

# SUSTAINABILITY IN A CHANGING ENVIRONMENT



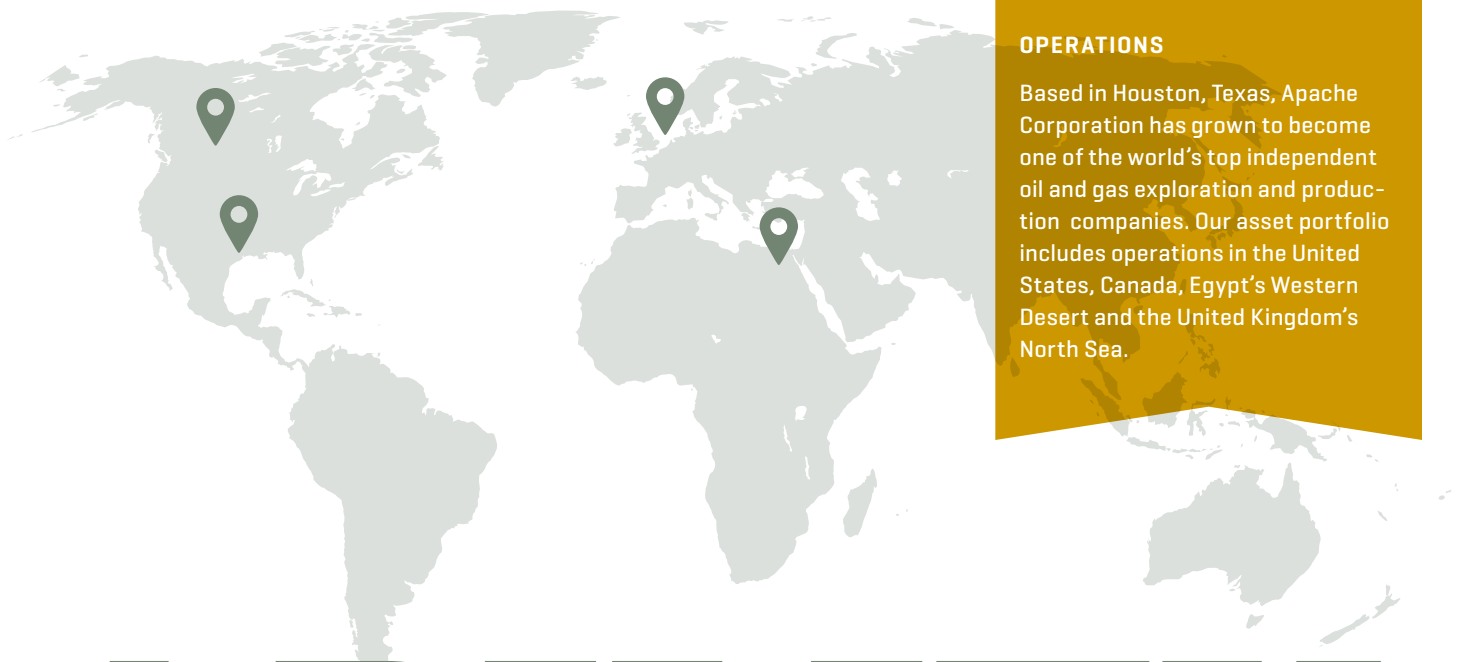


The background of the entire page is a photograph. In the foreground, there is a dense field of bright yellow wildflowers, possibly Black-eyed Susans, with some in sharp focus and others blurred. In the background, the skeletal structure of an oil drilling rig is visible against a clear blue sky. The rig's legs and derrick are out of focus, creating a sense of depth.

#### OUR MISSION

To grow a profitable global exploration and production company in an innovative, safe and environmentally responsible manner for the long-term benefit of our shareholders.

# SUSTAIN



## OPERATIONS

Based in Houston, Texas, Apache Corporation has grown to become one of the world's top independent oil and gas exploration and production companies. Our asset portfolio includes operations in the United States, Canada, Egypt's Western Desert and the United Kingdom's North Sea.

# ABILITY

Since 1954, Apache has built a team of dedicated professionals across many disciplines, unified by common principles and a commitment to building shareholder value. Our unique culture empowers every employee to pursue the company's goals with a sense of ownership and the knowledge that the best answers win.

## OUR CORE VALUES

- ▶ Expect top performance and innovation
- ▶ Seek relentless improvement in all facets
- ▶ Drive to succeed with a sense of urgency
- ▶ Safety is not negotiable and will not be compromised
- ▶ Invest in our greatest asset: our people
- ▶ Foster a contrarian spirit
- ▶ Treat our stakeholders with respect and dignity
- ▶ We derive benefit from the Earth and take our environmental responsibility seriously
- ▶ Conduct our business with honesty and integrity

## PRODUCTION SPOTLIGHT 2015

# 352

OIL AND NGL  
PRODUCTION (MBOE/D)

# 1.1

NATURAL GAS  
PRODUCTION (BCF/D)

# 1.6

PROVED RESERVES  
(BILLION BOE)

## THE 2016 SUSTAINABILITY REPORT

Welcome to Apache's 2016 Sustainability Report. To view the report online, please visit the Apache website at [www.apachecorp.com/Sustainability](http://www.apachecorp.com/Sustainability).

## MEDIA OR OTHER STAKEHOLDER INQUIRIES

Members of the media and other external stakeholders are welcome to contact Apache's Public Affairs office for inquiries or other information about the company. These requests may be directed via email to [media@apachecorp.com](mailto:media@apachecorp.com).

## APACHE WEBSITE

[www.apachecorp.com](http://www.apachecorp.com)



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## Sustainability in a Changing Environment

Apache remains committed to sustainability.

We are dedicated to operating responsibly and building lasting relationships through commitments to the environment, education, civic improvement and rewarding careers. These commitments underpin our ability to deliver long-term growth and to benefit our shareholders and other stakeholders.

Our company's mission is not just to be profitable, but to do so in a way that protects and enhances the safety and health of our employees, our communities and the environment.





## Strategic Decisions

We have aggressively driven down costs across the entire spectrum of our business; however, we have not cut back on our commitment to environmental, social and governance (ESG) issues.

# Letter from the CEO

**In 2015, our industry faced intense financial challenges as commodity prices continued to be low. To weather these difficult times, we made strategic decisions to further streamline our portfolio and strengthen our financial position.**

We have aggressively driven down costs across the entire spectrum of our business; however, we have not cut back on our commitment to environmental, social and governance (ESG) issues.

Our company's mission is not just to be profitable but to do so in a way that protects and enhances the safety and health of our employees, our communities and the environment. We can and must operate in a way that delivers environmental, social and financial returns, because that is how we can deliver long-term growth and lasting benefits for our shareholders and other stakeholders. This often requires taking a longer-term view. In 2015, for example, we activated a major project in the North Sea to displace diesel use by powering our operations with natural gas. Though this project required significant investment at a time when we were focused on cutting costs, it will deliver long-term financial, logistical and environmental benefits and extend the life of an important North Sea resource.

When I became CEO, I expanded Apache's core values to make the relentless pursuit of improvement central to what we all do every day. I firmly believe the only way to do this is to work as a team. Now more than ever we have to do more with less, so we are working ever harder to facilitate collaborative innovation among our employees. It is because of their efforts that we have been able to maintain our momentum on key environmental and social issues, even in these difficult economic times.

For example, we have made solid progress in our core environmental focus areas of water use and greenhouse gas emissions. We seek alternatives to freshwater everywhere we operate, especially in areas where water may be scarce. In 2015, less than 5 percent of our total water withdrawals were of potable water. And, we recycled or reused nearly 50 percent of our produced water. In terms of greenhouse gas (GHG) emissions, we have reduced our methane emissions intensity every year for the past five years, resulting in a 43-percent reduction from 2011 to 2015. As a charter member of ONE Future, an industry coalition focused on methane reductions across the natural gas value chain, we have committed to reduce our company's methane emissions intensity to 0.36 percent or less by 2025.

We are delivering on our commitment to use greener additives in hydraulic fracturing. From 2014 to 2015, we reduced the volume of toxic chemicals used in our North American hydraulic fracturing operations by approximately 60 percent. We are also at the forefront in using dry fracturing additives, which reduce the volume of chemicals used and the amount of produced water that needs to be transported and managed.

We seek to be a good neighbor and make positive contributions to the communities where we operate — including hiring locally and using local vendors where possible. In 2015, between 75 and 100 percent of our employees in each operating region were locals, and 25 percent of our companywide spend was with local companies.

We also actively engage with the communities where we operate to understand their concerns and needs and minimize impacts. In 2015, we began implementing an expanded community engagement tracking and response system to help us adequately resolve and learn from every communication we have with community members.

Building ever-better governance systems enables us to make continued progress on sustainability issues. We know that great performance starts from the top. We recently implemented a cutting-edge board evaluation process that includes individual discussion with every board member, a 360-degree review and personalized feedback to ensure we have the right people on our board and that their performance is setting the company up to be its best.

From the top down, we make environmental and social issues a focus for all employees. We know that what gets measured and rewarded, gets done. So, we have developed companywide and regional health, safety, security and environmental performance goals for employees at all levels, and we've tied compensation to achieving those goals.

We can't be our best unless we engage with our stakeholders and learn from their different points of view. We regularly engage with ESG-focused shareholders and other stakeholders and seek to continually improve our transparency on ESG issues. This year, for example, we have changed our approach to communicating about sustainability issues to help us be more transparent on more issues to more stakeholders. Through this sustainability report, we have expanded the amount of information we make available for all to see, rather than communicating a large percentage of ESG information in response to individual – and mostly private – requests for information. We have also increased the breadth of our reporting against sustainability reporting frameworks and scorecards.

This report illustrates our approach to and progress on key ESG issues. We welcome your feedback as part of our relentless efforts for continuous improvement.



**John J. Christmann IV**  
Chief Executive Officer and President

We know that what gets measured and rewarded, gets done. So, we have developed companywide and regional health, safety, security and environmental performance goals for employees at all levels, and we've tied compensation to achieving those goals.

# ▶ WELCOME

Apache Corporation is a Houston-based oil and gas exploration and production company with operations in the United States, Canada, Egypt and the United Kingdom. Since our founding in 1954, Apache has grown to become one of the world's top independent oil and gas exploration and production companies.



## OUR APPROACH

To successfully contribute to a sustainable future, Apache believes it is essential to deliver profitable, long-term growth while conducting operations in a safe and environmentally sound manner. Our business strategy involves rigorous portfolio management, financial flexibility and a focus on optimizing returns, earnings and cash flow. We manage risk by maintaining diversified, global operations and a strong balance sheet. This approach has helped us weather the challenging financial conditions faced by our industry in 2015 and 2016, while building a foundation for future success.

Apache remains committed to sustainability. We are dedicated to operating responsibly and building lasting relationships through commitments to the environment, education, civic improvement and rewarding careers. These commitments underpin our ability to deliver long-term growth and to benefit our shareholders and other stakeholders. Our company's mission is not just to be profitable, but to do so in a way that protects and enhances the safety and health of our employees, our communities and the environment.

### Our Operations and Regions

Apache's asset portfolio includes conventional and unconventional and on- and offshore exploration and production interests in the United States, Canada, Egypt's Western Desert, Suriname and the United Kingdom's North Sea.

We organize our operations into regions, which are generally grouped by shale play and/or geographic area. In North America we have three onshore regions:

- The Canada Region includes the Montney and Duvernay shale plays, which are located in the provinces of British Columbia, Alberta and Saskatchewan;
- The Midcontinent/Gulf Coast Region (formerly Gulf Coast and Central regions) includes the Granite Wash, Tonkawa, Canyon Lime, Marmaton, Cleveland, Woodford Scoop and Eagle Ford shale plays, which are located in western Oklahoma, the Texas Panhandle and South Texas;
- The Permian Region located in West Texas and New Mexico includes the Permian sub-basins, the Midland Basin, Central Basin Platform, Northwest Shelf and Delaware Basin. Examples of shale plays within this region include the Bone Spring, Barnett, Wolfcamp, Woodford, Sprayberry and Cline.

We also have one offshore region in North America – the Gulf of Mexico Region – which consists of both shallow and deep water exploration and production. In 2015, our North American operations represented approximately 60 percent of our total production and 72 percent of our proved reserves.

We have two international regions:

- The Egypt Region includes onshore conventional assets in Egypt's Western Desert, and
- The North Sea Region includes all offshore assets based in the United Kingdom.

We also have an offshore exploration program in Suriname.

## Our Vision

To be the premier exploration and production company with global assets focused on North American growth.

## PRODUCTION SPOTLIGHT

### NATURAL GAS PRODUCTION

**1,149**

MILLION CUBIC FEET  
PER DAY

### OIL & NATURAL GAS LIQUIDS PRODUCTION

**352**

MILLION BARRELS  
PER DAY

### PROVED RESERVES

**1,564**

MILLION BARRELS  
OF OIL EQUIVALENT

# Key Data Summary

	2015	2014	2013
<b>Financial and Production Highlights<sup>1</sup></b>			
Oil and Gas Production Revenues (\$ millions)	\$6,510	\$12,795	\$14,825
Natural Gas Production [MMcf/d <sup>2</sup> ]	1,149	1,371	1,720
Oil and Natural Gas Liquids [NGL] Production [Mbbls/d <sup>3</sup> ]	352	369	381
Proved Reserves [MMboe <sup>4</sup> ]	1,564	2,396	2,646
<b>Employee Highlights</b>			
<b>Number of Full-Time Employees</b>			
United States	2,247	2,685	2,724
Canada	526	678	782
United Kingdom	673	688	674
Egypt	414	415	402
Australia <sup>5</sup>	0	384	391
<b>Total</b>	<b>3,860</b>	<b>4,850</b>	<b>4,973</b>
<b>Environmental Performance Highlights</b>			
Water Use [Mbbls <sup>6</sup> ]	1,210,000	1,220,000	1,190,000
GHG Emissions [tCO <sub>2</sub> e <sup>7</sup> ]	7,700,000	8,800,000	9,000,000
GHG Emissions Intensity [tCO <sub>2</sub> e/Mboe <sup>8</sup> ]	23.9	24.7	24.8
Flared and Vented Gas [tCO <sub>2</sub> e]	1,950,000	2,220,000	2,490,000
Hydrocarbon Spills to Environment (number of spills >1 barrel in size)	417	432	418
<b>Health and Safety Performance Highlights</b>			
<b>Work-Restricting Incident Rate (lost-time and restricted duty injuries per 200,000 work hours)</b>			
Employees	0.24	0.20	0.10
Contractors	0.44	0.61	0.58
<b>Total Recordable Incident Rate (incidents requiring medical treatment per 200,000 work hours)</b>			
Employees	0.44	0.38	0.35
Contractors	0.91	1.08	1.15

<sup>1</sup>Unless otherwise specified, amounts attributed to revenues, earnings, and production exclude discontinued operations related to Argentina and Australia and have been recast to reflect retrospective application of the successful efforts method of accounting. For more information, please see the company's Form 8K as filed with the Securities and Exchange Commission on Aug. 4, 2015.

<sup>2</sup>MMcf/d = millions of cubic feet of natural gas per day

<sup>3</sup>Mbbls/d = thousands of barrels of oil or NGL per day

<sup>4</sup>MMboe = millions of barrels of oil equivalent

<sup>5</sup>Australia assets were sold in June 2015.

<sup>6</sup>Mbbls = thousands of barrels

<sup>7</sup>tCO<sub>2</sub>e = metric tons of carbon dioxide equivalent

<sup>8</sup>tCO<sub>2</sub>e/Mboe = metric tons of carbon dioxide equivalent per thousands of barrels of oil equivalent





### About this Report

This 2016 Sustainability Report covers Apache's performance in the areas of governance, economics, environmental stewardship, health and safety, workplace and employee issues, and community involvement.

The report was prepared using the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines and contains standard disclosures from those guidelines. We also consulted the Oil and Gas Industry Guidance on Voluntary Sustainability Reporting developed by International Petroleum Industry Environmental Conservation Association (IPIECA) — the global oil and gas industry association for environmental and social issues, the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP). In addition, we referred to Disclosing the Facts 2016: Transparency and Risk in Hydraulic Fracturing, published by As You Sow, Boston Common Asset Management and the Investor Environmental Health Network (IEHN). Disclosing the Facts is an annual investor scorecard ranking the 30 largest oil and gas companies engaged in hydraulic fracturing.

### Increasing Transparency

We believe that transparency is critical to our relationships with stakeholders and our ability to continuously improve the sustainability of our operations. This year, we have expanded our sustainability reporting to help us be more transparent on more issues to more stakeholders.

*This 2016 Sustainability Report is available on Apache's website at [www.apachecorp.com/Sustainability](http://www.apachecorp.com/Sustainability).*

Our efforts to increase transparency are illustrated by our performance in the Disclosing the Facts (DTF) rankings. In 2015, we were rated third out of 30 companies, and increased our score by 7 points compared to 2014. We have increased our reporting on DTF indicators again in this report.

SCORECARD		(Out of 30 possible points)	
COMPANY	2015 SCORE	2014 SCORE	
BHP Billiton, Ltd. (BHP)	32	18	
Hess Corp. (HES)	21	17	
Apache Corp. (APA)	20	13	
CONSOL Energy, Inc. (CNX)	19	5	
Noble Energy, Inc. (NBL)	19	13	
Southwestern Energy Co. (SWN)	16	2	
Anadarko Petroleum Corp. (APC)	15	8	
QEP Resources, Inc. (QEP)	15	1	
EQT Corp. (EQT)	14	16	
ConocoPhillips Corp. (COP)	11	5	
Range Resources Corp. (RRC)	11	9	
Royal Dutch Shell plc (RDS)	11	9	
Occidental Petroleum Corp. (OXY)	10	7	
Penn Virginia Corp. (PVA)	10	9	
BP plc (BP)	8	6	
Cabot Oil & Gas Corp. (COG)	8	8	
Encana Corp. (ECA)	8	15	
EOG Resources, Inc. (EOG)	8	9	
Devon Energy Corp. (DVN)	7	5	
Exco Resources, Inc. (XCO)	7	7	
Newfield Exploration Co. (NFX)	6	4	
Chesapeake Energy Corp. (CHK)	4	7	
Chevron Corp. (CVX)	4	6	
Exxon Mobil Corp. (XOM)	4	5	
Pioneer Natural Resources** (PXD)	3	—	
Ultra Petroleum Corp. (UPL)	3	9	
WPX Energy, Inc. (WPX)	3	3	
Continental Resources, Inc. (CLR)	2	0	
Whiting Petroleum Corp. (WLL)	2	3	
Carizzo Oil & Gas, Inc. (CRZO)	0	0	

\* 2014 had a total of 35 possible points.

\*\* For the 2015 scorecard, Pioneer Natural Resources was substituted for Tallisman Energy, Inc., which was acquired by Repsol, S.A.

# GOVERNANCE

At Apache, we believe that demonstrating good corporate governance and operating responsibly help us protect our reputation and respond to the needs of our widely varied stakeholders. While many companies view corporate governance as a set of written principles, Apache considers corporate governance to be an ever-evolving set of actions and engagements. Governance goes beyond, and cannot be captured by, typical written principles and ESG checklists.





In an effort to continually improve our corporate governance, we regularly review and update our policies and practices. We maintain extensive education and training programs to make sure our governance culture is shared throughout our regions around the globe. And, we continually reach out to our many constituencies to ensure that our governance profile is dynamic and robust enough to keep pace with the constantly changing world in which we operate and the evolving needs of our stakeholders.

## **STRENGTHENING CORPORATE GOVERNANCE AND COMPENSATION PRACTICES**

Over the past five years, Apache's board of directors has steadily improved its governance and compensation practices to further strengthen our culture of integrity, accountability and transparency. Many of these improvements are based on feedback from our shareholders.

These improvements include, for example, separating the chairman and chief executive officer (CEO) positions (effective Jan. 20, 2015); selecting an independent, nonexecutive chairman (effective May 2, 2015); achieving 20-percent female representation among nonemployee directors; adopting a set of Human Rights Principles and a Statement on Indigenous Peoples; and implementing a regular disclosure of political expenditures. Additional governance and compensation improvements include the following<sup>9</sup>:

- Majority vote standard for the election of directors
- Right to call a special meeting at 15 percent of shareholders
- Clawbacks of incentive awards in the event of a material negative restatement
- Robust board review and board refreshment practices
- Extensive shareholder engagement practices
- Proxy access bylaw adopted in February 2016 after supporting a proxy access shareholder proposal in 2015
- Board declassification and transition to annual election of all directors after a management proposal was approved in 2015
- Further alignment of annual cash incentive bonus plan with corporate strategy
- Improvement of long-term Performance Share program to incorporate total shareholder return and other important financial measures
- Alignment of new CEO's target compensation with the median of our peers
- Implemented a policy that standardizes executive separation terms
- Executive compensation tied to achieving health, safety and environmental goals<sup>10</sup>

<sup>9</sup>For a more comprehensive list of governance improvements, see [Apache's 2016 Proxy Statement](#).

<sup>10</sup>For more information on this last bullet, see [Apache's 2016 Proxy Statement](#).

## GOVERNANCE STRUCTURE

Apache's CEO and president directly oversees the company's business as it is conducted by our employees, managers and officers. The board of directors, which is elected by the company's stockholders, oversees management and assures that the long-term interests of stockholders are being served. Both the board of directors and senior management recognize that the long-term interests of stockholders are advanced by responsibly addressing the concerns of other stakeholders and interested parties, including employees, customers, suppliers, government officials and the public at large.

### Board of Directors

Apache's board plays a vital role in the design, implementation and monitoring of our corporate governance. All of Apache's nonemployee directors, including the board chair, are independent under each of the three relevant standards: those of the New York Stock Exchange, the Nasdaq National Market and the Securities and Exchange Commission. Only Apache's CEO – who does not serve as board chair – is deemed nonindependent under these standards. Eight of the board's 11 members were appointed in the past five years, and all board members are subject to a mandatory retirement age of 75. The board's diversity encompasses – among other elements – race, gender, age and experience. A cutting-edge board evaluation process that involves every director, detailed conversations and personalized feedback is conducted every year.

*Our board has three standing committees, each devoted to a separate aspect of risk oversight:*

- The Audit Committee oversees the integrity of the company's financial statements, compliance with legal and regulatory requirements, the company's internal audit function and independent auditors and the company's accounting and financial reporting, among other duties.
- The Management Development and Compensation committee oversees compensation of the company's executives and employees and reviews human capital matters, among other duties. In recent years this committee has overseen a major overhaul of our compensation practices, as well as substantial management refreshment, which includes our new CEO, chief financial officer and other key officers.
- The Corporate Governance and Nominating Committee oversees the nomination of directors, annual board evaluation processes and corporate governance issues <sup>11</sup>.

*Committee charters and a list of our current board members can be found on our website.*

*Communications to Apache's board of directors should be mailed to the corporate secretary (Apache Corporation, 2000 Post Oak Boulevard, Suite 100, Houston, Texas 77056).*

## ENGAGEMENT

Apache regularly engages with a wide range of stakeholders to gain insights into and input on issues, trends, best practices and specific stakeholder interests and concerns. Key stakeholder groups with whom we engage regularly include shareholders, employees, suppliers, customers, local communities, regulators, government officials and nongovernmental organizations (NGOs).

### Shareholder Engagement

Apache places significant importance on engagement with our shareholders. We regularly seek shareholders' feedback on topics including business strategy and compensation as well as governance, social and environmental issues.

<sup>11</sup>For more information on this last bullet, see [Apache's 2016 Proxy Statement](#).



Apache's shareholder engagement starts at the top. Our board chair and other board members are accessible to shareholders at a variety of events, including our annual meeting, our investor days, some of our ESG-focused meetings and a number of governance conferences. In addition, board members engage with shareholders individually throughout the year. They can also be contacted through the corporate secretary (see Page 12), who forwards communications to them as appropriate.

Apache's CEO maintains an active schedule of meetings and communications with shareholders. In addition to regular shareholder engagement on operational and financial performance, he holds an annual one-on-one meeting with our "lead active shareholder," who is designated by a group of our more involved shareholders to discuss ESG issues, progress on previously set targets and goals for the coming year. That meeting is followed by a larger meeting of active shareholders who can pose questions on any subject and get answers directly from the CEO.

In addition, Apache's technical experts meet throughout the year with shareholders to discuss a wide variety of issues, including the alignment of financial and ESG goals; emissions, chemical and water issues related to exploration and production operations; stranded assets; and other climate-change-related concerns.

### Engaging on ESG Issues

We recognize that gaining outside perspectives on key environmental, social and governance issues helps us better understand and address these topics. That's why we engage regularly and frequently with shareholders, government agencies and regulators, and NGOs on ESG issues. For example:

- We host multiple meetings each year for ESG and active shareholders, each focused on an individual environmental or social issue. We invite peer companies to these meetings to improve in-person engagement on ESG issues across the industry.
- Our CEO meets every year in person with our active shareholders in a multi-hour, no-holds-barred discussion of ESG issues.
- A number of our board members have been speakers at major ESG conferences, enabling further in-person discussion of ESG issues.
- We are a founding member of ONE Future, a coalition of industry companies focused on reducing methane emissions across the entire natural gas value chain.
- We regularly make our leading engineers, geologists and other experts available to NGOs to help inform their work.

### Some of the key organizations with whom we engage on ESG issues include the following:

- Aspen Institute
- Berkeley Earth
- Ceres
- Clean Gulf Associates
- Environmental Defense Fund
- F&C Asset Management
- Interfaith Center on Corporate Responsibility
- Investor Environmental Health Network
- League of Conservation Voters
- Local Authority Pension Fund Forum
- Marine Well Containment
- Mitchell Foundation
- Nathan Cummings Foundation
- Natural Resources Defense Council
- Oil Spill Response Limited
- ONE Future Coalition
- Pensions & Investment Research Consultants Ltd.
- Sierra Club
- Sustainability Accounting Standards Board
- The Nature Conservancy
- Third Way

“The Women in Governance Luncheon provides an opportunity for women on boards to meet and interact with the proxy voters who actually vote their companies’ shares each year. It enables female directors to meet colleagues, whom they can refer for board service. It connects women working for shareholders to women who can open doors for them as their careers evolve, and it enables proxy voters, who do not have their own professional organization, to network.”

—Annell R. Bay  
Member of the Apache  
board of directors

## CASE STUDY

### *It's not just lunch: Apache's fifth-annual Women in Governance Lunch and Roundtable held in 2016*

Since 2012, Apache has been the lead organizer of the annual Women in Governance luncheon. It brings together approximately 50 women who sit on the boards of major public companies and 50 female proxy voters from institutional investor organizations. Held each June, the event enables proxy voters to meet each other and encourages in-person, director–shareholder conversations.

In 2014, at the request of attendees, roundtable discussions were added to the agenda to provide further opportunity for off-the-record dialogue. And in 2016, the format was expanded to include third-party-hosted sessions held over the course of a full week, hosted by organizations such as BlackRock, Teachers Insurance and Annuity Association (TIAA), Institutional Shareholder Services (ISS), Glass Lewis, Ernst & Young, Boston Common Asset Management, the Environmental Defense Fund (EDF), Investor Environmental Health Network (IEHN), and Diversified Search. These additional events included director trainings, panel discussions and other events on various ESG topics.

The Women in Governance luncheon and its associated events give directors and proxy voters the opportunity to discuss best practices and trends within the governance space, help to disseminate good governance practices, and facilitate networking among professional women, which has helped to promote more women on public boards.

While all of the Women in Governance luncheons to date have been held in New York City, the 2017 event will be held in London.

## External Checklists, Codes and Principles

Working with a number of our ESG-focused shareholders, Apache developed and adopted a policy on Political Expenditures and Lobbying Disclosures, a set of Human Rights Principles and a Statement on Indigenous Peoples. These statements and principles are monitored by management, and performance against them is reported to Apache's Corporate Governance and Nominating Committee. We have also worked with shareholders and nongovernmental organizations to identify key values and principles of conduct for other important ESG issues. These are captured in, among other documents, our [Code of Business Conduct](#) and [Statement of Core Values](#).

We recognize that it has become popular for shareholders to ask companies to demonstrate their concern for these subjects by signing on to various charters, codes, oaths, checklists and principles created by third parties. We value these debates, but we do not believe that signing third-party documents as a show of support for particular goals is a substitute for trying to achieve those goals.

## Ethics and Anti-Corruption

Apache is committed to operating according to the highest ethical standards. It is our policy to conduct business fairly, ethically and in compliance with applicable laws, regulations and other government requirements. Apache's Code of Business Conduct requires not only the avoidance of misconduct, but also the avoidance of acts or omissions that give the appearance of misconduct.

Our Code of Business Conduct's anti-corruption provisions prohibit any employee from offering or accepting a gift or entertainment that is excessive in value or frequency, violates any laws or regulations, or could be construed as a bribe or a payoff. Apache officers and employees are responsible for promptly reporting any actual, attempted or apparent violations of laws, rules, regulations or the Code of Business Conduct. We hold periodic anti-corruption trainings for officers and employees, and our legal experts provide employees with legal guidance in response to anti-corruption questions as they arise during business operations. Apache maintains an anti-corruption compliance guide that contains the company's internal controls in this area, and the guide is made available to personnel on the company's intranet. We also maintain whistleblower procedures for complaints and concerns relating to accounting controls and auditing matters, and these steps are outlined in our [Procedure for the Submission of Complaints and Concerns Regarding Accounting, Internal Accounting Controls, or Auditing Matters](#).

Executives regularly reach out to shareholders, stakeholders, policymakers and other companies to collect new ideas and examples of ethics and anti-corruption policies or programs that may further improve our approach. Apache employees regularly attend external ethics and compliance education programs and use these venues to stay up to date on best practices. Our board of directors periodically reviews our Code of Business Conduct and related training, implementation and monitoring actions taken by the company.

## Public Policy and Political Disclosures

Apache participates in the political and public policy process in a responsible and ethical way that serves the best interests of our shareholders and the safety and well-being of our employees. We operate in the highly regulated oil and natural gas industry, and our operations are affected by actions at many levels of government. Our public policy activities include education and advocacy efforts at the federal, state and local government levels. Apache complies with all applicable state and federal rules pertaining to lobbying and disclosures. These reports are publicly available via the appropriate state websites and the Office of the Clerk, U.S. House of Representatives, and Secretary of Senate, U.S. Senate.

Apache's Governmental Affairs function manages and coordinates the company's political and public policy activities.



### Political Action Committee

In accordance with federal law, Apache does not make corporate contributions to federal candidates or federal political committees. Employees can support candidates for office through the Apache employees' Political Action Committee (ApachePAC), which is funded exclusively through voluntary contributions from eligible employees and directors. Employees participating in ApachePAC are not reimbursed, directly or indirectly, for political contributions or expenses.

ApachePAC contributes to federal and state political candidates who support responsible oil and natural gas activities and other business issues of interest to the company. Disbursements by ApachePAC are made solely based upon the best interests of the company, its shareholders, and its employees, not on the personal agendas of individual directors, officers or employees. All ApachePAC contributions are fully disclosed in reports filed with the Federal Election Commission (FEC) and appropriate state websites and can be accessed on the [FEC website](#).

### Trade Associations

Apache participates in trade and industry associations and engages directly in advocacy and grassroots communications efforts. The company joins trade associations to share technical and standards expertise and to be part of important public education efforts regarding major issues of common concern to our industry. Our participation in trade and industry associations is subject to management oversight by Apache's Governmental Affairs function, which approves our memberships and serves as the principal representative in these associations.

Apache pays regular membership dues to several trade associations. Some utilize a portion of those dues for nondeductible state and federal lobbying and political expenditures. Per the requirements of Section 162(e) (1) of the Internal Revenue Code, trade associations must provide us with the percentage of our annual dues that are attributable to lobbying expenses. Apache discloses these contributions on our [website](#).

### Lobbying Expenditures

Apache lawfully engages in the legislative process to communicate its views on legislative and regulatory matters affecting our business. Federal lobbying activities are regulated by the Lobbying Disclosure Act (LDA). In accordance with the LDA, the company files quarterly disclosure reports with the Office of the Clerk of the U.S. House and Office of the Secretary of the U.S. Senate regarding payments for all federal lobbying activities in the United States. These reports disclose all direct and indirect expenses related to lobbying, expenditures for grassroots efforts and payments to trade associations that are used for lobbying.

In states where Apache is engaged in advocacy efforts and is registered to lobby, the company files reports as required with the state's ethics agency. Apache files all lobbying disclosure reports at the federal and state level in accordance with applicable requirements.

## Governance Downloads

- [Apache's Corporate Governance Principles](#)
- [Apache's Directors' and Officers' Stock Ownership Requirements](#)
- [Apache's Policy Regarding Margin Loans and Pledges by Directors and Officers](#)
- [Apache's Policy Prohibiting Hedging Securities by Directors and Officers](#)
- [Apache's Executive Compensation Clawback Policy](#)
- [Apache's Policy on Parachute Payments for Executives and Accelerated Vesting of Equity Upon Change in Control](#)
- [Apache's Policy on Political Contributions and Lobbying Disclosures](#)
- [Apache's 2015 Disclosure of Political Contributions and Lobbying Disclosures](#)
- [Apache's 2014 Disclosure of Political Contributions and Lobbying Disclosures](#)
- [Apache's Code of Business Conduct](#)
- [Procedures for the Submission of Complaints and Concerns Regarding Accounting, Internal Accounting Controls, or Auditing Matters](#)
- [Apache's Human Rights Principles](#)
- [Apache's Statement on Monitoring Human Rights Principles](#)
- [Apache's Statement on Indigenous Peoples](#)

## HEALTH, SAFETY, SECURITY AND ENVIRONMENT GOVERNANCE

Apache has a corporate Health, Safety, Security and Environment (HSSE) department, led by the vice president of HSSE who reports directly to the CEO, as well as regional HSSE departments. We also have a suite of worldwide HSSE standards that set company performance expectations for all our operations. In some cases, our regions develop location-specific HSSE policies and programs to address locally specific issues.

All of our active operational areas have internally reviewed guidelines and procedures to ensure responsible operations, given local characteristics, geophysical features and regulations. We use common operating procedures at all Apache sites and further tailor them to account for local issues and requirements.

Apache establishes companywide HSSE performance goals as well as region-specific performance goals that support the corporate goals. All of these goals are a component of incentive compensation plans for all employees including senior management.

Our board's Corporate Governance and Nominating (CG&N) Committee is regularly involved in the management of ESG issues. These issues are reviewed regularly at board meetings. In addition, the CG&N committee sets company compensation goals, which include health, safety and environmental goals. The board assesses performance against these goals at every board meeting.

Apache has a sophisticated, companywide system for HSSE incident management. Incidents are recorded and tracked in an incident reporting and management software system. Incidents are graded using a variety of criteria and are reported through a round-the-clock-staffed center. Incident information is shared with relevant personnel, including the board of directors when appropriate.

# ▶ OUR APPROACH

Apache is committed to protecting the environment and the health, safety and quality of life of local communities everywhere we operate — whether we are developing hydrocarbons in conventional or unconventional resources.





Many of the processes and issues associated with unconventional development are the same for conventional oil and gas extraction, which we have been managing responsibly for decades. Nonetheless, we recognize the unique issues associated with unconventional development and have responded with stringent operating procedures to address those issues and respond to public concerns. This section provides a brief overview of how we manage unconventional development responsibly. All of these topics are discussed in more detail in the Environment and Community Engagement sections (see Page 22 and Page 51) of this report.

## WHAT ARE UNCONVENTIONAL OPERATIONS?

Unconventional oil and gas development accesses reserves in low-permeability rock formations. This low permeability makes it more difficult for oil and gas to flow through the rock and reach wells at the surface. Developing unconventional reserves requires using different techniques and technologies than those used in conventional development, where rocks are more permeable. The primary unconventional techniques are directional – or horizontal – drilling and hydraulic fracturing. Advances in these technologies have made it possible to access oil and gas reserves formerly considered uneconomical and technically difficult to develop.

Hydraulic fracturing is the process of stimulating a well to release the oil and gas locked in low-permeability rock. In this process, water, sand and small amounts of chemicals are injected into the well. The high-pressure injection causes fissures in the rock formation that release the oil or gas. All of this occurs thousands of feet below the surface and below groundwater aquifers, under many layers of impermeable rock.

The recent increase in unconventional development methods, especially hydraulic fracturing, has been the focus of significant public attention. Some have voiced concerns about potential environmental impacts, including water-quality impairment and methane emissions. Apache has been pro-active in addressing these concerns and taking action to mitigate potential adverse impacts.

Over the past few years, Apache has shifted its focus to exploring and developing more unconventional oil and gas resources. For example, we are concentrating our portfolio and our production efforts more on onshore plays in North America and beginning to use unconventional extraction methods in our Egyptian holdings.

## PROTECTING WATER RESOURCES

Our efforts to protect water resources focus on both water quantity and water quality. By reducing the volume of freshwater we use in our operations, protecting water sources from subsurface contamination and using greener fracturing chemicals whenever possible, we're doing our part to help preserve this precious resource.

### Reducing Freshwater Use

Hydraulic fracturing requires large amounts of water to stimulate oil and gas production. We understand concerns that our operations may compete with other freshwater uses, including drinking water, agriculture, recreation and wildlife. We have developed innovative approaches to reducing our freshwater use, including using nonpotable water such as recycled produced water [water that comes back up the well after hydraulic fracturing], brackish water and municipal wastewater. Where we operate in potentially water-scarce regions, including parts of Texas and western Oklahoma, we are especially focused on finding these kinds of alternative water sources.

### Protecting Water Quality through Well Integrity

Risks to water quality – in particular the potential for ground and surface water to be impacted by hydraulic fracturing fluids or oil and gas leakage – is a frequently noted concern about unconventional development. We use a wide range of best practices to protect water quality.

# 100%

In 2015, we used reduced-emissions completions for 100 percent of our hydraulically fractured wells.

# ↓ 53%

Apache's vehicle incident rate decreased by 53 percent in 2015 versus our five-year average.

We follow rigorous well integrity protocols, including pressure testing and advanced testing methods such as cement bond logs, ultrasonic testing and temperature testing when indicated to ensure the cement has bonded properly to the piping. We also follow best practices for produced water management, including using engineered water storage facilities for the recycling of produced water.

### Using Greener Fracturing Chemicals

We are reducing environmental and water-quality risks associated with fracturing chemicals. For example, we do not use diesel in our fracturing fluids, and we require using alternatives to benzene, toluene, ethylbenzene and xylene (BTEX) whenever possible. We are at the forefront of implementing dry fracturing additives, which reduce environmental risk and the quantities of chemicals needed [see Page 25].

We report our U.S. hydraulic fracturing activity through the online FracFocus database, which publishes detailed information about chemicals used in hydraulic fracturing on a well-by-well basis.

### REDUCING LIFECYCLE METHANE EMISSIONS

When burned, natural gas produces fewer GHG emissions than many other fuels. However, concerns have been raised about how methane leakage during production and transportation impacts the lifecycle GHG emission benefits of using natural gas. We continue to improve our leak detection program to reduce methane losses, and we are collaborating with industry, government and NGO partners to develop more effective leak detection and reduction methods [see Page 28].

We are also reducing our GHG emissions by improving operational efficiency and using cleaner fuels, including natural gas, to power our operations [see Page 29].

### MANAGING NATURALLY OCCURRING RADIOACTIVE MATERIALS

Naturally occurring radioactive materials (NORMs) can be an issue when radioactive elements are present in the formation rock associated with oil and gas operations. We routinely survey for the presence of NORMs and take appropriate measures to prevent human, wildlife and environmental exposure if it is detected. Apache has not encountered regulated levels of NORMs in produced formation water from our well completion operations in North America. However, we continue to actively monitor this issue and will respond appropriately as needed [see Page 37].

### ADDRESSING COMMUNITY CONCERNS

Apache has worked hard to build strong relationships and foster candid, two-way communications in the communities where we operate. As members of these communities, we seek to be open and honest with our neighbors in communicating our intentions and listening to their concerns. Community concerns range from environmental issues to road safety to inconveniences such as noise, dust, odors and light. We have worked with local community members and governments to develop effective solutions to these issues and communicate our efforts to address them [see Page 51]. For example, we have taken steps to ensure road safety and avoid causing road congestion.

We seek to understand and address local concerns before they become complaints about our operations. We also want to make it easy for community members to share concerns with us and for us to be able to address their concerns. We provide multiple grievance mechanisms in all our operating regions. We address every complaint we receive and escalate it as appropriate through our management hierarchy. We are currently piloting a comprehensive stakeholder engagement tracking and response system in our U.S. shale operations. The system includes a follow-up tracking system for each individual stakeholder communication and facilitates aggregated analysis to help us identify trends and share lessons learned across our organization [see Page 52].

# CASE STUDY

## *Working to address local water concerns at Alpine High*

In September 2016, Apache announced the discovery of a significant new oil and natural gas resource play in the southwest corner of the Permian Basin, the Alpine High. The geographic outline of the play extends over 60 miles and stretches across southeastern Reeves County, Texas.

Southern Reeves County is home to several unique natural resources including Balmorhea State Park, a popular tourist attraction known for its large spring-fed pool. As an area that has not experienced much oil and gas exploration activity recently, it is understandable that the community may have concerns about the potential impact of oil and gas operations on both spring flow volumes and groundwater quality in the area.

Apache is committed to developing oil and natural gas resources in a safe and environmentally responsible manner. As the company creates long-term development plans for its nearly 350,000 gross acres at Alpine High, Apache is taking feedback from stakeholders into account as plans are generated.

In addition to the steps we take in all of our operating areas to protect groundwater resources such as proper cementing, well casing and pressure testing, Apache has voluntarily established drilling exclusion zones within its Alpine High acreage position and has committed to not drill in or under the boundaries of the state park or in or under the Balmorhea, Texas city limits. Apache will continue to adapt its work plans to acknowledge and protect valuable resources and community needs in the areas where we operate.

In October 2016, Apache also announced a partnership with the University of Texas at Arlington (UTA) to conduct a baseline water quality study of groundwater and surface water in the Alpine High resource area. This research will provide valuable data as we work to monitor our operations and responsibly develop the abundant oil and natural gas resources at Alpine High. Read the [UTA press release](#).

To meet our overall water needs for the development phase of Alpine High, we are looking for alternatives to fresh water and the resources that feed San Solomon Springs. Apache is currently evaluating the possibility of using brackish water and water recycling programs for longer-term operations in the area. Apache is an industry leader in the innovative use of recycled water and was one of the first oil and gas companies to implement an on-site water-recycling program with our Barnhart development in West Texas. We recently established a similar program to meet the water needs of our Pecos Bend project.

Brackish water use coupled with a water recycling program brings numerous benefits. By using a brackish source to meet operational water needs, we do not compete with needs for potable water (such as drinking and agriculture), and by recycling our water, we minimize the amount that must be transported by truck and disposed.

Apache is committed to being a good neighbor in the Alpine High area and will continue to engage with stakeholders to understand their concerns and make adjustments when possible.

You can read more about Apache's efforts in the area at [www.apachealpinehigh.com](http://www.apachealpinehigh.com)



A close-up photograph of a cholla cactus (Cylindropuntia) with a pink flower bud. The cactus has many sharp, reddish-brown spines and green, segmented stems. The background is a blurred desert landscape with blue and brown tones.

# ► ENVIRONMENT

Environmental responsibility is part of Apache's mission statement and core values, which guide our daily decisions and operations. We are conscientious about how our behaviors affect the planet — from planning our operations to reduce impacts on sensitive species and habitats, to protecting water quality and finding alternatives to freshwater use, to reducing the lifecycle methane emissions of our products, to engaging our employees in waste reduction programs.

We deliver on our core value to “take environmental responsibility seriously” in many ways. First and foremost, Apache strives to understand and comply with all regulatory requirements applicable to our business. In this way, we show respect for the political jurisdictions in the areas we operate and the value systems of local stakeholders. This commitment is backed up by an internal audit system designed to help ensure that we accurately measure and achieve compliance.

In addition to complying with regulatory requirements, we also seek opportunities to go above and beyond in being good stewards of the land and water in our areas of operation and maximizing the environmental benefits of the resources we produce. We harness the innovative spirit of our operations staff, as well as their technical and scientific knowledge, to develop new, industry-leading methods for conserving water and protecting land.

As shown in the table [see Page 8], our efforts to reduce environmental impacts are paying off: We have consistently improved in our major environmental performance metrics from 2013 to 2015.

## **WATER QUANTITY AND QUALITY**

Water is a critical input into our operations. But more importantly, it is a critical input for all life on Earth. Therefore, we seek to minimize our use of and impact on freshwater. We do this by seeking innovative ways to reuse and recycle freshwater and use nonpotable water sources. We also have in place stringent procedures for safeguarding water quality and handling produced water responsibly. In addition, we collaborate with governments and other stakeholders to identify important local water issues and work to find locally beneficial alternatives to using potable freshwater.

### **Using Alternative Water Sources**

To minimize our use of valuable freshwater resources, we use alternative water sources, including brackish water and produced water, and we recycle and reuse water. We tailor our efforts to use alternative water sources to local conditions and seek solutions that take advantage of locally specific opportunities and that benefit local communities. Apache operates in several areas in the United States that could be considered “water scarce,” depending on conditions, location, pricing or regulations. In these areas, we are especially proactive in seeking out alternative water sources.

We recycle produced water back into our operations as much as possible. We collect, store and treat produced water for reuse. We transport this water by pipeline to company drilling sites where infrastructure is available and by truck when pipeline infrastructure is not available. We originally began recycling water in our West Texas operations, a water-sensitive region, and have since expanded it to other locations.

In 2014, Apache worked with the city of College Station, Texas, and the Texas Commission on Environmental Quality to secure approval to purchase about half of the treated municipal wastewater from the city’s treatment plants for use in operations – water that would otherwise be a waste stream from the treatment plants. In 2015, we purchased 4.1 million barrels (or 172,200,000 gallons) of this treated municipal wastewater.

The systems we have developed to use alternative water sources allow us to avoid using freshwater needed by municipal water systems, farmers and others in our local communities. In addition, recycling water helps eliminate the need for costly disposal in deep injection wells.



↓ 60%

**Successfully  
reducing our use of  
toxic chemicals**

Our efforts to reduce the environmental risks associated with our hydraulic fracturing additives are paying off.

The volume of toxic chemicals we used in hydraulically fractured wells on a per well basis decreased by approximately 60 percent between 2014 and 2015 in Apache's North American regions.

**Safeguarding Water Quality**

To help safeguard freshwater resources, we test water quality before beginning operations in a new area. We also perform water-quality risk analyses and require postdrilling water-quality monitoring as needed based on the location's risk profile. This program is applicable in all onshore U.S. regions in which Apache operates and ensures that background water-quality data is obtained before the commencement of Apache's activity so it can be monitored during and after operations.

Protecting the integrity of our wells is another key element of safeguarding water quality. Though there is very little chance of groundwater contamination from leaks in our wells, we recognize the possibility that a well failure could impact groundwater. To promote well integrity, our engineers, geologists and geophysicists design our well drilling and completion plans based on a detailed understanding of local geologic and operational conditions for the entire zone of impact for each well they drill. They also consider the potential for impact to adjacent wells or faults, and include mitigations to prevent adverse impacts. Depending on well spacing and fracture direction, fracture volumes and pressures can be adjusted and nearby wells remotely monitored using appropriate surveillance technologies.

We carefully design the surface casings for our wells to protect freshwater resources. This includes verifying well quality with pressure tests and physical inspections. We monitor and record essential data from cement jobs and performance evaluations to ensure adequate isolation of producing intervals, including zonal isolation from any water resources. We use advanced cement testing methods, including cement bond logs, ultrasonic testing and temperature testing, to ensure the cement has bonded properly to the piping. We also require detailed and continuous pressure testing and monitoring of all hydraulic fracturing jobs.

**Managing Produced Water**

Produced water is water that comes from oil and gas wells during the production process, and is the primary source of the water we manage. It is typically brine and can contain minerals and organic materials, depending on formation characteristics. We handle this produced water very carefully to avoid impacting groundwater or surface water quality.



Produced water is collected and separated during production activities and stored on-site, in closed tanks whenever feasible. Necessary steps are taken for proper containment. For example we undertake routine, careful inspections of holding tanks to identify and fix minor leaks. Although infrequent, should loss of containment occur, we have detailed spill prevention, countermeasure and control (SPCC) plans to address these losses.

As much as possible, we reuse produced water back into our operations to reduce our usage of freshwater [see Page 27]. When this is not possible, we primarily dispose of produced water in deep injection wells in accordance with industry practice.



## Greener Chemicals for Hydraulic Fracturing

Hydraulic fracturing, which involves injecting a mixture of water and additives into rock formations to release gas and/or oil, requires chemicals as one of the additives in the fracturing fluid to make the extraction process successful. The content of these additives, and the potential for their accidental release into water supplies, is a commonly noted concern about hydraulic fracturing. We are taking many steps, discussed below, to use “greener” chemicals in our operations to reduce these concerns.

The additives in our hydraulic fracturing fluids serve five primary functions:

- Friction reducers: These chemical compounds “slick” the water to minimize friction and pressure. They allow the fluid to carry more sand into the fractures, making them wider and more permeable in order to produce more oil and gas.
- Gel systems: These chemical compounds thicken water to allow it to carry more sand into the fractures.
- Scale inhibitors: These compounds keep scale from forming in pipes; scale can slow the flow of oil and gas to the surface.
- Surfactants: These detergents help wash out contaminants downhole so the well can yield more oil and gas.
- Biocides: These disinfectants eliminate bacteria, which would otherwise corrode pipes and potentially damage producing formations.

In short, friction reducers, gel systems and surfactants are used during hydraulic fracturing to maximize the release of hydrocarbons into the wellbore. Surfactants, biocides and scale inhibitors are needed after hydraulic fracturing to ensure the hydrocarbons flow and to maintain pipe integrity.

### *Chemical Risk Reduction Strategies*

We are committed to identifying and using fracturing chemicals that have lower environmental risks. To fulfil this commitment, we are working on reformulating the chemicals we use in fracturing and working with service companies to identify chemical and technological alternatives that lower the potential environmental impacts of fracturing chemicals. We do periodic reviews of FracFocus information and meet with vendors and regions on using more sustainable chemical alternatives.

We encourage service companies to provide environmentally responsible chemical additives at economically acceptable prices. We do not allow the service companies we hire to use diesel fuel and chemical substances containing diesel fuel in hydraulic fracturing chemicals. We are also working to reduce the use of BTEX and U.S. Environmental Protection Agency (EPA)-listed endocrine disruptors and carcinogens, and we are using additives with less risk of bioaccumulation and that are more biodegradable. We require using alternatives to BTEX whenever reasonably practicable.

We are also on the forefront of incorporating recently developed “dry” hydraulic fracturing technologies. For example, we are replacing liquid guar slurry, friction reducers and scale inhibitors with powdered materials where feasible. Using powdered materials has many benefits. It significantly reduces the volume of chemicals needed for hydraulic fracturing operations. The lower chemical volumes also reduce the need for truck hauling and, therefore, reduce truck emissions and improve road safety. Dry fracturing also reduces volatile organic compound emissions and risks relating to handling, containment and spills. We are also developing a new technology that will allow us to create certain chemicals onsite, thereby eliminating the need to transport them.

### *Disclosing Chemical Data*

Apache actively promotes industry participation in the national FracFocus chemical registry. This web-based system publishes detailed information about chemicals used in hydraulic fracturing on a well-by-well basis and links to a geographical coordinate system within Google Maps. On FracFocus.org, authorities and reporting agencies can gather and analyze information on any data set, and the public can easily determine the details of chemicals used in specific wells or areas. Apache has been a leader in successful legislative efforts in states such as Texas to require the disclosure of hydraulic fracturing fluids through FracFocus. As of year-end 2015, energy companies had uploaded chemical usage data associated with nearly 100,000 well sites across the country to the FracFocus database.

Apache strives to be as transparent as possible in disclosing chemical and water use data. We follow Texas' disclosure regulations in all our U.S. operating locations and report our hydraulic fracturing activity to the FracFocus website. In Canada, we post required data for our wells in British Columbia and Alberta on the FracFocus.ca website.

In July 2013, FracFocus.org was upgraded to allow all reporting companies to post water volumes by source type. Posted details now include the amount of water used by source – such as freshwater resources, brackish groundwater or recycled produced water – on a well-by-well basis.

We work closely with vendors to encourage them to develop and use hydraulic fracturing additives with chemical components that are not harmful to the environment. Some vendors and chemical suppliers maintain legal rights granted by state or federal authorities to protect intellectual property and refuse to fully detail additive compositions. In working with those vendors, we have developed and use self-sourced frac chemicals with lower environmental risk so that we can reduce the use of unknown chemicals that can be held as confidential business information. We also help our vendors develop procedures to ensure that data from well completions is submitted to FracFocus.

### *Collaborating to Advance Greener Chemicals*

Apache is promoting industry collaborations to further the use of greener chemistry in the oil and gas industry. Company personnel have served in leadership roles in a Society of Petroleum Engineers working group on safer chemicals and are active in the American Chemical Society (ACS) Green Chemistry Institute forums on greener chemicals in hydraulic fracturing. In fact, Apache was a founding member of the ACS Green Chemistry Institute's Hydraulic Fracturing Roundtable, and an Apache employee is the current chairperson. The roundtable is a consortium of operators and service companies that pool and attract resources to develop more effective and sustainable chemistry for common hydraulic fracturing needs.

### **Water Stewardship**

In our operations, Apache utilizes water for drilling, completions and enhanced oil recovery. These operations use a combination of potable and nonpotable water.

Approximately 50 percent of Apache's total water withdrawals are recycled or reused in enhanced oil recovery operations.

### **2015 Global Water Withdrawals by Source**

The following table shows Apache's water withdrawals by source. It is important to note that we include produced water (nonpotable groundwater) as a water withdrawal. As noted previously, produced water is water that has been locked thousands of feet underground in rock formations and is released along with oil and/or gas during the production process. It is not groundwater that would be used for drinking water, and it would not be available for any other use if it were not released during oil and gas production. Though we report this nonpotable groundwater as a water withdrawal, it is not a withdrawal that competes with or reduces water availability for other water users.

### Apache's Water Withdrawals by Source 2015

	Municipal Water [Mbbbls]	Municipal Wastewater [Mbbbls]	GROUND WATER [Mbbbls]		SURFACE WATER [Mbbbls]		Total Withdrawal [Mbbbls]	Water Intensity [bbls/boe]
			Potable	Nonpotable	Potable	Nonpotable		
<b>CANADA</b>	13	2	5,905	48,883	3,207	0	58,009	3
<b>EGYPT</b>	2,596	0	3,775	283,948	239	0	290,559	2
<b>UK</b>	569	0	0	257,444	521	0	258,534	11
Gulf of Mexico	690	0	0	1,209	0	0	1,899	0
<b>U.S.</b> Midcontinent/ Gulf Coast	90	4,105	4,795	53,738	5,951	0	68,679	2
Permian	0	0	19,880	511,811	0	0	531,691	8
<b>TOTAL U.S.</b>	780	4,105	24,675	566,758	5,951	0	602,269	6
<b>TOTAL</b>	3,958	4,107	34,355	1,157,033	9,918	0	1,209,371	4

### Water Recycled/Reused 2011–2015

Recycled and reused water is defined as water used for a new or similar purpose. This includes water used for Enhanced Oil Recovery (EOR).

RECYCLED/REUSED  
as a Percentage of withdrawals

<b>2015</b>	49
<b>2014</b>	45
<b>2013</b>	52
<b>2012</b>	45
<b>2011</b>	75

### Hydraulic Fracturing Water Detail 2015

	Percent of nonpotable withdrawals	Percent of produced water captured for reuse
<b>CANADA</b>	49	5
<b>EGYPT</b>	35	0
<b>U.S.</b> Midcontinent/ Gulf Coast	42	0
Permian	86	8
<b>TOTAL U.S.</b>	82	8

# OUR GOAL 0.36%

By 2025, Apache is committed to reducing its methane emissions to 0.36 percent or less of total methane production.

## AIR EMISSIONS

Greenhouse gas emissions from the production of oil and natural gas, from methane leakage during production and transport, and from the ultimate burning of oil and natural gas to produce energy are important environmental impacts of our industry. We are working to reduce the impacts of our operations and products on all of these fronts.

### Reducing Methane Emissions

When burned, natural gas produces lower greenhouse gas emissions than many other fuels. However, methane leakage during production and transportation can reduce the benefits of these lower emissions.

Some natural gas escapes into the atmosphere between the wellhead and the end-user. This is referred to as the “leak/loss rate,” and these escaping emissions raise the lifecycle carbon intensity of natural gas and reduce the amount of natural gas that operators can sell to market – making the reduction of emissions an important environmental and economic issue for natural gas producers.

We are working hard to reduce our own leak/loss rate and collaborating with others in the industry to develop better approaches to leak detection and reduction.

Apache is a charter member of the ONE Future Coalition, a group of eight companies from across the natural gas value chain, including the production, processing, transmission and distribution sectors. ONE Future is working with the U.S. EPA and White House staff to develop and implement voluntary methane-reduction programs that will reduce emissions of methane to less than 1 percent of total methane production across the entire natural gas value chain. The upstream target committed to by ONE Future is 0.36 percent or less of methane emitted from 2025 gross methane production. Apache has adopted this same goal.



These types of voluntary programs provide operators the flexibility to reduce methane emissions from their operations in the most efficient manner possible using innovative techniques that they determine, which avoids the pitfalls of traditional command-and-control regulatory processes.

Apache continues to enhance its leak detection and repair (LDAR) program to support compliance with new regulations and our commitment as a ONE Future member. We are evaluating alternative methane detection tools as a supplement to optical gas imaging technology.

Currently, we use forward-looking infrared (FLIR) cameras to help ensure that emissions are properly controlled and systems are leak-free. Similar to a “night vision” camera, a FLIR camera distinguishes between temperature differences to detect escaping gas, which appears as a white or black cloud relative to the ambient air. We use these cameras near wellheads, at compressor stations and along buried pipeline routes to inspect areas near residential communities and public facilities. We also use these cameras to examine new facilities prior to the start of their operations. Facilities are re-inspected on an as-needed basis [to address improper functioning equipment, maintenance, etc.] during operations.



### ***Advancing Methane Reduction Technologies***

In addition to using FLIR cameras, we are assessing available emissions-reduction technologies that could ultimately be implemented in our operating areas. For example, Apache, along with four other oil and gas companies, is participating in EDF's Methane Detectors Challenge. The goal of this competition is to spur the development and commercial use of new, more cost-effective technologies to provide real-time, continuous monitoring of methane emissions, making it easier for companies to find and fix leaks. The infrared cameras most companies currently use each cost up to \$100,000. EDF's challenge requires solutions that can cost no more than \$1,000 per well pad and can be used continuously.

The Methane Detectors Challenge, which began in 2014, offered engineers and technology developers the opportunity to have their innovations undergo free independent testing in Southwest Research Institute's laboratory in San Antonio, Texas. The initial field of 20 entries was narrowed to five, and these entries underwent an initial round of testing at the laboratory. Four of the technologies advanced to a second round of testing. The two most promising technologies will go through pilot field trials in 2016 at facilities run by the participating oil and gas companies. The partners are hopeful that the competition will eventually make new, inexpensive technologies for monitoring more available.

### **Decreasing Production-Related GHG Emissions and Energy Use**

In addition to our efforts to reduce methane leaks, we are also working to decrease our production-related GHG emissions and energy use by improving the efficiency of our production processes. In 2015, we completed 15 major projects to increase our operational efficiency and reduce emissions. The projects accounted for a reduction of 135,000 metric tons CO<sub>2</sub>e. These efficiency projects, which included electrification, power efficiency and operational changes, are expected to also contribute profit to our bottom line after recovering implementation costs. Where we have access to the electrical grid at well sites and facilities we prefer to power the operations using electricity rather than through the use of internal combustion engines. The use of the electrical grid reduces fuel consumption and therefore GHG emissions. We evaluate the economic and technical advantages of connecting to the grid and do so when beneficial to our operations.

As an example, it is our practice to install low-bleed controllers on all new facilities. In addition, we are replacing high-bleed controllers with lower-emission alternatives when economically possible, such as when new production wells are tied into existing facilities. We also are conducting reduced-emission completions, a process that captures gas produced during well completions and well workovers, so it can be processed for sale rather than flared. In 2015, we used reduced-emissions completions for 100 percent of the natural gas wells completed using hydraulic fracturing.

### ***Using Natural Gas in Place of Other Fuels***

Natural gas is a cleaner-burning alternative to coal, diesel and gasoline. Using natural gas to power drilling-and-completion operations can displace up to 70 percent of the diesel fuel normally used. We have transformed drilling rigs, completion equipment and vehicles to use natural gas power to reduce our carbon footprint and our fuel costs.

The case study on the next page provides an example of how we are using natural gas in our drilling operations. We have also used gas in completion operations. For example, we were the first company to use natural gas to power our hydraulic fracturing stimulation equipment, which is one of the most energy-intensive parts of the natural gas production process. We have worked with suppliers to develop systems that quickly connect natural gas to our pumping engines, making natural gas a viable fuel to rapidly and routinely move from job to job.

Also, we have converted more than 40 percent of our U.S. fleet and some of our employees' personal vehicles to run on compressed natural gas (CNG). Apache has also donated funding to charitable organizations and local municipalities to help them convert vehicles to run on CNG and reduce their emissions and fuel costs.

# 0.50%

Apache reported a methane emissions intensity of 0.50 percent in 2015, down from 0.53 percent in 2014.

## CASE STUDY

### *Aviat gas well provides economic and environmental benefits in our North Sea operations*

Apache has owned and operated rigs in the Forties Field of the U.K. North Sea since 2003, breathing new life into an oil play that was first tapped in the 1970s. In recent years, we've faced challenges running these operations efficiently due to logistical limitations in the transport and storage of diesel fuel used to power the rigs' turbine generators. The solution: Develop a gas field nearby dedicated to supplying clean-burning natural gas to meet the power needs of the Forties Field.

Aviat, which we brought online in 2016, is a shallow gas field near the Forties field. After successfully drilling a natural gas well at Aviat, we constructed a 23-kilometer pipeline to deliver the gas from the new well to the Forties Field. The gas is now replacing diesel for powering the generators.

This project has clear economic and environmental benefits. It is a cost-effective, long-term solution for powering the Forties Field, extending the life of the field and deferring decommissioning costs. And, as natural gas is a more environmentally friendly fuel source than diesel with fewer associated CO<sub>2</sub> emissions, the switch will decrease the environmental footprint of the Forties Field.



## Air Emissions Performance

Apache has tracked GHG emissions since 2004, including CO<sub>2</sub>, methane and nitrous oxide emissions from our drilling, completion and production operations. To develop our GHG inventory, we monitor a range of emissions sources, including combustion, storage, loading and transport, flash gas, flaring, dehydration, venting, fugitive emissions, electricity and gas treatment.

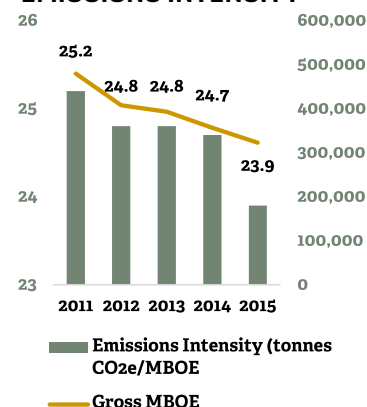
We focus on emissions intensity, rather than on a gross GHG tonnage target, to gauge our progress and performance in controlling GHG and methane emissions and the success of our efforts to improve operational efficiency. Emissions intensity is calculated by dividing annual emissions by annual production volume. Gross GHG emissions are influenced by numerous variables, including the divestiture or acquisition of facilities, commencement of new facilities, declining gas and oil production at existing facilities, and changes in equipment, regulations and/or transport availability. The mix of these variables, and especially changes to the mix of our assets, makes it difficult to assess the effectiveness of our efforts to reduce emissions or improve overall emissions efficiency using an annual gross GHG tonnage target. Therefore, we track reductions in emissions intensity as a better metric of our operational efficiencies as it accounts for and normalizes operational changes over time.

## Apache's Methane Emissions Performance

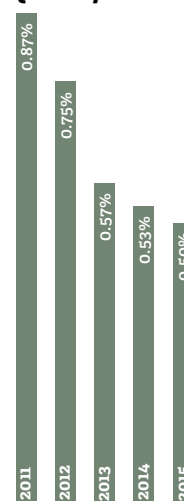
Our global methane emissions intensity was 0.50 percent of our total gross methane production in 2015, down from 0.53 percent in 2014. Our methane emissions intensity has decreased 42 percent since 2011. While there has been some fluctuation in this metric, we have seen an overall downward trend.

Methane emissions intensity is the percentage of methane released compared to Apache's annual methane production. This is also often called the methane leak/loss rate. Our methane emissions intensity accounts for not only gas vented directly to the atmosphere during compressor maintenance, well blowdowns, pipeline blowdowns, and from fugitive emissions, but also for unburned methane in the exhaust from combustion sources, engines and flares.

## APACHE GLOBAL GHG EMISSIONS INTENSITY



## GLOBAL METHANE EMISSIONS INTENSITY [LEAK/LOSS RATE]





## BIODIVERSITY

At Apache, we view ourselves as stewards of the lands and waters where we work. Protecting species and habitats from adverse effects of our operations is an important priority. We participate in a range of collaborative efforts to minimize our impacts on biodiversity.

### Marine Animals and Seismic Surveying

In our industry, gathering and analyzing seismic survey data is vital for identifying potential oil and gas exploration and development sites. In offshore locations, marine life can be sensitive to the sound frequencies used in seismic surveying. Apache has had experience in this area with past operations in Alaska and more recently in Suriname. We have developed careful location-specific management programs to assess and mitigate these potential impacts. These programs incorporate the latest technology and tools to help in minimizing the impact of Apache's seismic operations on marine ecosystems.

As an example, to stay consistent with best practices for wildlife protection, initial volumes from sound emitters are gradually increased from the softest possible signal to the regular operating volume. This alerts the marine animals to our presence and allows them time to relocate before the process begins.

We also include experienced, certified observers on the ship during survey operations to look for signs of sensitive animals in the area. When exclusion zones are so large that it's impossible to observe the entire zone from the water surface, we may also employ observers in fixedwing aircraft or helicopters. Any sighting of a marine mammal or other sensitive species entering the exclusion zone triggers an immediate shutdown of seismic operations. In addition to protecting the animals during surveying, the information gleaned from these observations can lead to a better understanding of animal behavior and locations.

During exploratory work in Suriname, Apache incorporated passive acoustic monitoring in the seismic data-gathering process, to detect and classify marine mammals vocalizing underwater even when not seen from the surface. Also, our program in Suriname included a stop-work provision not only for marine mammals but for sightings of a sea turtle species that inhabits the region.

### Operating in Sensitive Habitats

At Apache, we work hard to operate responsibly in sensitive habitats and around species that are being considered as candidates for listing under the U.S. Endangered Species Act [ESA].

#### *Protecting Potentially Endangered Species in our Permian Region*

In 2014, Apache participated in a collaborative conservation effort to protect the population and habitat of the Lesser Prairie Chicken, a species of prairie grouse endemic to the southern high plains of the United States. As part of this effort, which was initiated to avoid the need to list the species as threatened or endangered, Apache enrolled nearly 1 million acres in conservation plans and paid fees to help landowners conduct conservation efforts on their property. Through a combined effort by 177 companies, including 110 oil and gas operators, 7 million acres have been conserved and more than \$49.8 million in funding for conservation programs has been collected from private industry. The conservation efforts focus on protecting, improving or restoring native habitat to help Lesser Prairie Chicken populations recover and thrive.

Thanks in part to the success of the conservation plans, the Lesser Prairie Chicken is no longer a protected or candidate species as defined by the ESA. However, Apache remains enrolled in the Lesser Prairie Chicken conservation plans.

Previously, Apache undertook a similar process in New Mexico and West Texas regarding the Dunes Sagebrush Lizard. As with the Lesser Prairie Chicken, this species was removed from consideration for listing under the ESA due in part to voluntary conservation activities carried out by companies in the oil and gas industry, including Apache.



### *Aiding Alligators in our Gulf Coast Region*

For years, Apache has been helping alligators thrive in the coastal marshes of Louisiana by supporting a sustainable harvest that has helped bring the reptiles back from the brink of extinction. Apache owns about 270,000 acres of coastal Louisiana land, from Plaquemines to Cameron parishes, in prime alligator habitat.

Once unregulated, alligator hunting was banned in Louisiana in 1963 after alligator populations dropped dramatically. In the early 1970s, the Louisiana Department of Wildlife and Fisheries (LDWF) began a sustainable use management program to study the lifecycle of alligators, come up with ways to prevent poaching and allow harvesting while managing the population.

Under the management program, Apache contracts with licensed alligator farmers who gather the alligator eggs from company marshland to raise on alligator farms. About 12 percent of the hatchlings are returned to the marsh areas where they were collected, with identification tags allowing them to be tracked for research purposes. The LDWF determines allowable hunting rates based on assessments of population growth and distributes hunting tags to Apache; we then give them to alligator hunters.

By all accounts, the LDWF sustainable use management program has been a big success. Alligator populations have rebounded and the industry continues to thrive.

### *Conserving Threatened Gulf Coast Ecosystems*

Apache is working hard to find environmentally sound solutions to help save the swamps and marshes in the areas where the company operates along the Gulf Coast. These swamps and marshes are among the nation's most fragile wetlands. Louisiana, for example, has lost up to 40 square miles of marsh per year for several decades due to the natural processes of subsidence, saltwater intrusion and shoreline erosion, as well as human activities such as dredging for canals.

Wetlands serve as breeding grounds for thousands of species of aquatic life, land animals and birds and provide habitat for more than 5 million migratory waterfowl each year. Wetlands act as a buffer against hurricanes and provide flood control by holding excess water during heavy rainfall. They replenish aquifers and purify water by filtering out pollutants and absorbing nutrients. In the Gulf Coast, wetlands also provide billions of dollars in revenue and thousands of jobs in oil and gas development, shipping, fisheries, ecotourism, recreation and other industries.

In 2015, Apache helped to complete the restoration of coastal marshland along Liner's Canal in Terrebonne Parish, Louisiana. This project benefits hundreds of acres of freshwater and intermediate marsh by increasing freshwater flow into an area severely threatened by saltwater intrusion. Funding for the Liner's Canal project came from a \$1 million grant from the North American Wetlands Conservation Act and \$2 million in partner contributions. Besides Apache, other partners include Ducks Unlimited, Terrebonne Parish, the Moore-Odom Wildlife Foundation, the Louisiana Coastal Protection and Restoration Authority and the Louisiana Department of Wildlife and Fisheries.

Apache is also providing financial and technical assistance to the St. Louis Canal Freshwater Introduction Project near Grand Bois, Louisiana. Construction began on the project in late spring of 2015. The improvements will provide more freshwater flow into the area from the Gulf Intracoastal Waterway and hopefully reverse the trend of wetland loss. Apache is working with several groups on this project, including Ducks Unlimited, Lafourche-Terrebonne Soil and Water Conservation District, Louisiana Coastal Protection and Restoration Authority, ConocoPhillips, Entergy, ExxonMobil and TransCanada.

These marsh restoration projects are benefiting waterfowl, wildlife and fisheries habitats, providing storm protection, and improving water quality. They also boost recreational activities like bird watching and boating, as well as fishing and hunting.



# CASE STUDY

## *Terrace construction – Cameron Parish, Louisiana*

Apache and the Louisiana Coastal Protection and Restoration Authority (CPRA) have teamed up to create wetlands and prevent further wetland loss on Apache-owned marshland in Cameron Parish, near Holly Beach, Louisiana.

The CPRA has a Restoration Partnership Fund in which they solicit wetland restoration ideas and help fund those that they approve. Apache applied for and received a grant from the CPRA through this fund in 2014 to construct 18,741 linear feet of earthen terraces and plant them with wetland vegetation. Apache designed, permitted and constructed the project. The expense of the project was shared 50/50 between Apache and the state.

The project was such a success that, in 2015, the CPRA once again selected Apache for restoration partnership funding for Apache's proposal to construct additional terraces in the same area. The construction of the phase two terraces finished in August 2016, and vegetation was planted in September.

Earthen terraces are linear embankments constructed at marsh elevation in shallow, open-water environments and have many positive influences including: creating emergent wetlands and edge habitat for the benefit of many species of wading and shore birds, mammals, fisheries and alligators; reducing water turbidity and increasing submerged aquatic vegetation growth to benefit fisheries and waterfowl; and reducing wind and wave erosion to surrounding wetland habitat.



### *Restoring Habitat during Decommissioning*

Apache is sensitive to the benefits of restoring wildlife habitats after its operations have concluded in an area. Once a platform has been decommissioned, Apache works with the Louisiana and Texas state governments to identify and approve platforms that can be reused to enhance the aquatic ecosystem. As part of the decommissioning process, Apache often can convert the platforms into artificial reefs.

For example, the old platform at Ship Shoal 26 in the Gulf of Mexico had reached the end of its life and was required by law to be removed. Exploration and production activities have coexisted successfully with sport fishing in this area for decades, and the area is well-known by anglers for its speckled trout. Apache did not want the removal of the platform to disrupt the fish habitat in the area. The structures and pilings from Ship Shoal 26 were removed and concrete was used to create three artificial reefs. As a result, the thriving aquatic ecosystem and hot spot for saltwater anglers was preserved.



### *Protecting Bald Eagles in our Gulf Coast Region*

Wetlands along the U.S. Gulf Coast are home to populations of American bald eagles, a formerly endangered species. Apache works with state wildlife officials in determining the placement of well sites to avoid interfering with nesting sites. This helps to ensure that drilling and completion activities do not adversely impact American bald eagle activities during the nesting period.



## SEISMICITY AND OIL AND GAS OPERATIONS

The potential for induced seismicity from industry operations, especially with respect to injected saltwater disposal, has received substantial press and public attention recently. Apache has been attentive to the topic for quite some time, as have state regulators in areas where we work.

The scientific community is studying the potential for felt earthquakes due to fluid injection (salt water disposal). Some places are extremely unlikely to ever have felt earthquakes resulting from fluid injection. According to the U. S. Geological Survey [USGS], the risk of occurrence is or can be impacted by variations in several factors, including:

- the injection rate and total volume of fluids injected;
- the presence of certain types of faults that are large enough to produce felt earthquakes;
- the magnitude and orientation of stresses that are acting on faults; and
- the presence of pathways for the fluid pressure to travel from the injection point to faults.

One mitigation strategy that is very important to Apache is reducing the amount of water that needs to be disposed of in the first place by recycling and reusing produced water in our operations. In addition, we are also exploring ways to recover and reuse water that has already been disposed of in injection wells, which could reduce water pressure in disposal reservoirs. These practices have the added benefit of reducing our freshwater needs.

In an effort to be on the leading edge of these strategies, we collaborate with institutions of higher learning, including Stanford University, and fund research to better understand and model the fundamentals of induced seismic activity. We are also engaging with a seismicity study in Texas that is expected to be performed by the University of Texas' Bureau of Economic Geology.

Notably, substantial rules have existed in the U.S. for decades that regulate saltwater disposal wells based on federal regulations under the EPA administered "underground injection control" program. In most oil and gas states, the EPA delegates authority to state agencies to oversee and issue required permits. State regulators determine satisfactory permitting criteria for drilling and continued operation of saltwater injection and disposal wells. In states where Apache currently operates, regulators have recently enhanced disposal well regulations. For example, the Texas Railroad Commission requires assessment of the land up to 100-square miles surrounding a new disposal well. Any identified significant seismic disturbances requiring further research requires changes to the permitted rate, volume or injection depth, or results in the possible denial of a permit.

In support of these efforts, we share our technical expertise with regulators – via official testimony, requested reviews of proposed regulations and other means – to advance strong and effective regulations. This sort of input has resulted in significant changes to operating and reporting rules.

Regulators in all U.S. states and Canadian provinces where Apache operates have the authority to limit or halt injection if they suspect links to seismic activity. For example, these powers have been invoked in 2015 and 2016 when seismic activity occurred near saltwater disposal wells with respect to operations not involving Apache.

The process of hydraulic fracturing itself is not considered by the scientific community to be a significant seismic hazard.



Helpfully, the subsurface pressure gradient and the weight of overlying rocks naturally contain and limit vertical fracture growth, making it extremely unlikely that pathways would reach to the surface. As a standard practice and regulation, all hydraulic fracturing operations are continuously monitored for pressure so that any unusual fracture growth is noted and the operations modified. Operators do not want to fracture “out of target section” into overlying or underlying rocks that do not contain hydrocarbons because it introduces unwanted fluids into the production such as water.

## **SPILLS**

To minimize the possibility of spills, we continually monitor asset integrity. We also train employees to identify and mitigate risks, and select contractors who do the same. In the event a spill does occur, field personnel respond promptly, following a carefully planned spill response protocol to detect the spill location and alleviate the potential for damage. We have detailed spill prevention, control and counter measure (SPCC) plans for all our operations. We also follow all local and national cleanup and reporting requirements.

In 2015, we had 417 hydrocarbon spills to the environment that were greater than one barrel in size, down from 432 in 2014.

### **Responding to Offshore Spills**

The Marine Well Containment Company (MWCC), formed by Apache and other major oil companies in the wake of the 2010 Gulf of Mexico Oil Spill, is developing an improved system for responding to oil spills in the Gulf of Mexico. This spill containment system is being designed to be able to collect up to 100,000 barrels of oil a day from a leaking well in up to 10,000 feet of water. It will include a capping stack rated for 15,000 pounds of pressure per square inch.

Ten companies hold an equal stake in the MWCC and are dividing the initial \$1 billion outlay to build the system. The system’s equipment is listed in the emergency response plans for 156 oil and gas leases in the Gulf of Mexico.

In addition to supporting the MWCC, we have enhanced our spill response capability by joining National Response Corporation, Clean Gulf Associates, Oil Spill Prevention and Response Advisory Group in the United Kingdom, Oil Spill Response Limited and Wild Well Control.

Apache also helped develop a dispersant supply program in coordination with Total Fluides SAS and Clear Coast, LLC, to provide significant quantities of dispersant for any worldwide, long-term well control event in a marine environment.

## **WASTE**

Apache’s primary solid waste streams are from drilling residuals and from our office buildings. We are prepared to address the presence of naturally occurring radioactive material, if it were to be found in our areas of operation.

### **Disposal of Drilling Residuals**

Drilling residuals are the mixture of mud, cuttings and drilling fluids that come out of a well during the drilling and completion process. We capture drilling residuals on-site and dispose of them based on composition and in accordance with applicable regulations in the given operating area.

### **Managing Naturally Occurring Radioactive Material**

Naturally occurring radioactive material (NORM) may sometimes be found in rock formations where oil and gas operations are taking place. In most cases, the elements encountered are barium and radium. These elements have low NORM activity levels that present measurable radioactivity above natural background levels only when aggregated. In production operations, this typically occurs when scale materials build up over time in equipment. The radioactivity levels are very low and only pose a concern to workers if the material comes in prolonged direct contact or is ingested or inhaled.



Apache routinely surveys production equipment for the presence of NORM and takes appropriate measures to prevent human exposure if it is detected. If NORM is found to be present, equipment with activity levels above regulatory thresholds will be labeled to advise workers of the presence of NORM and prevent disturbance of the scale material. Equipment containing NORM will be decontaminated by service companies specializing in the management of NORM and by workers who are trained to manage the material in a manner that prevents exposure. The removed NORM materials will be disposed in accordance with state regulatory requirements to isolate the material from any future exposure.

### **Aiming for Zero Office Waste**

In December 2015, Apache employed a third-party service provider to perform an audit of office-related waste at our corporate headquarters in Houston. The report showed Apache was successfully diverting 53 percent of total waste from landfill – not a bad score, but we knew we could do better. The audit results pointed to specific areas where we could improve. We shared the report results with all Houston-area employees to illustrate how each employee could do more to decrease waste and increase our landfill diversion rate.

In response to this audit, and in honor of Earth Day 2016, Apache kicked off a revamped and revitalized recycling initiative called AIM for ZERO Waste at Apache's corporate headquarters in Houston. At the event, employees signed a pledge to stop using polystyrene foam packaging (i.e., Styrofoam); reduce, reuse and recycle materials whenever possible; and adopt and implement other earth-friendly habits beyond the workplace. As part of this effort, Apache made it a policy to stop purchasing polystyrene cups for its staff, visitors and guests and instead equipped the break rooms with ceramic cups, inscribed with the new program logo, AIM for ZERO Waste at Apache.

We have also taken other measures to reduce our office waste, such as reevaluating purchasing methods and working with suppliers to reduce packaging and other noncritical waste coming onto the property. We are continuing our commitment to recycling electronic waste; we recycled 3.072 tons of this type of waste in 2015. In addition, we offer reusable to go containers in our corporate dining facility, which we estimate has already eliminated more than 40,000 non-recyclable to go boxes that otherwise would have ended up in the landfill.

Apache plans to have another waste audit performed prior to Earth Day 2017 to measure our success since the implementation of the updated program. We plan to publish the results of the audit in 2017. We are also aiming to expand our recycling practices to other regional and field offices.

# CASE STUDY

## *With funding from Apache, university researchers tackle key technical challenges*

Academic research scientists – including both faculty and students – can play a critical role in driving scientific and technical progress in the oil and gas industry and helping to explore solutions to difficult challenges. That’s why Apache is supporting scientific inquiry at several universities, including Rice University in Houston, Texas; Colorado School of Mines in Golden, Colorado; and Texas Tech University in Lubbock, Texas.

At Rice, scientists conducting research funded by Apache discovered a way to decrease CO<sub>2</sub> emissions from natural gas production streams and other sources with environmentally friendly materials. By combining amine-rich compounds with carbon60 molecules known as “buckyballs,” the scientists created a compound that absorbs CO<sub>2</sub> but not methane. Use of this compound should enable CO<sub>2</sub> to



be captured at the wellhead while the methane flows through pipelines to market. Researchers are now exploring how to improve the compound’s capacity for the rate of CO<sub>2</sub> absorption.

In September 2015, Apache donated \$2 million to the Colorado School of Mines for the creation of an Apache Corporation Drilling Research Laboratory. Students and faculty are using the new laboratory to study the latest well drilling and construction technologies. The funds are being used for graduate student research fellowships in the fields of geology, geophysics and petroleum engineering.

Apache also donated \$2 million to the Whitacre College of Engineering at Texas Tech University to create the Apache Upstream Research Center [see photo]. The donation was matched dollar-for-dollar by the Texas Research Initiative Program (TRIP). Researchers at this new center, which include faculty members and students from multiple engineering disciplines, are focusing on the latest environmentally responsible hydraulic fracturing techniques, including those relating to horizontal well drilling, rock mechanics, the energy–water nexus, wellbore integrity and well cementing. The research program at the new center has five main aspirations: to decrease the environmental footprint of unconventional resource operations; understand variations in subsurface properties to increase resource recovery efficiency; continue to characterize the U.S. endowment of unconventional resources; apply “big data” predictive analysis and automation to manage capital efficiency, reduce nonproductive time and increase safety; and develop technologies to economically exploit legacy “brownfields.”

# ▶ HEALTH & SAFETY

At Apache, the safety of our employees, contractors and communities is deeply rooted in our core values. In fact, one of those values states that “safety is not negotiable and will never be compromised.”





Our commitment to safety is best illustrated by our performance. In 2015, key safety performance measures for our global workforce – including both employees and contractors – were down across the board for total recordable incidents, days away/restricted or transferred incidents, and vehicle incidents.

## BUILDING A SAFE WORKPLACE

All of Apache's workforce contribute to identifying, assessing and mitigating risks associated with our operations. Whether it's during pre-job planning, on-site observations or post-incident investigations, employees and contractors have a responsibility to manage these risks to help ensure all workers arrive home safely at the end of the day.

We also encourage safe behavior by recognizing the efforts of our employees and contractors. When key milestones are reached – such as zero injuries, zero vehicle incidents or zero environmental incidents during a particular time period – workers are acknowledged and commended for their performance.

## Health and Safety Training and Education

We offer a wide range of training programs for employees and contractors to promote their full understanding of and compliance with our health and safety policies and programs and to help build the skills our personnel need to work safely. We also seek to encourage personal responsibility for safe operating conditions and to build a culture of personal empowerment and accountability for safety issues.

We use a cloud-based training platform to make information easy to access for our entire workforce. This web-based tool is used by many of our regions to launch, administer, track and manage classroom and e-learning courses. This streamlines our business processes, ensures consistent messaging, allows greater flexibility and provides an opportunity for employees to learn at their own pace. We are currently developing training programs that will capture field knowledge gained from years of on-the-job experience from our workforce and build it into specific courses that can be shared across the organization.

## Driver Safety

One of the riskiest activities our employees and contractors perform on a daily basis is the operation of motor vehicles. In fact, driving issues are the main source of industrywide safety incidents. Driving behavior is also one of the key interaction points between community members and an oil and gas company's workforce, and it can be a source of considerable concern among community members if not well managed.

To mitigate these risks, Apache has adopted a multifaceted approach to help ensure the safety of our workers and make roads in our communities safer. This approach includes top management support, a comprehensive fleet tracking system, driver feedback, various policies and procedures, educational campaigns and outreach activities. Our focus over the past couple of years to "raise the bar" on driving performance has been highly successful, and we continue to be a leader within our industry.



## 2015 WORKFORCE SAFETY PERFORMANCE

versus Apache  
5-year average

DECREASED  
TOTAL  
RECORDABLE  
INCIDENT  
RATE



27%

DECREASED  
WORK  
RESTRICTED  
INCIDENT  
RATE



53%

DECREASED  
VEHICLE  
INCIDENT  
RATE



53%

53  
MILLION  
HOURS WORKED

employee &  
contractor

## Improving road safety through industry, government and community collaboration

In 2015, Apache helped form the Permian Road Safety Coalition, a collaboration between industry peers, government officials, researchers and community members to make local roads safer.

The coalition has already made progress by sharing knowledge, raising awareness, sponsoring forums and advocating for safer roads. Apache currently leads the coalition's Best Practices Steering Committee.

We have implemented companywide technology that tracks the speed and other operational aspects of our vehicles. This "connected fleet" program has resulted in a very substantial improvement in the safety of our vehicle operations and in our safety data. As part of the program, we use GPS monitoring devices throughout our fleets to track and record driving behaviors (e.g., speeding, harsh braking, rapid acceleration, seat belt usage and excessive idling) and vehicle locations. Driver coaching is provided when positive or negative driving behaviors are observed to further improve performance.

In addition to reducing driving-related safety incidents, our connected fleet program is helping Apache increase operational efficiency and reduce our carbon footprint by identifying opportunities to decrease excessive idling. This program also helps to improve our overall reputation by ensuring that Apache vehicles are following local driving laws and regulations.

Apache's management teams support driver safety performance by analyzing and acting on key driver trends, communicating expectations and enforcing vehicle policies. Employees are reminded of our driving policies and rules as needed through companywide communications and during safety meetings. We implement regular driver training initiatives across our global operations, including classroom, on-road and e-learning training. Lessons learned from vehicle incident investigations are also shared to prevent similar incidents from recurring and to raise awareness.

### Improving Safety in Our Gulf of Mexico Operations

The safety of oil and gas operations in the Gulf of Mexico's outer continental shelf is governed by the Safety Environmental Management System [SEMS] II Final Rule, which went into effect in 2013 and is overseen by the U.S. Bureau of Safety and Environmental Enforcement [BSEE]. The new rule enhanced the original SEMS rule by requiring additional employee training, empowering field-level personnel with safety management decisions and strengthening auditing procedures by requiring them to be completed by independent third parties. Apache is compliant with the SEMS II's Final Rule for all assets and personnel operating in the Gulf of Mexico.

In keeping with SEMS requirements, Apache has implemented and incorporated the following into our existing safety management systems:

- a stopwork authority that creates procedures for and authorizes any offshore industry personnel who witness an imminent risk or dangerous activity to stop work;
- clear definition of who has ultimate work authority on a facility for operational safety and decision making at any given time;
- an employee participation plan that promotes participation by offshore industry employees as well as management to eliminate or mitigate safety hazards;
- guidelines for reporting unsafe working conditions that enable offshore industry personnel to report directly to BSEE regarding possible violations of safety or environmental regulations or threats of danger;



- additional requirements for conducting a job safety analysis; and
- a requirement that the team lead for an audit be independent and represent an accredited audit service provider, such as the Center for Offshore Safety.

### Managing Contractor Safety

We are committed to ensuring the safety of our contractor workforce as well as our direct employees, and we instill in them Apache's core values of safety and environmental responsibility. In 2015, Apache's contractors accounted for 69 percent of total workforce hours. Contractor safety performance has continued to improve in comparison to the five-year average.

Apache uses various third-party databases and company protocols across the organization to evaluate potential contractors before hiring. We continue to refine our standardized contractor safety auditing processes, which address selection, evaluation, monitoring and post-contract review. All contractors working for Apache are required to have written safety and environmental programs and procedures in place. Depending on the type of service or work, contractors are required to develop specific safe work practices to demonstrate that their personnel can perform their job functions safely.

In 2016, we are implementing additional programs to elevate our contractor safety performance. These measures will include a complete analysis of our current processes, revisions to our contractor databases, enhancements to our grading criteria and increased outreach activities in order to improve operational efficiency and overall safety performance.

Also in 2016, we are launching a portal to make it easier for contractors to access key health, safety, security and environmental information. This portal provides workers the ability to review relevant policies, work rules, onboarding procedures and emergency information, and record hazards or observations made within our operations. By making it easier for contractors to access information, Apache streamlines various business processes and strengthens our ability to communicate information, which further solidifies our safety efforts and places environmental responsibility at the forefront of everything we do.

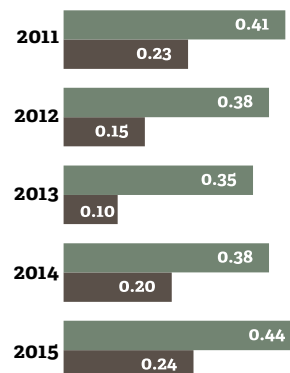
### CRISIS AND EMERGENCY RESPONSE

Apache's approach to emergency management follows a four-part process: plan, prepare, respond and recover.

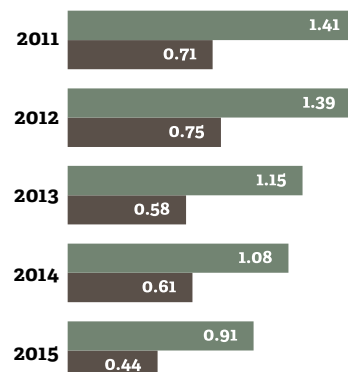
Our crisis management and continuity plans are strategically aligned to regional "all hazards" plans, oil spill response plans and emergency response plans. We are in the process of updating and expanding our crisis management plans to include crisis communications and business continuity planning to identify the critical processes, personnel and resources needed to resume business operations in a manageable amount of time. We are currently developing business continuity plans for our corporate headquarters and Egypt Region. We recently completed risk analyses and business impact analyses efforts for these regions and are drafting mitigation strategies to complete the plans. Our goal is that, by the end of 2017, all Apache regions will have a completed business continuity plan to ensure that critical processes and people are identified and expedient recovery strategies are developed.



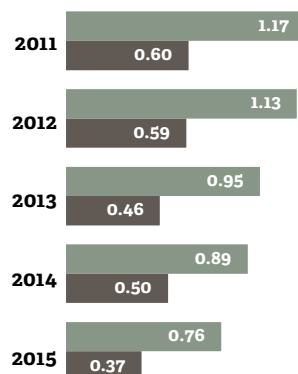
### EMPLOYEE SAFETY PERFORMANCE



### CONTRACTOR SAFETY PERFORMANCE



### TOTAL WORKFORCE SAFETY PERFORMANCE



■ Total Recordable Incident Rate (TRIR)  
■ Work-Restricting Incident Rate

Rate is calculated incidents per 200,000 hours worked.

We are prepared on all levels to effectively and efficiently respond to any incident. We use the incident command system for command and control of incidents. In 2016, we formed and trained the Apache Global Response Team to provide a global organic response resource that will be able to provide extensive knowledge and experience to quickly deploy worldwide for any Apache incident.

We participate in several industry collaborations to improve our emergency response capabilities. As mentioned previously, Apache is a member of Marine Well Containment Company for well control issues in the Gulf of Mexico; we are a member of Oil Spill Response Limited, which provides well control and spill response support in the North Sea; and we have a contract with Wild Well Control for any well control, capping stack, or subsea debris cleaning and dispersant applications that may be required for an incident in any other area of operations.

## **GLOBAL WELLNESS**

The health and safety of our workforce depends on much more than on-the-job safety. The company's global wellness programs offer health services and resources to encourage employees to adopt healthy lifestyles for themselves and their families.

Several Apache office locations have on-site cafeterias and fitness facilities. Cafeterias offer subsidized dining options that include healthy choices and easy access to nutrition information. Where available, fitness facilities are open at no charge to employees and offer a wide variety of exercise equipment, fitness and training classes, and programming to encourage employees' overall fitness. In regional offices, we shape our fitness and wellness programs to fit the employee base and take into consideration the needs of those employees working in the field.



Apache's **Café 54** (Houston, Texas)



Apache's **ApacheFIT** (Houston, Texas)





# ▶ WORKFORCE

People are our most vital resource. Apache's success in hiring and retaining innovative, motivated and diverse individuals is one of the reasons we are among the world's top independent oil and gas companies.

## **Our growth and success over the years has resulted from a talented pool of employees who challenge themselves and seize opportunities.**

Since 1954, Apache has built a team unified by our values, our commitment to building shareholder value, and our culture, which empowers every employee to make decisions and achieve the company's goals. Apache employees embrace the same set of core values around the globe. In all of our regions, our workforce puts a premium on top performance and conducting business with honesty and integrity. Our global team is also brought together by a sense of ownership and the knowledge that the best answers win.

To attract, reward and retain top performers, Apache provides a challenging and rewarding work environment, supported by a total compensation program that includes competitive base salaries and benefits along with performance-driven incentives. Benefits for full-time employees vary by region but may include health insurance plans, retirement savings plans, stock equity, life and disability insurance, education assistance, paid leave and alternative work schedules, among others.

### **EMPLOYEE DIVERSITY**

Our employees represent a dynamic diversity of races, religions and cultures, reflecting the communities in which we operate. A diverse workforce provides a competitive advantage by adding new ideas, viewpoints and approaches to solving business challenges.

Apache is an equal opportunity employer. Furthermore, our code of business conduct requires that we conduct business, including employment practices, in accordance with all applicable laws, rules, regulations and government requirements. All employment-based decisions are made without regard to race, color, religion, sex, familial status, marital status, sexual orientation, genetic information, gender identity, national origin, age, veteran status, disability, or any other status protected by applicable federal, state or local law.

These standards support our commitment to equal employment opportunities, prohibit harassment and discrimination in the workplace and align with applicable laws and regulations in the countries where we operate. Any form of discrimination by or toward employees, contractors, suppliers and customers in any Apache workplace is strictly prohibited.

### **Hiring Veterans and Individuals with Disabilities**

Apache is honored to employ veterans from all branches of the military. Among our core values are respect, honesty, integrity, a sense of urgency and top performance. Military veterans have demonstrated these same kinds of values through their service, and they translate well to the Apache workforce. Each year, Apache honors its own employees and their family members who are veterans with a ceremony and presents each one with a commemorative coin.

In addition to hiring veterans, Apache hires qualified individuals with disabilities, who offer diverse perspectives. We partner with various outreach organizations to enhance our ability to attract and retain individuals with disabilities. Providing opportunities for individuals with disabilities simply makes good business sense, as a healthy workforce includes people with different abilities.

### **Hiring Locally**

Hiring local people, including indigenous individuals, helps to ensure that our operations are conducted in a respectful manner and in alignment with local values and cultures. In all of our regions, we emphasize hiring qualified local individuals, because we believe this is a great way to invest in the regions where we operate. For more information on our commitment to local hiring, see Page 53.

## EMPLOYEE TRAINING AND DEVELOPMENT

We believe our success as a company depends on well trained and supported employees. We provide a wide range of professional development and training programs because we believe that when employees develop new skills, our work environment becomes infused with energy and creativity. This, in turn, enhances our ability to attract and retain the best talent.

Our Apache Learning Center promotes a variety of learning opportunities for leadership, supervisory, midlevel and field employees. To enhance the nontechnical and managerial skills of employees worldwide, we developed a core set of “success skill” training initiatives based on the needs of our corporate headquarters and operating regions. We also develop the next generation of leaders and help existing leaders improve their skills through our flagship leadership development programs. To help employees at all levels learn from each other, we host the annual Apache Technology Forum, where employees share information on innovative industry solutions, practices and performance improvements. We also offer an educational assistance program to help employees develop knowledge and skills over time. This program assists eligible employees with expenses for academic courses and degree programs provided by accredited colleges and universities.

We developed the Apache Knowledge Management System to help managers assess and foster the knowledge and experience of employees. It also serves as an online resource for employees to track their progression in a professional discipline, document skills, record technical and operational expertise, and note educational and professional achievements. Finally, we are committed to a robust performance appraisal and development planning program, through which employees work with their managers to identify strengths and growth areas to further their careers.

All of these programs deliver challenging and rewarding developmental experiences while equipping employees for Apache’s current and future business needs.

### Internship and Rotational Development Programs

To build a pipeline of talent for our company and foster economic opportunity in the communities where we operate, we have developed a robust internship program. This program offers opportunities in a variety of technical and professional disciplines that provide a broad introduction to the company and the oil and gas industry. Interns work on real projects in the office and the field and interact directly with top leaders in the company.

Apache also invests in a variety of science, technology, engineering and mathematics initiatives in partnership with community colleges and universities. We recruit at top-tier universities for summer internships that feed directly into career development programs. Recent graduates receive opportunities for structured training and development, providing valuable opportunities for advancement. These programs bring qualified applicants into the technical and professional arena and assist in promoting these employees into other managerial roles.

Apache’s internship and development programs specialize in land, geosciences, and petroleum and drilling engineering disciplines. The engineering development programs include subspecialties such as production, reservoir, completions, drilling and field operations. These programs involve extensive educational and on-the-job training with cross-functional and professional rotations.

We also use an internship model to promote skills building and development of existing employees. We have rotational development programs designed to help employees develop a network across geographical regions and provide them with practical experience in a range of environments, as well as the chance to accomplish challenging projects and assignments that contribute to the company’s success.

The success of these programs is critical to Apache’s future; hiring and retaining top-tier diverse talent ensures that Apache maintains a robust pipeline of future leaders.

## EMPLOYEE ENGAGEMENT

We believe that engaging employees in our corporate mission and values is critical to enhancing safety, morale, satisfaction and performance.

In 2015, Apache's CEO implemented quarterly town halls for employees in the company's corporate headquarters. He also hosts employee events at regional offices during his visits throughout the year. These meetings provide employees with an opportunity to hear about the company's strategy and corporate updates as well as ask questions of management.

We also have a range of employee resource groups to foster employee interaction and networking, such as the Apache Women's Network (AWN) and the Apache Young Professionals' Network (AYPN), both of which are open to all employees. AWN is designed to build a supportive and collaborative community of employees by offering networking, educational, development and service opportunities through professional programs and events. The AYPN was formed to foster camaraderie among young professionals at Apache, and has grown to over 400 members today. The group creates opportunities for members to learn about other areas within the company and also organizes educational, service and social events.

We participate in third-party surveys to assess employee engagement and satisfaction. For example, we participate in the national Top Workplaces survey from Workplace Dynamics, which allows anonymous employee feedback on topics such as working conditions, career opportunities, compensation, managers and company direction. The survey provides valuable data to Apache managers to inform decisions and opportunities to enhance the employee experience.

## CONTRACTOR MANAGEMENT, ENGAGEMENT AND TRAINING

Our vendor selection process takes into consideration costs; environmental, health and safety requirements, which are Apache-identified criteria that are based on regulatory, company and industry best practice; technical capabilities; product quality; service quality; and financial qualifications. We also take into account regulatory and company policies regarding local hiring, support of indigenous peoples and the local economy. We comply with specific supplier-related requirements in each country where we operate.

Contracts for goods and services typically include requirements for supplier compliance with applicable local laws and regulations in areas such as safety, health, human rights, environment, process safety, drug and alcohol use, business ethics, conflicts of interest, the Foreign Corrupt Practices Act, the U.K. Bribery Act and other applicable anti-corruption laws.

We actively engage our contractors to promote effective, two-way communication between Apache and contract and third-party employees. Every year, each of our U.S. Regions facilitates several town-hall-style meetings with contractors. The primary focus of these meetings is to review key health and safety information, as well as communicate new policies and procedures.

In the Permian Region, we hosted a town hall in December 2015 to discuss safety issues that was attended by more than 600 contract and third-party employees. The Houston Region conducted a town hall meeting in October 2015 attended by approximately 70 individual contractors to discuss regional health and safety performance reviews, contractor expectations, and policies and procedure reviews. The North American Unconventional Resources team hosted a town hall meeting in April 2015 in which over 120 contractor representatives met to discuss ethics; contractor environment, health and safety expectations and responsibilities; and meet the regional management team.

These town hall meetings provide a unique opportunity for contractors to engage with Apache managers, so contractors may better understand the fundamental goal of every project: to go home safe each day. All levels of regional management attend to show their support and engage with contractors.





# ► SOCIETY

Apache is committed to being a good neighbor. We actively engage with the communities where we operate to understand their concerns and needs, minimize negative impacts and maximize positive contributions.



## COMMUNITY ENGAGEMENT

**We appreciate the people who live and work in the communities where we operate, and we treat them with the dignity and respect that a neighbor deserves. The communities and regions where we operate are each different – with differing issues, needs and concerns.**

While we follow the same high standards of community engagement and responsiveness everywhere we operate, we consider each community on a case-by-case basis, factoring all unique circumstances and sensitivities into our decision making.

Listening closely to community needs is a top priority for Apache. We develop relationships with local communities through a broad and inclusive process, from project initiation to completion. We maintain regular and open communication with local officials and community leaders to promote friendly and proactive dialogue. We obtain regular formal and informal feedback from local stakeholders to understand and address their questions and concerns. We then take that input into consideration in our decision-making process as we plan and implement our operations. Building these partnerships provides a foundation for positive socioeconomic outcomes for the company and communities.

### Minimizing Community Impacts

While most of the high-activity elements of our operations are relatively short lived, we know that they can create some concentrated, if temporary, inconveniences. Our overall guiding principle is always to minimize these impacts to local residents and community members as much as possible from the outset. On issues ranging from the size of our well pads to our trucking routes, we thoughtfully work out logistics to avoid or minimize issues such as traffic congestion, road safety, dust, noise and odors.

During the pad-siting process, we take multiple factors into consideration, including accessibility and road conditions. We often drive the roads in the region to get a ground level view of the situation and preemptively understand and address potential concerns, such as vulnerable roads, residential density or other factors.

Once we commit to a pad location, we develop approved routes for heavy trucking to reduce the potential for widespread disturbance and traffic congestion. We then require all heavy trucks servicing the location to use the approved routes to minimize impacts to other road users. We also implement regular dust-suppression measures to minimize impacts to nearby residents.

We contribute to repairing roads as needed. For example, Apache was part of an industry group that worked with the Texas Legislature to provide more than \$5 billion in extra funds to the Texas Department of Transportation and local counties for use in road and highway construction and maintenance in the areas that have seen a dramatic uptick in oil and gas development activity.

We also work to reduce our impacts on local roads and communities by fostering safe driving practices among our employees and contractors [see Page 41]. For example, we have introduced vehicle monitoring devices to help ensure employees operate vehicles safely on public roadways.

Noise, light and odor are other common community concerns. We install sound barriers as needed and use specialized lighting to reduce impacts on nearby residents. Odor from our operations can occur when a formation contains hydrogen sulfide. If hydrogen sulfide emissions cannot be addressed through the well-siting process, we install emission controls to mitigate odors and volatile organic compound emissions during the production stage.

**Community  
grievances  
toll-free  
1 (866) 705-2400**

### **Addressing Community Complaints**

While we work hard to address concerns before residents feel the need to complain, we also want to make it easy for community members to share concerns with us and for us to be able to address their concerns. And, we want to make sure we learn from every complaint and try to avoid related issues across our operations.

We have grievance mechanisms for public feedback, concerns and comments in all our operating regions, including in person at our offices, via email, phone and social media. For example, community grievances can be delivered to the company via a toll-free phone number, 1 (866) 705-2400.

All grievances received are consolidated and maintained in a central system. Once logged in our system, issues are routed to the appropriate region contact for further action. All inquiries receive a thorough, individualized investigation to determine the underlying details and develop appropriate resolutions. Apache representatives work to solve the situation and provide a timely response to the inquiry.

### **HUMAN RIGHTS**

Respect for human rights is at the core of Apache's values and operations. We worked together with our long-term shareholders in a multi-year process to develop the foundation of the company's [Human Rights Principles](#), which our board formally adopted in 2014. The principles are consistent with the framework laid out by John Ruggie, the United Nations' special representative on business and human rights. Aimed at the honest, fair and dignified treatment of all human beings for whom our operations create opportunities, our Human Rights Principles formalize practices already in place throughout our regions. In accordance with the Principles, the company's monitoring results are thoroughly assessed and reported annually to the Corporate Governance and Nominating Committee of our board of directors.

### **Respecting Indigenous Peoples**

An integral part of Apache's business is building enduring relationships with the communities in which we operate. This commitment includes recognition of and respect for indigenous people who live and work in these communities and have a strong connection to the land. At shareholders' request, we adopted a [statement](#) concerning indigenous peoples as part of our Human Rights Principles.

Through open consultation, Apache has endeavored to incorporate indigenous perspectives into project planning, design, execution and operational planning. For example, during the exploration and development phase of a project, Apache promotes open communications by conducting community meetings and working directly with indigenous groups and local NGOs. Whether through education, training, employment or benefit agreements, Apache also strives to ensure our projects have direct and long-lasting benefits for indigenous peoples and their local communities.

When we operated in Australia (we exited in 2015), Apache employees took part in a one- or two-day Aboriginal Cultural Awareness Training designed to help employees develop an understanding of the traditional laws and customs of the aboriginal people.

Our global operations have evolved over the last several years following numerous divestments, like the one in Australia. As a result, the company has few remaining operations within indigenous-populated areas.

### Addressing Human Trafficking

To do our part to fight human trafficking, Apache proactively informs its employees and major contractors and suppliers of the resources available that describe trafficking behaviors to watch for and contact numbers to use to report these behaviors if observed. For example, the advocacy organization, Truckers Against Trafficking, provides an educational video, downloadable cards and phone numbers to help truck drivers in North America combat human trafficking. Apache has provided this information to our drivers (employees and contractors alike). The drivers can hand the cards out to anyone they believe is being trafficked.

### LOCAL ECONOMIC IMPACTS

Apache's operations often bring benefits to local communities in the form of local hiring and spending.

#### Local Hiring

Apache focuses on hiring qualified individuals who reside in the areas where we operate, including the United States, Canada, Egypt, the United Kingdom and Suriname. In Egypt, for example, we directly employ 318 Egyptian nationals. Through our joint ventures with the national oil company, the Egyptian General Petroleum Company, an additional 3,742 Egyptian nationals are employed.

Not only is local hiring beneficial for communities, it also makes economic sense for Apache. We offer competitive wages and benefits, and our hiring practices in all operating regions provide for proper notification of open positions and selection based on criteria specific to the job requirements. We regularly participate in region-specific salary surveys, to ensure we provide competitive wages and attract and retain top talent. In all locations, we comply with local labor laws and make compensation enhancements based upon salary survey results when needed.

#### Local Hiring 2015

	total employees	national employees in other locations	expatriate employees	percent of national employees
UNITED STATES	2,247	81	2	99
UNITED KINGDOM	673	5	11	98
CANADA	526	31	9	98
EGYPT	414	1	96	76

#### Local Spending

Like hiring locally, sourcing supplies and services locally makes economic sense and engenders goodwill in the communities in which we operate. For that reason, Apache makes it a point to develop strong relationships with local suppliers and contractors.

While many products and services for the oil and gas industry are commonly provided by large suppliers – including products such as offshore rigs, turbines, wellhead equipment and steel pipe – much of what Apache buys comes from local businesses. Welding services, water hauling, roustabout crews, construction crews and civil project installation crews are a few of the categories in which we procure goods and services from local suppliers. One of the benefits of our decentralized organization, with supply chain personnel embedded in each region, is that it furthers our efforts to involve the local community and suppliers in our business. Our operating regions spend on average approximately 25 percent of their budgets with suppliers and vendors who are geographically local.

# 93%

Companywide, 93 percent of employees are local nationals.

## Local Vendor Spending 2015

	\$ spent	\$ local	percent
<b>PERMIAN</b>	2,414,095,870	525,269,496	22
<b>MIDCON/GULF COAST</b>	1,014,194,087	147,416,515	15
<b>CANADA</b>	490,565,660	234,237,591	48
<b>EGYPT</b>	937,438,128	403,092,966	43
<b>GULF OF MEXICO</b>	286,808,502	23,863,640	8
<b>NORTH SEA</b>	1,471,419,267	295,003,609	20
<b>CORPORATE</b>	237,231,191	79,706,717	34
<b>Total</b>	6,851,752,705	1,708,590,534	25

In addition to spending on local contractors, we also contribute to local economies through a variety of taxes and fees. In 2015, Apache paid nearly \$53 million in local property taxes assessed upon reserves in place. Texas is one of only two states that allows local governmental entities to tax oil and gas reserves. In some cases those tax payments make up a very large percentage of the total revenue collected by school districts, cities, counties, hospital districts, community colleges and other entities.

## PHILANTHROPY AND VOLUNTEERING

Apache's approach to giving back in the communities where we operate centers on the simple philosophy to "give where we live." We take pride in a corporate outreach program that is employee driven and enables and empowers employees to direct where their volunteer hours go and have a say in how corporate dollars are spent within local communities.

We help to support a variety of causes and nonprofit organizations in our communities through direct corporate giving, employee matching gifts and employee volunteering. Among the many charities supported by Apache employees are Special Olympics, the American Red Cross, the Houston Food Bank, the Muscular Dystrophy Association, Project Cure, the Lupus Foundation, the Breast Cancer Foundation in Egypt, Maggie's Centre in Aberdeen, Scotland, the Alzheimer's Society of Canada, as well as the many others described below.

Specific examples of our philanthropic and volunteer efforts are described in this section, grouped into the key topic areas of education, health and social, environment, and arts.

### Education

Apache promotes educational opportunities for teachers and students across the globe. Our education work in Egypt, described in the following case study, has long been one of our premier philanthropic projects.

Another is the Fund for Teachers (FFT) program, originally the brainchild of Apache founder Raymond Plank, that is now a thriving, Houston-based nonprofit. Fund for Teachers enriches the personal and professional growth of teachers by supporting them as they pursue opportunities around the globe in self-designed summer fellowships. More than 7,000 teachers, whose classrooms range from pre-kindergarten to 12th grade, have used \$25 million in FFT grants to become students again: attending conferences, embarking on self-guided expeditions, conducting fieldwork and joining service-learning projects during the summer. In 2015 alone, FFT provided grants to 483 Fellows to study on six continents. Apache provides FFT with office space and pays for the salaries and benefits of its seven employees.

In Midland, Texas, we have partnered with industry and private foundation leaders to fund bonuses for 325 new teachers and 1,200 existing ones in an effort to attract and retain quality educators in the Midland School District. Specifically, Apache pledged more than \$700,000 over a three-year period, starting with the 2014/2015 school year. We are one of eight corporate and foundation sponsors of the program, which is part of a broader, four-point initiative the school district is undertaking to improve educational services.

In Houston, Texas, Apache donated 24 state-of-the-art printers with 3D design capabilities to the Houston Independent School District to be used in classrooms across the district. In addition, Apache's Houston office hosts two mentoring programs through which employees are paired with either elementary-age students from a nearby school or with first-year college students from the Houston area.

In 2015, our North Sea region provided funding to two local schools near the SAGE Gas Plant in Scotland. Part of the funding was used for an outreach program conducted by Generation Science, which develops and presents science-based workshops and hands-on, outdoor activities for young people.

In addition to the work discussed in the case study on the next page, our regional office in Egypt has provided full scholarships to support Egyptian students who are majoring in petroleum engineering at the American University in Cairo.

## 2015 Community Investments by Category

arts	3%
education	25%
environment	15%
health & social	30%
in-kind	12%
matching contributions	15%





**201**  
schools  
educating  
more than  
**10,000**  
girls

## CASE STUDY

### *Apache marks 12<sup>th</sup> year of creating educational opportunities for girls in Egypt*

Sisters Amira and Mervat Seidhom Habib hail from a rural village in Egypt where girls typically have not had the opportunity to attend school. The El Mehris School, however – funded and built by the nonprofit organization Springboard: Educating the Future – was constructed very close to their home, so their parents allowed them to attend. As a result, Amira and Mervat have received an education and will graduate from secondary school in 2017 with hopes of continuing their studies to become a pharmacist and a doctor, respectively.

Amira and Mervat are just two of the thousands of Egyptian girls who have been educated by Springboard since its founding in 2004 by Apache Corporation. Apache has long had a strong commitment to supporting education, and the company saw an opportunity in Egypt to make a real difference in the lives of young people. Springboard works with governmental and non-governmental organizations, generous individuals and corporations to provide supplemental financial and in-kind resources for the construction and operation of school facilities, all in support of the Egyptian government's Girls' Education Initiative.

Since its inception, Springboard has built 201 one-room schoolhouses in remote rural areas of Egypt where educational opportunities for girls are scarce. Through the schools, more than 10,000 girls have learned to read and write and 4,000 have graduated.

In addition to contributing capital for school construction, Apache supports the Springboard schools through funding for school maintenance and supplies and providing financial aid awards for graduates to help them get accepted into universities and secure scholarships. Several Apache executives sit on Springboard's board of directors. Springboard's budget averages about \$140,000 each year.



## Health and Social

Around the globe, Apache donates funds to a wide variety of organizations and programs aimed at improving individual and public health and social conditions.

### *Health Care and Medical Research*

In Suriname, Apache actively supports educational and residential facilities for disadvantaged and disabled young people. Over the past three years, we have committed \$300,000 to care institutions, such as the Huize Tyltyl residence and Mytyschool, both of which cater to young people with disabilities; the CliniClowns organization, a care and rehabilitation provider for long-term hospitalized children; and the Claudia A orphanage. At Mytyschool, for example, we customized a bus for children with disabilities, made roof repairs in one classroom and upgraded furniture in another.

Over the years, hundreds of Apache employees have participated in two separate 150-mile bike rides in Texas: the BP MS 150 in Houston, and the Cactus & Crude Ride in Midland, Texas, for which Apache is the lead sponsor. Both rides raise funds for the Multiple Sclerosis (MS) Society, which is dedicated to finding a cure for this debilitating disease. This year, employees in the Houston office raised \$45,000 and employees in Midland raised more than \$25,000. With those funds added to the prior years' total, Apache reached the \$1 million mark in fundraising to combat MS.

For the last five years, Apache has been the title sponsor of the Mayor's Wellness Weekend in Houston, which features the Tour de Houston Bike Ride through the city and the Bayou City Classic Fun Run around the downtown area. The purpose of Wellness Weekend is to promote exercise and healthy outdoor activity. Both the ride and the run raise money for the Houston Parks and Recreation Department to restore and replant city parks decimated by years of drought. Donations to date from these two events have topped \$500,000.

Also in Houston, Apache has supported the University of Texas MD Anderson Cancer Center for many years, including support of the hospital's Moon Shots program. Moon Shots is designed to accelerate the conversion of scientific discoveries into clinical advances and significantly reduce cancer deaths. It has improved surgical outcomes for ovarian cancer, expanded the potential impact of new drugs, and developed a novel family outreach program to head off cancers fueled by known genetic risk mutations.

In Canada, Apache is a long-term supporter of Ronald McDonald House, which helps to support the families of sick children. Each summer, for example, Apache employees and their families take part in the "Rock the House Run presented by Apache" to raise funds for the charity. Apache Canada has contributed more than \$600,000 to Ronald McDonald House since 2006. In Houston, Apache employees have raised and donated enough money to have a room named after the company in the Houston Ronald McDonald House, and once a month employees provide and serve dinner to the children and families that are in residence at the House.

Similarly, Apache North Sea has provided valuable support in recent years to Calum's Cabin, a retreat in Scotland where families with terminally ill children are invited to spend a final vacation together. More than 120 families visit the retreat each year. Apache's support has allowed the organization to hire a staff member to run its charity shop and organize events, which in turn has raised its profile, enabling it to raise additional funds.

### *Helping the Disadvantaged*

Another charitable program popular among Apache employees is Habitat for Humanity, which builds affordable housing for people in need. Each year, Apache volunteers gather in Houston to build a Habitat home together. During 2015, Apache volunteers built their seventh sponsored home for Habitat.

In Canada, Apache helps to support the Calgary Urban Project Society (CUPS), which provides programs in health, education and housing for Calgary's poor. Over the past 15 years, Apache employees have volunteered thousands of hours and raised more than \$1 million for CUPS.

## Honoring Veterans

For the past three years, Apache employees have honored veterans by holding a care package drive for Operation Interdependence in May, just before Memorial Day. Since Apache began supporting Operation Interdependence, 3,600 pounds of items have been collected, which were distributed to our servicemen and women in more than 8,996 individual care packages. In addition, employees contributed funding to ship 10,057 extra packages to the troops.

Apache's signature event is the Kickoff Breakfast in support of CUPS and in partnership with the Calgary Stampeders football team. The breakfast attracts more than 700 people from the city's business and political communities. Each year, numerous Apache employees volunteer their time organizing this event, which raised more than \$90,000 last year.

### *Disaster Relief*

Apache has a long legacy of providing aid in response to disasters. In Sand Springs, Oklahoma, for example, we made a financial donation to a local community services organization to meet critical needs for food, water and housing in the wake of a tornado and heavy storms that impacted the area in March 2015.

Since 2011, we have provided both grants and matching donations to the Missions on Wheels organization in Texas, which maintains mobile emergency support equipment that can respond quickly to disasters in the region. Their bunkhouse trailer was deployed to Bastrop County following the 2015 Memorial Day flooding. We also have supported many local volunteer fire departments by assisting them with the purchase of equipment and supplies.

### **Environment**

Apache supports several important environmental initiatives, including a tree grant program (see case study), Ucross Ranch in Wyoming, the FinS program in Canada, and a beach cleanup effort in Texas.

Established by Apache founder Raymond Plank in 1981, Ucross Ranch in Wyoming is a 20,000-acre working cattle ranch where artists, writers and composers are provided free residency and space to work. Part of the attraction for these visitors is the birds that fill the landscape, such as bald eagles, great blue herons, bobolinks, owls, the greater sage grouse and the Swainson's hawk. The ranch is designated an *Important Bird Area* by the National Audubon Society.



In recent years, Apache Foundation has worked hard to improve the quality and condition of Clear and Piney creeks, which flow through Ucross Ranch. Efforts have been made to narrow the streams back to their original width, to decrease bank erosion and provide critical fish habitat. In 2015 and 2016, the Apache Foundation also completed two large fish passage projects on Piney Creek, enabling fish to migrate the entire length of the creek for the first time in more than 100 years.

Apache Canada is an exclusive sponsor of Fish in Schools: Raise and Release Program (FinS), an annual education initiative run by the Bow Habitat Station in partnership with Alberta Environment and Sustainable Resource Development. Through FinS, nearly 10,000 students and teachers in 45 participating schools grow trout in Apache-sponsored fish tanks and then release the fry into an approved body of water. The curriculum includes the study of life-cycle stages, fish needs, adaptations, habitat and water quality. With the help of their teachers, students learn how to care for the fish; maintain a healthy aquarium environment, including monitoring the water quality and temperature; and ensure the fish are getting the right amount of food.

Finally, in Texas, Apache volunteers annually collect tons of trash during the Adopt-a-Beach effort near San Luis Pass in Galveston. Apache employees and their families have spent many hours collecting everything from discarded window blinds to fireworks to car parts along the beach. The Adopt-a-Beach program is sponsored by the Texas General Land Office.

## Arts

Apache has been a strong supporter of the arts since the inception of the company more than 60 years ago. Over the last 20 years, the company has donated approximately \$26 million to arts groups in the United States and around the world, including cash grants, employee matching gifts and in-kind donations.

The Ucross Ranch, for example, discussed previously, provides uninterrupted time, work space and living accommodations to visual artists, writers and composers. Since the residency program began, nearly 2,000 individuals have come to Ucross from every U.S. state and from Germany, France, Scotland, England, Poland and Egypt. The resident artists have produced books, plays, art exhibitions, musical performances and more. Pulitzer Prize-winning writers Annie Proulx and Doug Wright are past residents of Ucross, as are MacArthur fellows Jason Moran, Sarah Ruhl and Colson Whitehead; Tony Award-winning composer Adam Guettel; National Book Award winners Andrew Solomon, Ann Patchett, Jean Valentine and Ha Jin; Alpert Award winners Emily Jacir and Bill Morrison; and Ben Fountain, winner of the Hemingway Foundation/PEN Award for Best First Fiction.

In Houston, Apache has supported the Tony Award-winning Alley Theatre for nearly 15 years. The Alley is one of the largest theater companies outside of New York and provides audiences with a variety of top-quality work, including new plays and classics, the rediscovered and the rarely performed. Also in Houston, we provided capital funding for the Houston Museum of Natural Science's development of a 10,000 squarefoot hall dedicated to Egyptian antiquities.

In Canada, we have lent our support to the Glenbow Museum, Calgary's largest museum, and the Writers' Trust of Canada, which celebrates the talent and achievements of novelists, poets, biographers and other nonfiction writers through programs and awards.

Apache also has an active program to encourage our employees to enjoy the arts. At Apache Night at Theatre Under the Stars in Houston, for example, more than 1,000 employees, families and friends attend several exclusive-to-Apache performances of major theater productions such as *Les Misérables*, *Spam-a-lot*, *Dream Girls* and *The Little Mermaid*. We provide similar opportunities with the Family Night at the Houston Museum of Natural Science during which employees and their families have exclusive and complete access to all museum exhibits and the Giant Screen Theatre; and the exclusive Apache Family Night at the Houston Ballet, where employees and their families launch the holiday season at the final dress rehearsal performance of "The Nutcracker."

In Midland, Texas, we help to support local community theater through the Arts Council of Midland as well as SeptemberFest [the Museum of the Southwest]. Occasions where we give in the United Kingdom include the Aberdeen International Youth Festival and the Pitmedden Music Festival. Each of these examples convey our mission to *give where we live*.

“Apache has been an incredible partner and supporter of Buffalo Bayou Partnership. The lush landscape that park visitors see today would not have been possible without Apache’s generosity. We are deeply grateful for Apache’s commitment to this iconic green space and to so many other environmental initiatives throughout our city.”

— Anne Olson, president, Buffalo Bayou Partnership, which has received nearly 10,000 trees through Apache’s tree grant program in the past three years

## CASE STUDY

### *Apache Tree Grant Program: Four million and counting*

Trees are an invaluable natural resource. They beautify our neighborhoods, provide habitat for wildlife and even help to mitigate greenhouse gas emissions. It’s estimated that an individual tree can remove 48 pounds of carbon dioxide per year from the atmosphere.

In January 2016, we marked the 10-year anniversary of our popular tree giveaway program by donating our 4 millionth tree – a 16-foot tall live oak – to Memorial Park in Houston, Texas. Through our program, trees have been donated to a wide variety of nonprofit and governmental organizations, including cities, counties, schools, parks, universities, youth associations, wildlife refuges and community groups. In some cases, our employees have volunteered their time to plant the trees.



During the 2015/2016 planting season, we donated more than 250,000 trees in Texas, Louisiana and Oklahoma. For example, the Texas nonprofit Friends of the Wildlife Corridor planted 8,500 Apache-donated saplings in the Lower Rio Grande Valley National Wildlife Refuge. This donation will help to preserve and expand the unique habitat in the valley, a biologically diverse area home to 17 federally listed threatened, endangered and migratory species such as the ocelot and jaguarondi.

Examples of other Apache-sponsored projects include the planting of more than 600,000 pine tree seedlings to restore and reforest the 3,700-acre Bastrop State Park in Bastrop, Texas, and the planting of 68,000 saplings in 352 acres of Santa Fe National Forest in New Mexico. Both protected areas had been previously decimated by wildfires.

Our tree grant program also supports tree-planting in our corporate headquarters city of Houston, which has lost millions of trees due to drought and hurricane damage. For example, Apache sponsors the popular Tour de Houston Bike Ride and Bayou City Classic Fun Run, which both benefit the nonprofit Houston Parks and Recreation Department and its efforts to reforest the city. And in 2013, Apache began a program called Trees for Tots. Through the program, employees plant young redbud trees in Houston’s Memorial Park to celebrate the birth or adoption of a child to an Apache employee’s family.



# ▶ ADDITIONAL INFORMATION

Please see our full 2015 Annual Report to learn more about how Apache adapted to the changing commodity price environment by quickly reducing activity levels, streamlining our portfolio, simplifying our organizational structure, implementing cost-saving initiatives and strengthening our financial position.

Visit the Apache Media and Investor Center (MIC), an innovative mobile application, for the latest disclosures from Apache as well as operating statistics, reports, stock and market performance, presentations, webcasts and more. Click on [www.apachecorp.com/ApacheMIC](http://www.apachecorp.com/ApacheMIC) or go directly to the Apple App Store or Google Play.

Members of the media and other external stakeholders are welcome to contact Apache's Public Affairs office for inquiries or other information about the company.

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This report contains Standard Disclosures from the GRI Sustainability Reporting Guidelines, listed in the index below. The index also cross-references indicators from IPIECA and Disclosing the Facts 2016 questionnaire to the relevant sections in the report.

## REPORTING GUIDELINES AND SCORECARDS

REPORT SECTIONS	GRI / IPIECA / 2016 DISCLOSING THE FACTS (DTF)
<b>INTRODUCTION</b>	G4-3, G4-5, G4-6
Letter from the CEO	G4-1, G4-13, G4-36, <a href="#">E1</a> , <a href="#">SE1</a> , <a href="#">DTF-16</a> , <a href="#">DTF-38</a>
Welcome	G4-2, G4-3, G4-4, G4-5, G4-6, G4-8, G4-9, G4-17, G4-23, DMA <sup>14</sup>
Key Data Summary for 2015	G4-9, G4-EC1, G4-OG1, G4-OG6, G4-EN15, G4-OG6, <a href="#">E1</a> , <a href="#">E4</a>
About this Report	G4-28, G4-29, G4-30, G4-31
<b>GOVERNANCE</b>	
<i>GOVERNANCE STRUCTURE</i>	G4-34, G4-35, G4-38, G4-39, G4-45, G4-49, G4-LA12
<i>ENGAGEMENT</i>	G4-15, G4-16, G4-24, G4-25, G4-26, G4-27, G4-37, G4-45, G4-53
Ethics and Anti-Corruption	DMA, <a href="#">SE11</a> , <a href="#">SE12</a>
Public Policy and Political Disclosures	G4-S06, DMA, <a href="#">SE14</a>
<i>HEALTH, SAFETY, SECURITY AND ENVIRONMENTAL GOVERNANCE</i>	G4-36, DMA, <a href="#">DTF-38</a> , <a href="#">DTF-39</a>
<b>OUR APPROACH</b>	
Reducing Freshwater Use	<a href="#">DTF-16</a>
Ensuring Water Quality and Well Integrity	DMA, <a href="#">DTF-7</a>
Using Greener Fracturing Chemicals	<a href="#">DTF-3</a> , <a href="#">DTF-4</a> , <a href="#">DTF-5</a>
Managing NORM	<a href="#">DTF-21</a>
Addressing Community Concerns	G4-S02, <a href="#">DTF-33</a> , <a href="#">DTF-34</a>
<b>ENVIRONMENT</b>	
<i>WATER QUANTITY AND QUALITY</i>	DMA
Using Alternative Water Sources	DMA, <a href="#">DTF-16</a>
Safeguarding Water Quality	<a href="#">DTF-7</a> , <a href="#">DTF-9</a> , <a href="#">DTF-11</a> , <a href="#">DTF-12</a>
Managing Produced Water	DMA, <a href="#">DTF-19</a>
Chemical Risk Reduction Strategies	<a href="#">E9</a> , <a href="#">DTF-2</a> , <a href="#">DTF-3</a> , <a href="#">DTF-4</a>
Successfully Reducing our use of Toxic Chemicals	<a href="#">DTF-1</a>
Disclosing Chemical Data	<a href="#">DTF-5</a> , <a href="#">DTF-6</a>
2015 Global Water Withdrawals [Table]	G4-EN8, G4-OG5, <a href="#">E6</a> , <a href="#">DTF-14</a> , <a href="#">DTF-15</a> , <a href="#">DTF-18</a>
Water Recycled/Reused 2011-2015 [Table]	G4-EN10
<i>AIR EMISSIONS</i>	DMA, G4-EN18, G4-EN19, G4-EN27
Reducing Methane Emissions	<a href="#">DTF-28</a> , <a href="#">DTF-29</a> , <a href="#">DTF-30</a>
Decreasing Production-Related GHG Emissions and Energy Use	<a href="#">DTF-22</a> , <a href="#">DTF-24</a> , <a href="#">DTF-27</a>
Using Natural Gas in Place of Other Fuels	G4-EN30, <a href="#">DTF-23</a>
Apache's GHG Emissions Performance [Table]	<a href="#">E1</a> , <a href="#">DTF-26</a>
Reducing Energy Use and GHG Emissions	G4-EN6, G4-EN7, G4-EN27, <a href="#">E1</a>
<i>BIODIVERSITY</i>	DMA, G4-EN11, G4-EN12, G4-EN13, G4-EN14, G4-OG4, G4-OG11, <a href="#">E5</a>
<i>SEISMICITY AND OIL AND GAS OPERATIONS</i>	<a href="#">DTF-10</a>
<i>SPIILLS</i>	G4-EN24, G4-OG13, <a href="#">E7</a>
Responding to Offshore Spills	G4-OG13, <a href="#">E9</a>
<i>WASTE</i>	
Disposal of Drilling Residuals	G4-OG7
Managing NORM	<a href="#">DTF-21</a>

## HEALTH & SAFETY

### BUILDING A SAFE WORKPLACE

#### Driver Safety

#### Safety Performance [Table]

#### Managing Contractor Safety

### CRISIS AND EMERGENCY RESPONSE

### GLOBAL WELLNESS

DMA, [HS1](#)

DMA

[DTF-36](#)

G4-LA6, [HS3](#)

[DTF-41](#)

DMA

[HS2](#)

## WORKFORCE

#### Employee Diversity

#### Employee Training and Development

#### Employee Engagement

#### Contractor Management, Engagement and Training

DMA

DMA, [SE15](#)

DMA, G4-LA10, G4-LA11, [SE17](#)

[SE16](#)

[SE17](#)

## SOCIETY

### COMMUNITY ENGAGEMENT

#### Minimizing Community Impacts

#### Addressing Community Concerns

### HUMAN RIGHTS

#### Respecting Indigenous Peoples

### LOCAL ECONOMIC IMPACTS

#### Local Hiring

#### Local Spending

### PHILANTHROPY AND VOLUNTEERING

DMA, G4-S01, [SE1](#)

[DTF-32](#), [DTF-35](#), [DTF-37](#)

G4-S02, [DTF-33](#), [DTF-34](#)

[SE2](#), [SE8](#)

DMA

DMA, G4-EC7, G4-EC8, G4-S01, G4-S02

DMA, G4-EC6, [SE4](#), [SE6](#)

DMA, G4-EC9, [SE4](#), [SE5](#), [SE7](#)

G4-EC7, G4-S01, G4-S02, [SE4](#)

## OTHER REPORTS OR POLICIES

#### 10-K

#### 2016 Proxy Statement

#### Code of Business Conduct

#### Corporate Governance Principles

#### Human Rights Principles

#### Statement on Monitoring Human Rights Principles

#### Statement on Indigenous Peoples

#### Disclosure of Political Contributions

#### Procedures for the Submission of Complaints...

G4-2, G4-7, G4-13, G4-22, DMA, G4-EC1, G4-EC3, G4-061

G4-38, G4-40, G4-41, G4-44, G4-51, G4-52, G4-53, G4-LA12, [DTF-38](#), [DTF-39](#)

G4-41, G4-56, G4-57, G4-58, G4-S04, DMA

G4-38, G4-43, G4-44, G4-45, G4-46, G4-47

G4-56, DMA, G4-HR2, [SE8](#)

DMA, G4-HR9, [SE8](#)

G4-56, DMA

G4-S06

[SE13](#)

<sup>14</sup> Disclosure on Management Approach

- GRI Indicators
- IPIECA Indicators
- DTF Indicators

## SUPPLEMENTAL DISCLOSURES

Apache has provided supplemental disclosures on emissions. In previous years, Apache provided this data to Carbon Disclosure Project.

You can access this information [www.apachecorp.com/sustainability](http://www.apachecorp.com/sustainability).



Apache was named a top workplace by the Houston Chronicle.



CR Magazine listed Apache Corporaton in its “2016 Most Responsible Companies Ranked by Industry Sector” list. Selected companies received high scores in the areas of climate change, employee relations, environment, financial, governance, human rights, and philanthropy and community support.



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