibit employers from permanently replacing striking workers and bans the use of lockouts.³ The PRO Act would also impose strict consequences on employers who fire workers for discussing work conditions. Employers are

allowed to force workers to sign arbitration agreements “often buried in a stack of paperwork they sign on their first day of work, in which the workers waive their right to collective or class action litigation.”⁴ The PRO Act would ban the use of these waivers. And finally the

PRO Act would impose much needed clarity upon the use of independent contractors in all industries and codifies a joint-employer standard, meaning that all companies at a worksite would be under the same liability and legal umbrella.

A MOMENT OF GRATITUDE FROM ONE OF THE AUTHORS

I have a peculiar habit of tracing supply chains in my everyday life. As I brush my teeth, I inventory the items cluttered around my sink: Porcelain, plastic, soap, clean fresh water...each a dizzying chain of actions and humans making each modern marvel possible. There is no place on Earth where the precarity and miracle of these goods is more acute than in your own child's hospital room. Surveying a room full of single use items that prevent contamination, electricity that keeps the oxygen machine flowing to my son's young lungs, chemical fertilizers that grew the food on his plate, gasoline that fueled the ambulance that brought us to this room, and above all, a modern world made possible by harnessed energy. Most people do not care or think about how their lights turn on, only that they do. Most people do not care how they power their car, only that it gets them from their job to their child's school. At this moment in time, oil and natural gas are the form most energy takes. Oil and gas workers toil, shoulder busts, and take risks to extract that energy and make my modern life possible. If you are an oil and gas worker reading this report, thank you.

A LETTER FROM LEO LINDNER, TRUE TRANSITION ORGANIZER, MUD ENGINEER ON THE *DEEPWATER HORIZON*:

This report is about a particular kind of worker: the oilfield worker, those men and women who dig the wells, transport the oil and gas to refineries, where refinery workers crack that oil and gas into the constituent parts that, to a large degree, make for modern life. And while it is a common assumption that those are good, stable jobs, the workers who responded to our survey did not unanimously confirm that assumption. These jobs are costly for the people who work them. They entail both sacrifice and risk, and while those jobs are, tentatively, still good paying jobs, the report shows that a large minority of oilfield hands see they are under the same strains as other working-class people: unsteady work, leading to money worries, and after long years of making piles of money for snug investors and executives, they face an uneasy retirement. Our report is rare because it gave them a chance to talk, publicly, about their lives in the oilfield while remaining anonymous. This is important because the oilfield is actually a small place. A bad word from one company could make finding another job in the same industry an impossible task.

Recounting the data from the survey and disclosing the report's findings would only step on thoughts and words that are much better expressed in the report than by my summation. What may be more interesting is to share some experiences in my years of drilling oil wells. It's much more narrow in scope than the report since it's only one experience and only an experience in the upstream of the industry, but I'm fairly confident that there are themes in this narrow slice that may carry over to those other areas.

The names in the oilfield are telling. The people I've worked with are actually more important to me, but the names of drilling rigs always seemed to frame the work.

Nabors names its rigs with a simple number. I broke out on a little land rig in Choctaw, LA. The drive led through a swamp on a plank road thick with mud and ended at Nabors 7.

Never met a group of guys so wild, but so good natured. After washing off the ruin of the day, younger hands would tear out of the gravel lot for a bar. The older hands settled for yelling at any football game on. The company man wore a hardhat on the site, like everyone, but his was shaped into a cowboy hat, and he said his name was "Stick." Stick was curt, direct. So much so that when he was too curt and direct with the oil office that hired him, Stick got "run off." There were a few people run off that job, a directional driller, a mud logger - for reasons as abstract and arbitrary as the numbering of the rig.

Once, I walked on the mud pits to jaw with the hulking derrick man. I asked, "What's going on?" He shot back in a high Mississippi treble, "Man, hell if I know. They pay me from the neck down." I thought 'this guy must be some kind of philosopher.' It was the first time I heard that phrase—they paid for a body, not a brain. But I heard it often enough when I started working offshore.

There are rigs with names painted on them with a little flair of local color: The Cajun Express, the Rowan Midland, the Pride Florida. The Cajun Express was my only experience

in doing completions. We did things like “pickle the pipe.” “Pickle” is usually some form of organic acid pumped through the pipe to remove the scale and rust so the pipe doesn’t oxidize. The pickle was a royal, deep purple and purpled everything it touched. When they fracked the reservoir, the rig must have pumped a whole Mardi Gras worth of beads into that well. Years later on another rig, during a safety meeting, we learned a roustabout was killed moving pipe on the Express. To hear our safety man tell it, his death was entirely his own fault for getting himself in a “pinch point.” But the MMS (now BOEM and BSEE) report was a bit more clear:⁵

The regular Tool Pusher, Deck Foreman and Assistant Crane Operator were all on personal leave, and a Roustabout had passed away on his time off. This created a need to change positions and bring personnel from another crew. A Roustabout with a Class B Operator’s certificate was designated the Acting Crane Operator and task supervisor to manage multiple rig tasks with a newly created and relatively inexperienced crew without additional Transocean management oversight. A Roustabout was acting as the pipe handler Operator and supervisor of the operation, with a Roustabout that normally served as a Floorhand acting in the role of the pipe handler Spotter (Deceased).

I understand the safety man’s need to push the blame down on the spotter. He wouldn’t keep his job long if he pointed to the company as the problem, but the politics of the safety systems in the oilfield functions in this way. They function as a firewall, protecting the company from liability. Transocean pushed the job even though they were undermanned and the men they had were inexperienced.

The Midland was named after the town in the middle of the Permian Basin in Texas. The Rowan aesthetic seemed a throwback to the oilfield of the 60’s. The hands still wore metal hardhats and smoked in the galley, and I seem to recall there was a picture of John Wayne in the toolpusher’s office. One of the crane operators wore his hardhat at a slant and swaggered like he meant it. He had to relieve

himself while he was in the cab of the crane, unloading a ship. Not wanting to stop, he made use of a nearly empty bottle of Windex. When the next shift started, the fresh crane operator thought the cab windows needed cleaning and started spritzing. That story circulated around the rig quickly.

The production company was a small operator, and their company man was a bit of a cowboy himself—an angular man with nicotine-stained fingertips and a magnificent head of feathered hair that a ten-gallon hat would have ruined. We had cemented at a casing point and drilled out of the new cement to perform a leak-off test on the shoe. The shoe is where the casing ends and is usually the weakest point in the wellbore). The test was weak—leaking off shy of the weight they needed to get to the next casing point. With no talk about recementing, the company man fudged the numbers of the test, and told us to drill ahead. Not long after, the rig drilled into a saltwater flow—the well was forcing saltwater into the wellbore. The oil company knew it didn’t have the mud weight to kill the saltwater kick without creating a bad leak at the shoe. They decided to plug and abandon the well.

On the Pride Florida, there was a driller who, when he was drilling ahead, would always get on the PA system and smartly announce, “Mining for oil, gas and other valuable minerals in the Gulf of Mexico.” Every rig should have such a driller. I never asked him what those other minerals were, but it did a service, reminding us we were miners.

We were still shallow in the well when we drilled into an unexpected gas pocket. The drilling fluid was too light to hold it back. The mud burst up on the rig floor in such a gush that it blew the master bushing up the Kelly pipe like a large carnival strongman game. When the bushing flew up and struck the steel swivel, it rang out but louder than a carnival bell, more like a cathedral bell.

There are rigs that carry names that read like vanity plates. The Noble Corporation has a few of them: the Noble Jim Thompson, the Noble Paul Romano, and the Noble Lorris

Bouzigard—I guess the vanity is doubled by the adjective. I worked on the Bouzigard where the lead company man was a grizzled, but funny piece of work who spoke with the aid of a voice box. He came down to the shakers during a displacement and sidled up to me saying “When I see a mud engineer, he’s usually standing in a puddle of piss.” I remember the robotic way the word “piss” hit my ear, with no fluctuation of emotion. He smiled, wanting to see how I would react, and I returned, “I’ll work up a puddle for you when we’re done” and smiled back.

While the day company man was wise, who’d seen it all, the night company man had never drilled a well in the Gulf, and the next night, while we were drilling ahead, we took a kick and didn’t shut in the well until some of that kick got in the riser. When we circulated out the gas bubble, it blew drilling fluid all over the rig.

We had to displace and temporarily abandon the rig soon after that, not because of the gas bubble. The need was pressing, and the rig didn’t have a lot of time. In order to do it, we had to set a mechanical plug in the well to seal it off. When they tripped into the hole and got the plug to the blowout preventer, it hung and wouldn’t go through. Hands started wringing. Because if we couldn’t set the plug and complete the abandonment in time, the crew would have to ride out Hurricane Katrina on the rig. After some sweating and a day’s worth of attempts, the rig floor found the sweet spot and the plug slipped through the BOP.

As we left on some of the last flights in the Gulf before the storm, the Noble crew turned off the diesel engines and the rig went quiet. Odd, and a bit eerie to hear a rig go silent because a rig is meant to be a constant, billowing machine, driving toward a well’s total depth and then the next total depth right after. Only nature’s threat made that little sleep possible.

When we landed, the wise old cuss went around shaking hands. His words were kind, if robbed of their emotion, but that emotion shone on his face and pressed into his warm handshake—not entirely grateful for himself, more grateful

that the crew made it ashore. As rough as the start of that well was, I would have liked to have finished that well and to have drilled more wells with him, but I was pulled from that job to go to work on the Horizon.

I noticed that the bigger the rigs got, the grander the names, drillships and giant floaters with names straining with power like Ocean Monarch and Deepwater Invictus, some heaped with aspiration and authority, like the Ocean Valiant and the Deepwater Conqueror, names pointing to the heavens, Deep Ocean Ascension, Deepwater Asgard, and the Deepwater Athena. Some names point to the depths and the heavens at the same time. And there are names that now seem touched with fate, like the Deepwater Horizon.

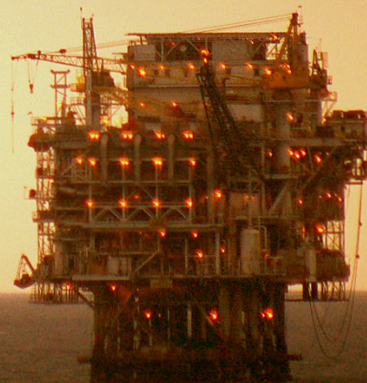
The Horizon would often get a visitation from corporate royalty after some accomplishment, and the rig had drilled the world’s deepest oil well with a total vertical depth of 35,055’. So they were on their way: vice presidents, operations managers, drilling engineers in fresh hardhats, working up sugary words for the occasion. David Rainey was BP’s Vice President for Exploration in the Gulf who spoke in a musical Northern Irish brogue, and on this occasion during a safety meeting for the crew he congratulated the rig for the accomplishment, how well the job had gone, and put forward that “we were all family,” all in it together, and how this close bond is what cemented our success. Some hands looked pleased; others looked deadpan. Roy Kemp offered me a wry look. We both understood if there were any kinsfolk in the room, their hardhats were scrapped and muddled and held heads worrying about providing for their loved ones, and the ploy to wipe away the distinction between rig workers and our princely visitors by plying us with appeals to “family” smelled like ripe arrogance. The truth is, while probably falling short of a familial bond, the rig crew, with a few exceptions, did have a marked affection for each other.

Roy was a derrickman, but was soon to be promoted to assistant driller. It was easy to see why. The Air Force Veteran had a lighting mind and a muscular work ethic.

But what comes to mind the most was his uncanny grasp of religion. When the rig was logging (which meant he and I had little to do), he would walk over to the mud shack (my little office) and we would talk. His views on religion were nuanced, thoughtful. We spoke once about the apparent capriciousness of God, when he allows bad things to happen to good people. For instance, there is always the tired scene in some murder mystery when the valiant detective asks his devoted underling while standing over a bloody crime scene, “How can a good God allow this to happen?” Roy cut the question: “He let us kill him, didn’t He? Why would He allow that? We should be grateful if He saves any of us.”

About half a year later, the night of the blowout, I had been on for 15 hours and my partner, Gordon Jones, told me to knock off with a friendly vulgarity and a slap on the back, for which I’ll always be grateful. The last thing I did before going to the living quarters was walk down to the mud pits to say goodbye to Roy. His shift was over in a matter of hours, and the next day was his crew change day. Your heart grows heavy flying to the rig, and is just about intolerably light flying from it. We shook hands—he was thinking of his wife and two beautiful little girls. They had plans. By his face and his words, I could tell that his heart was growing light. Maybe it’s cruel to be given a light heart in such a dire hour, but when the end came, I hope, in some mysterious way, that the love from his two little girls and his wife helped strengthen and lift his heart.

Platform in the Gulf of Mexico
Credit: Bureau of Ocean Energy
Management, public domain.



Welders working on the Bayou Bridge Pipeline
in Crowley Louisiana.
Credit: Julie Dermansky Photography



SECTION 1:

THE WORKERS

1.1 METHODOLOGY & SURVEY RESPONDENTS OVERVIEW

Our survey included 38 questions aimed at oil and gas workers throughout the United States. In September of 2020, Platform London, a U.K. based organization, published the Offshore Oil and Gas Worker report.⁶ Platform London built their questionnaire in coordination with U.K. oil and gas workers and trade union officials. We consulted with Platform London, as well as former and current American oil and gas workers, and modified that original survey to suit an American audience, adding questions regarding safety and current compensation and benefits. In preparing the survey, we consulted with former American oil and gas workers who recommended that we also include questions regarding workplace safety practices. We also cast a wider net inviting workers beyond upstream jobs (exploration and production) and included midstream (transportation and construction) and downstream (refinery and chemical) workers.

The survey aimed to understand workers' views in three key areas:

- 1. Job stability and satisfaction**
- 2. Safety practices**
- 3. Alternative employment/industries.**

Of the 1,635 survey respondents, 629 workers identified as working in oil and gas exploration and production (upstream); 665 workers identified as working in oil and gas support activities (including transportation, shipping or pipelines); 218 workers identified as working in refining and petrochemical; and 123 workers identified as “other.”

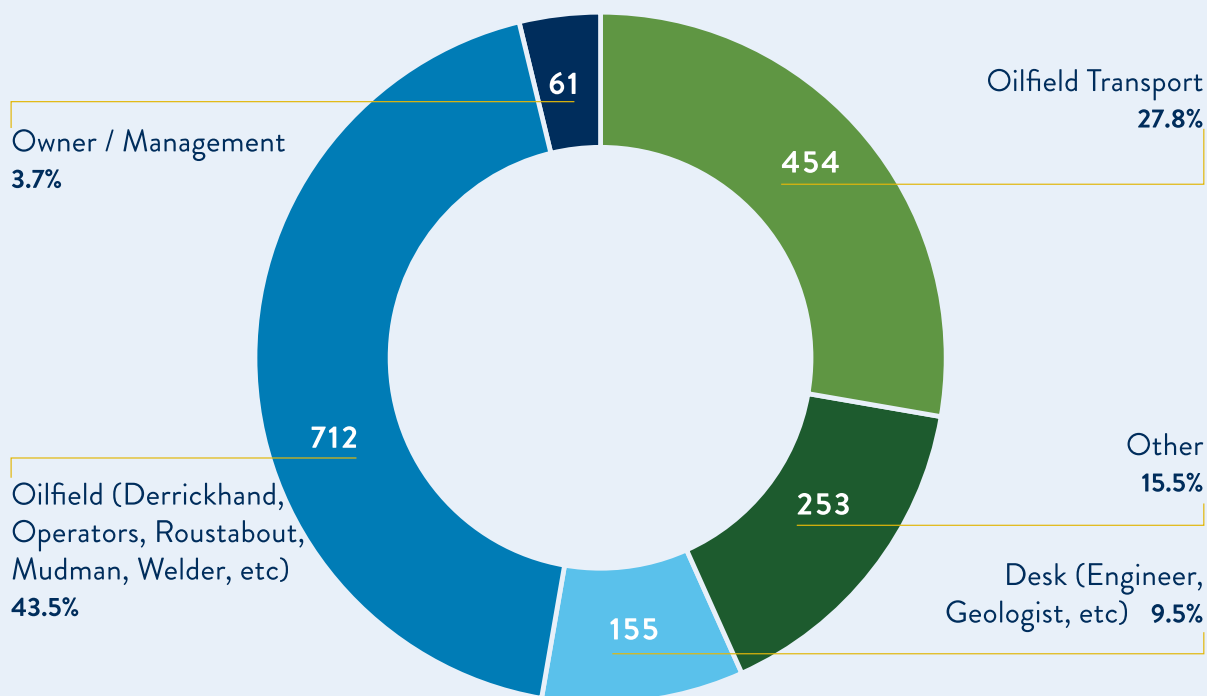
It was decided early on in the process that because of the sensitive nature of the questions, especially regarding

workplace safety, we would leave contact information optional. Responses were collected over the course of three months, predominantly via targeted advertisement and posts on social media and industry channels. In the last week of the survey, we offered a \$5 Amazon certificate in exchange for participation in the survey.

In our literature review, we found a few surveys that focused primarily on white collar oil and gas workers that sought their perspectives on the changing industry.⁷ In 2022, Brunel Intl. and Oilandgasjobsearch.com conducted an international survey of recruiting professionals and energy worker job seekers (this included renewable, mining, nuclear and oil and gas professionals) with 10% of respondents working in the United States and Canada.⁸ Airswift and Energy Jobline conducted a similar global survey of energy workers primarily engaged in engineering and management positions.⁹ Many of the surveys we found were conducted by management consultancies and targeted executives and management on their attitudes towards the overall profitability of the industry.¹⁰

Our survey focused on non management and mostly blue collar oil and gas workers in the United States engaged in the physical wage labor of oil and gas exploration, production, transportation and refining. While we did ask a question for respondents to describe the work that they did, we later decided that the provided categories were too narrow and did not capture all streams of the oil and gas industry. In the future, we would better refine those categories. That said, just under 10% identified as white collar, desk jobs and 3% as owner or management. Workers engaged in white collar work like corporate attorneys or in management positions can weather busts and an energy transition more robustly because their skills are transferable to

What best describes the work you do?



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other corporate contexts (and these positions are most likely making the cuts.) There are certainly white collared positions like engineers and geologists whose expertise is specific to oil and gas. This survey focuses on the workers most affected by the declines in the industry and the policy recommendations on the skillsets of that workforce.

We view this survey as just a first step in an ongoing conversation and effort that will culminate in energy workers having a greater say on the quality and safety of their jobs. **As the old adage asserts, if workers don't have a seat at the table, then they are probably on the menu.** Survey respondents were given an opportunity to expand upon questions and tell us what they thought in their own words. We feature those accounts throughout this report. Survey

respondents indicated whether they would like to be contacted in the future, and we followed up with several of those individuals and asked if they would be willing to share longer conversations regarding their experiences in the oil and gas industry. We feature some of those conversations as longer narratives in this report. We never disclose real names and only use pseudonyms.

We observed several themes in the survey including the benefits and stresses of the oil and gas lifestyle, especially the tenuous nature of employment. While the following respondent was glad to have retained employment with the added opportunity for advancement, they noted it was unlikely to last.

The respondent also remarked that his job was all he knew how to do, an anxiety expressed by many survey respondents:

“I’ve been with my current company for five years and have worked myself up from the very bottom level mechanic and now I’m a lead mechanic. I’ve been lucky enough to not be laid off in the last five years but a lot of people haven’t been so lucky. I know my luck won’t last forever but this is what I know how to do.”

1.2 BOOM & BUST: A RECENT HISTORY OF THE AMERICAN OIL AND GAS INDUSTRY

In the last two decades, the American oil and gas industry has undergone a profound transformation. The wide scale adoption of hydraulic fracturing to access unconventional reserves of crude oil and natural gas ushered in the American shale boom. In 2008, U.S. oil production began to rise and did not stop. Indeed, between 2008 and 2018 the nation witnessed the fastest oil production increase in U.S. history - an astonishing 145%.¹¹ In that same time period, U.S. natural gas production increased by 66%.¹² The United States was close to producing enough domestic oil and gas to meet domestic demand. Prior to the shale boom, the U.S. had been relying upon a suite of 1970s era laws and programs to shore up domestic supply, called Project Independence, which included a ban on nearly all exports of U.S. crude oil.¹³ But in 2014, global prices piqued at \$107.95 a barrel and then plunged 59% to \$44.08 a barrel by January 2015.¹⁴ What happened?

In 2015, the United States surpassed Russia and Saudi Arabia as the largest global producer of oil and gas. This was not just a domestic milestone, but a global game changer, threatening to disrupt the several decade global hold the Organization of the Petroleum Exporting Countries (OPEC) had on the global petroleum market.

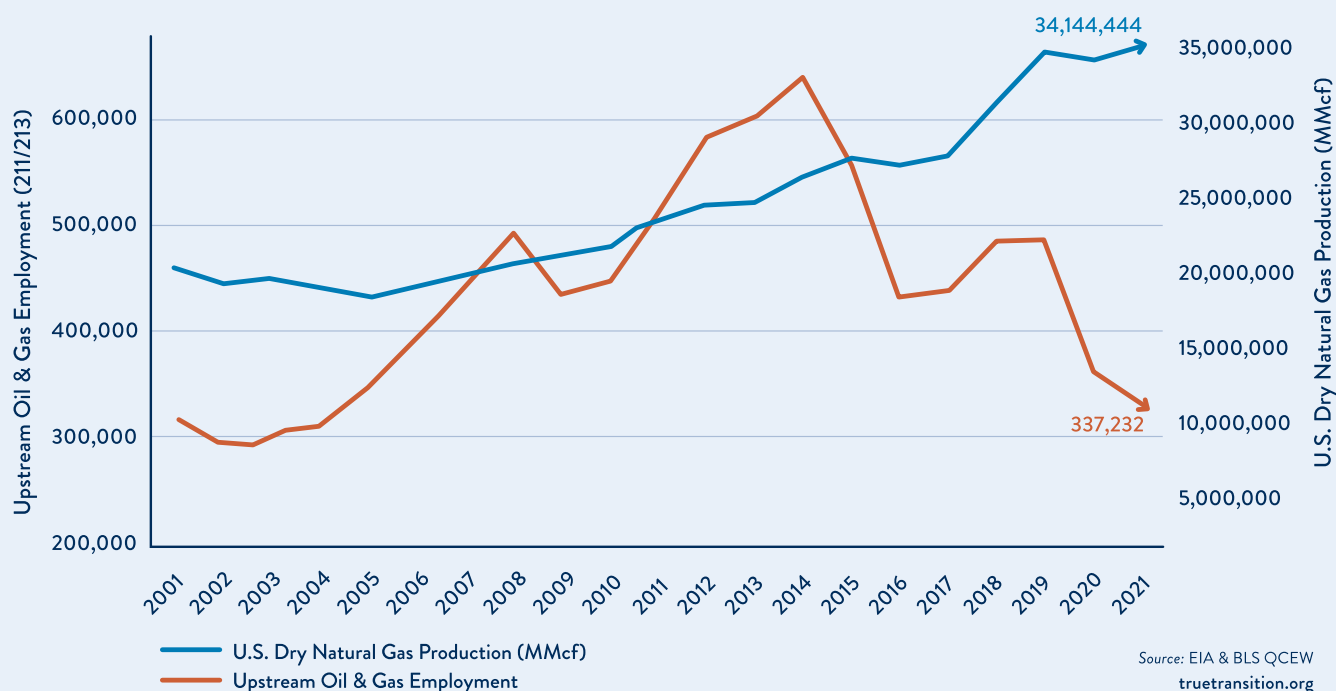
All American domestic producers needed was a place to sell that new inventory with higher profit margins. In December 2015, Congress acquiesced and voted to repeal the 40-year-ban of crude oil exports and American crude oil flooded the global market.¹⁵ This led to a global oversupply and a corresponding price crash. Oil and gas are internationally traded commodities, and without domestic policies like price controls, the American economy remained at the mercy of global markets, cartels, and commodity speculators.

Companies had to make up global losses somewhere, and payroll was a quick way to boost margins. Drilling efficiency¹⁶ and rig productivity,¹⁷ both industry code for extracting more with less, increased exponentially. While the industry was already investing in this tech, the price crash fast forwarded wide scale adoption. Despite record production, horizontal drilling required fewer rigs and less crew. New processes and technology like horizontal laterals, multi-well pad drilling, walking rig systems, the “iron roughneck,”¹⁸ and the increased use of data analytics have increased drilling accuracy and reduced the need for additional crew.¹⁹ Offshore, the dual activity drillship has reduced both the time it takes to drill a well by 20-40%, and as a result, the number of hands needed.²⁰

Rystad Energy, the Norwegian based energy and business research consultancy, predicts that “20% of jobs in oil and gas in segments such as drilling, operational support, and maintenance could in theory get automated in the next 10 years.”²¹ In the United States, Rystad predicts that companies could reduce staffing needs by over 140,000 employees.

Despite promises from cheerleaders of the overturn of the crude oil export ban that lifting the ban would “support a minimum of 300,000 jobs by 2018,”²² between 2015 and 2019, companies let go 55,000 people employed in oil and gas extraction, or 28% of the total workforce.²³ In a longer interview below, directional driller “Archer” describes how the drive towards engineering efficiency is breaking up experienced production crews because rigs

American natural gas production grew, JOBS IN OIL AND GAS PRODUCTION DECLINED BY HALF



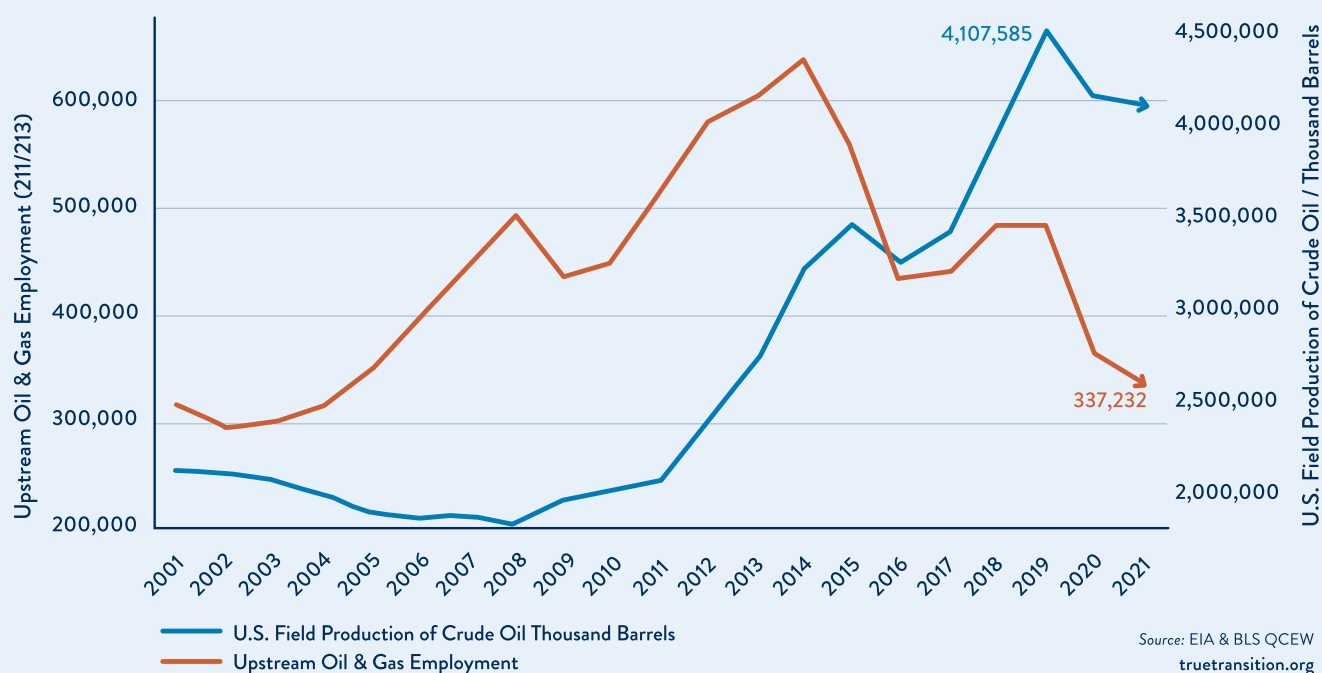
don't have the desired upgrades. As a consequence, teams that had previously worked well together are broken up and thrown in with new, untrained hires:

"Engineering has just completely taken over the oilfield, man. They have made this stuff so fast and so efficient, out here in West Texas, you can't even get a rig sold unless it has three pumps with 5" liners to keep up. Three of the four drillers on this job don't have four months of experience between them. Only one of them should even be considered for a drilling job. I gotta watch them all day every day. I've got to show them what they can do and what they can't because that iron has no heart."

The recent trend towards leaning on a younger, untrained workforce will be discussed in greater detail below.

Since the shale revolution, productivity has surged. An analysis by the Kansas City Fed found that the number of barrels of new production per well increased sixfold from 20,000 barrels in 2000 to over 150,000 barrels in 2017.²⁴ This also meant that "worker productivity" (the output per worker) had increased, more than doubling in the same period. For example, between 2014 and 2018, Texas crude oil production shot up by 60%²⁵ while Texas jobs in extraction fell by 30%.²⁶ The oil and gas industry had learned to siphon out more oil and gas and profits with fewer workers.

American crude oil production grew, JOBS IN OIL AND GAS PRODUCTION DECLINED BY HALF



Downstream hasn't fared much better. In 1983, the United States boasted 301 refineries, but today is down to just 130 refineries.²⁷ Adoption of new computer technologies and plant automation from the 1950's on whittled down the refinery labor force and diluted worker power.²⁸ Today, union membership in the American petroleum refining industry stands at just 13.9 percent.²⁹ Declining union membership and plant automation has created an increasingly bifurcated refinery labor force divided between union members and contractors. In 2021, ExxonMobil locked out 600 of its union workers (USW Local 13-243) for almost an entire year. ExxonMobil kept the refinery running at 60% capacity by hiring new, outside contractors.³⁰ Since 2019, 9 additional American refineries have closed their doors or stopped refining crude oil,³¹ reducing national refining capacity by 1.4 million barrels a day, and

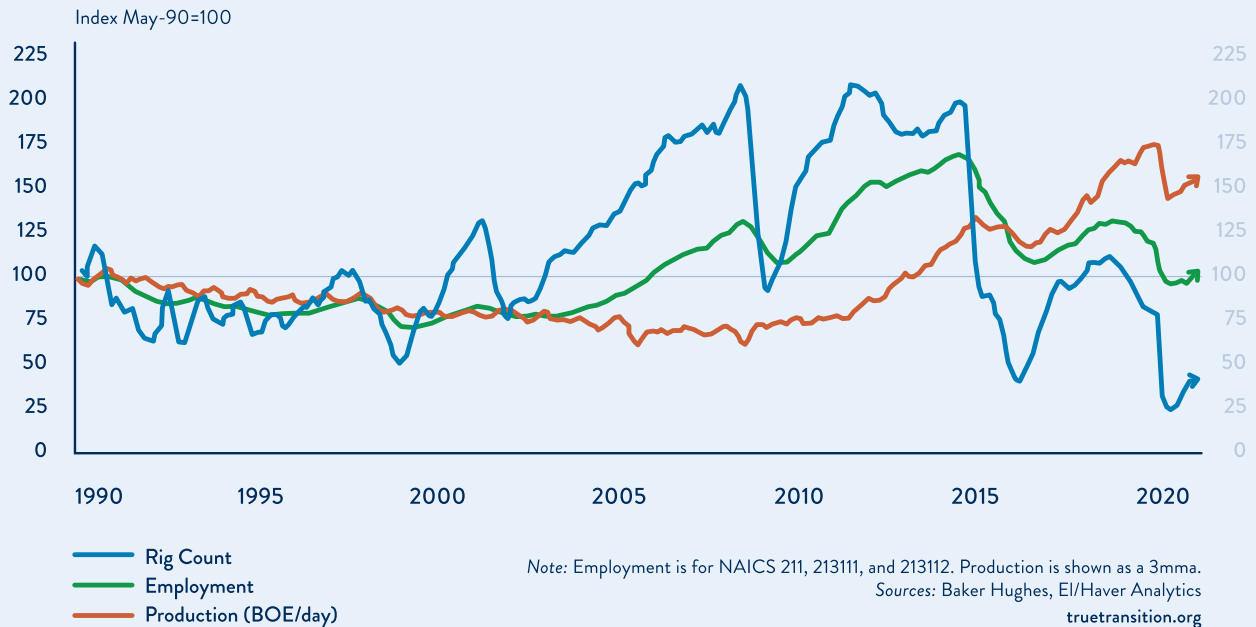
firing 3,400 American workers.³² At the time of several of these larger refinery closures, union contracts were up for negotiation.³³ These closures are part of a longer trend of industry consolidation from 26 major refinery companies to just 11.³⁴ In California, just two firms control half the refinery capacity.³⁵ One respondent described their experience with a recent refinery closure:

"I was laid off along with more than 1,000 people in the last 1.5 to 2 years and do not even know how to look for work (online) after decades of working in the same oil refinery. During Covid Lockdown, the State Careerlink offices were SHUT DOWN. When they started

In addition to regional movements, in recent years it takes considerably fewer workers to produce more oil and gas

U.S. RIG COUNT, EMPLOYMENT, AND PRODUCTION

FEDERAL RESERVE BANK OF KANSAS CITY



to take appointments they would not schedule me in because I was not “newly unemployed.” As a result of being FORGOTTEN I was unable to do job search requirements to get my last 3 weeks of Pandemic Emergency Unemployment Compensation (PEUC) payments and have not received any unemployment payments or much more importantly job hunting skills training. I am making mistakes as I try to find serious work. The mistakes are having to do with the lack of ease using online systems and getting past algorithms. I was so “old” that my college name was not accepted.

The city I live in has DELIBERATELY vilified the workers of my refinery. It is very hard to get needed help when the redevelopment enterprise that bought our refinery (to demolish) is tearing it down and demonizing the former workers. It shows glossy commercials with former (upper level) management involved in the demolition while nearly 1,000 employees who answered to them were cast into the street without COBRA [continuation health] insurance and decent settlement. Each person only netted about \$1,700.00 AFTER TAXES. The word on the streets is that we got a golden parachute when we certainly did not.”³⁶



Even with fewer facilities and fewer workers, the American refinery industry is distilling roughly equivalent volumes of crude oil.³⁷ In Louisiana for instance, three separate facilities closed in the last three years (firing 2,100 Louisiana workers) bringing the number of refineries in the state down to 15 facilities.³⁸ But those 15 facilities are distilling more today than when the state boasted 34 refineries.³⁹ This has a few implications - namely the reduction of worker leverage. But also it means that if a facility is down because of a hurricane on the Gulf Coast or a wildfire in California, the national spare capacity margin is narrow, placing additional pressure on remaining facilities and workers.

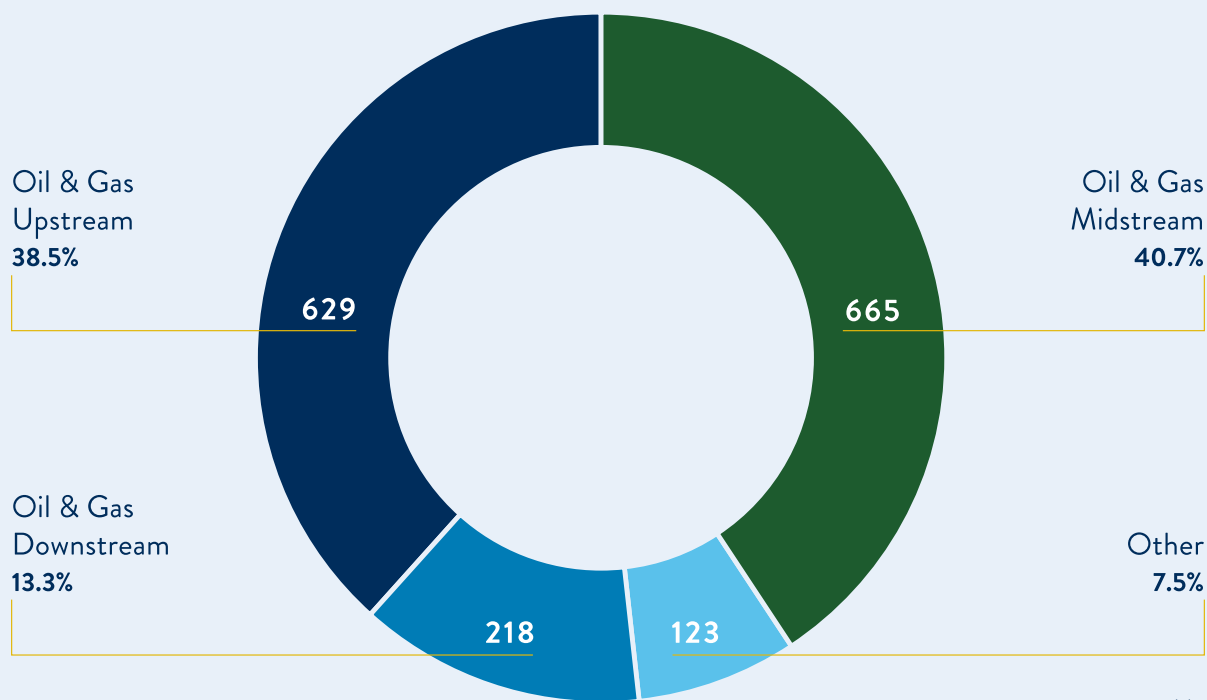
Refinery closures are also happening at the same time several global mega refineries are coming online throughout the Middle East and Asia.⁴⁰ Because of the overturn of the American crude oil export ban, companies extracting American crude oil are now able to export crude oil abroad. Indeed, it appears that refining is increasingly being offshored, as more and more American crude oil is exported to destinations with new mega refinery build outs such as China, India, and South Korea.⁴¹ Taken together, offshoring and narrowing domestic spare capacity margins is a growing national security concern.

Midstream firms also try to squeeze more from fewer workers. Natural gas transmission has remained relatively stable, with a slight, steady increase in distribution lines, but the workforce declined markedly in 2020 and has never recovered.⁴² One survey respondent, a pipeline safety inspector, described how their pipeline company employed less people, but forced more work and responsibilities onto the remaining workers:

“Employers are reducing the number of people they have to employ by not hiring single [certified] inspectors and hiring people like me to do 3 or 4 people’s jobs. This leaves a lot of inspectors at the house unemployed, while working people like me to death, doing multiple inspector’s jobs.”

If the various oil and gas industry streams could be summed up into one phrase it would be: doing more with less. Each individual worker’s individual productivity has skyrocketed, as more and more products are being extracted, transported, and processed with fewer and fewer workers. The oil and gas industry operates with impunity, primarily because of its role as a job creator. That social license, however, is fading.

What best describes the oil and gas sector that you work in?



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1.3 UPSTREAM, MIDSTREAM, & DOWNSTREAM

The oil and gas supply chain is made up of three primary 'streams' from wellhead to processing.

1. The **upstream sector** comprises oil and gas exploration, development, completion, production, and support activities for oil and gas operations. Exploration jobs range from white collar positions such as geophysicists and geologists to support crews on geological and geophysical (G&G) vessels and rig crews drilling exploratory wells. These workers perform geologic and seismic surveys and information gathering to locate oil and gas deposits. Production companies include the oil & gas companies that own or lease mineral rights and oilfield services and support companies that drill and extract the oil and gas. Production jobs include roustabouts, riggers, drilling

engineers, drillers, drilling supervisors, and water haulers. According to the latest Bureau of Labor Statistics establishment survey, 136,000 were employed in oil and gas extraction and 214,400 were employed in oil and gas support activities with 350,400 workers total employed in the upstream oil and gas sector.⁴³ And according to the latest household survey, there are 57,147 workers employed in the American upstream sector, and of those, 10.2% belong to a labor union.⁴⁴

2. The **midstream sector** refers to the transportation of crude oil and natural gas. Midstream jobs include construction jobs like pipeline fitters and welders, train engineers, truck drivers, barge and tug pilots, and ship crew. These workers construct pipelines and transport crude oil and natural gas in tank trucks, rail tank cars

and inland barges, and oil and LNG tankers. According to the latest Bureau of Labor Statistics establishment survey, there were 49,900 workers employed in the American midstream sector.⁴⁵ And according to the latest household survey, there are 53,015 workers employed in pipeline transportation. While 4.9% of the American pipeline transportation workforce belongs to a labor union, 25.6% of the natural gas distribution (energy utilities) workforce belongs to a labor union.⁴⁶

3. The **downstream sector** refers to the refining and conversion of crude oil and natural gas into commercial products. Downstream jobs include jobs like process operators, equipment operators, maintenance engineers, plant engineers, refinery process engineers, manufacturing engineers, chemical technicians, chemical engineers, health safety and environment supervisors,

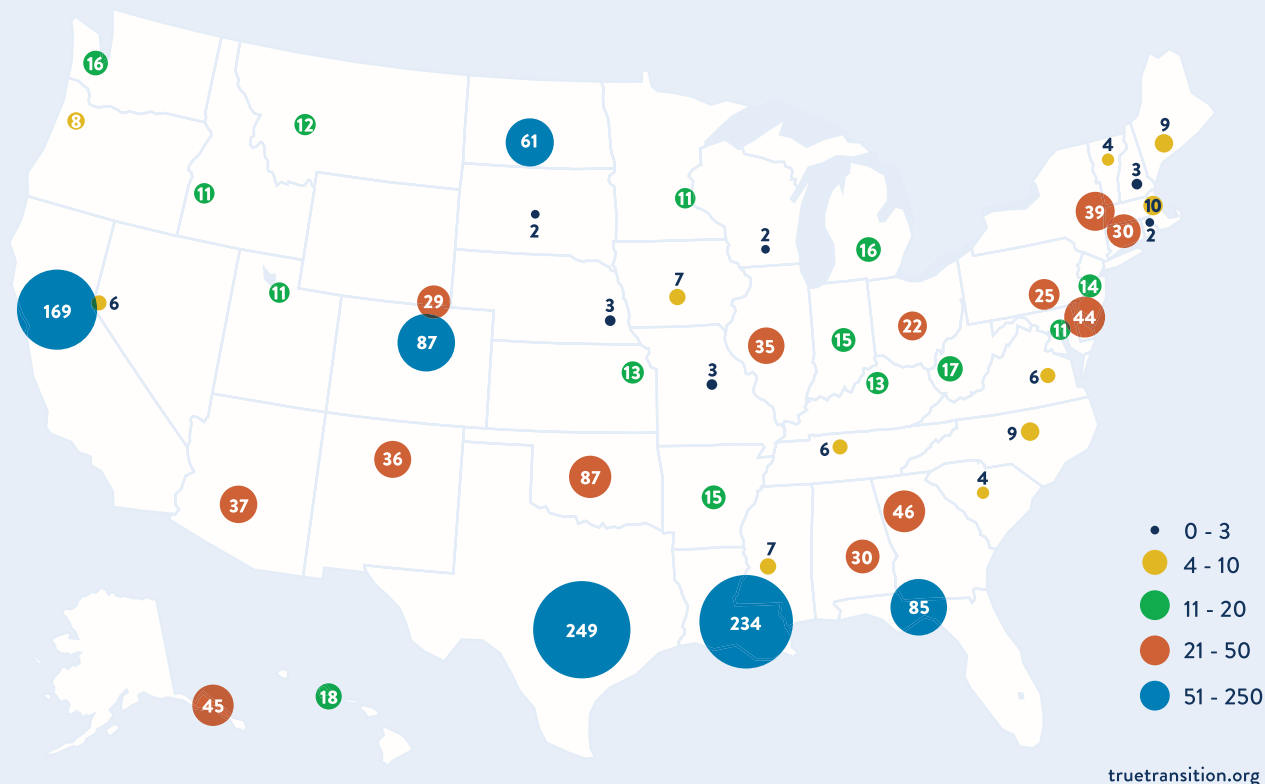
and firefighters. According to the latest Bureau of Labor Statistics establishment survey, there were 108,100 workers employed in the American downstream sector. And according to the latest household survey, there are 175,810 workers employed in the downstream refining sector. Union membership in the American petroleum refining industry stands at just 13.9 percent.⁴⁸

Survey respondents worked in all three sectors of the oil and gas supply chain with 38% of survey respondents, 629 in total, identifying as working in the upstream exploration and production sector; 40% of survey respondents, 665 in total, identifying as working in the midstream support sector; 13% of survey respondents, 218 in total, identifying as working in the upstream refining and processing sector; and 7%, 123 workers, identifying as “Other.”



PBF Energy Chalmette Refinery as seen from the Chalmette-Algiers Ferry headed to Chalmette. Credit: Julie Dermansky

STATES WHERE SURVEY RESPONDENTS WORK



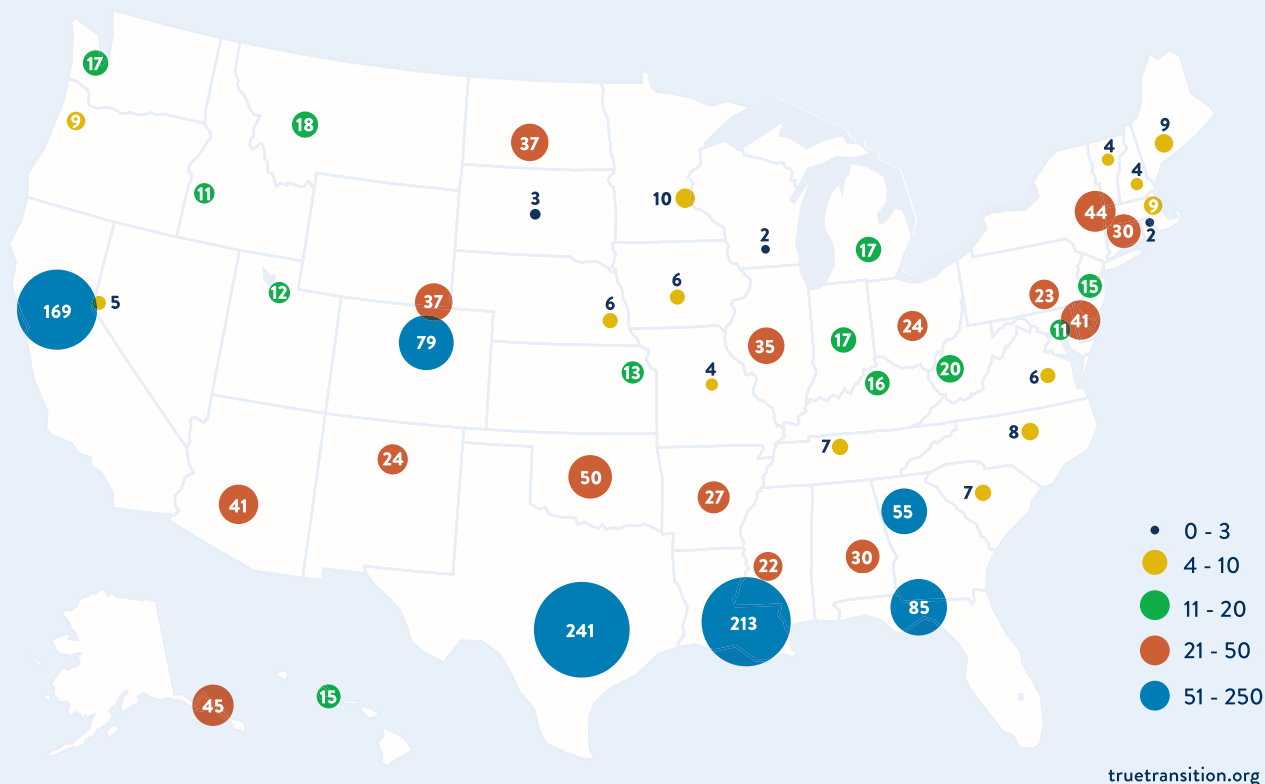
1.4 WHERE WORKERS LIVE & WORK

Survey respondents live and work in 23 states, with Texas (249 work, 241 live), Louisiana (234 work, 213 live) and California (169 work, 169 live) constituting the largest share. The United States is a vast and resource rich nation with several distinct shale and conventional production basins. The Energy Information Administration (U.S. EIA) estimates the number of producing wells in the United States stood at 936,934 wells in 2020.⁴⁹ At the time of writing, 2022, the number is likely much higher because of global natural gas and crude oil prices, and indeed, the Railroad Commission of Texas (the regulator of the most productive oil and gas plays) reported a 47% increase in original drilling permits between 2021 and 2022.⁵⁰ The American pipeline network, which includes onshore and offshore transmission as well as gathering segments, com-

prises 318,579 pipeline miles.⁵¹ And the number of operable petroleum refineries stood at 131 facilities as of January 2022 with Texas, Louisiana and California being home to the largest facilities.⁵² Where survey respondents work and live reflect the expansive geographic footprint of American oil and gas infrastructure.

Just under 85% of survey respondents live in the same state as they work. Of the 15% of workers (254 in total) who commute between states, most commuted between oil and gas producing regions (Louisiana to Texas for instance), but respondents lived all over the United States. Most workers commuted to Texas, Louisiana, Colorado and North Dakota. Commuting workers were split evenly between upstream and midstream/ support workers. Because of on/off rotation scheduling and the temporary nature

STATES WHERE SURVEY RESPONDENTS LIVE



of much of upstream and midstream work (wells deplete, pipeline segments are completed), workers commute in for two, three weeks, or month-long rotations and then return home for time off. While oil and gas extraction and transportation are geographically dispersed enough to support local workforces, there is a mobile part of the workforce that is skilled and willing to travel to worksites.

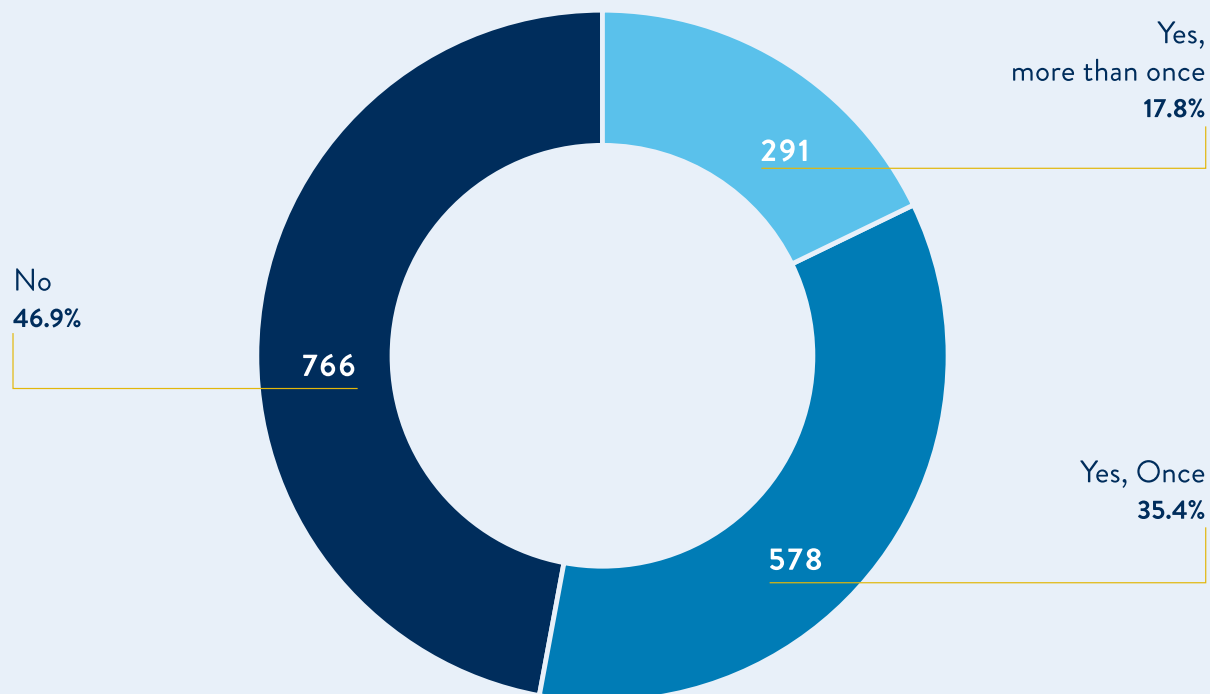
1.5 PETROLEUM PRECARIETY: EMPLOYMENT TRENDS

Asked whether they were let go prior to 2020, 35% (578) of survey respondents reported having been let go at least once previously and 17% (291) reported having been let go from their oil and gas job on multiple occasions. Broken out by sector, over half (61%) of downstream workers

reported having lost their job at least once prior to 2020 and of those 24% reported having lost their plant job more than once prior to 2020. Of midstream workers, over half (60%) report having lost their job more than once prior to 2020 and 46% of upstream workers reported having lost their job at least once prior to 2020.

These responses reflect increased industry sensitivity to changes in global oil prices and an industry streamlining its operations. A 2020 Deloitte study found that every “dollar change in oil price potentially affected 3,000 upstream and oilfield services jobs.”⁵³ Since 2002–2007 (which Deloitte referred to as the “pre-shale disenchantment” period) a drop in oil prices had a negative impact on exploration/production and oilfield service jobs, but a drop in global oil prices had a positive impact on

Have you been let go (at any point) prior to 2020 lockdowns?



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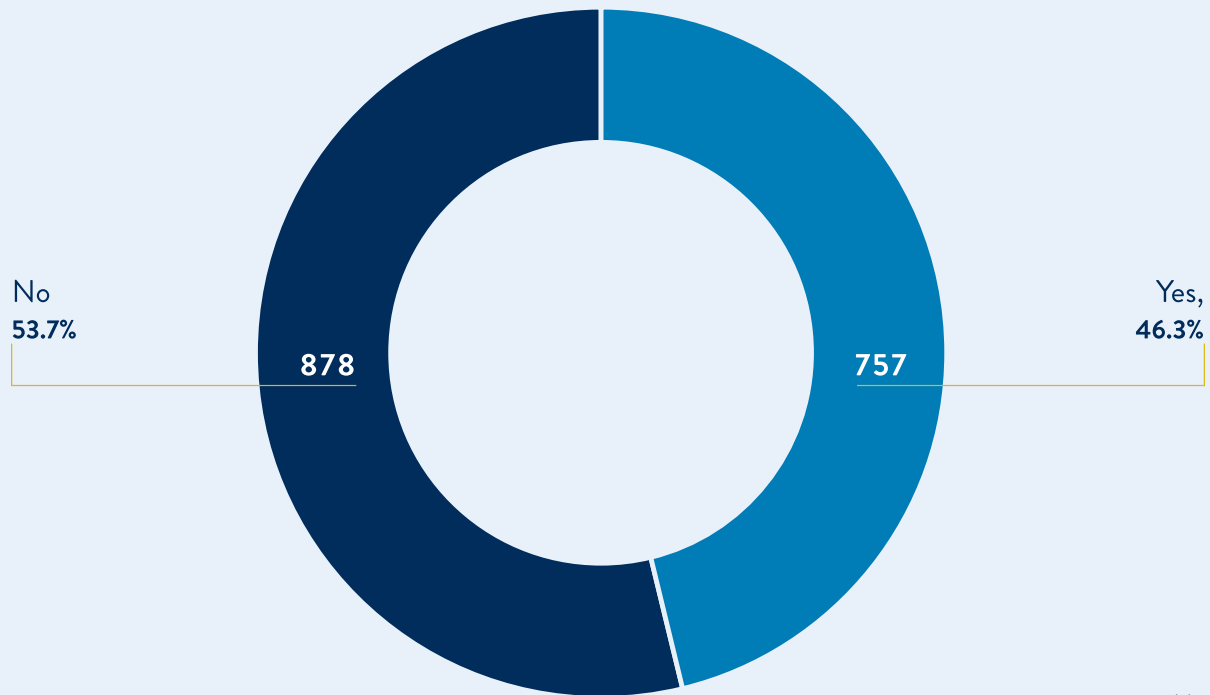
midstream and refining/manufacturing jobs. The inverse was true for an increase in prices, with exploration/production and oilfield service increasing and midstream/manufacturing jobs decreasing during high prices from the “shale revolution” period (2008-2013) to the “resilient shale boom” (2014-March 2020). With a trend towards global oil price volatility,⁵⁴ it’s difficult to predict how the see-saw between prices and jobs will balance out in the future.

In some regions, employment contractions relative to production were especially pronounced. Just under half (44%) of Louisiana-based survey respondents said they had been let go at least once prior to 2020 and 15% reported having been let go more than once. This bears out in the employment data. Between 2008 and 2019,

direct employment in “Drilling Oil & Gas Wells” crashed by 62% and “Support Activities for Oil & Gas Operation” decreased by 26% in Louisiana. At the same time offshore production in the federal waters of Louisiana increased by 44%.⁵⁵ Despite a dramatic increase in production, jobs in production plummeted. In Louisiana, direct upstream and exploration oil and gas sector jobs now account for less than 2% of the total state civilian workforce.⁵⁶ And that number is only decreasing.

Asked whether they lost their job during the 2020 lockdowns, just under half of survey respondents (46% or 757 respondents) reported having lost their job during the height of the Covid-19 pandemic response. Broken out by sector, over half (52%) of downstream workers reported having lost their job in 2020 and 49% of

Have you been let go because of the 2020 lockdowns?



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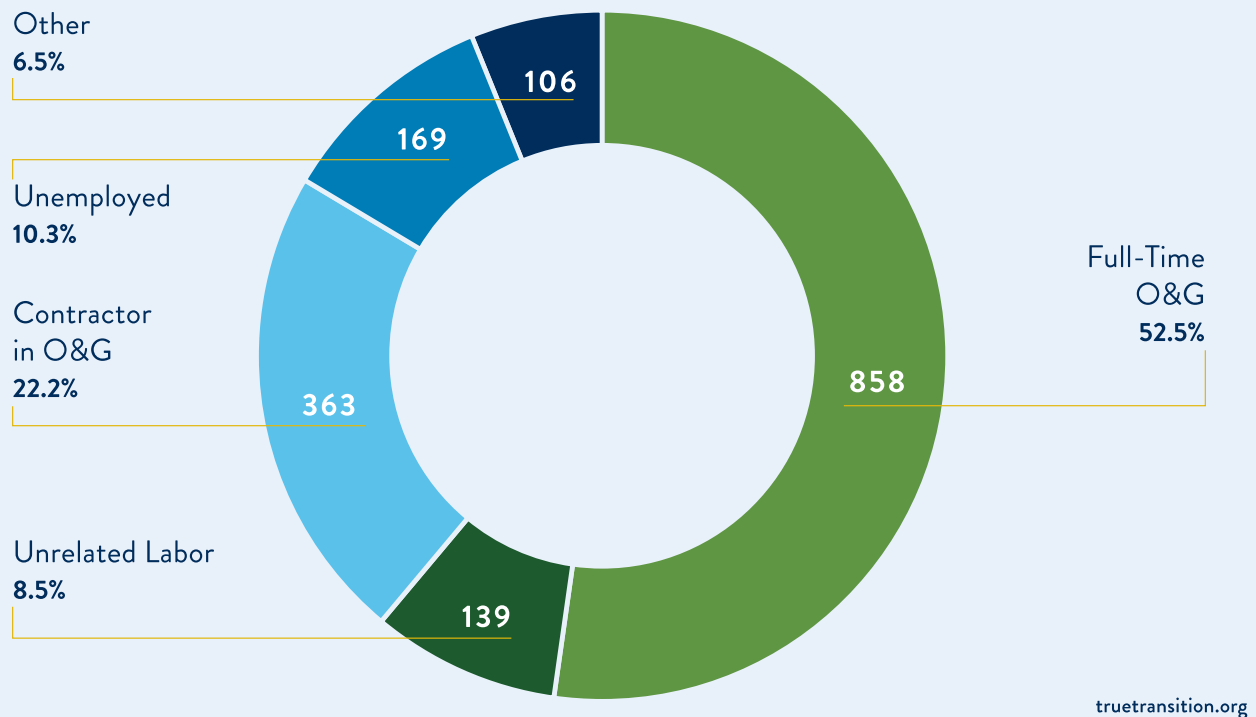
midstream workers reported having lost their job in 2020. Surprisingly, upstream workers in the survey weathered the lockdowns a bit better with 41% reporting losing their jobs in 2020.

The price of Brent crude fell from \$67 in December 2019 to \$32.01 per barrel in March of 2020. OPEC members met to decide whether to lower production and push prices back up. No agreement was reached. Days later, most of Europe went under the first Covid-19 lockdown. The world stopped and energy demand fell to the lowest point in modern history.⁵⁷ American oil and gas companies shed 58,030 workers between 2019 and 2020.⁵⁸ In total, 118,000 American oil and gas jobs were lost in 2022.⁵⁹ In the United States, 77 of those same oil companies, service firms, and contractors secured \$8.2 billion in government

pandemic relief despite not retaining their workforces.⁶⁰ Over half of survey respondents 52% (858 workers) said they were currently employed full time in the oil and gas industry. Of those, 370 workers were employed in the upstream, 369 workers were employed in midstream, 89 workers were employed in downstream and 30 said 'Other.'

Of the remainder, 22% (363) of survey respondents said they still worked in the oil and gas industry as self-employed independent contractors or "1099" workers, 10% (169) said they were currently unemployed and 15% were employed outside of the industry. Survey respondents indicated that they left the oilfield for more stable work and were employed in industries as varied as home construction to the U.S. Postal Service.

What is your current employment status?



In a longer interview below, rig safety manager “Fail-Safe” describes how many experienced workers aren’t returning,

“The way the oilfield is now, when the oilfield slowed down in ’19, a lot of hands got laid off and they didn’t come back...A lot of guys, this last slowdown, people get tired of that. You can’t make a life living on the edge of your seat all the time.”

Many respondents expressed a desire for employment predictability and consistency. For a longer discussion on this topic please see **3.1 Attitudes Towards Job Security**.

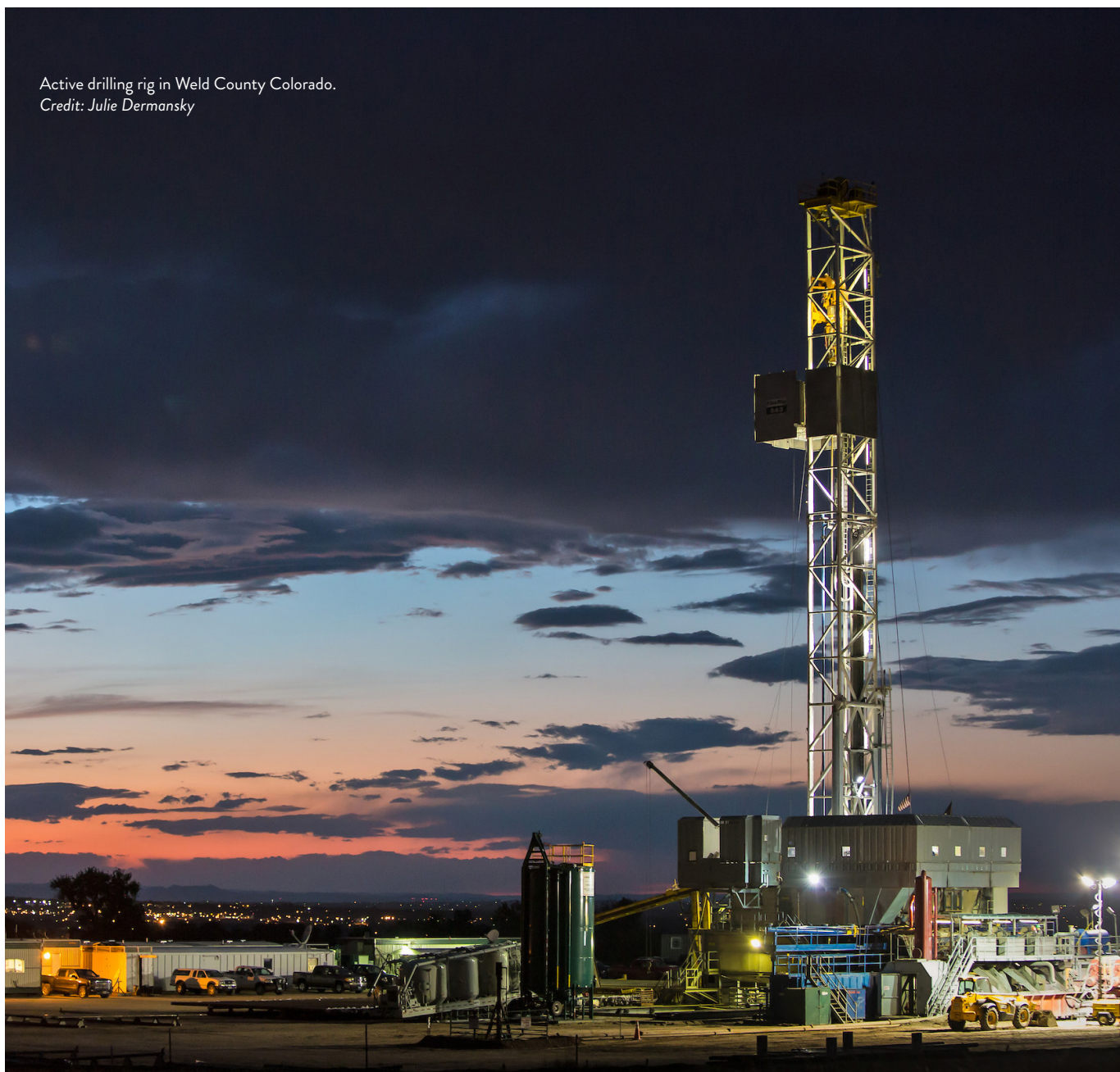
Many oil and gas employees are in what is known as “triangular employment relationships” where there are more than two employers in charge of a job site. An exploration & production company may own the drilling rights while another company provides the drilling crew, another company provides the cementing crew, and so on. Each employer may have different workplace and employee policies and percentages of liability. Increasingly, workers who work for contractors are becoming contractors themselves - 22% (363) of survey respondents said they still worked in the oil and gas industry as self-employed independent contractors or “1099” workers. A 2010 International Labor Office (ILO) report on the working conditions of contract workers in the oil and gas industry found that the industry is increasingly relying upon “outsourcing, contracting and subcontracting. That

goes both for the blue-collar workforce and for the use of consultants in technical, scientific and managerial posts.”⁶¹ The same report lists frequently contracted positions: derrickhands, gas plant operators, petroleum engineers, refinery operators, rotary drill operators, and roustabouts.

Contractors, or 1099 workers, are not considered full-time employees of a company and are subject to a self-

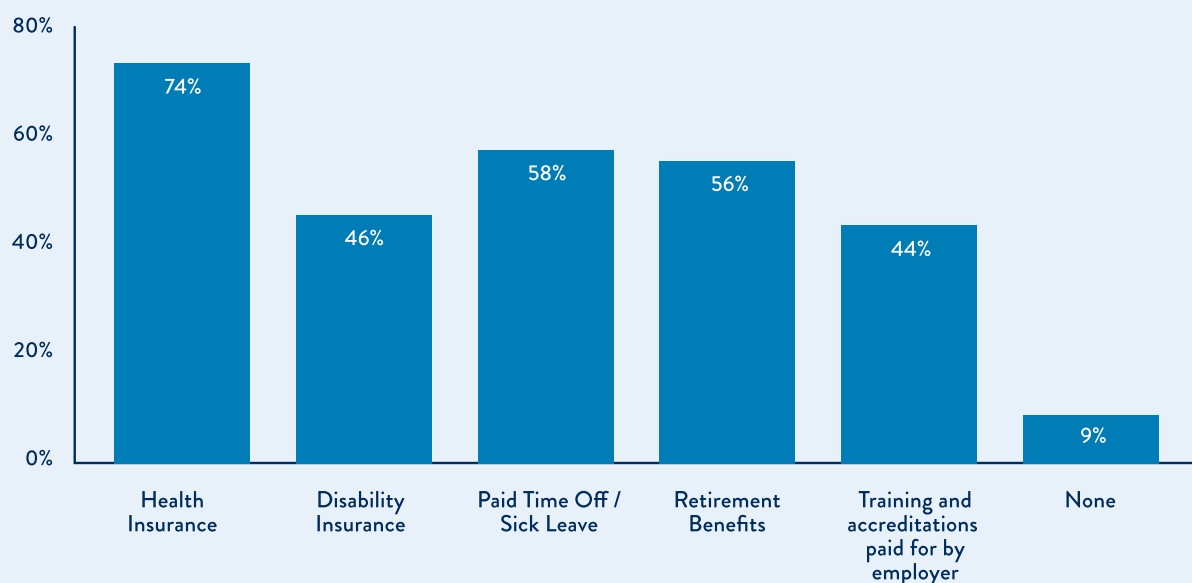
employment tax, pay for their own benefits like health insurance, and are not entitled to paid time off paid for by the company. Workforce casualization is the process in which employment shifts from full-time, permanent positions to casual and contract positions. Under casualization, an employer may terminate a worker and then rehire them on a contract basis or through the use of third party contracting firms.

Active drilling rig in Weld County Colorado.
Credit: Julie Dermansky



SECTION 2: JUST COMPENSATION

**In your current (or most recent) job,
DO YOU HAVE THE FOLLOWING BENEFIT?**



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We asked respondents which current employment benefits their current or most recent employer provided, and answers corresponded with industry casualization trends. Employer provided benefits like retirement or paid time off are no longer an industry norm. With only 52% of survey respondents indicating they were full-time salaried staff, it is not surprising that what were once normal employment benefits in the United States are increasingly a luxury benefit.

2.1 HEALTH INSURANCE

While 74% (1,223) of respondents said they had employer provided health insurance with their current or most recent job, a little over a quarter of respondents (432) did not have employer provided health insurance with their current or most recent job. Of the full-time employed workers, 85% said they had employer provided health insurance (726 out of 859 respondents). Of the contracted 1099 workers, 64% said they have health insurance (234 out of 364 respondents) American

healthcare costs are consistently on the rise and one of the primary drivers of the American cost of living crisis. Even if a contracted oilfield pay rate is above most job categories, increasing healthcare costs quickly cannibalizes any of those net gains. Just in the last year (2021-2022), health insurance prices increased by a whopping 28.2%.⁶² The lack of employer provided health insurance constitutes a real pay cut for oil and gas industry workers. Several workers said they would consider moving to another industry if a prospective employer provided more benefits like health insurance:

“If the other industries offer health insurance I might consider them.”

“I would like to move to a new industry due to the physical labor being very straining on the body. I’d love to spend more time with my kids, and love to actually be able to afford healthcare for them. Not to mention I don’t get paid holidays and only a week’s vacation. It’s just not nearly enough considering how much I work and how little I am paid”

Respondents in all streams of the oil and gas industry remarked on the physical toll of the work. Virtually all oilfield related work exposes the workforce at the very least to risk of repetitive strain injuries among many other occupational hazards. With the increased use of contracting, the oil and gas industry pushes *the costs of these occupational injuries back onto the worker.*

2.2 DISABILITY INSURANCE

Less than half of respondents 46% (764) had disability insurance provided by their current or most recent employer, with 54% (891) of respondents saying that they did not have employer provided disability insurance. Only half of the full-time directly employed workers had employer provided disability insurance (439 of 859) and

39% (142 of 364) of the 1099 workers had disability insurance. Half of the Texas survey respondents (125 of 250) indicated they had no disability insurance provided by their current or most recent employer. Texas is home to over half of the American upstream workforce and is the only state that does not require employers to provide workers compensation for on-the-job injuries.⁶³

Despite constituting .00005% of the total American civilian workforce, upstream oil and gas jobs constitute 3% of all workplace related hospitalizations and 4% of all workplace related amputations.⁶⁴ It is concerning that less than half of survey respondents indicated they had disability insurance.⁶⁵ One catastrophic injury can prevent a person from acquiring gainful employment for their entire life. The federal Social Security Insurance (SSI) Disability program is means tested with very tight income limits. Even if an injured worker has family members with sufficient income to support the family, couple income limits for the SSI Disability Program can trap an oilfield family into poverty. As one survey respondent explained, it is very difficult to qualify for these social programs:

“Unemployed, screwed over by the workers compensation system. Terminated due to work injury. Can’t go back to work and social security and long-term disability insurance denied claims.”

For a greater discussion on safety in the oil and gas industry, please refer to **Section 4: Safety And Liability In The Oilfield.**

2.3. PAID TIME OFF/ SICK LEAVE

When asked whether they were provided paid time off and/or sick leave, 58% of respondents (952 of 1,635) said they had the benefit, and 42% of respondents (703 of 1,635) said they did not have paid time off or sick leave. Of full time respondents 64% (557 of 859 respondents) indicated they had employer provided paid leave. It is surprising that

36% of full time, salaried employees did not have paid time off or sick leave. Unlike most developed economies, the United States does not guarantee workers paid leave or sick leave.⁶⁶ There are 14 states where paid sick leave is mandated, but only Colorado and California are oil and gas producing and/or refining states.⁶⁷

Therefore, it is up to the discretion of employers to provide the “benefit.” Whether a transnational production company provides the benefit to an employee is a function of local law rather than a company’s magnanimity.

As an example, an oil and gas worker employed by a multinational production company or oilfield services firm in Saudi Arabia would be entitled to 120 days of sick leave per year (30 days full pay)⁶⁸ and if a worker falls ill in the Netherlands, they would be entitled to 70% of their pay for 2 years.⁶⁹ Oil and gas workers in those countries are also entitled to an additional 4 to 5 weeks of paid vacation days. Of course, American employees and contractors of that same transnational still get sick and require time off for rest, regardless of whether they have paid leave. American workers just internalize the costs, which makes the absence of paid time off a pay cut. A corporation will only be as good to their workers as they are made to be.

2.4 RETIREMENT BENEFITS

When asked whether their current or most recent oil and gas employer provided retirement benefits, 56% of respondents (931) said they had the benefit, with 44% of respondents (724) indicating they had no employer provided retirement. While we did not ask for demographic data like age, a 2022 Deloitte analysis found that the average oil and gas worker is 44 years old.⁷⁰ Many survey respondents indicated that they were approaching retirement age, and wanted more in the way of pension guarantees, early withdrawal of social security benefits, and increased contributions from employers. When asked why they would switch to a new industry, many respondents cited better retirement benefits as a reason to leave the oil and gas industry:

“I need a new job that promises extra social security benefits and retirement benefits.”

“If the new industry guarantees job security, better pay and retirement benefits then definitely I will move.”

“Avoid the instability of oil and gas. To receive health insurance and retirement benefits.”

The combined up and down trends of oil and gas employment and the trend towards contracting positions constitutes a real penalty for oil and gas workers. Recall that 45% of workers surveyed have been fired from their oil and gas job at least once and 17% of respondents reported having been let go on multiple occasions. In a recent study, the Transamerica Center for Retirement Studies found that more than a quarter of American workers have taken or plan to take a loan or withdraw early from their retirement accounts because of the pandemic and associated layoffs.⁷¹ When asked what the federal government could do if the oil and gas industry didn’t rehire workers to previous levels many respondents indicated that would want the government to allow early withdrawal of Social Security, early withdrawal from private retirement funds without tax penalties, and early eligibility for Medicare:

“The government could allow oil workers that are prematurely retired to access earlier social security and pensions/401ks/IRAs without penalty for early withdrawal. Make Medicare/Medicaid available for older and physically impaired veteran oil workers. Or fund the older workers a supplement to cover their equity gap between oil employment and underemployment. Medical insurance is important since we have a higher risk and

rate of suffering occupational illness at a younger age. For those who can be rehired and retrained, there should be paid trade apprenticeships suitable to their skills and capabilities. There should also be family assistance because oil workers laid off en masse leave their families, children, and oil towns in precarious economic conditions. There should be computer skills training because many do not have competitive internet skills. College/trade school funding for those young enough to go that route.”

“Wage replacement for early retirement.”

Not surprisingly, these comments demonstrate that workers know what they need to be made whole and believe that the government should play that role. There is a theme of reciprocity in the survey responses. Workers toiled to fuel the nation, many times at the expense of their bodies and physical health, and they believe there should be a proportional quid pro quo for these sacrifices. For a list of policy recommendations regarding training and retirement please see **5.4 Pro Worker Policies**.

2.5 TRAINING & ACCREDITATION

When asked whether they were provided training or accreditation provided by their employer, 44% of respondents (729) said they had the benefit, with 56% of respondents (926) indicating they had no employer provided training or accreditation. The fact that many oil and gas careers offer a path to a middle class lifestyle without the need for costly higher education remains a defining feature of the industry. But that does not mean these jobs are low skilled or do not require training. Indeed, whether working a hitch on a Permian rig or welding a pipeline in the Midwest, these jobs necessitate specialized training and skill sets. On the job training and

apprenticeships are necessary to ensure that workers acquire the necessary competencies. Therefore, we were surprised that 56% of respondents did not receive employer provided training or accreditation. In a longer interview below, rig safety manager “Fail-Safe” describes how new hires aren’t trained or acclimated to the oilfield,

“You got hands coming out here that don’t know what a crescent [wrench] is, seriously. And a lot of times they realize that they don’t fit out here and they’ll drag up pretty quick. But sometimes they stay and it’s dangerous because sometimes their minds are made more for video games, not for the oilfield.”

One survey respondent described a growing trend to hire inexperienced and young workers without employer provided training,

“Young hires are thrown into the mix before they are properly prepared.”

Another respondent said the government should,

“fine the company for not using experienced [and] already trained previously employed employees.”

Unsurprisingly, there are dangerous consequences to relying upon inexperienced labor without providing adequate training. In July 2022, an oilfield worker was killed when he was pulled into a cable winch drum.⁷² In September 2022, a 20-year-old worker was killed instantly when the rig was pulling pipe from a hole and a joint separated.⁷³ In the same month a worker was crushed to death between two pieces of equipment at an East Texas drill site.⁷⁴ In a social media post in 2022, a Chevron representative urged oilfield workers to “get back to basics” and better identify “what could kill me today” and

the summer launch of a skin patch for offshore workers to monitor heat exhaustion points to a backslide in safety. For a longer discussion on safety and survey respondent perception of safety see **Section 4: Safety And Liability In The Oilfield.**

Many older respondents reported that skills stagnation, and the lack of training opportunities prevented them from maintaining employment or acquiring new employment:

“No workforce training for new skills and older workers are not being offered jobs or interviews by majors in oil.”

One respondent recommended that companies plan for inevitable down cycles and set aside budget to retain their employees:

“Oil industry co’s know the up and down cycles and should put money aside to maintain their workers in down cycles, or training for areas where they need employees.”

In general, workers recognize that it’s shortsighted of oil and gas companies to shed experienced workers at the first sign of declining prices. A spigot can be turned back on, but it’s far more difficult to find and train skilled workers.



PSEUDONYM: JOURNEYMAN
AGE: 52
JOB TITLE: DERRICKHAND

Journeyman has been married for 15 years and has two older stepchildren and one teenaged child, and he has worked in the oil industry for 14 years and can't see himself doing anything else. He works in the Bakken Shale but lives three states away.

He recognizes the give and take of the job: "I guess I can talk about what I like and don't like about it. The family separation has been kind of tough. I really like physical activity—I was really kind of born to do this. I really like working hard. The two weeks on and two weeks off is great for us because when I'm home I can be present and actually do things. There are some things I miss out on, but it's not all that bad. I can take my kid to school every day that I'm home—those types of things. While sometimes there have been lay-offs, I really haven't missed that much work."

In 2008 he was laid off, but notes "there wasn't that much going on, everybody did. But after that my company keeps me working even if I have to take a bump back to floorhand and make a little less money for a while, I still manage to pull down some pretty good money."

Journeyman was moved to the oilfield by the stress of "office politics" in his career as technical writer: "When I first got married, I did have a college degree and I was trying to make it as a technical writer, but actually I'm not great at office jobs.

I don't do great with bureaucracies. I don't do well with office politics, so the environment is more straightforward. I don't have to guess what people are thinking. In the oilfield they'll tell you in no uncertain terms."

Prior to office life, he spent 10 years in the Navy Seabees. He's comfortable with oilfield work because it closely reflects his work experiences in his military career: "When I got out on the rigs, I thought it would be short-term, but I loved it."

Although he's enamored with his job, he doesn't appreciate the pay-cuts that accompany a downturn in drilling. "I say this every time, I tell them, 'You guys are getting a lot for your money! There aren't too many floorhands out there that can run the rig and do just about whatever.'"

He is very comfortable in the safety system on his rig. He's so comfortable, in fact, that "even if the company man asks me to do something unsafe, I can say, 'Hey, look, I'm not doing that. My company won't allow it.'"

With the tight labor market, Journeyman thinks, "If there ever was a time to unionize, the time would be now."



Oilfield worker on a fracking rig in Midland,
Texas, in the Permian Basin. 2014
Credit: Julie Dermansky Photography

SECTION 3:

WORKER ATTITUDES TOWARDS WORK, PAY, AND MANAGEMENT

When participants were given an opportunity to elaborate on their attitudes towards the industry, respondents voiced pride in their work and camaraderie with their coworkers. Work on an oil rig, building a pipeline, or shifts in a refinery all pose routine dangers, and your coworkers' professionalism and expertise can be all that stands between you and injury or worse. In the last two decades, the American economy has experienced several oil and gas industry busts, the financial crisis followed by the Great Recession, and the Covid-19 pandemic. Most workers expressed relief to have weathered these events and maintain employment or to have regained employment after a period of unemployment.

But responses were not unanimous and reflected a growing disparity between workload and pay. Increased job security and predictability were consistent themes. Many respondents described a sharp decrease in pay or benefits with a corresponding expectation to do more work. As the survey took place just as global oil prices were recovering, many respondents described an increasing reliance on inexperienced and younger hands as demand increased as also discussed in **2.5 Training & Accreditation**.

3.1 ATTITUDES TOWARDS JOB SECURITY

Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes towards job security. Of the 1,635 respondents, 38% (622) had a more negative view of job security and 62% (1,013) had a more positive view of job security in the industry. These responses suggest that a general anxiety about job security and future employment permeates the workforce. Not surprisingly, attitudes towards job security were more negative amongst those who had been let go more than once prior to 2020 (divided 50/50 amongst 291 respondents).

When asked why they would or wouldn't leave the oil and gas industry for another industry many respondents expressed a desire for more stability:

"Job security. I would leave my current job if I found another one that guarantees job security."

"I love oil & gas and would prefer not to move, but I have a background in construction, so I'd be willing to make a transition for job security."

"I'd want to move for better job security, be able to spend more time at home with family, and for safer work where I wasn't forced to do unsafe things, I wouldn't want to move for lower pay"

"Predictability!"

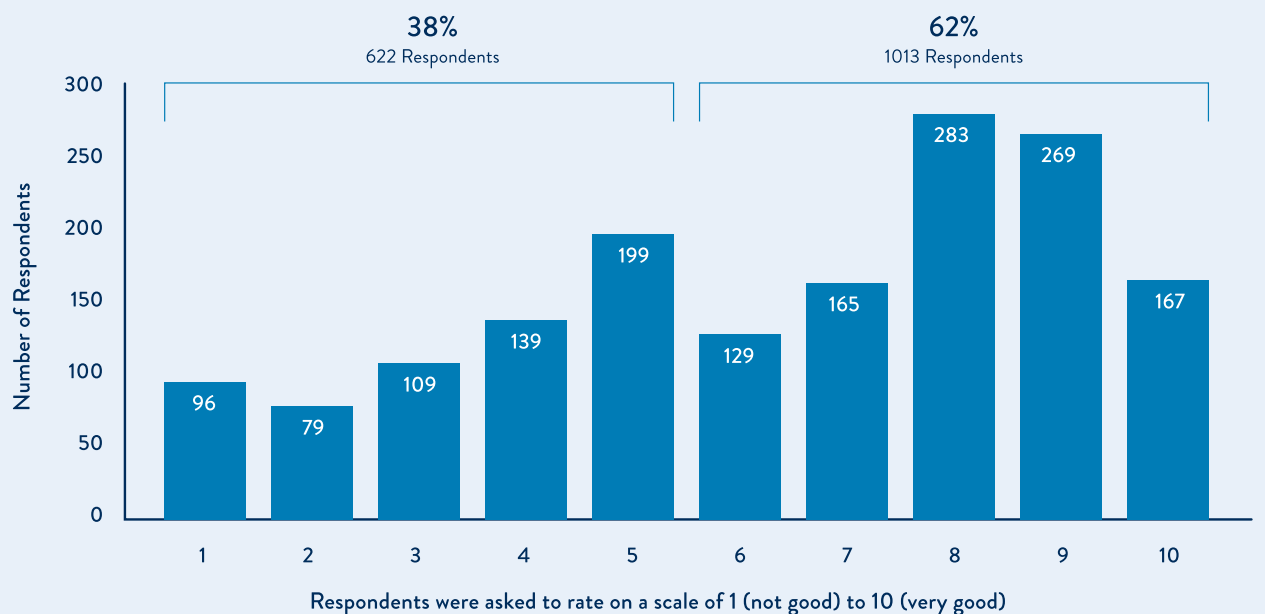
"Tired of the roller coaster."

"I love the industry but I do not like worrying about job security."

"To leave the roller coaster up and down of the oilfield to a more steady income."

The invocation of a roller coaster is particularly apt. The dynamic between global energy price volatility and jobs only seems to be worsening, and we are all just along for the ride.

In your current (or most recent) job, HOW DO YOU FEEL ABOUT YOUR JOB SECURITY?



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3.2 ATTITUDES TOWARDS PAY

Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes towards pay. Of the 1,635 respondents, 37% (613) had a more negative view of compensation and 63% (1,022) had a more positive view of compensation in the industry. We separated out responses by Upstream, Midstream and Downstream to ascertain whether there were any differences. Survey respondents (629 in total) who said they worked in the upstream had a slightly more negative view of pay (40%) (254) and 60% (375) indicated that pay in the upstream was good. Survey respondents who said they worked in the midstream corresponded with the total survey cohort's numbers while survey respondents in the downstream were

more satisfied with compensation with 31% (67) indicating a more negative view of pay and 69% (151) had a more positive view of compensation.

Just under two thirds of survey responses indicate that the majority of respondents were satisfied with their pay. Indeed, many respondents explained that pay was a primary reason for staying with the oil and gas industry:

"I would not leave a job or company I like. Alternative energy jobs don't pay anything like the oil and gas industry, it would be taking a huge pay cut."

“I would move to a new industry because my field of work is not consistent but wouldn’t move because when it is busy the money is there.”

“Think I’d actually be glad to get out of the industry but I like the pay. Without becoming a doctor or attorney, what I make is on par with other topped out skilled jobs around here and everything else amounts to a pay cut.”

One worker repeated themes about the physical demands of the job and a feeling that they were only trained and capable to do their current job:

“I am 58 years old and physically impaired...I do not know if I am capable to do something new...I would find what I did in the refinery physically challenging but I KNOW what needs to be done and can do it at my own speed competently...I am not computer literate outside control room systems and cannot do office software quickly...I was making about \$43.00 per hour and would be hard pressed to find that kind of pay which I was using to pay mortgage (by myself) on my first and only house and my less than ten years off in the future retirement.”

Attitudes towards compensation were not unanimous, however, and over a third of workers were dissatisfied with their pay. Hundreds of respondents said they would move industries if pay was better in another industry. When asked to elaborate on their own thoughts about their jobs and the industry, several survey respondents described their own sharp decrease in hourly rates:

“Before covid layoffs I was making \$29.00 hourly after a year and nine months I was able to get work for two months doing the same work for \$17.00 hourly with 25 years of experience. I don’t see how this is legal.”

“I went from making \$120,000 a year to \$50,000 and thousands just like me.”

“Higher wage is deserved and earned! When the boss holds on to bonuses that the worker produced, something needs to change!”

A truck driver engaged in midstream transportation discussed how huge variance in pay structure across companies cuts into his bottom line and results in a decrease in pay:

“For now, better universal pay, too many pay structures between companies, from hourly, to percentage pay, to a mix, load pay, per diem or no per diem, there should be a universal pay system for the work we do, as it stands now, I make 23% per load, no per diem, no pay for work done outside of load pay, used to be we would make 28% - 30% per load.”

Many survey respondents blamed Washington politics for pay decreases:

“The assholes in Washington are shooting themselves in the foot when making \$120,000 a year to \$50,000 and thousands just like me. How much tax revenue has the government lost over its bullshit policies?”

“Started work in the oilfield over 46 years ago, have worked in almost all aspects of drilling, completing, and repairing wells. With the current administration in D.C., I am currently working at less than my 2001 wages.”

The blame may be misdirected however. Even with the high profile pause on leasing of federal lands and waters,⁷⁵ application for permits to drill dipped initially in 2020 but then leveled off corresponding to historical industry permitting activity.⁷⁶ States processed oil and gas leasing permits at consistent rates as well. In 2020, the Railroad of Commission of Texas processed 12,950 horizontal drilling permit applications and 5,500 vertical drilling permit applications.⁷⁷ While companies are complaining about red tape, governments have been consistently rolling out the red carpet.

3.3 ATTITUDES TOWARDS WORKLOADS & HOURS

Workers in upstream exploration and production jobs cited the off/on rotations schedule of the job as both a benefit and a cost of the job. Weeks away from family is difficult and disorienting, but then the time at home provides a greater opportunity for workers to spend quality time with family as one respondent remarked:

“The oil and gas industry is unique and can not be replaced. There’s a reason people keep going back to it. It’s also a lifestyle. I work a schedule of 14 days on and 14 off. No other company or industry does that. I have found 14 and 7 or 20 and 10 but nothing close to equal time working and equal time off. I do this type of schedule because I work to live and not live to work. I will not spend more time with my employer than I do my family.”

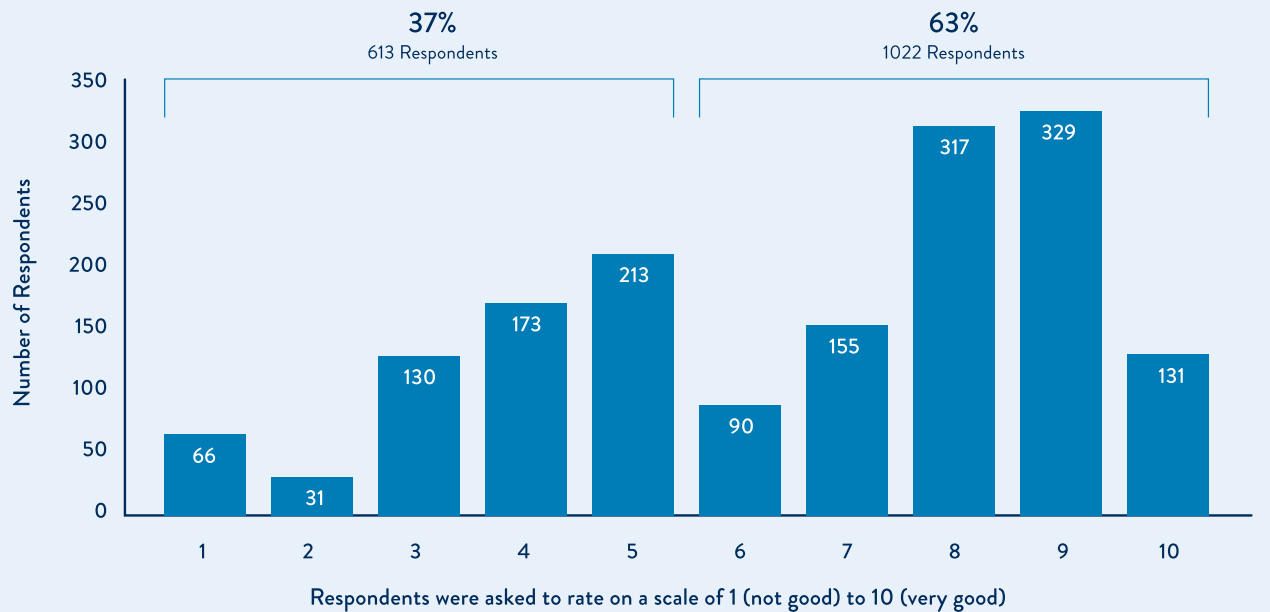
Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes towards workload and hours. Of the 1,635 respondents, 33% (532) had a more negative view of workload and hours and 67% (1,104) had a more positive view of workload and hours in the industry. We separated out responses by Upstream, Midstream and Downstream to ascertain whether there were any differences and found that they all roughly corresponded to a third having a more negative view of workload and hours and two thirds rating workload and hours more positively.

Depending on whether the work is offshore or onshore, upstream oil and gas work is typically divided up into shift arrangements. For upstream workers, the DuPont schedule, named for the chemical company that created it, uses a four-week cycle: four-night shifts, three days off, three-day shifts, one day off, three-night shifts, three days off, four-day shifts, seven days off. Although the refining sector initially began with 8-hour shifts shared between three crews, the industry found that it could utilize a smaller workforce if it switched to 12-hour shifts.⁷⁸

Multiple survey respondents complained about working beyond 12-hour work days citing 20-hour or even 32-hour workdays. A 2022 survey of 500 upstream oil and gas workers found that 60% of participants worked 12 or more hours a day, only to commute from the worksite sleep deprived.⁷⁹

At the time of the survey (January 2022) global crude oil prices were once again rising. Even with improved drilling efficiency, producers still needed more hands to take advantage of rising prices. But after the 2020 layoffs, many experienced workers sought employment elsewhere.⁸⁰ When asked to provide additional commentary on their work, several respondents complained about understaffed worksites and additional workloads for remaining workers. Because of the lack of employer provided paid time off and sick leave, we suspect that employers may view 2-3 weeks off as a substitute for “additional” time off. Respondents complained how smaller

In your current (or most recent) job, HOW DO YOU FEEL ABOUT YOUR PAY?



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operators overworked hands and distorted time sheets to prevent having to pay workers overtime:

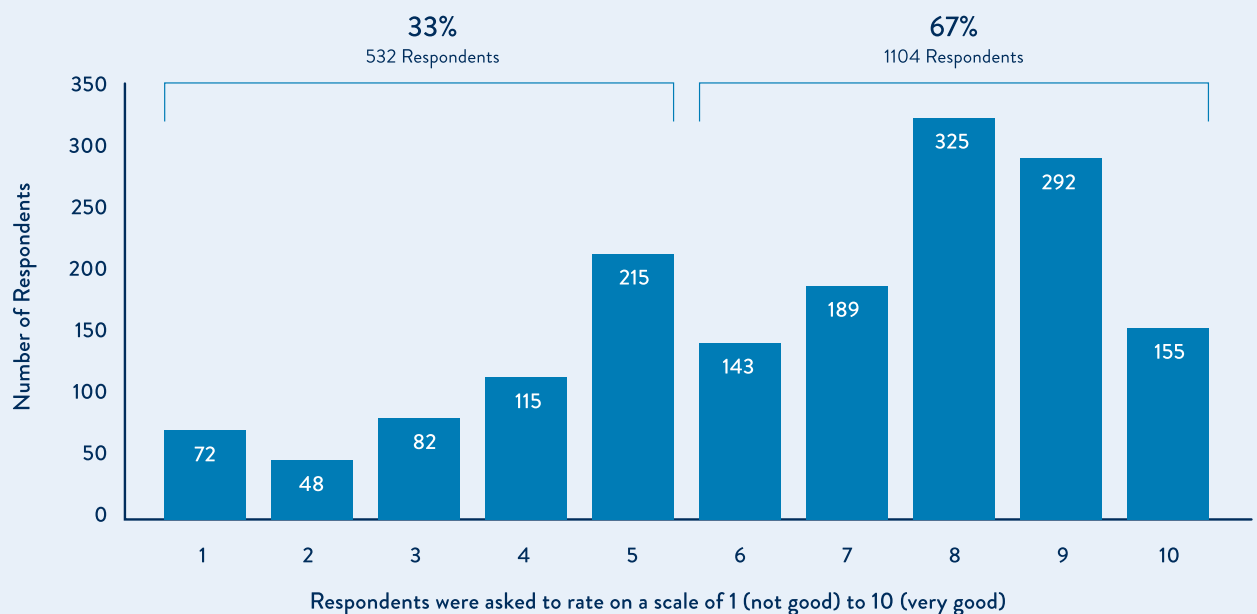
“I could go work for [a small operator] but they work people up to like 20 hours a day -- they work people to the bone because they don’t plan very well. They also don’t pay you for more than 18 hrs of work per day and they do weird stuff with the money like they’ll move 8 hours of overtime from one shift to the next day’s shift so you get paid straight time instead of OT.”

“I would or I did and it has been a daily struggle often working more hours, harder work and less pay.”

“Quit overworking their employees, 32 hour shift is too much”

The practice of misclassifying work hours and underpaying employees is a crime known as wage theft. Wage theft is one of the most common forms of white collar crime in the United States,⁸¹ and the oil and gas industry is no exception. Between 2012 and 2015, the Department of Labor conducted 1,100 investigations of oil and gas industry employers and recovered more than \$40 million for more than 29,000 workers across the nation.⁸²

In your current (or most recent) job, HOW DO YOU FEEL ABOUT WORKLOAD & HOURS?



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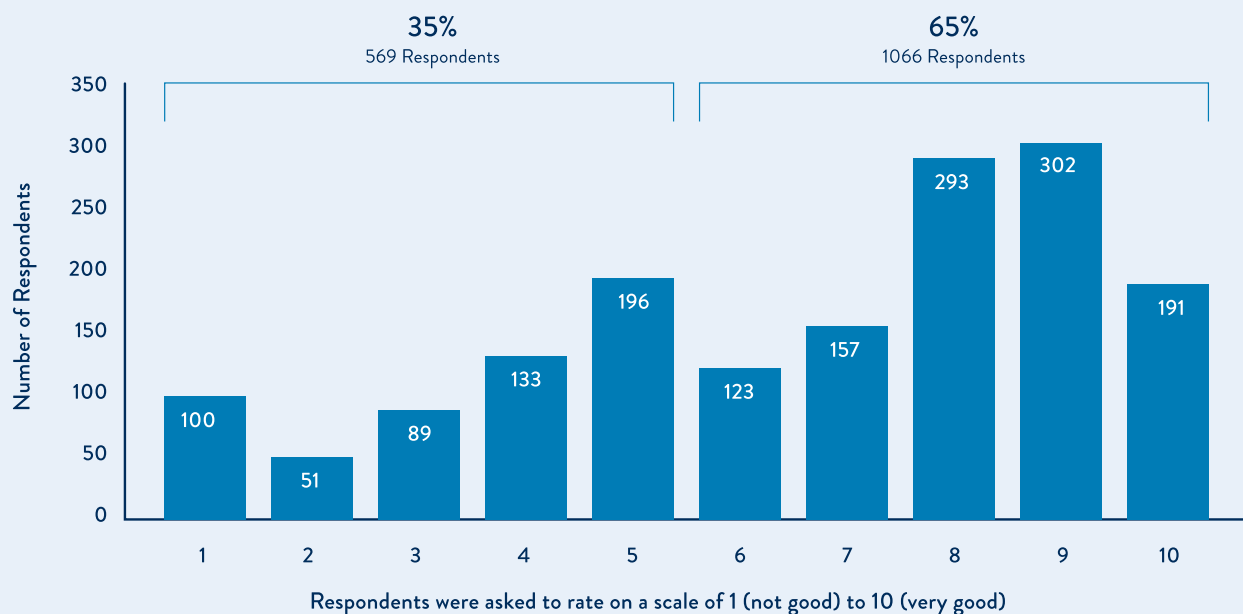
In a July 2022 action, a Department of Labor investigation found that a construction company was underpaying pipeline workers in overtime, and ordered the company to pay workers \$247K in back wages and damages.⁸³ A DOL staffer explained, “Paying an employee a day rate does not mean the employer is no longer legally obligated to pay overtime wages. Regardless of whether workers are paid by the hour, the piece, the day or on a salary basis, overtime rules still apply.”

3.4 ATTITUDES TOWARDS BENEFITS

Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes regarding employer provided benefits. Of the 1,635 respondents, 35% (569) had a more negative view of employer provided benefits

and 65% (1,066) had a more positive view of employer provided benefits. Perhaps, not surprisingly, respondents who indicated that they were full time salaried employees constituted the largest share of respondents with a more positive view of benefits. Of full time salaried employees, 85% reported having health insurance, 51% reporting having disability insurance, 65% reported having paid time off/sick leave, 62% reported having retirement benefits, and 52% reported having training and accreditations paid by their employer. For a more in depth discussion of employer provided benefits, please refer to **Section 2: Just Compensation.**

In your current (or most recent) job, HOW DO YOU FEEL ABOUT BENEFITS?



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3.5 ATTITUDES TOWARDS EMPLOYER & MANAGEMENT

Many of the survey respondents expressed pride and a kind of ownership in the American oil and gas industry writ large. Workers are the industry and vice versa. When asked to speak specifically towards companies some workers shared stories of caring employers (see Plumber testimonial below), while more than a quarter of respondents had a more negative perception of their employer and/or management.

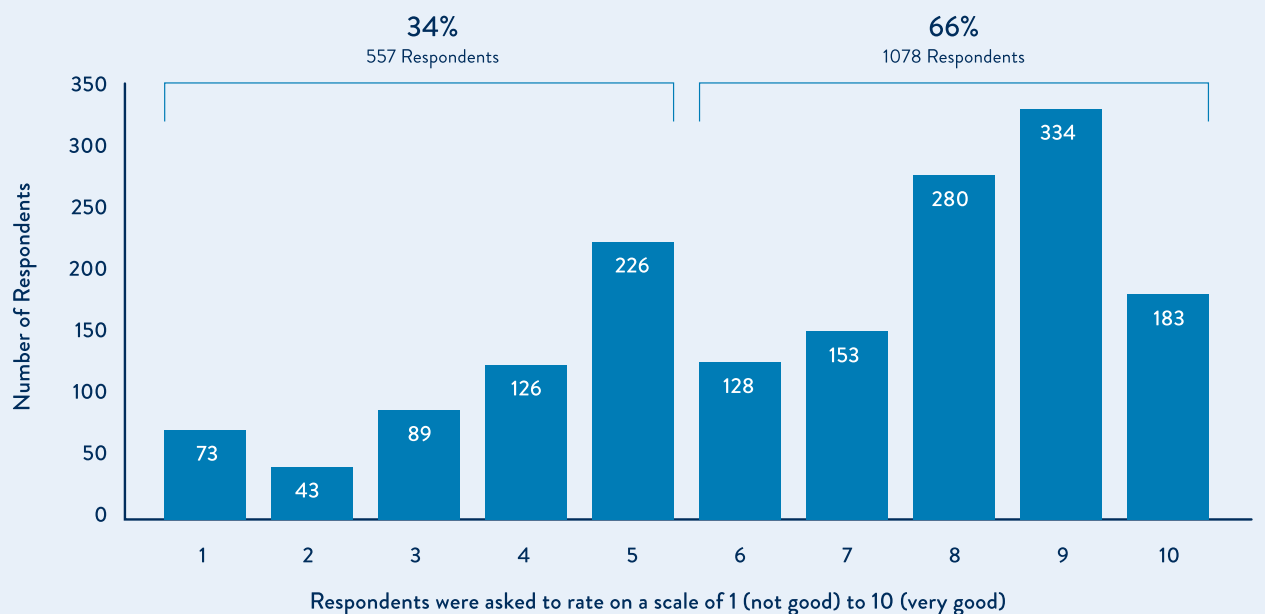
Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes towards their employer or most recent employer. Of the 1,635 respondents, 34% (557) had a more negative view of their employer and 66% (1,078) had a more positive view of their employer.

Survey respondents were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes towards their management or most recent management. Of the 1,635 respondents, 35% (574) had a more negative view of their management and 65% (1,060) had a more positive view of their management.

When asked to elaborate on their own thoughts about their employers or management including examples of nepotism in the oilfield:

“Employees often leave a site or job due to poor management. It’s too often I see a family employee get hired who has no training or qualifications all because of “who they know”

In your current (or most recent) job, HOW DO YOU FEEL ABOUT YOUR EMPLOYER?



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or “who they are related to.” They are more than likely to get paid more and are lazier in my experience as well.”

Several survey respondents described heightened tension between office and field jobs:

“I would move to another field of work for the increase in skill sets and experience allowing for individual career progression. Currently in a stagnant environment and a circus for office management.”

“I would move for more pay, better benefits, better working conditions, or competent management.”

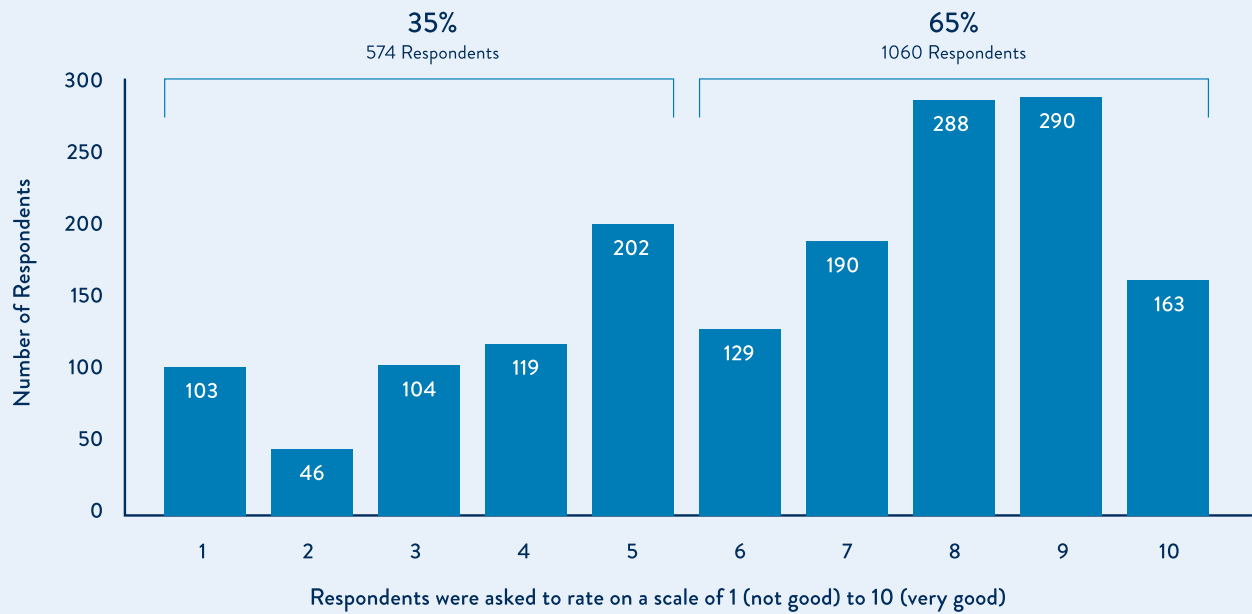
And many expressed the contrast between the workers that extract and generate revenue and the shareholders and executives that benefit from that labor:

“I would move because oil & gas is more concerned about their bottom line, execs & shareholders than those who generate their revenue.”

“It’s all about company profits and stockholders. Employees or just numbers.”

Please see **4.5 Raising Workplace Safety Issues** for more on the tension between management and workers relative to safety.

In your current (or most recent) job, HOW DO YOU FEEL ABOUT YOUR MANAGEMENT?



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PSEUDONYM: PLUMBER

AGE: 44

JOB TITLE: PIPE FITTER AND STRUCTURAL WELDER

After 14 years working in the Gulf of Mexico, an accident and a medical issue derailed his career in the oilfield

Plumber was originally from Michigan and moved to Louisiana because he was “chasing a woman.” He started working for an offshore construction company in 2008 doing contract work for production companies in the Gulf of Mexico. His career in the Gulf ended when he had to “take a leave of absence due to medical reasons.”

Since he worked for a smaller company, there was “not a lot of career opportunity to move forward, but that’s normal in that type of service industry,” but in terms of safety, his construction company was “very supportive”: “[The company] was very, very safety orientated. For the most part, [the company] would have our backs if there was a safety issue.”

The company was also “very family oriented” and proved supportive when his wife was in a devastating accident and when he suffered from a medical issue. “When my wife was hit by a truck, they did a lot of things to help me out. And when I took my medical leave, I think it’s 12 weeks that’s required by federal law, but they keep me on for six months. And they still called me at the end and asked if I was ready to come back to work, but I was not . . . and they still reached out to me to see how I’m doing.”

During his medical leave, Plumber moved back to his home state of Michigan, “but if I lived closer, I’d probably go back to work for them.” His experience in the oilfield was positive. When he was on the rig after his wife’s had accident, “when she had medical issues, one oil company tried to get me a medevac flight directly to the hospital; of course they couldn’t, but they were trying, which shows a lot about caring for the people that do work for them.”

“I have no problem going back into the oil and gas industry. Even the oil companies I didn’t like were still good to me.”

Plumber is considering going back to work and one of his options he’s looking at is a solar and wind company.



Shell Petrochemical Complex in Beaver County
nears completion. View from Monaca PA at the end
of April, 2022. Credit: Julie Dermansky Photography

SECTION 4:

SAFETY AND LIABILITY IN THE OILFIELD

We asked survey participants about safety and liability on the job to get their view of the risks they face day-to-day. All streams of the oil and gas industry pose routine risks and inherent hazards, but that does not mean the industry should accept injuries and death as the norm.⁸⁴ The following questions attempt to determine whether workers perceive if some of those risks are unavoidable or compounded by management.

4.1 INJURIES IN THE OILFIELD

The upstream oil and gas industry has one of the highest rates of severe injuries in the country.⁸⁵ The Occupational Safety and Health Administration (OSHA) defines severe work-related injury as an amputation, in-patient hospitalization, or loss of an eye.⁸⁶ Severe oilfield injuries commonly include: fingers or other body parts caught in equipment, falls or struck by objects, gas leaks, fires and explosions. And as described already, despite constituting .00005% of the total American civilian workforce, upstream oil and gas jobs constitute 3% of all workplace related hospitalizations and 4% of all workplace related amputations.⁸⁷ We analyzed OSHA's most recent Severe Injury Report⁸⁸ which includes incidents between 2015 and 2022. We parsed out incidents related to upstream, midstream and downstream oil and gas jobs.⁸⁹ In total, there were 2,484 reported severe injuries and 2,031 hospitalizations for the 7 year period.⁹⁰ The leading types of injuries included fractures (722), amputations (692), soreness from injury (163), heat, thermal burns (111), and lacerations (94). The leading causes of injuries were caught in or compressed by equipment, shifting objects or equipment (420), caught in running equipment or machinery during maintenance, cleaning (124), struck by

dislodged flying object or equipment or object dropped by other person (226), and ignition of vapors (79).

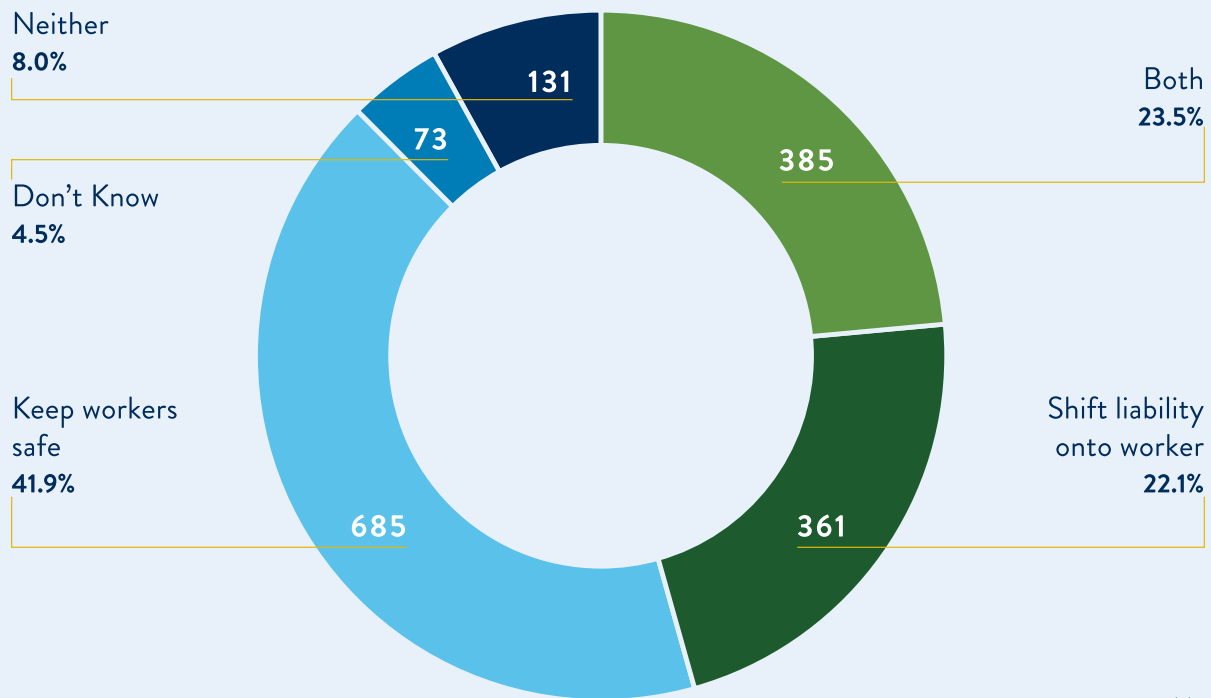
These are just the reported injuries. David Michaels, former Assistant Secretary for OSHA previously stated that the oil and gas industry has a relatively low injury rate because they “often don’t report their injuries. They have a very high fatality rate, so it’s simply not possible they have a low injury rate.”⁹¹

Below are narrative descriptions of three recent reported events in the latest OSHA Severe Injury Report:

DOWNSTREAM: In April 2022, at Valero Refinery-Meraux LLC in Chalmette, Louisiana, “a crew was changing out a vertically oriented 8-inch check valve on a pipeline. When a flange was opened by loosening bolts, pentane and other flammable hydrocarbon products in the pipe released from the pipeline, creating a vapor cloud and resulting in a massive fire and explosion. The vessel and associated equipment/piping were engulfed in fire for about eight hours. Eight employees were sent to the hospital. Six employees were treated and released. Two employees were admitted for treatment of thermal and chemical burns to the face, neck, and hands.”⁹²

MIDSTREAM: In November 2021, an employee in Missouri, “was spray painting a petroleum pipeline for rust prevention. The pipeline is supported by wood log cribbing and subject to move when the temperature rises. The pipeline fell and pinned the employee down in the excavation. The employee sustained several broken ribs, breathing obstruction, contusion, and loss of consciousness. He was hospitalized.”

How well does your company's safety program keep workers safe?



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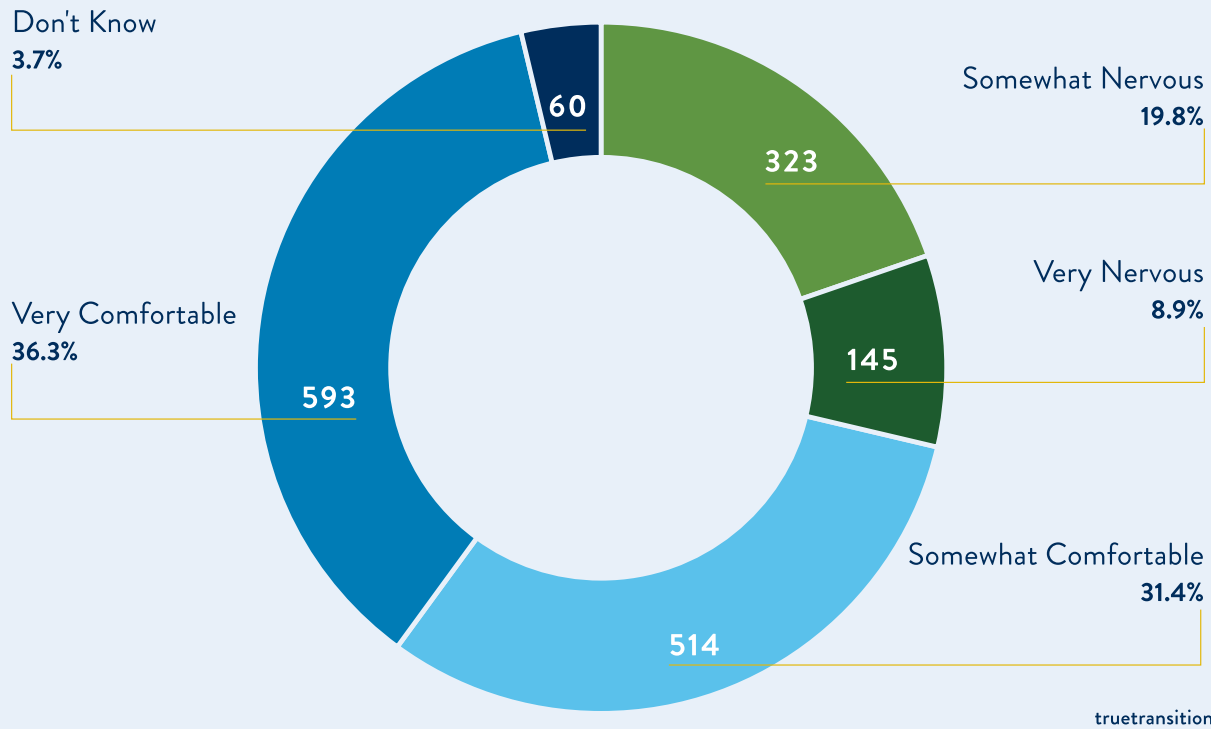
UPSTREAM: In 2020, a contractor in Kermit, Texas was exposed to hydrogen sulfide, “The injured employee was collecting produced water from a well site when he observed a person collapse. The injured employee attempted to render aid to the person, when he succumbed to hydrogen sulfide (H₂S). The injured employee was hospitalized for H₂S exposure.”

4.2 DEATHS IN THE OILFIELD

From 2008 through 2020, 1,901 workers died from injuries in the oil and gas drilling industry and related fields, according to data from the U.S. Department of Labor’s Bureau of Labor Statistics.⁹³ A 2012 New York Times report found that over 300 of these deaths were related to exemptions⁹⁴ for rest between shifts specific to the upstream oil and gas industry.⁹⁵

Offshore operations can pose pronounced risks, especially because of shore distances from hospitals. Between 2012 and 2020, the oil and gas fields in federal waters of the Gulf of Mexico witnessed 188 reported collisions, 1,525 reported fires, and 2,080 injuries.⁹⁶ In a 2021 investigation, reporter Sara Sneath found that offshore oil and gas worker deaths were under-reported by the Bureau of Safety and Environmental Enforcement (BSEE). Sneath found that the “agency does not count offshore fatalities that occur in state waters, or deaths that occur while workers are in transport to offshore facilities. They don’t count deaths that happen on offshore platforms that aren’t work related, either, even though the remoteness of offshore platforms makes it more difficult to seek medical attention and workers often stay on platforms for two weeks at a time.”⁹⁷

How secure would you be in raising workplace safety issues with your management, should an issue arise?



4.3 WORKER ATTITUDES TOWARDS SAFETY PROGRAMS

Former oilfield workers who helped write the survey questions recommended that we specifically ask about whether a company's safety program was designed to actually protect workers or merely shift liability of a potential accident onto the individual workers. From the initial rush to cast blame onto Captain John Hazelwood for the 1989 Exxon Valdez spill to a 2021 indictment of two offshore oilfield workers⁹⁸ in the Gulf of Mexico for a recent oil spill, historical cases suggest that industry is quick to scapegoat individual workers.

Of the 1,635 survey respondents, 42% (685) of respondents said their company's safety program was designed to keep workers safe, 32% (361) of respondents

said their company's safety program was designed to shift liability of an accident onto a worker, and 23% (385) of respondents said their company's safety program both kept them safe and shift liability onto individual workers.

In total, 65% of survey respondents believed their company's safety program was designed to keep them safe, but 45% of survey respondents believe that their company's safety program was explicitly or implicitly designed to shift liability of an accident onto the worker.

4.4 RAISING WORKPLACE SAFETY ISSUES

Survey respondents were asked whether they would feel secure raising a workplace safety issue with management.

Of the 1,635 survey respondents, 36% (593) of respondents said they would feel very comfortable, 31% (514) of respondents said they would feel somewhat comfortable, 19% (323) of respondents said they would feel somewhat nervous raising a safety issue, and 8% (145) would feel very nervous raising a workplace safety issue to management. While the majority of survey respondents (67%) feel comfortable raising safety issues, it is concerning that more than a quarter of workers would hesitate to raise safety concerns in such a high stakes field. Indeed some survey respondents said that safety culture was more superficial and workers were penalized if they tried to do things “by the book”:

“[There are still some workers] there but the safety culture is minimal, making us run in unsafe conditions, in all weather, sub zero temps down to -40 degrees, for us, it makes it seem management does not care about our safety, just keep running. Because they talk about safety but don’t do it out here. It’s all, “let’s get it done quickly and don’t worry about safety.”

“My driller said if you try to do everything by the book and be safe you will get run off.”

THE OUTER CONTINENTAL SHELF

American federal territory in the Gulf of Mexico (referred to as the Federal Outer Continental Shelf or OCS) is one of the most well established and productive offshore basins on the planet. There are approximately 1,885 active oil and gas production platforms on the OCS, and more than 60 percent of these facilities are more than 25 years old. The number of personnel required for offshore operations includes field management, production crew, multiskill personnel such as mechanics and electricians, roustabouts and support personnel including housekeeping, and catering. All deepwater producing facilities in the GOM are manned 24-hours, while about one-third of shallow-water structures circa 2018 are continuously manned. In shallow water, a manned facility is often responsible for several facilities in the area, but in deepwater, crews are generally responsible for just one facility and its subsea tiebacks. We received several comments referencing specific offshore disasters which we describe in detail below.

In a recent investigative news story on foreign flagged vessels in the Gulf, a Houston-based attorney observed a marked increase in storm-related OCS lawsuits and that he was personally representing 60 workers who were left in the Gulf to “ride out storms on offshore vessels.”

All OCS operators with manned vessels are required to develop and implement an “Emergency Evacuation Plan.” Operators of drillships and mobile operations drilling units (MODUs) are required to submit a Stacking Plan which includes the means to evacuate personnel in case of emergency and emergency response procedures to the US Coast Guard Officer in Charge. These regulations are largely deferential to operators, allowing companies to establish their own triggers for evacuation instead of government mandated triggers.

TRANSOCEAN DEEPWATER ASGARD

On Tuesday, October 27, 2020 the Deepwater Asgard's crew was busy preparing to move the Asgard away from Hurricane Zeta's path when, according to legal complaints later filed by several crew members: "calls started coming in from the shoreside offices of the Transocean and Beacon stating that the Deepwater Asgard needed to stay latched and continue operations." Preparations to evade the storm were halted and a 4:00 p.m. conference call was scheduled for management onshore to weigh in. At the 4:00 p.m. phone call, Transocean and Beacon ordered the vessel to stay latched despite Hurricane Zeta headed directly toward them." The complaint continued, "Plaintiff, along with other crew members on board, strongly disagreed with the decision to stay latched but had no other options but to obey orders." The Deepwater Asgard remained in Hurricane Zeta's path where the crew was forced to endure terrifying and life-threatening conditions. The Emergency Disconnect Sequence (EDS) function was activated, unlatching the Lower Marine Riser Package (LMRP) from the blowout preventer and the Asgard was pushed off location. The LMRP endured damage to its frame, piping, and coflex after contacting the seafloor several times.

NOBLE GLOBETROTTER II

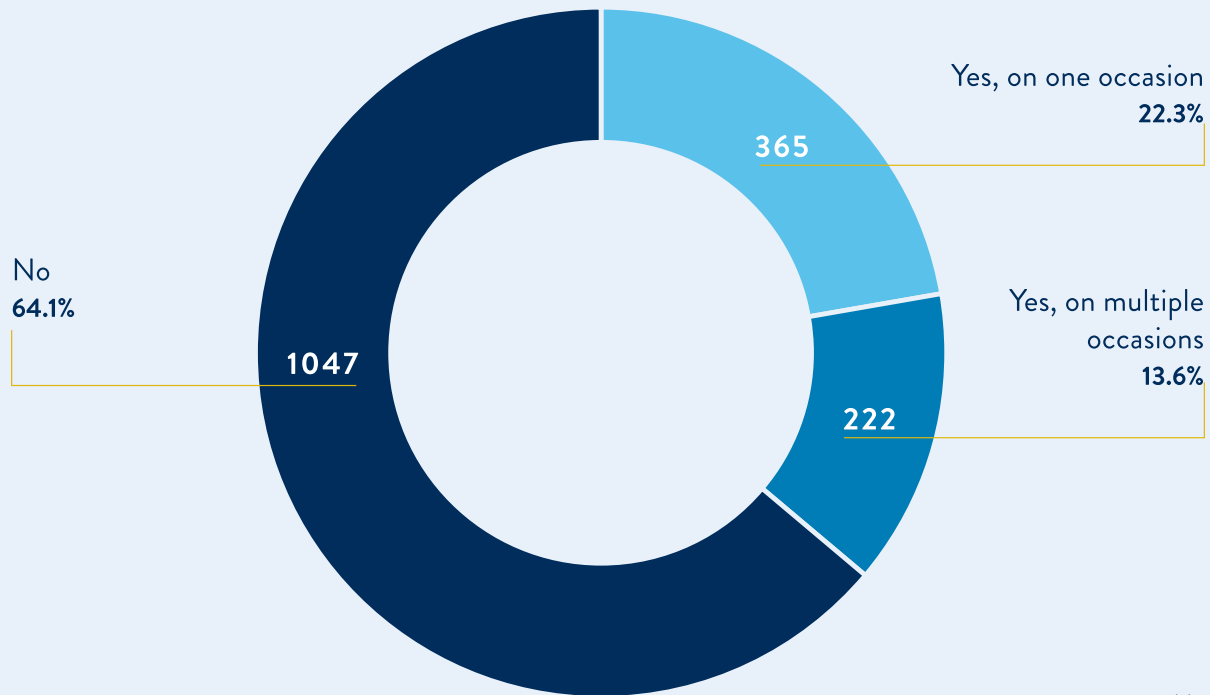
On August, 29, 2021 the crew of the Noble Globetrotter II was preparing to move out of the path of Hurricane Ida. Nearby oil platforms and drillships were already fully evacuated, and the window they had to avoid the hurricane was closing. Despite conditions and T-Time & Evacuation Reports showing potentially not enough time to secure and evacuate/evade, Shell and Noble supervisors made a decision to conduct a crew change with the first of 4 helicopters arriving at approximately 7:52 am. Noble Drilling never gave the ship an order to stop work, and neither Noble nor Shell told the crew to evacuate. As the crew endured 150 mile per hour winds and 80-ft swells, crewmembers shared videos and provided interviews

with a local news station to garner public attention and secure a prompt rescue. The Coast Guard rescued the over 100-member crew. A BSEE investigation concluded that the "temporary abandonment was delayed as the operator and contractor jointly decided to conduct a crew change during an operation and reduced staffing and time constraints." BSEE also concluded that the "Operator and Contractor monitored storm forecasts waiting on notification of a direct path rather than following operational T-times already calculated relative to current well operations and potential Extreme Weather Event." A Coast Guard and BSEE joint Safety Alert recommended that operators should "determine a "decision time" to act in the face of an extreme weather event. The decision to continue operations should not depend on a forecast track to the asset location. Don't wait for a definitive weather forecast to react."

SEACOR POWER

On April 13, 2021 7:02 a.m., a weather report was emailed to the *Seacor Power* indicating 9-12 knots from the southeast with 3-foot seas. The National Weather Service issued several special marine warnings. At 2:10 p.m. the vessel departed Port Fourchon and eight miles away from the port at 3:30 p.m., the vessel sailed into a rain squall. The crew dropped the legs to hold position when the vessel capsized. Six crew members survived the disaster and 13 crew members were killed. Yvette Ledet, the widow of Capt. David Ledet, has filed a Jones Act lawsuit against Seacor Marine LLC, Seacor Liftboats LLC and Talos Energy LLC alleging that the companies ordered the *Seacor Power* to sail into the Gulf of Mexico on April 13 despite the dangerous weather conditions. In her testimony to federal investigators, Yvette Ledet explained that prior to his fatal voyage, her husband had expressed frustration and concern with the increasing pace of the offshore industry at all costs, "Because so much was put on these men to try to hurry up, get things done. I mean, I know I keep saying that, but I don't know how else to express that. Just a lot put on them. A lot of responsibility is put on them. And to try to get it done quickly - because time is money."

Have you ever been ordered to engage in unsafe working practices that were against established safety protocols?



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4.5 UNSAFE WORKING PRACTICES

Survey respondents were asked whether they were ordered to engage in unsafe working practices that were against established safety protocols. Of the 1,635 survey respondents, 64% (1,047) of respondents said they had never been ordered to engage in unsafe working practices, 22% (365) of respondents said they had been ordered to engage in unsafe working practices on at least one occasion, and 13% (222) of respondents said they had been ordered to engage in unsafe working practices that were against established safety practices on multiple occasions. **In total, 35% of survey respondents indicated that they had been ordered to engage in unsafe working practices that were in direct violation of established safety practices.** It is alarming for an industry with both the highest fatality and severe injury rates to have so many oil and gas workers reporting having experienced this practice.

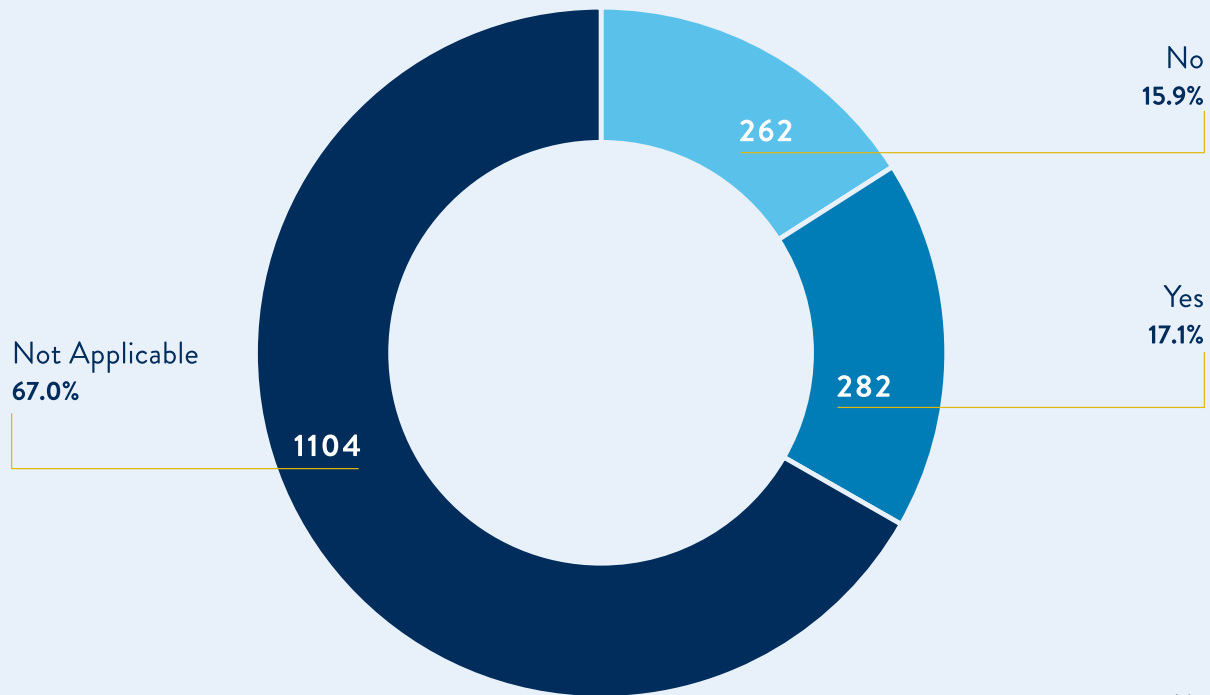
When asked to provide their perspective on why they would switch industries or just about the oil and gas industry in general some spoke specifically to safety. One upstream oilfield worker said that he was forced to do “unsafe things” as part of his job:

“I’d want to move for better job security, be able to spend more time at home with family, and for safer work where I wasn’t forced to do unsafe things, I wouldn’t want to move for low pay.”

Another upstream worker alleges that safety is nonexistent:

“There is no such thing as safety at any job in the oilfield. Nobody cares about it.”

Did anyone threaten to terminate your employment or discipline you if you did not engage in the unsafe working practice?



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4.6 THREATENED ON THE JOB

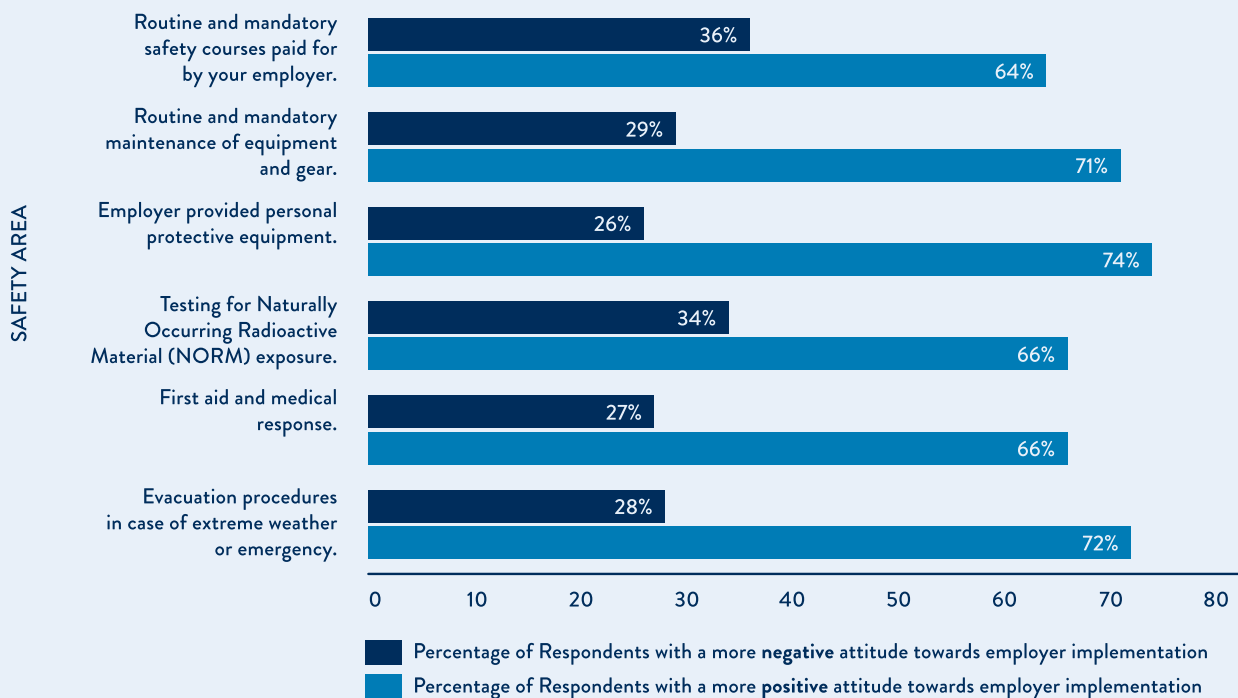
Survey respondents were asked whether they were ordered to engage in unsafe working practices that were against established safety protocols. Of the 1,635 survey respondents, 67% (1,104) of respondents said the scenario was not applicable, 15% (262) of respondents said they had not been threatened to have their employment terminated if they did not engage in an unsafe working practice, and 17% of respondents said they had been threatened to have their employment terminated if they did not engage in unsafe working practice.

Taken together, the answers to these four questions provide a snapshot of a house divided. While over half of the survey respondents report responsible workplace safety cultures designed to protect workers, 17% report

having been threatened and 35% ordered to engage in unsafe working conditions, 33% feel unsure about raising unsafe working conditions, and 45% of survey respondents believe that their company's safety program was explicitly or implicitly designed to shift liability of an accident onto the worker. Long are the days of Exxon's former "nobody gets hurt" safety campaign. Instead there seems to be an increasing acceptance of a "whatever it takes" oilfield culture. Reduction in safety may save a company money in the short run, but eventually the bill comes due and it is workers who will have to pay it. If one worker loses his or her life from corporate negligence, their family will know that loss for the rest of their lives.

The oil and gas industry is not like other industries. The materials that are excavated, transported and produced

How do you feel about your current (or most recent) employer's implementation of these safety protocols?



are of strategic national importance. An accident in one refinery can cripple whole regions of the nation. The materials are poisonous and combustible posing catastrophic risks to the workers themselves and adjacent communities if mishandled. If even a small percentage of the workforce is reporting that they are being threatened to violate established safety and environmental laws and practices, then this is cause for alarm for the general public. When over a quarter of an industry's workforce reports intimidation and lax safety cultures, it is sufficient cause for additional investigation, and additional regulatory presence to protect workers. Please see **5.4 Pro worker policies** for our recommendation on how to begin confronting improved safety and worker protection in the American oil and gas industry.

4.7 ATTITUDES TOWARDS SAFETY

Survey participants were asked to rate on a scale of 1 (not good) to 10 (very good) their attitudes regarding employer implementation of a variety of safety protocols. More than a quarter of survey respondents had a more negative view of their employer's implementation of specific safety protocols, while three quarters were more satisfied with implementation. While 70% is a passing grade, it's certainly no cause for celebration. Indeed, safety training, NORM testing, and first aid response all earned a failing mark from the survey respondents.

We've devoted a considerable amount of time to assessing safety and attitudes towards safety because workers themselves pointed to it as an area worthy of greater attention and scrutiny. These responses once again reinforce

the need for additional training, increased staffing, and greater regulatory oversight and enforcement actions against companies that violate safety law and regulations.

Many workers volunteered specific recommendations on improving safety. The following upstream worker recommended improved standard heights for cellar depths (the space between the rig floor and wellhead to install additional equipment):

“Would love to see more environmental control on Texas & New Mexico drilling rigs. Cellar depths need to be made for a safer work area.”

These pipeline workers recommended more routine inspection for pipelines and supporting infrastructure:

“More routine inspections and maintenance on infrastructures and pipelines would benefit us all. Less spills.”

“More rigorous enforcement of inspection schedules for existing piping (I’m an inspector) which would help reduce LOPC and increase the amount of work for me. Also, limiting the number of roles one inspector can fulfill on any one project. Employers are reducing the number of people they have to employ by not hiring single certified inspectors and hiring people like me to do 3 or 4 people’s jobs. This leaves a lot of inspectors at the house unemployed, while working people like me to death, doing multiple inspector’s jobs.”

While there’s a general perception that the oil and gas industry is over-regulated, several workers in this survey explained that this is not the case.⁹⁹



Aerial view of the 'Oil Patch' in Eddy County part of the Permian Basin.
Credit: Julie Dermansky Photography

PSEUDONYM: SOLOMON

AGE: 52

JOB TITLE: DERRICKMAN/MOTORMAN

CONCERNS OVER SAFETY FORCED HIM TO LEAVE THE JOB.

Although the pay gave him the ability to provide for his daughter, Solomon could not abide the risks he had to take in his job. According to Solomon, in the two years he spent in the oilfield, he was exposed to dangers that compelled him to leave. He lived in North Carolina, but worked in Colorado. While he was fascinated when talking to the geologist about geological formations and curious about the details of his job, like the dynamics of running casing, he says his job “was very labor intensive, very demanding, a lot of grunt work.” Solomon saw “people get hurt,” and the Toolpusher was “very pushy” about getting jobs done.”

As part of the drilling contractor’s safety program, workers were given a “red flag card that workers could pull if conditions weren’t safe, but the thing is, if you pulled that card, you were under the duress of being fired *because* you pulled that card, because it stopped operations.”

“At times I trusted the guys I worked with, but the fact that I was black made me feel like I was being singled out.” In general, Solomon felt “uneasy.”

“On the rig that I was on, a cable kept getting hung up in the derrick. But when I went up to unhook it, there were steps missed on that ladder;

it was faulty. I felt it was rickety and wasn’t safe. The Toolpusher and I got into it. I told him if you want to go, you go. I’m not going up there. He threatened to fire me.”

When asked where the pressure to “get the job done” came from, the Toolpusher or the “Company Man,” Solomon said, “It comes from the top down.”

While the rig was dealing with a well control situation, there was an “overflow” of drilling fluid that spilled out of the mud pits. He felt the job was too dangerous to continue working and left. After the incident, Solomon was blamed.

“But for all the things wrong with the oilfield, when you’re making good money, it affords you a sense of self-worth.”

“If I did go back to the oilfield, plugging old wells or drilling wells, I would want to be involved in safety . . . I would want to make sure the job was being run safely, and management was held accountable for the conditions they put the guys in.”

Solomon now works as a machine operator for a pharmaceutical company.

In 2020, installation was completed on the first wind turbines installed in U.S. Federal waters. The offshore wind project has been fully operational since Fall 2020.
Credit: BOEM. public domain



SECTION 5: FRONTIER PLAYS

We asked survey participants about working in different sectors, attitudes towards government interventions and what they would recommend for new public policy to specifically help workers. While many workers expressed concern about transferable skills, these same workers would be willing to move if provided resources to learn.

5.1 REASONS FOR STAYING WITH OR LEAVING THE OIL & GAS INDUSTRY

We asked participants what reasons were most important in deciding whether to leave the oil and gas industry.¹⁰⁰ Increased pay (36%) ranked as the highest reason to leave, followed by health and safety conditions (22%), and a similar work schedule (13%). Perhaps not surprisingly, money talks. Good pay anchors oil and gas workers, but competitive offerings could certainly induce this skilled workforce to consider other industries. Consistent with previous survey findings regarding declining safety cultures, respondents also ranked health and safe conditions as the second most important factor for leaving the oil and gas industry. While many respondents communicated pride in their work and the industry overall, a job is just a job and not worth permanent injury or death. Finally, respondents also ranked similar work schedules as an important factor. The upstream oil and gas industry requires a unique lifestyle, and for many workers, they want to retain that schedule.

Many workers remarked on the oilfield lifestyle as a vocation that was not so easily substituted with other types of employment:

“Oil and gas is kind of a lifestyle, like coal mining was. I don’t just need a job, I need to

be in this environment. There are plenty of jobs, but none like this.”

Some respondents see the energy transition happening now and want to switch to another field for more stability:

“I would move to a new industry because the world is becoming less dependent on fossil fuels and I wouldn’t because I feel stable in my current job.”

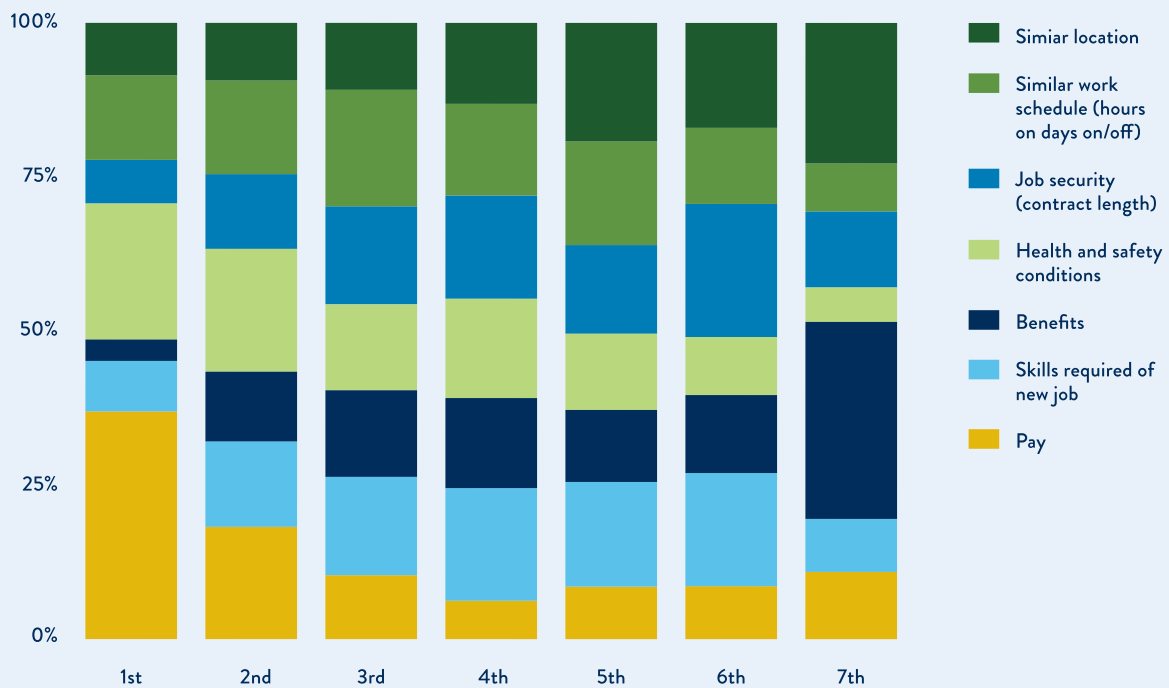
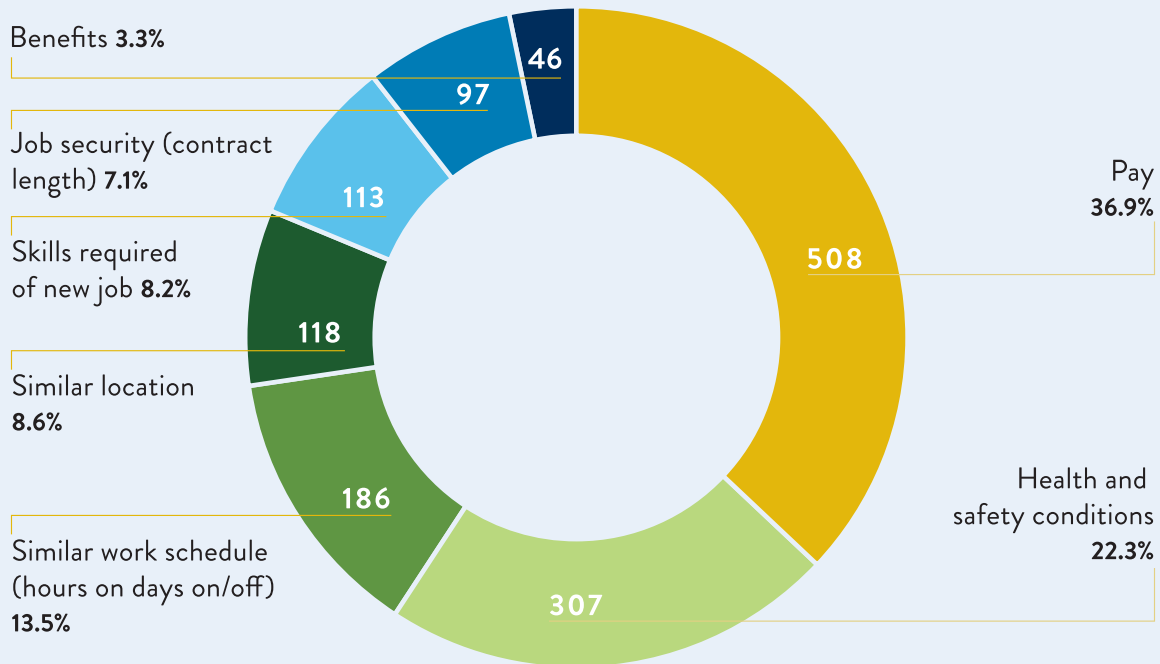
When asked to elaborate on why they would or would not move, respondents echoed pay and safety, while some expressed desire for job security or general anxiety towards the future of employment in the oil and gas industry. Respondents also preferred work where they could apply their existing skills and expertise:

“I would move if I got better job security and benefits and I wouldn’t consider moving if it was too far from my current location, my home.”

“Low pay or having to make a permanent move to a new state would keep me out of a new industry. Good pay and the ability to do rotational work would help me decide to change fields.”

A key, and perhaps not surprising insight, is that if employers want to attract American oilfield workers then compensation is critical.

In considering moving to a new job outside of the oil and gas industry, please rank what is most important to you.



We asked respondents to rank each each category

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PSEUDONYM: FAIL-SAFE

AGE: 39

JOB TITLE: RIG SAFETY MANAGER

LIFESTYLE THAT'S HARD TO BEAT & ROUGHNECK UNION

After Fail-Safe earned his degree in safety management, he was disappointed by the starting salary of safety jobs which was “40k a year.” A friend, who was a rig manager working for a small rig company, offered him a job as a roughneck for “70k a year.” He called it a “no brainer.” In time, he left the smaller company to work for a bigger rig company and once there, he was eventually promoted up to driller. In 2015, during a downturn in oil, he was laid off. About a year into his layoff, he and wife received some questionable advice from a mortgage company in a vulnerable time.

“Me and my wife were talked into trying to refinance the house—we only owned it for about two years at that time. So they told us ‘don’t make any payments while we’re doing this. There’s no point.’ Four months go along and we wind up losing our house. We let it go, ya know. We was strugglin’. Yeah, it was hard. I ended up getting back on about 8 months after that. I went back drilling pretty quick and did that for another 6 years or so, and I finally just got burned out. After getting’ laid off, I didn’t love the oilfield like I did.”

When hired back on, “the number one question I was asked was “Are you going to quit [and work for a better paying company] when the oilfield comes back? And I’d always tell them ‘it depends. Are you going to produce for me the way I produce for you?’”

After a conflict with his tool pusher coupled with the fact he was “burnt out,” he said, “I just had enough so I drug up (‘drag up’ is a term for ‘quit’). I got a call before I got home, I had a safety job working for the company we had actually been drilling for. So that’s where I’m at now.”

He’s careful with his money because of the instability of the drilling industry and warns the younger workers “invest your money . . . don’t buy four-wheelers, don’t buy boats, that stuff is worthless.”

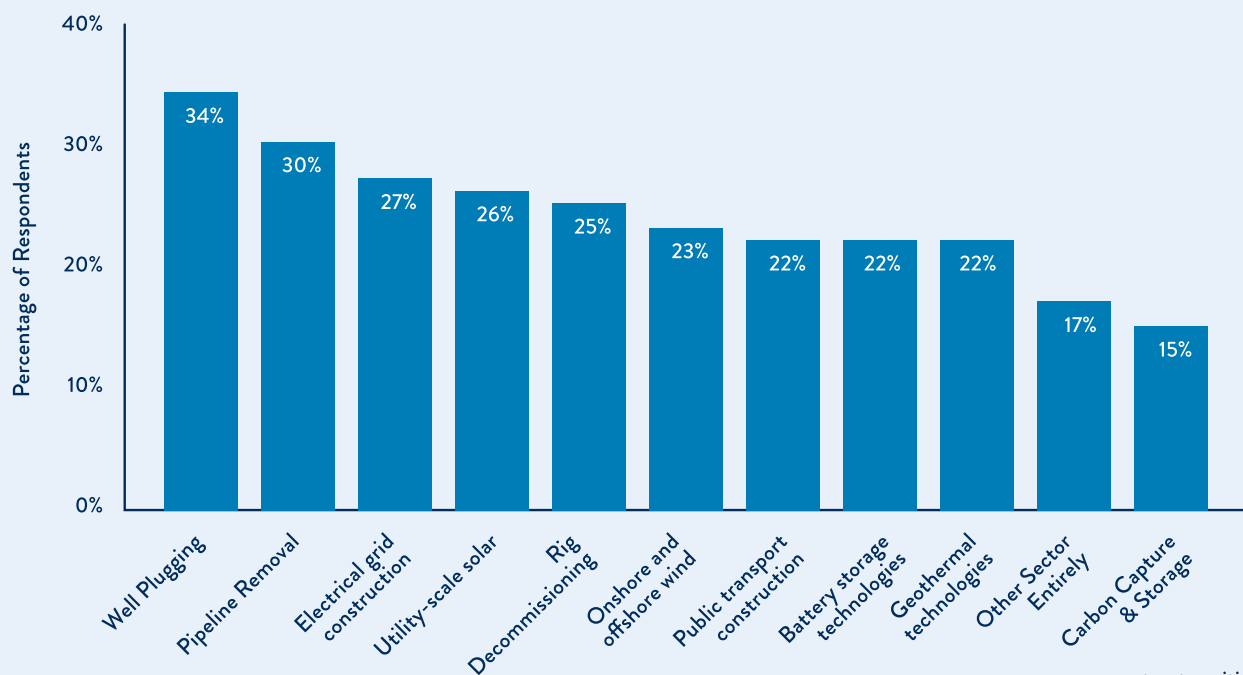
In his new job as a safety manager, he finds it less stressful than drilling: “It’s way less stressful. Now, I have to be up more; I get a little less sleep because I don’t have a 12-hour tour, but I don’t have the responsibility of the well anymore.”

Because of the boom and bust cycle, seasoned workers leave the oilfield for more stable work and are replaced by inexperienced workers: “The way the oilfield is now, when the oilfield slowed down in ’19, a lot of hands got laid off and they didn’t come back. The oilfield is trying to refresh with all these new hands, well, these new hands aren’t like they were 10 years ago. You got hands coming out here that don’t know what a crescent [wrench] is, seriously. And a lot of times they realize that they don’t fit out here and they’ll drag up pretty quick. But sometimes they stay and it’s dangerous because sometimes their minds are made more for video games, not for the oilfield. A lot of guys, this last slowdown, people get tired of that. You can’t make a life living on the edge of your seat all the time.”

“I wish there was some sort of a roughneck union. That would be awesome. The train companies have these unions. The coal miners have unions. Welders, pipelines, they have unions. I don’t understand why the oilfield can’t come up with a union.”

Even given the instability of the oilfield, what Fail-Safe likes the most about his job, besides the pay, is the work schedule: “I have more time at home with my family than if I was working at home. If I was working at home, working 10 or 12 hr days, I’d get home and I wouldn’t want to do much with my family, with my kids, and if you only get two days home, you’d want to spend it relaxing. With these 14 days off, I get a two week vacation every month. That is hard to beat.”

If you could receive free training or education to help you move to a new part of the energy sector, what education or skills training would you be interested in?



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5.2 ALTERNATIVE SECTORS

To gauge oil and gas workers' potential interest in other sectors of employment, survey respondents were offered a list of eleven fields of work to select, choosing as many as they liked. Each percentage is therefore out of the whole, rather than representing a prioritization. The intention of this question was to capture which energy sectors currently interest workers.

Q. If you could receive free training or education to help move to a new part of the energy sector, what education or skills training would you be interested in?

- Well Plugging & Abandonment **34%**
- Pipeline Removal **30%**
- Electrical grid construction **27%**
- Utility Scale Solar **26%**

- Rig Decommissioning **25%**
- Onshore & Offshore Wind **23%**
- Public Transportation Construction **22%**
- Battery and energy storage technologies **22%**
- Geothermal Technologies **22%**
- Other sector entirely **17%**
- Carbon capture & storage **15%**

Many workers expressed anxiety that there wasn't anything else they knew how to do outside of oilfield work, which would explain why respondents expressed greater interest in work that required existing skill sets and expertise. The greatest percentage of survey respondents (34% or 567 respondents) expressed an interest in oil and gas well plugging and abandonment. After 150 years of oil and gas production in the United States, 10 million oil

and gas wells pockmark American lands.¹⁰¹ Offshore, the industry has drilled over 120,000 wellbores and installed thousands of structures.¹⁰² In 2021, Congress passed the bipartisan infrastructure bill which included a \$4.2 billion grant program for state oil and gas regulators to contract out to private companies the plugging, abandonment, and remediation of “orphaned” oil and gas wells. While this federal program is resulting in a considerable uptick in well plugging activity, this program will only plug a small share of the total unplugged and legacy well population in the United States.¹⁰³ It’s a temporary program with temporary employment opportunities.

However, the total inventory of unplugged wells and the likelihood that a percentage of wells will need to be “re-plugged” and “re-abandoned” in the future represents significant and long term oil and gas related employment. For a greater discussion on this opportunity, please see **5.3 Pro-Worker Policies**.

Survey respondents (30% or 501 respondents) also expressed interest in pipeline removal. There are 2.6 million miles of onshore oil and gas pipelines in the United States.¹⁰⁴ Presumably, decommissioning will be required following the end of pipelines’ useful and engineered lives and present an immediate opportunity for onshore pipeline workers to apply their skills and expertise. In the Gulf of Mexico alone, there are 18,000 miles of decommissioned in place pipelines¹⁰⁵ that no longer transport commercial products. These pipelines are already proving a conflict for other commercial uses and whose removal provides immediate employment to offshore oil and gas workers.

Just over a quarter of respondents expressed interest in electrical grid construction and utility scale solar projects. And just under a quarter expressed interest in wind energy, public transportation, battery and energy storage, and geothermal technology. These opportunities will vary by geographic region. For instance, a National Renewable Energy Laboratory offshore wind energy resource study estimates that three out of four offshore wind states with the highest net technical resource potential are in the

Gulf of Mexico (Texas, Louisiana, and Florida).¹⁰⁶ Firms in Louisiana and Texas are already ramping up for the first federal wind auction in the Gulf of Mexico.¹⁰⁷ Survey respondents in Louisiana, Florida and Alabama expressed a higher interest in offshore wind (30%). We speculate that because of recent and frequent press about offshore wind in the Gulf, that respondents were more aware and supportive of this option. Bipartisan boosters of the nascent offshore wind industry have demonstrated to the wider general public that this is not an ambiguous and unlikely “coal miners to coders” yarn, but a real economic opportunity with broad support.¹⁰⁸ As a result, there’s a growing excitement and interest in the field as one respondent demonstrates:

“Make offshore wind happen in Louisiana.”

When asked why they would or would not leave the oil and gas industry, many respondents stated that oil and gas was in decline and were interested in transitioning into emerging energy industries:

“Best thing, help in training for a different sector of energy or infrastructure, green energy, like the coal sector dying off, soon, oil sector will die off and many oil field workers in all aspects and levels will lose jobs left and right.”

“I feel like the oil and fossil fuel industry might not last a lot longer so would want the government to ease workers in this sector into the green energy sector.”

“Oilfield work is waning, slow downs are more frequent, transport side is waning, many pipelines going in, taking out tanker truck work, frac companies seem to want to head south, there will be no more boom time, green energy sector looks better and better.”

Many workers complained that training and experience presented a barrier to entry into other industries and wanted government help to transition into those emerging opportunities:

“Provide schooling in clean energy jobs, including nuclear.”

“Fight ageism. I’m over 50 and even with retraining I’m going to struggle to get hired in a new industry.”

“Priority hiring/training for green energy jobs.”

“I have been in oil and gas for more than 20 years. This is what I know and am good at. I’ve tried to branch out but employers want experience in wind or solar and I don’t have any. A person can’t get experience if they won’t hire you and from what I’m seeing wind and solar doesn’t pay like O&G.”

Many respondents expressed interest in emerging energy industries, specifically wind and solar, but lamented how these companies did not pay workers as well as the oil and gas industry.

“New industries have a tendency to have a lot of start up companies that fail. Learning a new trade at 40-years-old is hard and a lot of employers know that and will not hire you because of this downfall. In order to make similar wages as oil and gas you have to work 7 days a week 365 days a year out of town. Nothing pays like the oil and gas industry without education or prior training for a specific trade.”

In a longer interview below, “Archer” described how he discouraged his son from entering the oil and gas industry because of its unpredictability. His son found the wind energy industry leaned on the same “use them and lose them” employment practice towards workers:

“When his oldest son asked Archer to get him a job as a roughneck, his answer was “No sir!” “If something bad happened, I wouldn’t hold up.” So his son went to work erecting wind turbines. Unfortunately, his son found the same thing happens in wind energy as happens in the oil industry. Once the turbines his company has contracted for are built, the company lays off its workers and only rehires them when there is new work.”

Policy makers are aware that new energy jobs must be made more attractive to workers. For instance, the Bureau of Ocean Energy Management recently completed an offshore wind sale off the coast of New York that included a lease stipulation to encourage offshore wind developers to use a Project Labor Agreement which could include prevailing wages and safety and training provisions.¹⁰⁹ For recommendations on how development of federal wind and solar resources can be designed to improve employee outcomes in these sectors please see **5.3 Pro-Worker Policies**.

There is also an ongoing battle between trade unions and temporary staffing agencies on the future of the American solar industry that will potentially determine the long term quality and durability of these jobs, “as the solar installation industry takes off, this is the moment where it could be put on two wildly divergent tracks—decent union jobs for electricians, laborers, and other tradesmen, or exploitative temp staffing agencies.”¹¹⁰

Some respondents expressed that they saw a renewable energy transition as inevitable, but that oil and gas still will have a role to play in the future:

“All generators, windmills, etc. will still need oil as well as planes and other forms of transportation.”

“The need for hydrocarbons is still in need today, I will retire by the time the switch should be made. Wind and solar cannot create all the current products the oil does today like plastic, roofing material, fertilizer, etc. There would also need to be a conversion to all electric transportation, at least greater

than 50% with affordable choices. How many families today afford a Tesla, I think a benchmark of electric cars?”

Although carbon capture and storage (CCS) is promoted by the American Petroleum Institute and other industry advocacy organizations as the next big thing, it appears workers are less convinced it will provide meaningful employment. CCS boasts the least amount of interest behind “Other Sector Entirely.” When asked to provide additional comments, no survey respondents had anything to say about CCS.



Offshore workers assisting in federal study of gas hydrates. Credit: National Energy Technology Laboratory. Public domain

PSEUDONYM: ARCHER

AGE: 45

JOB TITLE: DIRECTIONAL DRILLER

AFTER 28 YEARS IN THE OILFIELD, CONCERNED ABOUT THE DIRECTION OF THE INDUSTRY AND LOOKING TO RETIRE

Archer “broke out” as a roughneck working “lead tongs” and made his way up to directional drilling, and in his experience, the drive for efficiency breaks up crews who know each other and work well together and every decision is micromanaged from the corporate office: “Engineering has just completely taken over the oilfield, man. They have made this stuff so fast and so efficient, out here in West Texas, you can’t even get a rig sold unless it has three pumps with 5” liners to keep up.”

Even a rig that has an excellent drilling record and a coordinated crew is let go because the rig doesn’t have the desired equipment specifications. Experienced crews on older rigs are broken up or laid off because their rig only has two pumps and replaced with newer rigs with three, sometimes four, pumps with inexperienced crews that are not cohesive. “Three of the four drillers on this job don’t have four months of experience between them. Only one of them should even be considered for a drilling job. I gotta watch them all day every day. I’ve got to show them what they can do and what they can’t because that iron has no heart.”

And even office managers lack field experience: “If you’re asking what helps, I find you can get rid of some of the arrogance. I’m on a brand new rig right now, and I have a field drilling superintendent here that has two rigs running, and he makes every call, how many feet you slide, where you slide, when you slide, and he has an ego problem. He doesn’t know what he’s talking about, but he’s the boss. So you get his instructions documented, and you rotate

because [my drilling superintendent] told me to rotate and when it doesn’t work, you have something to point back to and say, ‘Hey, here it is.’ Its youthful arrogance in engineers is what it boils down to. Every one of them came out of college, and they think they’re going to reinvent the oilfield.” (Oilfield jargon note: to “slide” means using a rotary steerable drilling assembly to build the well’s angle in order to hit the targeted “pay zone.”)

Archer qualifies his criticism of engineers saying, “There’s a place for them. Bit designs and motor designs and casing designs and mud designs have turned a 35 day well into a 15 day well, but in the long run these crews drill themselves out of work.” Archer is glad to be near retirement. He has spent 17 of his 28 years in the oilfield as a directional driller. Directional drillers spend the entirety of the well on the job only getting to go home when the rig is running casing or logging, and that has meant spending very little time with his wife and sons, but “money to take good care of my family is my first and only concern.”

“I’m on the back side of this. It’s amazing just to go home for a little while. If this little boom they got going on lasts for two more years. I’m going home, buy some hotshot trucks. I’m going to coach baseball and youth league football and get plum away from the oilfield. To be honest, it’s just outrunning me.”

Noting the tenuous nature of oilfield employment, Archer sees merit in employing laid off oil workers to remediate orphaned and abandoned wells.

5.3 ATTITUDES TOWARDS GOVERNMENT

Between 2020 and 2021, the federal government distributed billions in direct federal aid to domestic oil and gas companies.¹¹¹ Despite this public assistance, those same companies let go 58,040 workers.¹¹² In total, 118,000 American oil and gas jobs were lost in 2022 despite the public infusion of dollars.¹¹³ That all being said, many of the workers in the survey reserved their distrust and allocated blame onto the government for job losses. Survey respondents described government intervention and regulation as undermining the industry and costing American jobs.

Several respondents expressed anti-regulation sentiment, describing government as “meddling” and constraining the industry:

“Get out of private business, government meddling only makes situations worse and empowers bureaucrats.”

One worker pointed out that the lack of protectionist policies and the neoliberal policy of free global trade lost them one career and threatened another:

“I was a machinist when NAFTA destroyed the industry. Now it seems that this industry is being destroyed by government intervention.”

The chorus of energy independence was echoed over and over again:

“The government should be focused on being energy independent. We don’t need OPEC. American oil on American soil. Our government needs to focus on the needs of

Americans first. Bring back manufacturing to this country. Ease restrictions to allow companies to produce goods and services.”

“Time to make us independent. Stop buying oil from other countries. We have tons of oil and gas waiting to be drilled.”

While the following respondent believed that the energy transition could increase energy independence, they remarked that it should be market driven and not a zero sum game:

“Politics needs to stay out of the energy industry so that the market can decide what product is in America’s best interest. Unlike many of my coworkers I don’t care if solar/wind is gaining traction and helping us become less dependent on foreign oil. If they can take market share because they offer a superior product that people want to purchase, that’s ok with me. However, I’m not a huge fan of the government stepping in and stopping pipelines and rigs from going in since that’s an infringement upon our right to freely conduct business. We are already hurting enough economically in America from a lack of good jobs. We certainly don’t need the government stepping in and killing work just because it fits their political agenda and panders to unemployed activists who could care less about having decent well-paying jobs here in America.”

This overriding distrust towards the federal government is captured rather succinctly by the following Bakken oilfield worker:

“The federal government is on a course currently to become completely irrelevant. Very soon the working class citizens will refuse to acknowledge the existence of the thieving evil scumbags in Washington that believe they are royalty!!”

But that does not mean workers with anti-government attitudes would be against a government that intervened to help them. When the same Bakken formation worker was asked what the government could do at any level to help workers if the oil and gas industry doesn't rehire workers to previous levels they responded:

“Compensation for lost wages, mortgage reimbursement for lost housing.”

There is nuance to people's political views that is forever shifting. People's confidence in an institution is relative to their belief that institution is functioning for them.

When asked what the government could do at any level to help workers if the oil and gas industry doesn't rehire workers to previous levels the following respondents wanted the government to intervene to make companies retain their workforces and penalize them when they don't:

“Oil & gas companies should be penalized for laying off workers when still making a profit.”

“Fine the company for not using experienced, already trained, previously employed employees.”

“Oil/gas companies have profited billions over the last 2 years while cutting jobs and benefits with little to no government oversight or protection. While polluting the waters and land, they received hundreds of millions in tax breaks to use said land and waterways. What's the point? Stop union busting tactics and laws. Right to work laws have killed worker protections, benefits, and pay.”

“Make the companies accountable for their loss of jobs. Make them pay for training elsewhere to help the ex-employee get a new job where they can eat and be able to provide for their families once more.”

“Enact legislation requiring companies to first rehire all workers they laid off. Then they can begin hiring new workers. This would be for all industries. Require companies to rehire at the last held position and pay rate vs low-lying for re entry.”

Many workers assert that companies have an obligation beyond profit and the government should force companies to honor those obligations. Oil and gas workers produce for their employers, and as “Fail-Safe” put it, they want their companies to produce for them too. If that requires more government rules or oversight, then so be it.

5.4 ATTITUDES TOWARDS PROPOSED GOVERNMENT MEASURES

Survey respondents were offered a list of seven potential government policies to select if companies didn't rehire to previous levels, choosing as many as they liked. Each percentage is therefore out of the whole, rather than

representing a prioritization. The intention of this question was to capture which public policies currently interest workers. Workers understand their industries and they know what they want in a job and a career. Their expertise should inform public policy and their preferences should be prioritized. Many workers were receptive to public policy that could provide more stable and quality employment.

Q. If the industry didn't rehire to previous levels, which of the following government measures to support oil and gas workers would you be interested in? Select all that apply.

- Federal Job Guarantee¹¹⁴ **51%**
- Direct federal government employment to plug oil and gas wells **47%**
- Paid training for industry crossover to new field **42%**
- Wage replacement if laid off **37%**
- Paid health benefit extension **35%**
- Pension guarantees **30%**
- Glide path to retirement (or wage replacement for early retirement) **24%**

Respondents had a strong preference for public policies that meant they could continue to work, earn an income, and apply their skills. Participants in this survey want to work in the trade they are proficient at or receive paid training to crossover into a new field.

Many wanted the government to intervene and help establish pay scales in the oil and gas industry for the remaining workforce:

"Make sure wages are better and benefits and paid better time off and better holiday pay whether works that day or not."

"Have specific pay grades, try to keep people working unless they are physically not able."

"Regulation of contracted transport workers pay rates as a function of public safety & workers overall wellbeing."

"The government can step in and demand better pay."

If oil and gas companies do not rehire workers to previous levels, many respondents said that the government should then provide wage replacement, health insurance benefits, and fund training for workers to find new employment:

"The government could offer more training and wage replacement."

"Ensure workers continue get their health insurance benefits and try to provide federal employment"

"The government really couldn't do anything to help me other than retrain me and guarantee me a job at my previous wages."

"Fund my training for alternative energy, become a permanent part of any team."

"Eliminate mandates and reasons not to pay unemployment and have a compensation plan for displaced workers and insurance."

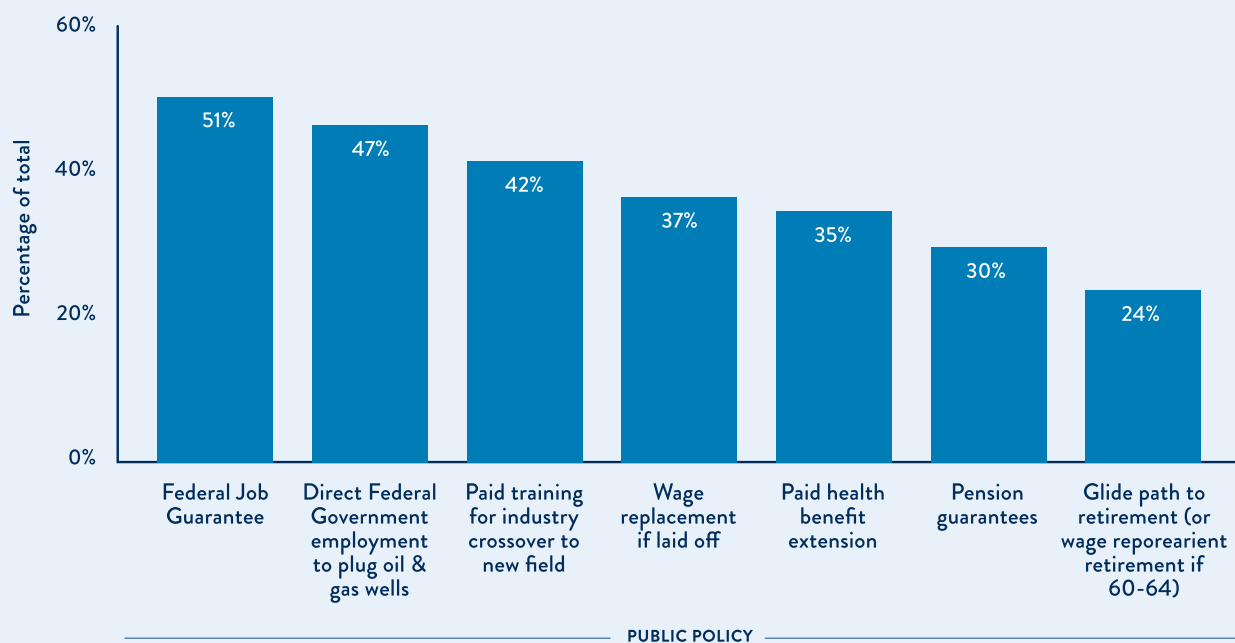
Many respondents said the government should provide loans to laid off workers so they could start their own businesses:

"Loan me money to start my own trucking business."

"Loans to start a new business, pay off mortgage, tax free status, retirement benefits, health insurance extension."

Many workers believe that the government is responsible for ensuring that workers are not displaced by an energy

Which of the following government measures to support oil and gas workers would you be interested in? Select all that apply.



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transition, and indeed, the government should manage the transition to make sure that oil and gas worker's skills are reapplied to other useful areas of the economy or create those employment opportunities directly:

"Help transition displaced workers into different industries; i.e. crane operators could be transitioned to heavy construction jobs, helicopter pilots transitioned to EMS [emergency medical services] work, etc."
 "The transition away from O&G needs to be planned and managed so as to happen smoothly over the next 20 to 50 years. The O&G companies and workforce can lead that transformation."

"Create direct employment opportunities for workers in the oil and gas industry."

Below we will expand upon possible government interventions, including opportunities for direct employment for displaced oil and gas workers.

5.5 PRO WORKER POLICIES

There are several universal public policies, such as guaranteed paid vacation and sick leave, that would benefit workers in all economic industries, not just American energy workers. We do not explore all of those recommendations here, although we believe they would only strengthen any of the following recommendations.

True Transition is both a worker advocacy organization and a public policy collaborative with both federal, state, and energy policy expertise. We advise government agencies and craft policies that support American energy security, oil and gas workers, and their communities. We deal with the conditions and trends on the ground and find solutions for workers today. We move beyond slogans and provide the actual detailed path to meet our nation's needs today. The following policy recommendations are built upon the preferences of survey participants, and while some recommendations are universal and could apply to all American workers, most are specific to American energy workers. These recommendations are not exhaustive, but we believe *would advance energy security and energy job quality*.

FEDERAL JOB GUARANTEE

In 1945, millions of American troops were returning home from the second world war. The new Truman Administration did not want a return to the mass unemployment of the Great Depression, and instead considered a policy of "Full Employment" wherein the federal government would provide direct employment to everyone "able to work" and "seeking work" but unable to find private work.¹¹⁵ Indeed, the bill asserted that all "Americans had the **right** to useful, remunerative, regular, and full-time employment, and it is the policy of the United States to assure the existence at all times of sufficient employment opportunities to enable all Americans who have finished their schooling¹¹⁶ to freely exercise this right."¹¹⁷ The full employment language did not survive and the Employment Act of 1946 passed without an inalienable right to employment. Today, the dominant economic doctrine asserts that a "natural rate of unemployment" is necessary to prevent inflation.¹¹⁸ Although there is a new consensus emerging that asserts that we do not have to tolerate a percentage of unemployed Americans in exchange for a healthy economy.¹¹⁹ Unemployment is a policy choice, and we can make different policy choices.

Of the 1,635 survey respondents, 51% or 836 workers, supported a federal job guarantee defined in the question as a guaranteed public job in infrastructure repair and other public good projects with baseline benefits of health insurance, paid sick leave/vacation, and retirement. The concept of a federal jobs guarantee is a voluntary and permanent jobs program to stabilize cyclical and structural unemployment.¹²⁰ A federal jobs program would be federally funded but locally administered in a decentralized manner. It would not replace existing federal positions nor existing programs. The government would act as an employer of last resort and provide a national base salary (with annual adjustments), Social Security, health insurance, childcare, paid sick leave, paid family medical leave, and paid leave. The kinds of jobs in such a program would vary by geographic region, but would likely plug into ongoing public works projects matching job seekers' skills to jobs. A federal jobs guarantee would also "provide training, education, credentialization and apprenticeship so that people can transition out of the program into other forms of work."¹²¹ These training programs could be linked to public and private employers.

Several Job Guarantee bills and resolutions have been introduced in recent years, and with an increase in vocal worker support could secure an inalienable right to employment.¹²² The American Society of Civil Engineers do not rate a single piece of American public infrastructure (roads, levees, drinking water, etc.) above a C-.¹²³ American bridges, ports, and the electrical grid are straining under the weight of years of delayed maintenance and investment. There is no lack of work to do; now we just need to pay people to do that work.

DIRECT FEDERAL GOVERNMENT EMPLOYMENT: THE ABANDONED WELL ADMINISTRATION

Of the 1,635 survey respondents, 47% or 780 workers, supported direct federal employment to plug oil and gas wells. The Abandoned Well Act¹²⁴ is proposed federal legislation that will create and establish the Abandoned Well Administration (AWA), a new executive-level

agency that will recruit and directly employ a new federal workforce of oil and gas workers. AWA staff will identify, decommission, and monitor the millions of oil and gas wells and related infrastructure across national field offices with an arsenal of rigs and equipment owned and maintained by the AWA. The AWA will oversee and manage a national monitoring and safety program for emergency events. The proposed legislation will also establish a National Abandoned Well Laboratory and Training Center where AWA staff will research new plugging technologies and practices and AWA staff will design and receive state of the art training. In 2021, 8 Louisiana workers were injured during a gas blowout because their company was attempting to plug a gas well using a crane instead of a workover rig.¹²⁵ This is specialized work that requires trained workers equipped with the appropriate tools. Also in 2021, the state of Texas waited to plug a leaking offshore well for months because it could not solicit enough private contractor bids to do the work.¹²⁶ We don't expect fire departments to rent their trucks, nor should we undercut

localities' ability to respond to oilfield emergencies. Thousands of AWA workers would be that frontline defense across the nation while providing thousands of oil and gas jobs in perpetuity. We will still need oil and gas workers in the future. AWA field workers would also be embedded within agency leadership to ensure that workers with the experience and knowledge of day to day operations also manage the agency.

BRIDGE TO RETIREMENT

Of the 1,635 survey respondents, 30% or 487 workers supported pension guarantees, and 24% or 404 workers, supported a federal glide path to retirement (or wage replacement for early retirement if 60-64). The previously described Abandoned Well Act also creates a "bridge to retirement" for workers who have worked for 30 years or more or are 65 or older, establishing a supplemental pension program for American energy workers. Several survey respondents spoke of the physical toll their careers in the oil and gas industry has wrought. Many of these jobs



cannot be performed past a certain age, and it is entirely appropriate that these workers retire “early” or transition into meaningful employment that utilizes their expertise but respects their age. American oil and gas workers toil to power our nation and communities and they deserve a retirement with dignity and comfort.

PAID TRAINING FOR INDUSTRY CROSSOVER

Of the 1,635 survey respondents, 42% or 690 workers supported paid training for industry crossover to new fields. Survey participants described their own difficulties navigating the training requirements of emerging energy industries. A theme reiterated over and over again is the difficulty navigating government programs. The Department of Labor is home to several employment training offices¹²⁷ which serve various stakeholder groups, and many state agencies boast their own state workforce offices.¹²⁸ The State of Colorado recently created an Office of Just Transition, although its focus thus far is on displaced coal communities.¹²⁹ It’s a maze of programs not always linked to a guaranteed job.

If a training program is not explicitly linked to jobs then it runs the risk of nothing more than a “train and pray” scheme. The proposed Abandoned Well Act includes language to create a new one-stop-shop for paid training and industry crossover specific for oil and gas workers. The new office will act as the front shop for the AWA’s recruitment efforts as well as the Strategic Refinery Reserve which we will discuss in greater detail below. Through one office, workers should be able to qualify for educational support, easily find local training at approved trade colleges and trade union apprenticeship programs, and that training should link directly to a job with either public and private employers. Private employers participating in Project Labor Agreements (see below in Wage Standards) for large scale projects like offshore wind can register as prospective employers, and workers signing up for these training programs can forge forward confident that their newly acquired skills find a use and net a paycheck.

MARCORA’S LAW FOR AMERICA

Survey respondents made a recurring request: loans or grants to start their own business. The nation of Italy actually provides a public policy example that could meet American workers’ demands. *Legge Marcora* (Marcora Law),¹³⁰ passed in 1985, made it possible for Italian workers to buyout their employer if it was at risk for bankruptcy or closure. Since its passage, worker-recuperated enterprises (*imprese recuperate dai lavoratori*) have saved over 9,500 jobs that encompass 257 firms across Italy. Over 100 American oil and gas companies filed for bankruptcy in 2020.¹³¹ While executives received millions dollar severance packages¹³² and shareholders discharged debt,¹³³ regular workers had no standing, but a Marcora for America Law could change that.

Through Marcora Law, unemployed Italian workers can also receive their unemployment insurance payments in one lump sum and pool with other workers to establish their own employee owned cooperatives. The Italian government provides special support in the form of business mentoring and additional capital in the form of loans and institutional investment. In some regions, employee owned cooperatives provide a third of the area’s GDP.¹³⁴ There is no reason why this model cannot be imported into the nation of entrepreneurs, where there’s more than enough will.

STRATEGIC REFINERY RESERVE

Much of American energy policy is inherited from World War 2 mobilization and the 1970’s oil embargo. During the second world war effort, a “bomber like the big B-29s [could] use as much as ten thousand gallons [of fuel] on one mission.”¹³⁵ To support wartime demand the American government invested heavily in the construction of 100 new refineries between 1942 and 1944. Flash forward a few decades later and Americans found themselves amidst the Middle Eastern oil embargo. In 1975, the Nixon Administration launched “Project Independence” and Congress passed the Energy Policy Conservation Act barring the export of crude oil and creating the Strategic Petroleum Reserve.¹³⁶ The original bill called for a strategic

reserve of refined product, but the refining industry testified that the industry was “robust and had the refining capacity to satisfy” the nation’s demand.¹³⁷ Today, refining capacity has shrunk considerably. As discussed in **1.4 Boom & Bust**, only 130 refineries remain in the United States.¹³⁸ Since 2019, 9 additional American refineries have closed their doors or stopped refining crude oil,¹³⁹ reducing national refining capacity by 1.4 million barrels a day, and resulting in the loss of 3,400 American jobs.¹⁴⁰ These closures are part of a long trend of industry consolidation from 26 major refinery companies to just 11.¹⁴¹ National spare capacity is narrowing and with an increase in refinery offshoring risks future dependence on foreign refiners.

However, the United States, under the Department of Energy, or as a majority state owned (51% or more) company, could acquire recently shuttered refineries that are currently sitting dormant and in need of repairs. These refineries could directly employ recently displaced downstream workers, ensure strategic spare capacity, and provide price stability and regional reliability to American residents, taming the most explicit driver of inflation. Because the federal government would be operating under a national security mandate, it would not be subject to international shareholder pressure and could therefore operate with full staff and return to safer 8-hour shifts. These facilities could also lead in environmental compliance showing that there need not be a tradeoff between American health and energy security. As oil and gas companies divest from these older facilities, there is a real risk that private owners will not invest in the maintenance and safety of these plants. There is also a risk that because these companies are investing more and more abroad, that there will simply not be enough American refining supply to meet American refining demand before we have replacements. As the nation continues to transition from fossil fuels and secure energy security, public ownership of these facilities would ensure both domestic energy security and a smooth transition for American communities while providing good jobs to a skilled workforce.

ANONYMOUS WORKER HOTLINE

Over a quarter of survey respondents reported intimidation and lax safety cultures. Workers felt they could not refuse an unsafe order nor were there protocols or processes that would guarantee their safety while protecting their job. True Transition recently recommended that the federal regulator the Bureau of Safety and Environmental Enforcement (BSEE) establish a 24-hour tipline and email address for workers to anonymously report unsafe practices or working conditions and a new protocol to physically investigate those tips.¹⁴¹ Federal law¹⁴² grants authority to BSEE to initiate spontaneous inspections without advance notice to the operator of such a facility to assure compliance with such environmental or safety regulations. BSEE requires no pretense to investigate and inspect. For safety culture to prevail, BSEE must ensure workers that their concerns will be met with speed and seriousness. This recommendation could be extended onshore to the Department of Labor’s Occupational Safety and Health Administration’s Whistleblower division who could staff an anonymous tip line and email, or be delegated to a not yet created Oilfield Safety & Healthy Administration.¹⁴⁴ Many workers complained about sharp decreases in pay despite increases in hours worked. We recommend an increase in the Department of Labor’s Wage and Hour Division’s budget and staffing to investigate and enforce oilfield wage theft.¹⁴⁵

NEW REGULATORY OVERSIGHT: OILFIELD SAFETY & HEALTH ADMINISTRATION

While the above recommendations can be implemented within existing administrative processes (with significant staffing and budget increases),¹⁴⁶ we acknowledge that the scale of the safety crisis might necessitate the creation of new institutions. We look to the Mine Safety and Health Administration (MSHA) for inspiration, an agency under the Department of Labor created by the Federal Mine Safety and Health Act of 1977 to reduce mining industry related injuries and deaths. MSHA maintains one inspector for four mines. The agency is required to inspect each

underground mine four times a year and each surface mine twice a year for health and safety compliance. Certain mines with high levels of explosive or toxic gasses are inspected more often. Inspections are also conducted in response to complaints of hazardous conditions from individual workers.¹⁴⁷ Not every oilfield injury or death can be prevented, but we believe that the deaths of 1,901 American oil and gas workers is unacceptable. Workers sign up to support their families, not to maim their bodies or lose their lives. State regulators and oil and gas companies are both failing to provide a basic floor for safety. We believe that a new federal regulator with inspection and enforcement capabilities with mandated ratios of inspectors to infrastructure specifically for oil and gas related production, transportation and refining is necessary to protect American workers and American communities.

THE PRO ACT

Labor law in the United States has been strategically and consistently weakened over the last half century. The Protecting the Right to Organize Act (also known as the PRO Act) restores many of the worker legal protections that secured the American middle class in the early 20th century.¹⁴⁸ In 2021, ExxonMobil locked out 600 of its Beaumont union workers (USW Local 13-243) for almost an entire year. ExxonMobil kept the refinery running at 60% capacity by hiring new, outside contractors.¹⁴⁹ The PRO Act would prohibit employers from permanently replacing striking workers and ban the use of lockouts.¹⁵⁰ Many workers complained about being “run off” for sticking to the book or talking about working conditions. The PRO Act would impose strict consequences upon employers for firing workers for discussing working conditions. Just under a quarter of respondents (22% said they worked as self-employed contractors or “1099” workers in the oil and gas industry). On job sites with multiple firms, this creates legal and liability ambiguity for the worker. The PRO Act codifies a joint-employer standard that would create a single liability and legal umbrella for multiple firms overseeing workers. Employers are allowed to force workers to sign arbitration agreements

“often buried in a stack of paperwork they sign on their first day of work, in which the workers waive their right to collective or class action litigation.”¹⁵¹ The PRO Act would ban the use of these waivers. There are many provisions in the PRO Act that our grandparents fought for and enjoyed, that we too can fight for again.

WAGE STANDARDS

A frequent refrain from survey participants is that wages in oil and gas have declined in the last three years, and wages in the renewable energy sector are not high enough to attract oil and gas workers. Many workers recommended explicit wage brackets for jobs based on category and time in job. We see two pathways to begin achieving these demands: project labor agreements on public leases and an American energy worker trade union which could lead to the establishment of a bonus third option industrial wage boards.

Project Labor Agreements: The most obvious opportunity for project labor agreements exists on federal lands and waters governed by the Mineral Leasing Act (30 U.S.C. 181) and the Outer Continental Shelf Lands Act (43 U.S.C. 1331) respectively. Both markets are not “free markets” in any sense. Each is a market the federal government exclusively controls. Nothing forces private firms to enter into these markets. They do so of their own free will and volition. The government establishes the contractual obligations, contours, and “speed rails” by which market participants must conform if they desire to participate. Any market failures that exist within these public leasing programs, which includes declining wages for American workers and declining safety standards, are within the government’s discretion and authority to control and mitigate. Therefore any risks that remain are due to the government’s refusal to appropriately deal with them.

The Bureau of Ocean Energy Management (BOEM) recently completed an offshore wind sale off the coast of New York that included a lease stipulation to encourage offshore wind developers to use a Project

Labor Agreement (PLA).¹⁵² A PLA, authorized by the National Labor Relations Act, is a multi-employer/multi-union unitary collective bargaining agreement designed to cover an entire construction project. Through PLAs, the parties set standard work rules, establish various forums for communication and coordination, and prevent work stoppages with no-strike, no-lockout provisions, and speedy dispute-resolution mechanisms. They also set standard pay and benefit rates for each trade and address labor supply issues through provisions that commit the signatory unions to use their job referral procedures to ensure a steady supply of highly skilled workers. Both union and nonunion workers can register for referrals, and typically any contractor – union or nonunion – may bid for work on a covered project, as long as they agree to abide by the agreement and thereby to be held to the same standards.

The language in both laws governing oil and gas and other energy leasing on public lands establishes a clear public benefit floor for these programs. The public should derive a clear benefit and the government is empowered to maximize that benefit. We believe that negotiated base salaries for workers within those programs is a logical extension of the public benefit mandate. Therefore, we recommend that PLAs should be developed for all public leasing programs including oil and gas and incorporated into lease sale stipulations and lease contracts. We believe there should be parity between public energy leasing programs. All operators developing and profiting from American public resources should abide by the same standards and pay workers fair and negotiated wages.

American Energy Trade Union: The oil and gas industry is a global industry with multinational firms exploring and producing in every corner of the globe. The workplace practices and benefits for oil and gas workers are largely dependent on national laws and protections extended to that nation's workers. It is also a function of the power rank and file workers possess and whether they are willing to leverage that power to secure workplace gains. Nowhere is this more clear than in Norway.¹⁵³ On the Norwegian

Continental Shelf, 36 exploration and production companies employ Norwegian oil and gas workers.¹⁵⁴ Workers extract just under 4 million barrels of oil equivalent products a day.¹⁵⁵ To acquire a lease to produce on the Norwegian Continental Shelf, firms agree to a 45-page contract which includes the requirement to comply with “current trade union and wage agreements.”¹⁵⁶

Industri Energi is a decades-old Norwegian trade union for employees in the petroleum and chemical industries (as well as other industrial trades) with 57,000 trade union members.¹⁵⁷ Industri Energi has successfully negotiated contracts with above global industry benefits and legally binding wage and hour schedules. In their latest contract,¹⁵⁸ a man year is defined as 1,582 hours, or 39 and a half 40-hour workweeks. Regular working hours cannot exceed 12 hours per day and 33.6 hours per week on average over a period of no more than one year. Wage rates and wage brackets are stipulated for skilled workers and other general workers and time on the job. If workers believe that a work group is too small, entailing unreasonable pressure or safety is compromised, then they can halt work and demand negotiations. Indeed, Industri Energi holds a compulsory role in developing safety standards with the government regulator. As Norway begins to develop offshore wind and seabed minerals, Industri Energi is also front and center working with the Norwegian government to ensure that Norwegian workers continue to enjoy the same standards, benefits and protections in the new offshore wind industry.¹⁵⁹

Outside of pipefitters and the building trades components of the industry, American oil and gas workers, particularly upstream, have never experienced the benefits or potential of a labor union. But outside of asking nicely or government mandates, there are no feasible paths to securing wage standards other than building more worker power. To exercise the greatest amount of power and prevent arbitrarily pitting energy workers against each other, energy workers would be best served if they formed a single union (or joined an existing union) across streams and energy sources. Many workers in this survey said they

are also working in renewable energy sectors and many more expressed interest in emerging fields like offshore wind. American energy workers want the same things: a safe and reliable job that supports them and their families. Afterall, a pipeline welder has more in common with a solar panel installer than they do a pipeline company owner. As policymakers continue to pursue an “all of the above” energy policy, American energy workers would be best served if they committed to an “everybody in” labor strategy.

Industrial Wage Boards: Also known as Worker Standards Board and Industry Committees, wage boards are quasi governmental or national bodies that bring together workers, firms and the public to negotiate over minimum workplace standards, wages, and benefits for industrial sectors.¹⁶⁰ We return to Norway. In 1952, the Norwegian National Wages Board Act established the National Wages Board (*Rikslønnsnemnda*), which includes members from industry, the government, and a seat for the Norwegian Confederation of Trade Unions, *Landsorganisasjonen i Norge*, which also represents Industri Energi. Each year the board meets and negotiates annual contracts and conditions which consider technological and market trends and the expertise of the workers doing the work day in and day out. As a result, Norwegian oil and gas workers exercise real legal power over their workplaces and wages.

Many workers in our survey complained that there was a disconnect between the company boardroom and the rig floor - industrial wage boards help bridge that gap. Wage boards elevate negotiations from the firm level, where just a handful of workers negotiate with the owner, to the industrial sector level to collectively bargain. Under the United States Fair Labor Standards Act, the U.S. too enjoyed a brief period where select worker organizations were incorporated into public administration raising the wages of hundreds of thousands of American workers.¹⁶¹ But this experiment proved too narrow and did not legally enshrine a seat at the table for workers like the Norwegian system. Wage boards provide workers a permanent seat at the table. They ostensibly exist to avoid work stoppages

and strikes via negotiation, but trade unions like Industri Energi retain leverage and exercise power because of that looming possibility.

AMERICAN POWER, AMERICAN OWNED

Workers complained over and over how short sighted it is for oil and gas companies to shed experienced workers at the first sign of declining prices. Unfortunately, this is a structural constraint of market actors under current neoliberal economic norms. Corporate leaders are rewarded for decisions that inflate quarterly profits and increase shareholder dividends. Cutting costs by firing workers raises profits in the short term. Governments, who among other obligations, must maintain standing militaries are not subject to these norms. We recommend that the United States create its own majority state owned oil & gas and wind corporations to ensure a portion of domestic production is sovereign controlled (not by transnational or foreign corporations) and that the benefits flow to the American people.

Oil and gas and other forms of power are strategically important resources. State control and ownership of oil and gas production is in fact the global standard with profits from those activities flowing into social programs like education and healthcare.¹⁶² One reason Norwegian workers have leverage when negotiating with transnational companies is because they own an oil company themselves. Equinor, formerly Statoil, is a global company with 67% of shares held by the Norwegian state and managed by the Ministry of Trade, Industry, and Fisheries.¹⁶³ Norway’s Equinor is why the nation has the world’s largest public endowment. Established in 1990, the Government Pension Fund of Norway¹⁶⁴ currently has over \$1 trillion in assets, or \$250,000 per Norwegian citizen. Part of those profits are derived from American oil and gas resources.¹⁶⁵ The United States is the largest source of production for the company outside of Norway, and Equinor is one of the largest producers in the Gulf of Mexico.¹⁶⁶ From Saudi Arabia’s Saudi Aramco¹⁶⁷ to Estonia’s Enneft,¹⁶⁸ there are plenty of state owned oil companies operating in the United States, just none owned by the American people.

And it looks like offshore wind is headed this direction as well. Danish Oil & Natural Gas (DONG) was founded in 1972 as a state-owned energy company called Dansk Naturgas. In 2017, Dong sold its North Sea oil and gas business and changed its name to Ørsted to reflect its business shift from fossil fuels to primarily offshore wind.¹⁶⁹ Today, Ørsted is 50.1% owned by the Denmark government, 7% combined with Denmark pension funds and the world's largest developer of offshore wind energy. Through Ørsted, the Danish government is taking ownership of the emerging offshore energy industry, even in the United States. In 2016, Ørsted began operating the first and currently only U.S. offshore wind farm, with more planned. Companies like Ørsted bring a tremendous amount of expertise and institutional knowledge to the United States which is a net positive. But we should also invest in our own institutions and people.¹⁷⁰ Instead of foreign firms selling our wind and oil back to us, why not chart a different course? There is no reason why the United States can't own and operate its own energy companies for the benefit of the American public. State owned entities can shore up strategic supplies and capacity, invest more into research and development, build large capital assets like offshore wind installation vessels, and commit to longer time horizons than investor owned companies constrained by market whims. They can also retain workforces during periods of volatility. We can either invest in ourselves or we can allow others to profit from us.

5.5 CONCLUSION & FINAL THOUGHTS

In the debate regarding the future of energy and jobs, the real issues are atomized and obscured. It's not about the power our electricity and transportation uses. It's about the power of who owns that energy. Who employs the labor force, profits from that labor, sets wages, and makes the call for mass layoffs? As of 2021, petroleum and natural gas constitute 68% of American primary energy consumption, with renewable energy sources providing just 12% of total energy consumption.¹⁷¹ A lot of blame is laid at the feet of the energy transition before it has even begun - electrical blackouts, high prices, and job losses. But all

of these events are occurring under a status quo where oil and natural gas firms still dominate, and where the American government is delegating national energy policy to the same actors. If you are looking for who is killing oil and gas jobs, look no further than oil and gas companies.

Tony Mazzocchi, plant worker and leader of the Oil, Chemical and Atomic Workers (OCAW) Union coined the term "just transition" in his proposal for a Superfund for Workers in the 1990s.¹⁷² Mazzocchi asserted that we need to "provide workers with a guarantee that they will not have to pay for clean air and water with their jobs, their living standards or their future." The concept of a just transition was devised during a time when it seemed that alternative energy sources would quickly displace American coal and oil and gas workers. Mazzocchi believed that if workers were being asked to lose their livelihood in the name of the public good, then they should be at the table setting their terms. What the architects of this concept did not anticipate was that those industries would either collapse under their own weight like coal (along with 57,000 American mining jobs), or forcefully displace their own workforce like oil and gas. While an energy transition is just beginning, the jobs transition is well underway. But the principles of a just transition are still relevant.

While True Transition believes that the state of the American energy industry is a topic of interest to all American residents, we do acknowledge that the insights of this survey impart specific lessons to specific groups.

To policymakers and politicians, there is a good deal of talk about transitioning oil and gas workers into future "good jobs," but there's very little detail on what constitutes a "good job." If policy makers want to know what will matter to oil and gas workers, then they have to listen to oil and gas workers. The results of this survey and worker narratives show that workers know what they need. Listen to them. If we want future energy jobs to be good, then it behooves us to make current energy jobs better. An offshore wind job will not be magically safer than offshore oil and gas jobs. We need to make all energy jobs safe.

Penalizing wage theft and elevating and enforcing safety standards are a start, but by no means an end. Business friendly regulators are not the same as worker friendly regulators. If a company breaks a law that gets workers hurt or pollutes the nearby community, the general public tends to blame the “cops on the beat” (BSEE, DOL, EPA) more than they do the companies who break the law (because that’s just business). You get no extra points for business friendliness, but you do weaken the public’s trust in government. Staff and fund regulators and let them do their jobs.

It’s imperative to provide a soft landing for displaced workers that includes a direct pathway to new jobs that pay well. If you want to stop or close a regional fossil fuel project, it’s recommended that you offer an alternative project that provides equivalent employment. It’s not enough to just offer up a no, you must also provide a yes. The above recommendations show just a sampling of the work that American oil and gas workers are uniquely qualified to carry out (from offshore wind farms to overseeing our nation’s inventory of non producing wells). There is no shortage of work, we just have to pay people to do that work.

To our local and national leaders, we caution you to not conflate an American corporate address with loyalty to American security. Delegating current energy security and the energy transition to private actors is proving shortsighted as we watch refineries close or fall into disrepair at the same time we ramp up exports of American oil and gas abroad with no plan for the interim. Previously, central planning and federal control of national energy policy was the norm. From federal prorationing schedules in the 1920’s to the public financing and even operation of refineries, the might of American energy policy has required sovereign control and central planning. The energy transition must be democratically planned, worker led, and in many instances, publicly owned.

It can’t be overstated how rare a report of this type is. There aren’t a lot of spaces where American workers get a say in the quality and safety of their jobs or the future of their industry. Executives of this industry have no interest in hearing what American oil and gas workers have to say. Not about safety. Not about their expertise. And not about the future. True Transition will continue to listen to workers and amplify their voices.

To American oil and gas workers, your labor fuels our nation and ensures our comfort. This survey and the conversations revealed a deep pride in all segments of the oil and gas supply chain. But it also shows that workers understand their value and that they deserve better pay, conditions and stability. The jobs transition is well underway and the energy transition is just beginning. Right now those with political and economic power are deciding the future of American energy and energy jobs. **If American oil and gas workers want a seat at the table, they have to pull up a seat. After all, they built the table.**

APPENDIX A: THE SURVEY

The American Oil & Gas Worker Survey

Pundits and politicians talk a lot about oil and gas jobs, but no one is asking workers their views. What do you think about the current state and future of the American oil and gas industry?

1. **This survey is confidential. We will not share any individual information beyond the researchers on this study.**

No one will be able to identify you or your answers, and no one will know whether or not you participated in the survey. (Check - I agree to participate in this study)

2. **Do you live in the United States of America? You must live in the USA to take part in this survey.**

3. **What state do you work in? (if more than one, where do you work the most?) (Pull down menu)**

4. **What state do you live in? (Pull down menu)**

5. **What best describes the work you do?**

- Oilfield (Derrickhand, Operators, Roustabout, Mudman, Welder, etc)
- Oilfield Transport
- Desk (Engineer, Geologist, etc)
- Owner/ Management
- Other

6. **What best describes the oil and gas sector that you work in?**

- I work in oil and gas exploration and production (upstream)
- I work in oil and gas support activities such as transportation, shipping or pipelines (midstream)
- I work in oil and gas refining, petrochemical, or storage of oil and gas related waste (downstream)
- Other

7. **What is your current employment status?**

- I am currently unemployed
- I am currently a full-time salaried employee in the oil and gas industry
- I am currently working as a contractor (e.g. 1099 contractor) in the oil and gas industry
- I am currently engaged in labor unrelated to the oil and gas industry (construction, gig economy work, etc.)
- Other

8. **Have you been let go (at any point) prior to 2020 lockdowns?**

- Once
- More than once
- No

9. **Have you been let go because of the 2020 lockdowns?**

- Yes
- No

10. **In your current (or most recent job) in the oil and gas industry, do you have the following benefits? (Select all that apply)**

- Health Insurance
- Disability Insurance
- Paid Time Off / Sick Leave
- Retirement Benefits
- Training and accreditations paid for by employer
- None

11. **In your current (or most recent) job, how do you feel about your... (1 very unsatisfied 10 very satisfied)**

- Pay
- Job security
- Health and safety conditions
- Skills and training opportunities
- Workload and hours
- Benefits

- Employer
- Management

12. How well does your company's safety program keep workers safe?

- Keep workers safe
- Shift liability of an accident onto the worker
- Both
- Neither
- Don't know

13. On a scale of 1-10 (1 - very unsatisfied, 10 - very satisfied) how do you feel about your current (or most recent) employer's implementation of these safety protocols?

- Routine and mandatory safety courses paid for by your employer.
- Routine and mandatory maintenance of equipment and gear.
- Employer provided personal protective equipment.
- Testing for Naturally Occurring Radioactive Material (NORM) exposure.
- First aid and medical response.
- Evacuation procedures in case of extreme weather or emergency.

14. How secure would you be in raising workplace safety issues with your management, should an issue arise?

- Very comfortable
- Somewhat comfortable
- Somewhat nervous
- Very nervous
- Don't know

15. Have you ever been ordered to engage in unsafe working practices that were against established safety protocols?

(If you are currently not employed in the oil and gas industry, please respond regarding your last oil and gas related employer).

- No
- Yes, on one occasion
- Yes, on multiple occasions

16. Did anyone threaten to terminate your employment or discipline you if you did not engage in the unsafe working practice?

- Yes
- No
- Not applicable

17. Are you a member of a labor union?

- Yes
- No

18. If you could receive free training or education to help you move to a new part of the energy sector, what education or skills training would you be interested in? Select all that apply.

- Rig decommissioning
- Well plugging & abandonment
- Pipeline removal
- Utility-scale solar
- Onshore and offshore wind
- Public transport construction
- Electrical grid management and construction
- Battery and energy storage technologies
- Geothermal technologies
- Carbon capture and storage
- Other sector entirely

19. In considering moving to a new job, please rank what is most important to you. (1 being the least important and 7 being the most important)

- Pay
- Health and safety conditions
- Similar work schedule (hours, days on/off)
- Skills required of new job
- Similar location
- Job security (contract length)
- Benefits

20. Why would you or wouldn't you consider moving to a new industry?

21. Which of the following government measures to support oil and gas workers would you be interested in? Select all that apply.

- Paid training for industry crossover to new field
- Direct employment with the Federal Government to locate, plug and abandon, and monitor oil and gas wells.
- Federal Job Guarantee (A federal job guarantee is a guaranteed public job in infrastructure repair and other public good projects with baseline benefits of health insurance, paid sick leave/vacation, and retirement plans)
- Wage replacement if laid off / expansion of unemployment program targeted for fossil fuel workers
- Paid health benefit extension
- Pension guarantees
- Glide path to retirement (or wage replacement for early retirement if 60-64)

34. If the oil and gas industry doesn't rehire workers to previous levels, what could the government (at any level) do to help you?

35. Is there anything else you would like to tell us?

36. [Optional] Thank you for helping us with your survey responses. We'd like to get in touch with you to hear more from you and share the full survey results.

This is optional. If you agree, your information will remain confidential. We will not share your contact information. Your personal information will not be cross-referenced with your responses.

37. Please add the following details and whether you would be happy to be contacted:

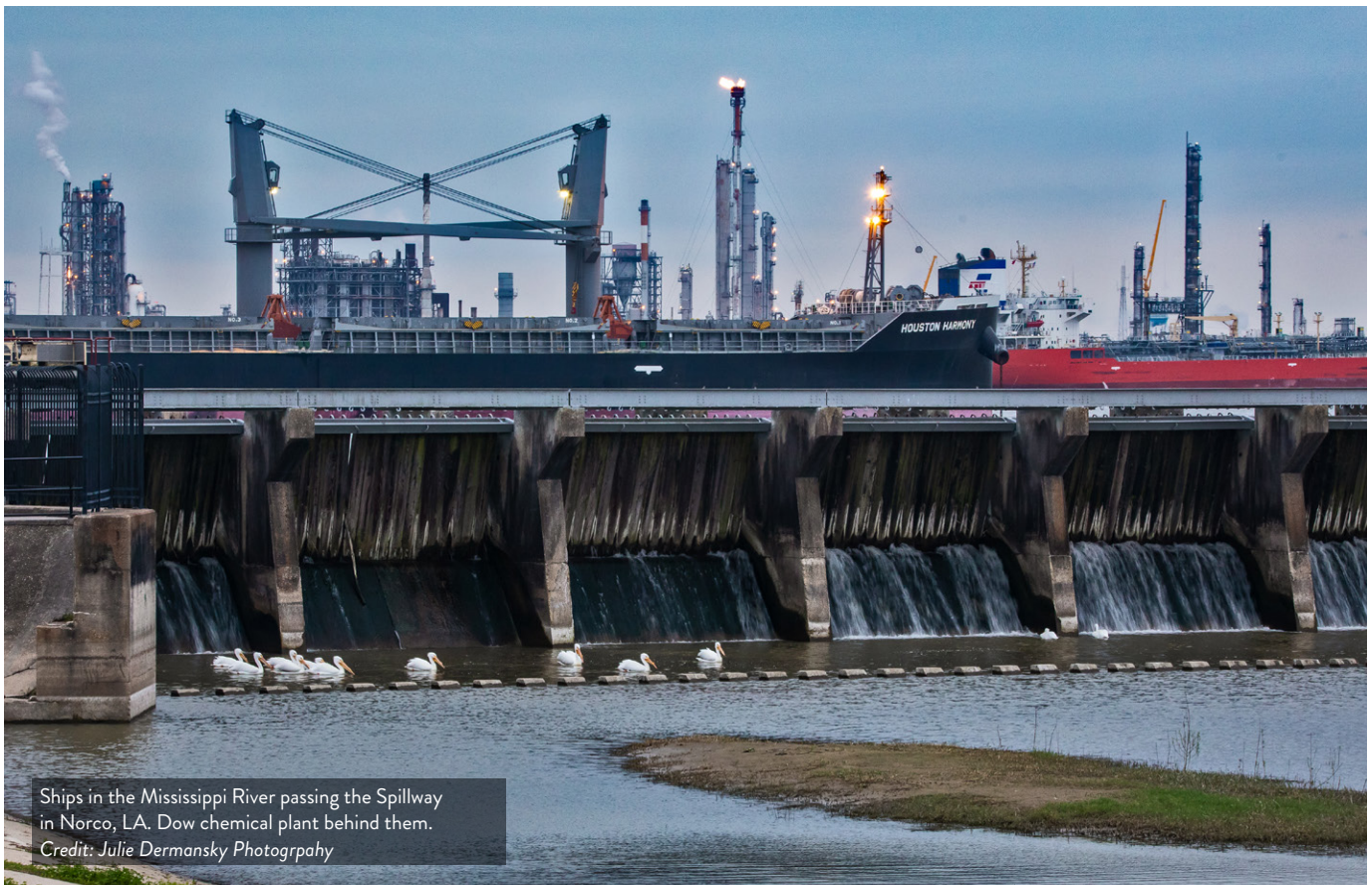
Name

Email

Contact number

38. Are you willing to be contacted in the future? Y/N

Thank you for completing this research survey.



Ships in the Mississippi River passing the Spillway in Norco, LA. Dow chemical plant behind them.
Credit: Julie Dermansky Photography

APPENDIX B:

OILFIELD EXEMPTIONS

Despite claims that the oilfield is overregulated, the oil and gas industry has secured several regulatory carve outs and exemptions over the decades.

Below is a list of some of those exemptions.

PROCESS SAFETY MANAGEMENT STANDARD

The process safety management standard requires that refineries, chemical plants, and other high-hazard operations adopt procedures to prevent fires, explosions and chemical leaks. Upstream oil and gas well operations, however, are specifically exempt from this standard.¹⁷³

BENZENE RULE

The OSHA exposure limit for benzene in industries such as oil refining is one part per million (ppm) averaged over an eight-hour workday. The short-term limit is 5 ppm over any 15-minute period.¹⁷⁴ Upstream companies are exempt from the OSHA Benzene Standard 1910.1028. For upstream oil and gas workers the eight-hour ceiling is 10 ppm, and there is no short-term limit for exposure. For midstream workers who clean out tankers and barges, the exposure level is also 10 ppm.¹⁷⁵

60-70 HOUR LIMIT

The Federal Motor Carrier Safety Administration (FMCSA) enforces tight rules for commercial trucks who must stop driving no later than 14 hours after their workday begins. If a commercial trucker works 60 hours over seven consecutive days, they must take at least 34 hours off so they can get two full nights of sleep. The oil and gas industry, however, is exempt from these requirements.¹⁷⁶ However, oil and gas truckers who work that long are required to take only 24 hours off. Time spent waiting at the well site while other crew complete tasks is not counted. Hydraulic fracturing leads to considerably more

trucks on the road because fracking requires millions of gallons of water per well. Water haulers can make between 500 to 1,500 truck trips per well. The dangers of this exemption specifically for fracking crews has been well documented and established. In a 2012 New York Times report, “Over the past decade, more than 300 oil and gas workers...were killed in highway crashes, the largest cause of fatalities in the industry.”¹⁷⁷

OILFIELD RADIOACTIVE WASTE EXEMPTION

Fracturing fluid returns to the surface as flowback and “produced water” which contains naturally occurring radioactive materials (NORM) or technically enhanced naturally occurring radioactive material (TENORM) wastes¹⁷⁸ including radon and radium.¹⁷⁹ Produced water and flowback accumulate in pipelines forming scales and sludges that contain higher radioactivity concentrations. Drill cuttings surfacing during oil and gas development can also contain NORM.¹⁸⁰ Oilfield workers, including brine or water haulers are habitually exposed to a year’s worth of radiation in a single day.¹⁸¹

Wastes associated with oil and gas exploration and production exempt from regulations under the Resource Conservation and Recovery Act’s (RCRA).¹⁸² For example, if waste comes to the surface during exploration and production operations or generated by contact with the oil and gas production stream during the removal of produced water or other contaminants from the product, then the waste is exempt as hazardous waste.¹⁸³ Weak federal law does not preclude states from enacting tighter regulations. But of 21 significant oil and gas producing states, only five have provisions addressing worker safety and radioactive exposure.¹⁸⁴

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Fracking industry trucks ride through The Pawnee National Grasslands, 25 Miles North East of Greeley in Weld County Colorado. Credit: Julie Dermansky Photography