

# The 2018 Climate Accountability Scorecard

*Insufficient Progress from Major Fossil Fuel Companies*

## HIGHLIGHTS

*Since the Union of Concerned Scientists (UCS) issued its inaugural Climate Accountability Scorecard in 2016, the fossil fuel industry has faced mounting shareholder, political, and legal pressure to stop spreading climate disinformation and dramatically reduce global warming emissions from its operations and the use of its products. This follow-up study of eight major oil, gas, and coal companies (Arch Coal, BP, Chevron, ConocoPhillips, CONSOL Energy, ExxonMobil, Peabody Energy, and Royal Dutch Shell) found that they are responding to these growing mainstream expectations.*

*However, the organization's analysis also found that these companies' actions, on the whole, remain insufficient to prevent the worst effects of climate change. None of these companies have demonstrated a level of ambition consistent with keeping global temperature rise within the Paris climate agreement limits that some of them claim to support, many downplay or misrepresent climate science, and all continue to spread climate disinformation through trade and industry groups.*

## Introduction

In recent years, the fossil fuel industry has faced mounting shareholder, political, and legal pressure to stop spreading climate disinformation and dramatically reduce emissions of heat-trapping gases. However, rather than make measurable and serious changes to their businesses, the companies in our sample have taken small actions with minimal impact; continue to downplay or misrepresent climate science; and support climate-denying politicians, trade associations, and other industry groups that spread disinformation and oppose climate policies. In the fossil fuel-friendly context of the current US administration, civil society and private sector actors have stepped up pressure on companies with large carbon footprints and poor track records on climate change with aggressive engagement and shareholder resolutions. States, counties, and municipalities have taken a strong stand by pledging to stay in the Paris climate agreement, passing sensible climate legislation, committing to and achieving significant emissions reductions, and holding the fossil fuel industry accountable for its role in climate change through investigations and litigation.

In creating *The Climate Accountability Scorecard*, originally published in 2016, the Union of Concerned Scientists (UCS) developed metrics to track fossil energy companies' performance and progress in meeting emerging societal and



*In 2016, the Union of Concerned Scientists ranked eight major fossil fuel companies on their climate deception, disclosure, and action. Despite mounting pressure from shareholders, the business community, state and local officials, and the general public, these companies are not taking appropriate responsibility for the adverse climate impacts of their products.*

shareholder expectations for responsible action on climate change (Mulvey et al. 2016). We scored a sample of eight large, investor-owned oil, gas, and coal companies (Arch Coal, BP, Chevron, ConocoPhillips, CONSOL Energy, ExxonMobil, Peabody Energy, and Royal Dutch Shell) and publicized our findings. We found, among other concerning issues, that these companies had not made a clean break from climate disinformation and failed to plan adequately for a world free from carbon pollution, as outlined in the Paris climate agreement (Mulvey et al. 2016).

Our findings, recommendations, and methodology have been used by several leaders in the sustainable investing community. Divestment and screening of investment portfolios are strategies that can be informed by the UCS scorecard, which differentiates among fossil fuel companies on the basis of their climate-related communications, positions, and actions. For example, the UCS scorecard (among other resources and analyses) informed Barnard College's decision to divest from fossil fuel companies that deny climate science or otherwise seek to thwart efforts to mitigate the impact of climate change. Barnard incorporated significant elements of the UCS scorecard methodology into its company evaluation criteria for implementing its divestment decision and identifying its Climate Action List. UCS and FFI (formerly Fossil Free Indexes) have partnered with Barnard to evaluate 30 large oil and gas companies on their views of climate science and climate change (Barnard College 2018). The Church of England is undertaking its own evaluation and divesting from companies that do not meet the terms of the Paris climate agreement by 2023 (Gabbatiss 2018). Divestment thresholds can create incentives for fossil fuel companies to take action on climate change that distinguishes them from their peers and positions them as potential leaders (rather than laggards) on the issue.

Since the publication of our 2016 scorecard, UCS supporters and experts have joined with shareholders and other advocates to pressure the companies studied to improve their climate-related communications, positions, and actions.

In 2018, we evaluated the same eight companies on 28 metrics that are largely the same as those we assessed in 2016. The results of this updated evaluation are reported here. The indicators and criteria are separated into four broad subject areas: renouncing disinformation on climate science and policy, planning for a world free from carbon pollution, supporting fair and effective climate policies, and fully disclosing climate risks. The data comprise research collected from July 2016, the end of the last scorecard research period, through the end of June 2018. While we have made a few methodological refinements this year, we have maintained our approach overall; a full explanation is available online as an appendix.

The companies assessed were provided an opportunity to discuss with us and clarify information about their climate-related positions and actions, an opening that built on ongoing engagement related to the 2016 scorecard and other UCS activities. Our preliminary findings were sent for review and clarification to leaders at all eight companies several months before the publication of this report. None of the companies responded in detail to every finding, though BP, ConocoPhillips, ExxonMobil, Peabody Energy, and Royal Dutch Shell engaged in some dialogue with us regarding particular findings and provided relevant source material.

In evaluating major fossil fuel companies' positions and actions on climate change, UCS aims to accelerate the transition to low-carbon energy by equipping consumers, investors, the media, and policymakers with tools to assess companies' current performance and urge specific, immediate action. Our 2016 scorecard provided a baseline against which company and industry-wide progress toward emerging societal expectations can be measured. This updated scorecard provides analysis of whether these fossil fuel companies are taking appropriate responsibility for their products' adverse climate impact—including improvements or reversals from the 2016 baseline—and outlines concrete next steps that UCS believes are needed.

## Overview of Results

As nations across the world have begun to implement their Paris climate agreement commitments and shareholders have demanded improved climate risk disclosure, major oil and gas companies have begun to share more information about their emissions of heat-trapping gases and climate policies. In addressing these disclosure issues, however, a few companies diluted their characterizations of climate change and backed away from accepting the scientific consensus.

As discussed in detail below, almost all of the eight companies studied have made changes directly related to our findings and recommendations. However, there was no overall improvement on any specific metric (aside from methodological refinement), and no single company improved in every area. Every company improved its score on at least one metric and saw a score decline on one or more other metrics.

Tireless activism and growing shareholder and public expectations regarding climate change have positively affected some of our company scores in this evaluation. These successes are all the more consequential given the fossil fuel industry bent of the Trump administration, which is rolling back regulations as trade and industry groups grow more influential:

- Regarding company support for shareholder proposals, 2017 was a watershed year for activist investors and climate-related shareholder resolutions, with wins at both **Chevron** and **ExxonMobil** despite significant pushback from both companies. Chevron agreed to publish a report detailing the company’s climate-related risks after shareholder pressure to do so (Crooks 2017). ExxonMobil faced an unexpected majority vote, with 62 percent of shareholders in favor of annual reports detailing the company’s climate-related risks (Mufson 2017). The unflinching efforts of socially responsible investing advocates convinced BlackRock, Fidelity, and Vanguard to support the resolution, and the result was widely reported by both mainstream and financial media as a climate victory (Rushe 2017). The high level of support and media attention placed climate-related shareholder proposals in the spotlight after decades of effort. While shareholders did not see majority vote results with companies in our sample in 2018, a shareholder proposal requesting that Chevron report annually on its methane emissions received 45 percent support (Gaumont 2018; Logan 2018). In the current investor environment, a shareholder resolution receiving more than 30 percent support is a strong showing, and receiving more than 50 percent support is a clear rebuke to the company’s management and leadership.
  - Shareholder pressure also led **ConocoPhillips** to be more transparent about its lobbying and other public policy advocacy in 2018, which we measure in Area 3: Supporting Fair and Effective Climate Policies (Walden Asset Management 2018). Among the most valuable disclosures are an explanation of board and senior management oversight of lobbying, details on lobbying priorities and grassroots lobbying, and easily accessible information on lobbying expenditures (ConocoPhillips n.d. a). While ConocoPhillips retains leadership roles in trade associations and industry groups that spread climate disinformation—such as the National Association of Manufacturers (NAM), the American Petroleum Institute (API), and the US Chamber of Commerce (US Chamber)—the company publicly acknowledged that it may take positions contrary to those of its trade associations and that its membership “should not be considered a direct endorsement of the entire range of activities or positions undertaken by these organizations” (ConocoPhillips n.d. b). The company still has room to improve transparency, but the increased disclosure deserves recognition.
  - In July 2018, **ExxonMobil** became the latest oil and gas company to leave the corporate lobbying group American Legislative Exchange Council (ALEC) (Reuters 2018). In December 2017, the company successfully pressured the group to drop an anti-climate science resolution that sought to undermine Environmental Protection Agency (EPA) action to curb global warming emissions, a move highlighted in Area 1: Renouncing Disinformation on Climate Science and Policy (see p. 6 for details) (Cama 2017). While ExxonMobil’s departure from ALEC is a positive step, the company supported the organization for more than 20 years and provided \$1.8 million in funding (Negin 2017; McWilliams 2018). ALEC has notoriously fought climate policies and drafted sample legislation that sought to hamper the development and use of low-carbon technology on both the federal and local levels (Paulos 2015; Raden 2015). The continuing corporate exodus from ALEC is sharply reducing its political clout, as BP, ConocoPhillips, and Royal Dutch Shell all left the group years ago (Blum 2015).
  - Following engagement with Barnard College over its divestment evaluation and with UCS over our 2018 scorecard findings, **BP** reversed apparent backsliding in its climate change communications by removing from the company’s website a statement that misrepresented climate science. After the company’s removal of this misinformation, its communications are once again in line with the scientific consensus on climate change and the consequent need for swift and deep reductions in emissions from the burning of fossil fuels. BP’s score thus remained “good” for the metric on consistently accurate public statements on climate science (Area 1, p. 6). This move highlights several matters: the concern that large investor-owned companies have about their corporate images and reputations, the value of directly engaging corporate leaders regarding company performance, and the positive changes that can occur from combining constructive dialogue with the threat of public exposure.
- Company scores across all metrics, separated by area, are detailed in Table 1, p. 4. For each area, companies are scored on a five-point scale. In descending order, the possible scores are Advanced (2), Good (1), Fair (0), Poor (-1), Egregious (-2). Arrows indicate a change in score from the 2016 scorecard.
- Please see the methodology and data appendices online at [www.ucsusa.org/climatescorecard](http://www.ucsusa.org/climatescorecard) for detailed metrics and sources.

TABLE 1. 2018 Climate Accountability Scorecard

Climate Accountability Metrics	Arch Coal	BP	Chevron	Conoco-Phillips	CONSOL Energy	Exxon-Mobil	Peabody Energy	Royal Dutch Shell
<b>Area 1: Renouncing Disinformation on Climate Science and Policy</b>								
Consistently accurate public statements on climate science and the consequent need for swift and deep reductions in emissions from the burning of fossil fuels	-2 ▼	1	-2 ▼	-2 ▼	-1	-2	-1 ▼	2
Affiliations with trade associations and other industry groups that spread climate science disinformation and/or block climate action	-3	-7 ▼	-8	-6	-1 ▲	-6 ▲	-7 ▼	-5
Policy, governance systems, and oversight mechanisms to prevent disinformation	-1	-1	-1	-1	-1	-1	-1	-1
Support for climate-related shareholder resolutions	0	0 ▼	-2	-1 ▲	-1	-2	0	-1 ▼
<b>Area Scores</b>	<b>Poor</b>	<b>Poor</b>	<b>Egregious</b>	<b>Egregious ▼</b>	<b>Poor</b>	<b>Egregious</b>	<b>Poor</b>	<b>Poor ▼</b>
<b>Area 2: Planning for a World Free from Carbon Pollution</b>								
Company-wide commitments and targets to reduce greenhouse gas emissions	-2	-1 ▲	-2 ▼	-1	-2	-1 ▲	-2	-1
Use of an internal price on carbon in investment decisions	-2	0	-1	0 ▲	-2	-1	-2	0
Commitment and mechanism to measure and reduce carbon intensity of supply chain	-1	0	-1	0 ▲	-1	0 ▲	-2 ▼	0
Disclosure of investments in low-carbon technology research and development	-1	0	-1	-1	-1	-1	-1	0
Disclosure of greenhouse gas emissions reduction plans	-1	-1	-1	-1	-1	-1	-1	-1
Disclosure of how company manages greenhouse gas emissions and associated risks	-1	0 ▲	-1 ▼	0	-1 ▼	0	0 ▲	0
Disclosure of greenhouse gas emissions	-2	1 ▲	1 ▲	1	0	0	-1	1
<b>Area Scores</b>	<b>Egregious</b>	<b>Fair ▲</b>	<b>Poor</b>	<b>Fair ▲</b>	<b>Egregious</b>	<b>Poor</b>	<b>Egregious</b>	<b>Fair</b>

TABLE 1. 2018 Climate Accountability Scorecard (CONTINUED)

Climate Accountability Metrics	Arch Coal	BP	Chevron	Conoco-Phillips	CONSOL Energy	Exxon-Mobil	Peabody Energy	Royal Dutch Shell
<b>Area 3: Supporting Fair and Effective Climate Policies</b>								
CPA-Zicklin Index of Corporate Political Disclosure and Accountability: Disclosure	-2	-1 ▼	1 ▲	1	-2	-1	2 ▲	0
CPA-Zicklin Index of Corporate Political Disclosure and Accountability: Policy	0 ▲	2	2	2	-2 ▼	2	2 ▲	2
CPA-Zicklin Index of Corporate Political Disclosure and Accountability: Oversight	-2	1 ▲	1	2	-2 ▼	2 ▲	2 ▲	1 ▲
Engagement with Congress on federal climate policies or legislation	0	0	0	0	0	0	0	0
Consistent support for US policy action to reduce emissions	-1	0	-1	-1	-1	0	-2	0
Support for the Paris climate agreement**	-2	-1	-1	-1	-2	-1	-2	0
Company influence through international or national business alliances or initiatives that are supportive of specific climate policies	0	1	0	0	0	1 ▲	0	1
<b>Area Scores</b>	<b>Poor</b>	<b>Fair ▼</b>	<b>Fair</b>	<b>Good</b>	<b>Egregious ▼</b>	<b>Good ▲</b>	<b>Fair ▲</b>	<b>Good ▲</b>
<b>Area 4: Fully Disclosing Climate Risks</b>								
Disclosure of regulatory risks	1	1	1	1	1	-1	0	-1
Disclosure of physical risks	-1	-1	-1	1	-1	0	-1 ▲	-1
Disclosure of market and other indirect risks and opportunities	-1	-1 ▼	-1 ▼	0	0	-1 ▼	-1	0
Disclosure of corporate governance on climate-related risks by board and senior management***	-1 ▲	-1 ▲	-1 ▲	1 ▲	-1 ▲	0 ▲	-1 ▲	1 ▲
<b>Area Scores</b>	<b>Fair ▲</b>	<b>Fair</b>	<b>Fair</b>	<b>Good ▲</b>	<b>Fair</b>	<b>Fair ▲</b>	<b>Poor</b>	<b>Fair ▲</b>

To review detailed information on each company's scores, including the resources we examined to calculate them and comparisons to 2016 scores, visit [www.ucsusa.org/climatescorecard](http://www.ucsusa.org/climatescorecard).

Note: Arrows indicate a change in score from the 2016 scorecard.

\* Companies were scored on their affiliations with five trade associations. Aggregate scores shown. For detailed scores, please see Table 3, p. 9.

\*\* Metric regarding Paris climate agreement moved from the Planning for a world free from carbon pollution Area to the Supporting fair and effective climate policies Area because nations have begun to craft and enact policies to implement their Paris climate agreement commitments. 2018 scores not compared with those from 2016.

\*\*\* Company scores may have improved because proxy statements were considered as a source in 2018 if referenced in the SEC 10-K/20-F governance disclosure.

## Detailed Findings

There are a few signs of progress in this evaluation, due in part to significant activist, legal, and shareholder pressure. This progress is contributing to broader advances in the movement to hold fossil fuel companies accountable for their outsize role in climate change.

The fossil fuel divestment movement—supported by higher education institutions, nongovernmental organizations, and socially responsible investors—has grown in both strength and visibility (Stephens, Frumhoff, and Yona 2018). More than 900 institutions, with an estimated \$6.22 trillion in assets, have committed to some form of divestment (Fossil Free n.d.). In 2018, the government of Ireland became the first national government to divest its sovereign wealth fund (Carrington 2018). The Church of England recently voted to divest its assets from fossil fuel companies that have not aligned their business plans with the Paris climate agreement (Gabbatiss 2018). The fossil fuel industry as a whole is deeply aware of the potential impact of divestment and the risks the movement poses. Coal companies, in particular, have highlighted the divestment movement as a material risk to capital and liquidity in their US Securities and Exchange Commission (SEC) filings (Arch Coal 2018; CONSOL Energy 2018; Peabody Energy Corporation 2018).

Additionally, in the past year, more than a dozen communities in the United States have filed lawsuits to hold fossil fuel companies accountable for climate damages and the ongoing costs of mitigation and preparedness. Despite the historic nature of and considerable media attention given to the lawsuits, most of the companies in this study failed to explicitly mention the ongoing climate liability lawsuits as a material risk in their financial filings.

A detailed discussion of several of the key findings of our analysis follows.

### AREA 1: RENOUNCING DISINFORMATION ON CLIMATE SCIENCE AND POLICY

The scientific consensus about human-caused global warming has been established for decades. Scientists are increasingly able to identify and quantify what part human-driven climate change plays in increasing the frequency and intensity of many types of extreme weather events (IPCC 2013). For example, it is now possible to measure not only the degree to which human-caused climate change contributes to sea level rise, but also the impact of global warming emissions on changes in the frequency and severity of extreme heat and precipitation (IPCC 2013).

Recent research published by scientists at the Climate Accountability Institute, UCS, and the University of Oxford

links changes in global climate to emissions from the products of specific fossil fuel producers, including those in this study (Ekwurzel et al. 2017). The authors found that emissions traced to the 90 largest carbon producers contributed nearly half of the rise in global average temperature and around 30 percent of global sea level rise between 1880 and 2010 (Ekwurzel et al. 2017).

***Scientists are increasingly able to quantify what part human-driven climate change plays in extreme weather events.***

Yet our analysis found that some of our sample fossil fuel companies have not consistently and accurately acknowledged the scientific evidence of climate change in their public communications (Table 2, p. 7). While several of the companies studied present accurate climate science information in many contexts, most fail to achieve consistency across all public platforms. In a few cases, scores of “egregious” or “poor” are based on a single inaccurate statement, such as those that refer to outdated climate reports, cherry-pick examples that emphasize uncertainty, or downplay the role of human activity in climate change. The UCS and FFI partnership with Barnard College to examine 30 fossil fuel companies provided an opportunity and impetus for us to reassess climate science statements made by the eight companies in our sample. In this broader context, in which peers’ public statements accurately represented the most up-to-date scientific consensus on climate change, a few of the eight companies’ scores were downgraded.

Direct statements from the eight companies, however, are not the only component of this evaluation. Since the publication of the first scorecard in 2016, fossil fuel companies have continued spreading climate disinformation in their own communications and through third-party groups. Scores in this area ranged from “poor” (Arch Coal, BP, CONSOL Energy, Peabody Energy, and Shell) to “egregious” (Chevron, ConocoPhillips, and ExxonMobil). Two companies’ scores fell (ConocoPhillips and Shell); the other six remained the same.

### CONSISTENTLY ACCURATE PUBLIC STATEMENTS ON CLIMATE SCIENCE AND THE CONSEQUENT NEED FOR SWIFT AND DEEP REDUCTIONS IN EMISSIONS FROM THE BURNING OF FOSSIL FUELS

The social license by which all companies operate implies that, as producers of fossil fuels, these eight companies have

TABLE 2. Consistently Accurate Public Statements on Climate Science and the Consequent Need for Swift and Deep Reductions in Emissions from the Burning of Fossil Fuels

Arch Coal	BP	Chevron	Conoco-Phillips	CONSOL Energy	ExxonMobil	Peabody Energy	Royal Dutch Shell
-2	1	-2	-2	-1	-2	-1	2
Egregious	Good	Egregious	Egregious	Poor	Egregious	Poor	Advanced

Only BP and Shell scored positively on this metric. BP replaced an inaccurate statement with an accurate one on its website, following engagement with UCS ahead of the release of this report.

a responsibility to be open and truthful about the inherent risks and impact of using their products (Frumhoff, Heede, and Oreskes 2015). They must take seriously the findings of climate science and unequivocally acknowledge that emissions from the use of their products are driving dangerous climate change.

Instead, scores for this metric dropped since the 2016 analysis. In the context of Barnard College’s research on 30 fossil fuel companies, we have been able to compare company climate statements from the eight studied companies with those of many more in the industry. We applied strict scrutiny to statements that emphasize uncertainty or include qualifiers and “hedging” words that question the scientific consensus that climate change is underway and that emissions of heat-trapping gases from burning fossil fuels are the primary cause. Based on this review, we downgraded the scores of several companies in our sample.

**BP (1)** removed a statement from its website that included hedging words, following engagement with Barnard over its divestment analysis and with UCS over our 2018 scorecard findings. The statement at issue included the phrase “possible impact on global climate via the ‘greenhouse effect,’” which misrepresented climate science by suggesting that the company questioned the scientific consensus through the qualifier “possible” and the use of quotation marks around “greenhouse effect” (BP PLC 2018). BP replaced that statement with text citing the Intergovernmental Panel on Climate Change (IPCC), which acknowledges the scientific evidence of climate change and the need to reduce emissions from the burning of fossil fuels (BP PLC n.d.). With that replacement, BP improved its 2018 score for this metric from “egregious” to “good.”

**ExxonMobil (-2)** and **Arch Coal (-2)** both included qualifiers in their public statements on climate change. ExxonMobil’s statements on climate change stress uncertainty by saying the “current scientific understanding provides limited guidance on the likelihood, magnitude, or time frame of these events,” and the statements promote a false choice between climate solutions and economic development

(ExxonMobil Corporation n.d. a; ExxonMobil Corporation n.d. b). These statements misrepresent climate science and downplay the urgency of addressing climate change. Arch Coal’s statement on climate change in its financial filing included qualifiers such as “the relationship that greenhouse gases *may have with perceived* global warming [emphasis added]” (Arch Coal 2018). In both companies’ statements, the hedging words falsely suggest the scientific jury is still out on connections among the burning of fossil fuels, climate change, global warming emissions, and particular climate impacts, such as sea level rise.

***As producers of fossil fuels, these companies have a responsibility to be open and truthful about the inherent risks and impact of using their products.***

**Chevron (-2)** downplayed the role of human activity in climate change and the need to reduce emissions of heat-trapping gases, stressed uncertainties regarding climate impacts, and continued to insist that only global climate action is constructive or effective (Chevron Corporation 2018; Chevron Corporation n.d. a). At a March 2018 climate science tutorial—conducted as part a lawsuit brought by communities seeking to hold fossil fuel companies accountable for climate damages—a Chevron lawyer (not a climate scientist) stated that the company accepts the scientific consensus on climate change as of the IPCC Fifth Assessment Report in 2013 (The People of the State of California v. BP P.L.C. et al. 2018a). However, Chevron’s 2018 climate risk report mischaracterized the IPCC finding that humans are “extremely likely” to be the dominant cause of global warming since the mid-20th

century, admitting only that warming of the climate system is “due in part” to human activity (Chevron Corporation 2018; IPCC 2013).

**ConocoPhillips’s (-2)** and **Peabody Energy’s (-1)** climate statements are exactly the same as those we evaluated in 2016, but our review this year found that these statements did not match up with the clear acknowledgments of climate science by some others in the fossil fuel industry. In a March 2018 court filing related to a climate liability lawsuit, ConocoPhillips stated that it defers to the scientific consensus on climate change as reflected in the IPCC scientific assessments (The People of the State of California v. BP P.L.C. et al. 2018b). However, on its website, ConocoPhillips states that increased concentrations of greenhouse gases in the atmosphere “can lead” (rather than “are leading”) to adverse climate effects, emphasizes uncertainties, and talks about managing (rather than reducing) emissions (ConocoPhillips 2018). Peabody Energy has a “Position Statement on Energy and Climate Change” on its website, but the page includes neither information on nor any reference to climate change other than the title. Instead, it emphasizes the “essential” role of fossil fuels in general, and coal in particular, in the global energy mix (Peabody Energy Corporation n.d.). The company also describes emissions from the burning of fossil fuels as a “concern” and part of the political, societal, and regulatory landscape, rather than acknowledging that swift and deep reductions in emissions of heat-trapping gases are necessary to avoid catastrophic climate impacts (Peabody Energy Corporation n.d.).

**CONSOL Energy (-1)** has made no mention of climate change in any public forum or documents created after its



*The science is settled: Climate change is real and caused by human activity. Heat-trapping emissions contribute to extreme weather events, wildfires, drought, sea level rise, and tidal flooding. Yet some major fossil fuel companies continue to make deceptive statements about climate science, even in the face of clear and unequivocal evidence.*

***Of the companies in this study, Shell offers the best example of consistently accurate climate change statements.***

split from the company’s natural gas division, now CNX Resources, in October 2017 (CONSOL Energy n.d.).

**Shell (2)** scored “advanced” for this metric in both assessment years, standing out even more from the other companies in 2018 than in 2016. The company consistently acknowledges the scientific evidence of climate change in public platforms and affirms the consequent need for swift and deep reductions in emissions from the burning of fossil fuels. Furthermore, Shell highlights the urgency and importance of achieving global net-zero CO<sub>2</sub> emissions to keep the temperature rise well below two degrees Celsius and limit risks to society and ecosystems (Royal Dutch Shell n.d.). Of the companies in this study, Shell offers the best example of consistently accurate climate change statements.

#### **AFFILIATIONS WITH TRADE ASSOCIATIONS AND INDUSTRY GROUPS THAT SPREAD DISINFORMATION ABOUT CLIMATE SCIENCE AND/OR SEEK TO BLOCK CLIMATE ACTION**

Past research indicates that much of fossil fuel companies’ affiliations with distributors of climate disinformation involves ties to third-party groups, including trade associations, think tanks, and other nonprofits (Farrell 2016; Grifo et al. 2012; UCS n.d. a). Companies can anonymously fund such groups to do their bidding in public discussions on climate change without facing direct accountability for their positions and actions (Brulle 2014). To avoid complicity in climate deception, fossil fuel companies must be transparent about their ties to such groups and expressly dictate that their funding may not be used to disseminate climate disinformation. Trade associations provide companies with several important non-political services beyond climate policy lobbying, and many of these associations set industry standards. However, if a company’s position on climate science and policy differs from that of a given trade association, it can and should press to change the association’s positions and actions while publicly distancing itself from statements and positions that are inconsistent with its own.

To allow for comparison with our previous findings, our 2018 scorecard analysis tracked affiliations of the eight companies with the same seven US industry groups and trade associations from our 2016 study. (Each company was scored

TABLE 3. Affiliations with Trade Associations and Industry Groups That Spread Disinformation about Climate Science and/or Seek to Block Climate Action

Trade Associate or Industry Group	Arch Coal	BP	Chevron	Conoco-Phillips	CONSOL Energy	Exxon-Mobil	Peabody Energy	Royal Dutch Shell
American Coalition for Clean Coal Electricity (ACCCE)	1	N/A	N/A	N/A	1	N/A	-1	N/A
American Legislative Exchange Council (ALEC)	0	1	-2	1	0	1	-2	2
American Petroleum Institute (API)	N/A	-2	-2	-2	N/A	-2	N/A	-2
National Association of Manufacturers (NAM)	-2	-2	-1	-2	0	-2	0	-2
National Mining Association (NMA)	-2	N/A	N/A	N/A	-2	N/A	-2	N/A
US Chamber of Commerce (US Chamber)	0	-2	-1	-2	0	-1	-2	-2
Western States Petroleum Association (WSPA)	N/A	-2	-2	-1	N/A	-2	N/A	-1
<b>Aggregate Affiliations Score</b>	<b>Poor</b>	<b>Egregious</b>	<b>Egregious</b>	<b>Poor</b>	<b>Fair</b>	<b>Poor</b>	<b>Egregious</b>	<b>Poor</b>

All eight companies maintain membership—and, in many cases, have leadership positions—in trade associations and other industry-affiliated groups involved in climate disinformation. The most significant change from 2016 was that ExxonMobil left ALEC in 2018, leaving Chevron and Peabody Energy as the only companies in our sample still affiliated with the group.

on affiliations with five groups in total, and these scores were then combined to create an aggregate score. See Table 3). These seven groups were selected because of their well-documented roles in spreading climate science disinformation and their use of disinformation in opposing recent climate policy proposals. Our selection was also affected by public availability of information about membership and leadership positions in these groups and associations. A 2015 UCS report, *The Climate Deception Dossiers*, documents the tactics of several such groups (Mulvey et al. 2015). (See the box on p. 10 for a description of how each of these industry groups and trade associations met our criteria.)

Most of our sample companies are affiliated with the API, NAM, and/or the US Chamber. All three of these associations have been active in their support for EPA changes that will

**Some companies have taken initial steps to distance themselves from deceptive statements on climate change.**

undermine the agency’s science-based policies and analyses. For example, the restricted science proposal—which limits the peer-reviewed science the EPA can use to studies for which raw data are publicly available—will affect how EPA offices conduct full assessments of the science in the rulemaking process (Berg et al. 2018). Also, the EPA’s initiative on “increasing consistency and transparency” is being advanced to elevate the interests of industry over those of the general public (Cleetus, McNamara, and Rosenberg 2018).

Like the other industry groups studied, NAM, the largest trade association in the United States, has questioned the scientific consensus on climate change. In 2017, NAM launched the ironically named Manufacturers’ Accountability Project to discredit the lawsuits filed by cities and counties for climate change damages. The organization has been an active advocate for the fossil fuel industry in its fight to avoid accountability for the harms caused by its products.

All eight companies in our sample maintain membership—and each company holds at least one leadership position—in trade associations and other industry-affiliated groups that spread disinformation about climate science and/or seek to block climate action. Consequently, no company in our evaluation has scored above “fair” for this set of metrics. While **Shell (-5 aggregate)** scored “advanced”

# Trade Associations and Industry Groups That Spread Climate Disinformation

The **American Coalition for Clean Coal Electricity (ACCCE)** is a trade group for coal and utility interests that reportedly spent \$1.7 million on federal lobbying in 2017 (CRP 2017a). It opposes climate action, including the EPA's efforts to limit carbon pollution. The ACCCE has argued that the many benefits of carbon emissions outweigh the costs by as much as 500 to 1 (Bezdek 2014) and that the emissions reductions resulting from the proposed Clean Power Plan would have no meaningful environmental benefit (ACCCE 2017). The ACCCE has seen a significant corporate exodus—of the three coal companies in this study, only Peabody Energy remains a member (ACCCE n.d.).

The **American Legislative Exchange Council (ALEC)** is a lobbying group with diverse membership. ALEC brings together state lawmakers and companies to draft sample legislation that can be introduced in state legislatures across the country. Many of these bills have been aimed at dismantling state policies on renewable energy or emissions reduction efforts. ALEC has engaged with state legislators in secretive meetings sponsored by fossil fuel and utility interests, continues to question the scientific consensus on climate change (ALEC 2017), and has regularly given climate deniers a speaking platform at its annual meeting. The group's proposed December 2017 resolution calling on the Trump administration to reverse an EPA finding that global warming emissions endanger public health was co-authored by a research fellow at The Heartland Institute, a think tank known for climate denial (Natter 2017; Grande 2017). Chevron and Peabody Energy are members of ALEC and both hold leadership positions (CMD 2018a; CMD 2018b; ALEC n.d.). Arch Coal's membership was reflected in our 2016 scorecard; however, we were unable to confirm its membership during the current study period. We found no documentation that CONSOL Energy has ever been a member of ALEC. ExxonMobil earned a "good" score for successfully pressuring the group to drop the December 2017 anti-climate science resolution described above. The company subsequently left ALEC in July 2018 (Reuters 2018; Cama 2017).

The **American Petroleum Institute (API)**, the largest oil trade association in the United States, reportedly spent \$8.5 million on federal lobbying in 2017 (CRP 2017b). The API has a long history of communicating climate science disinformation, as exemplified by the now-notorious internal strategy memo written by an API task force in 1998—which was a road map of the fossil fuel industry's plan to deliberately cast doubt on the public's understanding of climate science (Mulvey et al.

2015). The API's 2017 "Climate Change & Energy" primer blatantly omits the need to reduce global warming emissions, the risks of burning fossil fuels, and the science of climate change (API 2017). The glaring omission of climate science was yet another demonstration of how the API continues to downplay climate science and misinform the public about it. All five oil and gas companies in our sample maintain leadership positions in the API, with ExxonMobil CEO Darren Woods serving as the chair of its board (API 2018; API 2016; API n.d.; Chevron Corporation n.d. b; ConocoPhillips n.d. a; University of Houston n.d.).

The **National Association of Manufacturers (NAM)**, the largest manufacturing trade association in the United States, reportedly spent \$8.1 million on federal lobbying in 2017 (CRP 2017c). It has questioned the validity of climate science and the burning of fossil fuels as the primary source of emissions of heat-trapping gases. A recent search for "climate change" on NAM's website yielded four results, all documents from 2009 and 2010, none of which address the link between burning fossil fuels and climate change, the impact of climate change, the risks to communities and ecosystems across the globe, or the global efforts to reduce emissions to avoid the most catastrophic consequences of climate change. (A search for "global warming" yielded no results.) NAM's silence on this issue demonstrates how the group continues to downplay climate science and misinform the public about it. NAM launched the ironically named Manufacturers' Accountability Project in 2017 to discredit lawsuits filed by cities and counties for climate change damages. In the wake of recent shareholder victories challenging ExxonMobil and other major fossil energy companies, NAM is also backing the so-called Main Street Investors Coalition, which aims to undermine shareholder rights (Minow 2018). Five of the eight companies in this study are represented on the NAM board of directors, and Chevron is a member (NAM n.d.; Chevron Corporation n.d. b). We were unable to confirm the membership status of CONSOL Energy or Peabody Energy for our study period.

The **National Mining Association (NMA)** is a trade group that lobbies on behalf of mining interests in federal and state legislatures; it reportedly spent \$1.9 million on federal lobbying in 2017 (CRP 2017d). It has a history of climate deception, including having funded a campaign to distort the science of climate change (Goldman and Rogerson 2013). The NMA praised the Trump administration's efforts to repeal the

Clean Power Plan, falsely claiming the plan would be costly and have “unmeasurable” climate change benefits (NMA 2017). All three coal companies in our sample held leadership positions in the NMA during the study period (NMA 2016).

The **US Chamber of Commerce (US Chamber)** is an umbrella business association that claims to represent the interests of the business community. However, few companies publicly agree with the group’s controversial positions on climate change, including its refusal, as recently as 2014, to acknowledge that global warming is caused by humans (Goldman and Carlson 2014). In 2017, the US Chamber funded a report attacking the Paris climate agreement, exaggerating the costs of achieving the agreement’s goals (Steinberger and Levin 2017). The association’s reported federal lobbying expenditures for 2017 totaled \$82.2 million (CRP 2017e). Membership for six of the eight companies in our sample could be confirmed, with BP, ConocoPhillips, Peabody, and Shell holding leadership positions (Chevron Corporation n.d. b; US Chamber n.d.). (BP and Shell were not confirmed members in 2016.) CONSOL Energy was a confirmed member in 2016, but its membership could not be confirmed for this study period (US Chamber n.d.).

The **Western States Petroleum Association (WSPA)** is the top lobbyist for the oil industry in the western United States and the oldest petroleum trade association in the country. In 2017, the association reportedly spent \$6.2 million on lobbying in California alone (Bacher 2018). WSPA serves as a key organizer of opposition to California’s groundbreaking climate policies, including the state’s low-carbon fuel standard and its AB 32 plan requiring a sharp reduction in carbon emissions by 2020 (California ARB 2018). The association also heads the No on I-1631 campaign against Washington’s 2018 carbon pricing proposal, with funding from BP, Chevron, and Shell (PDC 2018). WSPA made headlines in summer 2015 for spreading blatantly false statements about California’s proposed limits on carbon emissions from cars and trucks. The association employed deceptive ads on more than one occasion to block provisions of a major clean energy bill enacted by California lawmakers (Siders 2015a; Siders 2015b). All five oil companies in our sample are members of WSPA. BP, Chevron, and Exxon-Mobil hold leadership positions (Achakulwisut et al. 2016; WSPA 2016; WSPA n.d.).

on its own statements, the company scored “poor” overall in this area due to its affiliation with trade and industry groups that actively spread disinformation or seek to block action on climate change. Although Shell did leave ALEC in 2015, citing the inconsistency between ALEC’s position on climate change and its own as the rationale for the departure, the company’s leadership positions within the API, NAM, and the US Chamber have lowered its overall score for this metric significantly.

Some companies have taken initial steps to distance themselves from deceptive statements on climate change. **ExxonMobil (-6 aggregate)** left ALEC in July 2018 after publicly pressuring the group to drop a December 2017 resolution that would have called on the Trump administration to reverse an EPA finding that global warming emissions endanger public health (Cama 2017). The company joins **BP (-7 aggregate)**, **ConocoPhillips (-6 aggregate)**, and Shell, which all left ALEC prior to this study period, and ExxonMobil’s departure further weakened the group’s influence. Of the companies analyzed here, only **Chevron (-8 aggregate)** and **Peabody Energy (-7 aggregate)** maintain leadership roles in ALEC, with Chevron now alone among major investor-owned oil and gas companies funding the group (CMD 2018a).

*Companies must commit to net-zero global warming emissions by mid-century and show investors and the public how they will achieve that goal.*

## AREA 2: PLANNING FOR A WORLD FREE FROM CARBON POLLUTION

In 2015, governments across the world committed to the goal of the Paris climate agreement: to keep global temperature increase well below two degrees Celsius (°C) above pre-industrial levels and strive to limit it to 1.5°C (UNFCCC 2015). As both domestic and international actors whose products and core businesses directly and substantially contribute to global climate change, fossil energy companies must demonstrate a commitment to reducing emissions—from their own operations and from the use of their products—consistent with these goals. Through shareholder resolutions, corporate engagement, and (as in the case of the Church of England) divestment thresholds, shareholders have pushed for companies to disclose their business plans. In a carbon-constrained

TABLE 4. Company-Wide Commitments and Targets to Reduce Greenhouse Gas Emissions

Arch Coal	BP	Chevron	Conoco-Phillips	CONSOL Energy	ExxonMobil	Peabody Energy	Royal Dutch Shell
-2	-1	-2	-1	-2	-1	-2	-1
Egregious	Poor	Egregious	Poor	Egregious	Poor	Egregious	Poor

Each company in our analysis has made claims that it is taking action on climate change, but none has set a company-wide, net-zero emissions target consistent with the Paris climate agreement’s global temperature goal.

world, the extraction, refining, and marketing of fossil fuels cannot be business as usual. Rather, companies must commit to net-zero global warming emissions by mid-century and show investors and the public how they will achieve that goal (Millar et al. 2018).

The fossil fuel industry has the financial capacity and technical expertise to make this transition. Companies can invest in climate solutions through the research, development, and deployment of technology to accelerate non-fossil energy, advance carbon dioxide removal, and dramatically reduce emissions in their own production.

The companies studied in this scorecard have made few, if any, efforts to outline measurable, actionable steps to transform themselves for a low-carbon future. Shareholders have a right to know of companies’ intentions and preparations to manage existential risks and seize associated opportunities in a future low-carbon economy.

Scores in this area ranged from “fair” (BP, Conoco-Phillips, and Shell) to “egregious” (Arch Coal, CONSOL Energy, and Peabody Energy). Two companies’ scores improved (BP and ConocoPhillips); the other six remained the same.

**COMPANY-WIDE COMMITMENTS AND TARGETS TO REDUCE GREENHOUSE GAS EMISSIONS**

Fossil fuel companies should immediately take action to cut emissions from their operations and update their business models to align with a transition to a low-carbon economy. As a key component of this effort, the eight companies in our study must map out their pathways in the short, medium, and long term to bring company emissions across their supply chains to net zero and disclose emissions throughout those supply chains in a clear and transparent manner. Each company in the analysis has made claims that it is taking action on climate change, but as Table 4 reflects, none has set a company-wide, net-zero emissions target consistent with the Paris climate agreement’s global temperature goal.

In the last year, both **Chevron (-2)** and **ExxonMobil (-1)** have published reports in response to investor demands that they disclose their plans for a world in which global

temperature increase is kept well below two degrees Celsius (ExxonMobil Corporation 2018a; Chevron Corporation n.d. a). The reports, however, seem to bet against the world achieving the Paris climate agreement goal. A former ExxonMobil executive recently criticized the reports for “assum[ing] that governments won’t succeed in meeting their Paris Agreement commitments, resulting in financial outlooks that leave them free to sell all their fossil fuel assets” (Hafker 2018). Chevron’s report, *Climate Change Resilience—A Framework for Decision Making*, is based on the International Energy Agency’s New Policies Scenario, which is acknowledged as falling far short of what is needed to meet the agreement’s temperature goal (Chevron Corporation 2018). ExxonMobil falsely suggests that the emissions trajectory of its *Outlook for Energy* report, which proposes no emissions reductions from the energy sector through 2040 and proposes no date by which emissions must reach net zero, “would result in an average global temperature increase of approximately 2.4°C by 2100” (ExxonMobil Corporation 2018b). Additionally, both companies expect to continue extracting, refining, and marketing fossil fuels at levels similar to the present for the foreseeable future (Chevron Corporation 2018; ExxonMobil Corporation 2018a).

ExxonMobil recently announced methane emissions reduction measures that are expected to lead to a decrease in emissions of 15 percent by 2020 and a 25 percent reduction in flaring (the burning of methane) by the same year. While setting and disclosing quantitative goals are valuable actions, these anticipated reductions fall far short of what is needed to bring the company’s global warming emissions to net zero by mid-century (ExxonMobil Corporation 2018c). Chevron has not published any climate-related targets since 2015, and in its 2017 CDP (formerly Carbon Disclosure Project) disclosure, it announced no intention to set future targets (CDP 2017a).

**Shell’s (-1) Sky Scenario** is the most comprehensive climate risk scenario published in 2018 by a company in our study. Yet the company has not clearly laid out how its investment strategy is aligned with the path described. Shell does provide a business forecast that could, potentially, enable the company to reduce its direct and indirect carbon emissions

contributions in a manner consistent with well below two degrees Celsius warming. However, it relies heavily on the expansive deployment of carbon capture and storage (CCS, sequestering carbon emissions from burning fossil fuels by storing them underground) to enable negative emissions (the removal of carbon from the atmosphere) (Royal Dutch Shell 2018a). The scenario relies on a 200-fold increase in the deployment of CCS by 2050, without disclosing a coherent plan for how such an increase would be paid for and achieved (Scott 2018). Shell has put forth “ambitions” for emissions of heat-trapping gas reductions in both the short and long term: 20 percent emissions reductions by 2035 and 50 percent reductions by 2050. The company believes these ambitions are compatible with the Paris climate agreement road map (UNFCCC 2017). However, the company has not revealed a plan to achieve net-zero emissions or made a commitment to a specific timeline.

#### DISCLOSURE OF INVESTMENTS IN LOW-CARBON TECHNOLOGY RESEARCH AND DEVELOPMENT

To limit global average temperature rise to well below two degrees Celsius above pre-industrial levels, companies that continue to extract, process, market, and sell fossil fuels will need to invest in low-carbon technologies to reduce their emissions, and/or they will need to scale up new and existing renewable energy efforts, lowering their own risk profiles in a carbon-constrained future. The industry should be reacting to the need to reach net-zero emissions by diverting substantial fractions of its research, development, and deployment budgets toward low-carbon technologies—for example, to improve the efficiency and scalability of renewables (such as geothermal energy, hydroelectric power, hydrokinetic energy, solar power, and wind power) to replace current fossil fuel extraction. If companies are determined to continue their current operations, they must invest a meaningful fraction of their expenditures in CCS or other zero- or negative-emissions technologies.

Recently, fossil fuel companies have been extolling the virtues of natural gas as a solution—if not *the* solution—to climate change. Natural gas is not the ultimate answer, particularly given recent findings on the prevalence of methane emissions throughout natural gas operations and analyses showing that an overreliance on natural gas has consequences for climate change (Deyette et al. 2015). Increasing reliance on natural gas could delay the development and deployment of much cleaner renewable energy, putting us at greater risk of failing to meet the level of emissions reductions needed to avoid the worst consequences of climate change. Perhaps most importantly, the transportation sector, which recently surpassed electricity generation as the largest emitter in the US, relies on petroleum (UCS n.d. b).

Both **ExxonMobil (-1)** and **Chevron (-1)** have recently engaged in a significant amount of corporate image advertising touting their investments in renewables and low-carbon research and development. In reality, however, neither company has any targets or public commitments to increase investment in renewables, a missed opportunity to play a leading part in the clean energy economy. ExxonMobil has decided to highlight its role as a supplier of lubricants for wind turbines, which is a laudable effort, but negligible compared with the company’s carbon emissions. Chevron emphasized “flexible investment strategies” and stated that predetermined targets on the percentage of renewables in its portfolio would limit the company’s ability to develop “the most profitable energy opportunities” (Chevron Corporation 2017a).

***Increasing reliance on natural gas could delay the development and deployment of much cleaner renewable energy.***

Greater transparency is needed regarding corporate investments in low-carbon technology and research. Our sample companies promote CCS and negative emissions technologies, but they provide little to no information on the investments they are making in the research, development, and demonstration required for widescale deployment. Due to the lack of standardization among climate risk reports, companies are under no obligation to disclose the percentage of their research and development budgets that goes toward low-carbon technologies. What companies do disclose is a few cherry-picked numbers that each company views as favorable to its preferred narrative.

ExxonMobil reports spending more than \$8 billion since 2000 to develop and deploy higher-efficiency and lower-emission energy solutions across its operations—less than 2 percent of its spending on oil and gas exploration and infrastructure during the same time frame (ExxonMobil Corporation 2018a; ExxonMobil Corporation 2018b). The company plans to increase its spending on the latter to \$28 billion in 2018, with much of that directed toward drilling for fossil fuels in places as far-flung as Brazil, Mozambique, and Papua New Guinea (Olson 2018). Chevron says it has invested more than \$75 million in CCS research and development over the past decade, which is well under 1 percent of its capital and exploration spending during that time (Chevron Corporation 2018). The company also reports \$1.1 billion of

investment in two CCS projects: Quest in Canada and Gorgon in Australia (Chevron Corporation 2018). That amount is less impressive when compared with Chevron’s more than \$20 billion annual capital and exploration spending over the last few decades; for 2018, the company declared a capital and exploration expenditures budget of \$15.8 billion (Chevron Corporation 2017a; Chevron Corporation 2017b).

Despite claims regarding emissions reductions, all five of the oil and gas companies in our study plan to significantly expand fossil fuel exploration and production through at least the next decade, and the vast majority of their investments appear to be focused in that direction.

### AREA 3: SUPPORTING FAIR AND EFFECTIVE CLIMATE POLICIES

Large market capitalization companies, including those featured in this report, exert a great deal of influence over public policy at the federal, state, local, and international levels, yet much of this influence occurs behind closed doors. In addition to the companies’ indirect support of climate disinformation by way of third-party organizations, their policy influence is executed by funding politicians who question the scientific consensus on climate change and lobbying government agencies to advance industry-friendly policies (Brulle 2018; InfluenceMap 2016).

The fossil fuel industry has generally opposed a wide array of climate policies, including carbon pricing, direct regulation of emissions, and renewable energy standards. These companies should instead identify and publicly support policies that will lead to the reduction of emissions at a scale needed to lessen the worst effects of climate change. As producers of the fossil fuels primarily responsible for climate change, oil, gas, and coal companies have a unique responsibility and opportunity to engage constructively in conversations about policy solutions to limit carbon emissions.

As of July 2018, the Trump administration has rolled back or is in the process of repealing 18 policies on air pollution and emissions (Popovich, Albeck-Ripka, and Pierre-Louis 2018). Oil and gas companies are no longer required to report their methane emissions to the EPA, and the agency has proposed a repeal of the Clean Power Plan, which set strict limits on emissions of heat-trapping gases from existing

gas and coal power plants. Companies’ engagement on both the Clean Power Plan and the methane rule was evaluated in our 2016 scorecard. The EPA released a more fossil fuel-friendly replacement for the Clean Power Plan after the close of our study period for the 2018 scorecard analysis (Friedman and Plumber 2018). Despite the Trump administration’s moves to repeal the regulation of power plant and automotive emissions and the introduction of several state-wide carbon tax proposals, the relative inaction by Congress and federal agencies and the lack of public commentary by fossil fuel companies make it difficult to evaluate these companies’ positions on specific policies and their engagement with Congress on these issues. Given the outsize role of the fossil fuel industry in the Trump administration and the industry-friendly intentions of the EPA—acting administrator Andrew Wheeler is a former coal lobbyist—it is not surprising that some companies have decided to avoid reputational risks and refrain from publicly commenting on US climate policies (Meza 2018).

In our 2016 scorecard evaluation, company support for or engagement on climate policies comprised more than half the metrics in this area. With no major federal climate policies under consideration for adoption in 2018 and limited company statements on federal rollbacks, metrics based on the CPA-Zicklin Index of general corporate disclosure and governance of political activity were more heavily weighted. The index focuses on transparency and oversight of corporate political expenditures. It does not examine the positions taken by recipients of corporate campaign contributions or evaluate whether lobbying and political spending is consistent with stated corporate positions (CPA 2017). As many of the companies in this sample are relatively transparent and have good oversight of political spending in terms of the CPA-Zicklin metrics, a few companies’ scores in this area are deceptively high.

Scores in this area ranged from “good” (ConocoPhillips, ExxonMobil, and Shell) to “egregious” (CONSOL Energy). Two companies’ scores fell (BP and CONSOL Energy), and three companies’ scores improved (ExxonMobil, Peabody Energy, and Shell). The other three remained the same.

### SUPPORT FOR THE PARIS CLIMATE AGREEMENT

In December 2015, the leaders of 195 nations committed to hold “the increase in the global average temperature to well below two degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change” (UNFCCC 2015). Now, nearly three years after the adoption of the Paris climate agreement, companies must be expected not just to

***The fossil fuel industry has generally opposed a wide array of climate policies.***



After President Trump vowed to pull the United States out of the Paris climate agreement, individual states, cities, and companies—together representing half of the US population and economy—signed on to America's Pledge on Climate, declaring their enduring support for the agreement and committing to drive down their emissions consistent with its global temperature goal. None of the fossil fuel companies in this study have made a similar commitment.

state their support and to align their business plans with its global temperature goals, but also to advocate for US and international policies aimed at reaching those goals. As of July 2018, 440 companies have committed to set aggressive targets to reduce their carbon emissions in support of the Paris climate agreement goals, and 120 companies have successfully set such targets. However, not a single fossil fuel company has done either (Science Based Targets n.d.).

In the wake of the Trump administration's pledge to withdraw from the Paris climate agreement, 20 US states and 50 cities have pledged to join the 180 parties and continue to abide by the agreement's temperature goal (America's Pledge on Climate n.d.). The businesses, cities, and states that have signed onto America's Pledge on Climate—declaring their support for the Paris climate agreement—represent more than half of the US economy and population (America's Pledge on Climate n.d.). Through the actions of almost every country on Earth and the efforts of US businesses and communities, the Paris climate agreement remains vital to stopping dangerous climate change. To be out of step with this momentum presents risks for companies and their shareholders.

While all five of the oil and gas companies in our sample made claims to support policies or regulations to advance the Paris climate agreement, only **Shell (0)** explicitly supported its global temperature goal. **Arch Coal (-2)** and **Peabody Energy (-2)**, meanwhile, actively pushed for the United States to leave the Paris climate agreement. Both companies

have been vocal and actively engaged the new administration (Campos and Groom 2017; Stracqualursi 2017).

#### CONSISTENT SUPPORT FOR US POLICY ACTION TO REDUCE EMISSIONS

Fossil fuel companies should be transparent and consistent in their advocacy for policies designed to reduce carbon emissions to levels in line with the Paris climate agreement global temperature goal. They should expend their lobbying and other resources in support of those policies and refrain from undermining that support through contributions to organizations or political campaigns whose positions and advocacy on climate change are not aligned with their own.

Companies do have an opportunity to back up their stated support for placing a price on carbon with consistent policy advocacy. **BP (0)**, **ExxonMobil (0)**, and **Shell (0)** are all founding members of the Climate Leadership Council (CLC), an organization created in 2017 that is campaigning through Americans for Carbon Dividends and leading efforts to pass a new bipartisan carbon tax plan (the Baker-Shultz Carbon Dividends Plan) through Congress. While the CLC plan includes a relatively high starting carbon price and suggests redistributing the tax revenue to households in the form of quarterly dividend checks, there are aspects that need further scrutiny. The plan includes the rollback of the Clean Power Plan, presenting the tax as a replacement for federal environmental regulations (CLC n.d.). The plan also includes relief for fossil fuel companies from liability for climate damages (CLC n.d.). These provisions bring concerns that the Baker-Shultz plan will be viewed as a single solution, rather than as part of a suite of complementary policies. The jury is still out on how much traction this particular initiative will get.

In July 2018, the US House of Representatives passed a resolution condemning a carbon tax as “detrimental” to the US economy. Many saw the resolution as an attempt to undermine a Republican-led effort to bring a carbon tax bill to the floor, as Representative Carlos Curbelo (R-FL) had recently introduced legislation for a carbon tax (Dlouhy 2018). The Market Choice Act, introduced by Representative Curbelo, plans to fund infrastructure investment with the revenue collected from the tax (Dlouhy 2018). While Representative Curbelo's proposed carbon price is lower than the \$40 per ton price put forth by the CLC, it is a positive sign that conservative policymakers are reaching across the partisan divide on the issue of climate change. BP, Shell, and several other companies in the energy sector and other industries have signed a letter of support for the legislation (Aspen Skiing Company et al. 2018; Mills 2018).

During our study period, only **Peabody Energy (-2)** submitted a public comment on a major federal or state

climate policy. Peabody's comment supported the repeal of the Clean Power Plan, claiming the policy included overly burdensome requirements (Regulations.gov 2018). The company's comment cherry-picked bits of information from both the IPCC Fourth and Fifth Assessments in an attempt to justify its argument.

As carbon tax legislation is debated in the US Congress, we can expect to have more information on which to score these companies for this metric in the next iteration of the scorecard.

#### AREA 4: FULLY DISCLOSING CLIMATE RISKS

Companies have also failed to keep up with growing mainstream investor expectations for better climate risk disclosure. In June 2017, the Task Force on Climate-Related Financial Disclosures (TCFD), established by the Financial Stability Board and chaired by former New York City mayor Michael Bloomberg, published its official recommendations. The final document included four widely adoptable recommendations on climate-related financial disclosures that are applicable to organizations across sectors and jurisdictions (TCFD 2017). The TCFD's recommendations constitute a major milestone toward clear, comparable, and consistent

reporting of climate-related risks (Mulvey 2017). The international financial and political communities are already moving forward on commitments to goals set by the TCFD and the Paris climate agreement.

One of the TCFD recommendations is for organizations to include information on material climate risks in mainstream financial filings. In the United States, investor-owned companies can be held legally responsible for statements made in their annual reports to the SEC on Forms 10-K or 20-F (TCFD 2017). At the moment, the SEC allows companies to determine what counts as "material" and therefore what should be included in official disclosures regarding climate risks (US GAO 2018). Since 2010, the SEC has asked companies to report on material regulatory, physical, and indirect risks and opportunities related to climate change (US SEC 2010). The SEC is reviewing its requirements for business and financial disclosures in periodic company reports, but recent actions and interpretations made by the SEC suggest that any updates to its rules are not likely to strengthen climate risk disclosure requirements in the United States. The effort to incorporate the TCFD recommendations into required disclosures in the European Union is currently the most advanced opportunity for increased climate disclosure (Zimonyi 2018).



*Investors and the general public have a right to know how companies' actions are affecting our climate. Yet most of the major fossil fuel companies in this study do not adequately disclose the risks they face from climate change, even when they feel the effects on their own operations.*

Much of this report focuses on the role of fossil fuel operations and products in generating carbon emissions. Yet these companies are vulnerable to climate change impacts themselves (Landuyt et al. 2014). Oil refineries, for example, are highly vulnerable to sea level rise and increased storm intensity (Carlson, Goldman, and Dahl 2015). The state of Texas recently asked the federal government for \$12 million of taxpayer money to build a sea wall to protect oil and gas company operations in the Texas Gulf Coast (Weissert 2018). Despite widespread recognition of the threat climate change poses to oil and gas infrastructure, previous research has documented that many companies that operate refineries do not disclose climate-related physical risks to shareholders or to local communities.

Scores in this area ranged from “good” (ConocoPhillips) to “poor” (Peabody Energy). Four companies’ scores improved (Arch Coal, ConocoPhillips, ExxonMobil, and Shell); the other four remained the same.

#### **DISCLOSURE OF MARKET AND OTHER INDIRECT RISKS AND OPPORTUNITIES**

Along with the risks companies face from increased regulation of carbon emissions or from sea level rise, they face indirect risks and opportunities related to climate change, including climate liability lawsuits, market forces, and the threat of reputational damage. Renewable energy options are increasingly affordable and have proven to be scalable. These stand in direct competition with fossil fuel sales and affect demand. Electric vehicles have also become increasingly common for personal use, resulting in decreased demand for gasoline (Reichmuth 2018). Companies face reputational risks as well—for example, from activist fossil fuel divestment and the #ExxonKnew and #ShellKnew campaigns, the latter two focusing on corporate deception about climate change. The public and the companies’ own investors have a right to know what these risks are and how the companies are managing them.

The rise of climate liability lawsuits is included in our assessments of this metric. Since July 2017, numerous coastal and inland communities across the United States have sued fossil fuel companies to recover the costs of climate damages, preparedness, and adaptation. All but one of our sample companies (Arch Coal) are defendants in one or more of these lawsuits. In the case brought by the cities of Oakland and San Francisco (the People of the State of California v. BP P.L.C. et al. 2018a), the presiding federal judge asked both sides to present a “tutorial on climate science” in March 2018. At the tutorial, a Chevron lawyer (not a climate scientist) presented on behalf of the five oil and gas company defendants (the same five studied in this report). Although Chevron’s

## ***BP, Chevron, and ExxonMobil all received a lower score in 2018 due to their failure to disclose their potential liability in lawsuits over climate damages and preparedness.***

lawyer stated on the record that the company accepts the scientific consensus on climate change, his presentation omitted recent progress in climate science and stressed uncertainty (Dahl 2018; the People of the State of California v. BP P.L.C. et al. 2018a). The other four defendants, given the opportunity to explain their disagreements with Chevron’s statements, declined to identify any (Jeong and Becker 2018). Due to the reputational and financial risks associated with the lawsuits, shareholders should expect disclosure of potential liability in company financial filings (Sanzillo, Hipple, and Williams-Derry 2018). Instead, companies have varied significantly in their climate liability disclosures:

- **ConocoPhillips (0), Peabody Energy (-1), and Shell (0)** each acknowledged the lawsuits as a potential climate-related risk in their 2018 financial filings.
- **BP (-1) and ExxonMobil (-1)** failed to mention the lawsuits as either a climate risk or a litigation risk in their 2018 financial filings.
- **Chevron (-1)** added the following statement to its 2017 financial filing: “increasing attention to climate change risks has resulted in an increased possibility of governmental investigations and additional private litigation against the company.” However, it did not, in 2018, explicitly mention that lawsuits had been filed (Chevron Corporation 2017a). This omission is particularly noteworthy because Chevron is spending considerable resources fighting climate liability litigation.

**BP, Chevron, and ExxonMobil** all received a lower score on this metric in 2018 due to their failure to disclose their potential liability in lawsuits over climate damages and preparedness. As the lawsuits open the companies up to sizable payments, require substantial legal efforts, and bring a high level of media visibility, companies should certainly consider them to be material and inform shareholders of the potential risks.

## Conclusions and Recommendations

Individuals, industry, and governments all bear some responsibility for climate change. But through the products they put into commerce, these major fossil fuel companies—Arch Coal, BP, Chevron, ConocoPhillips, CONSOL Energy, ExxonMobil, Peabody Energy, and Royal Dutch Shell—have contributed about 14 percent of global energy-related carbon dioxide and methane emissions driving disruptive climate change (Heede 2014). ExxonMobil’s and Chevron’s contributions exceed 3 percent each (Heede 2014). Leading fossil fuel companies have failed to adjust their business models and operating practices to reduce the adverse impact of their products. Many of these companies have worked to discredit scientists, disparage climate science, and deny the significance of the problem of climate change, while lobbying to prevent policies that would encourage the transition to a low-carbon energy system. Therefore, these companies must take responsibility for their climate-related communications, positions, decisions, and actions.

It often seems as if the fossil fuel industry will take one step forward when it knows the public is watching and another step backward when it thinks the spotlight has faded. Shell CEO Ben van Beurden was correct when he said in 2017, “Trust has been eroded to the point where it is an issue for our long-term future” (Domm 2017). Shell’s subsequent attempts to declare itself a climate leader have fallen short of emerging societal expectations, particularly given the company board’s full-throated opposition to the climate target shareholder resolution put forward by the nongovernmental organization Follow This in 2018 (Royal Dutch Shell 2018b). Investors are deeply engaged and paying attention to company behavior and attitudes on climate change. The recently launched Climate Action 100+ campaign involves more than 250 investors and nearly \$30 trillion in assets under management (Climate Action 100+ n.d.).

To regain public trust, fossil fuel producers must:

- renounce disinformation on climate science and policy;
- plan for a world free from carbon pollution, developing business models that are consistent with keeping warming well below a two degrees Celsius increase above pre-industrial levels, as agreed to by world leaders;
- support sensible climate policies to reduce emissions of heat-trapping gases;
- fully disclose the financial and physical risks of climate change faced by their business operations; and
- pay their share of the costs of climate-related damages and climate change adaptation.

## *Companies must stop sabotaging efforts to move forward on climate action.*

As a first step in executing the above list, any major fossil fuel company that has not acknowledged the scientific evidence of human-caused climate change and affirmed the consequent need for swift and deep reductions in emissions from the burning of fossil fuels should issue a clear, unequivocal statement doing so. Statements that include hedging words or silence on climate change are not acceptable.

- **Arch Coal, Chevron, ConocoPhillips, ExxonMobil, and Peabody Energy** must follow BP’s example by correcting misleading language on their websites or in other public statements. They must join BP and Shell in accurately and consistently acknowledging climate science and the urgent need to reduce global warming emissions from the burning of fossil fuels.
- **CONSOL Energy** must not be silent on this topic.

In addition, all major fossil fuel companies assessed in this report should

- break from climate-denying trade associations and industry-affiliated groups or publicly commit to work within these groups to change their climate-related policies and actions;
- disclose all climate-relevant information, including emissions of heat-trapping gases, climate-related business risks, direct and indirect political spending, payments to trade associations and industry groups active on climate issues, and climate-related lobbying;
- make company-specific commitments that contribute to global goals to limit warming; and
- be consistent, specific, and transparent about the need for US and international policies to reduce emissions of global warming gases.

Companies must stop sabotaging efforts to move forward on climate action by directing their trade and lobbying groups to stop spreading climate disinformation and stop blocking sensible climate legislation. If that leverage fails, companies need to publicly distance themselves from such groups’ activities or publicly sever ties with the groups if they are unable to influence the groups’ positions on climate change. There is a reputational risk in failing to align political activity with company branding, stated positions, and publicized core values (CPA 2018).

BHP Billiton, a global oil, gas, and coal producer, undertook an internal audit in 2017 to compare its internal climate policies with those of the trade associations of which it was a member (Baidawi 2017). The audit eventually led the company to leave the World Coal Association, a major industry group (Baidawi 2017). BHP's report and the actions the company has taken based on it are a significant step forward for the transparency and accountability of corporate lobbying. Other major fossil fuel companies should match BHP's disclosures and ensure that the climate-related positions of their trade associations and industry groups are aligned with their own:

- **Chevron and Peabody Energy** need to join BP, Conoco-Phillips, ExxonMobil, and Shell in withdrawing from ALEC—and the two companies should publicly state that they are doing so because of the lobby group's role in spreading climate disinformation. **Peabody Energy** should also leave the ACCCE, making a similar public statement.
- **Arch Coal, BP, ConocoPhillips, ExxonMobil, and Shell** should use their leadership roles within NAM to demand an end to the association's disinformation on climate science and policy, and they should speak publicly about these efforts. If the companies are unable to influence NAM's position on climate change, they should publicly sever ties with the group.

Companies also need to set and disclose measurable goals in line with the Paris climate agreement's global temperature goal. They need to be transparent about their analyses, business plans, scenarios, and the impact on investment and production of new reserves. Meaningful plans should include clarity on planned investments in low-carbon research and development, decreased emissions in their supply chains, and emissions oversight. The window for avoiding irreversible effects with disastrous economic results is closing—the scale of investments must be commensurate with that diminishing window.

Shareholders, investors, and policymakers should continue to demand that fossil fuel companies fully disclose climate change risks—including those related to climate liability litigation—and provide road maps detailing when and how emissions from their operations and the use of their products will get to net zero.

UCS and our experts, partners, and supporters are watching. We will continue to keep a close eye on major fossil fuel companies to assess their actions and words, recognize progress where it occurs, and turn up the heat on companies lagging behind.

For additional company-specific recommendations, see company fact sheets online at [www.ucsusa.org/climatescorecard](http://www.ucsusa.org/climatescorecard).

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#### ACKNOWLEDGMENTS

*This report was made possible by the support of the Wallace Global Fund, The Grantham Foundation for the Protection of the Environment, the Rockefeller Family Fund, the Merck Family Fund, and UCS members.*

*We would like to thank the following individuals for their thoughtful contributions and comments: Naomi Ages, Greenpeace USA; Tim Brennan, Unitarian Universalist Association; Jim Coburn, Ceres; Nancy Cole, UCS; Rob Goldberg, Barnard College; Richard Heede, Climate Accountability Institute; Chris Ito, FFI; Jeremy Martin, UCS; Genna Reed, UCS; Tim Smith, Walden Asset Management; Geoffrey Supran, Harvard University, Massachusetts Institute of Technology; and Pat Miguel Tomaino, Zevin Asset Management. For their advice and support, we thank Angela Anderson, Seth Shulman, and Kathy Rest. We thank Cynthia Williams for her editorial support and Tyler Kemp-Benedict for the report design. Thanks to Cynthia DeRocco and Bryan Wadsworth for their dedication to the production of the report.*

*Organizational affiliations are listed for identification purposes only. The opinions expressed herein do not necessarily reflect those of the organizations that funded the work or the individuals who reviewed it. The Union of Concerned Scientists bears sole responsibility for the report's content.*

#### REFERENCES

- Achakulwisut, P., B. Scandella, G. Supran, and B. Voss. 2016. *Ending ExxonMobil sponsorship of the American Geophysical Union*. Online at [www.documentcloud.org/documents/2803702-AGU-Report-Final-20160325.html](http://www.documentcloud.org/documents/2803702-AGU-Report-Final-20160325.html), accessed August 17, 2018.
- American Coalition for Clean Coal Electricity (ACCCE). 2017. ACCCE applauds President Trump's executive order halting EPA's Clean Power Plan. Online at [www.americaspower.org/press-release/acce-applauds-president-trumps-executive-order-halting-epas-clean-power-plan](http://www.americaspower.org/press-release/acce-applauds-president-trumps-executive-order-halting-epas-clean-power-plan), accessed May 25, 2018.
- American Coalition for Clean Coal Electricity (ACCCE). No date. Members. Online at [www.americaspower.org/about-acce/members](http://www.americaspower.org/about-acce/members), accessed May 25, 2018.
- American Legislative Exchange Council (ALEC). 2017. ALEC energy principles. Online at [www.alec.org/model-policy/alec-energy-principles](http://www.alec.org/model-policy/alec-energy-principles), accessed August 15, 2018.
- American Legislative Exchange Council (ALEC). No date. Ken Freeman. Online at [www.alec.org/person/ken-freeman](http://www.alec.org/person/ken-freeman), accessed May 25, 2018.
- American Petroleum Institute (API). 2018. API president and CEO Jack Gerard to depart in August. Online at [www.api.org/news-policy-and-issues/news/2018/01/17/api-president-and-ceo-jack-gerard-to-depart-in-august](http://www.api.org/news-policy-and-issues/news/2018/01/17/api-president-and-ceo-jack-gerard-to-depart-in-august), access May 25, 2018.
- American Petroleum Institute (API). 2017. Climate change and energy. Online at [www.api.org/-/media/Files/Policy/Environment/Climate-Change-and-Energy/CLIMATE-PRIMER.pdf](http://www.api.org/-/media/Files/Policy/Environment/Climate-Change-and-Energy/CLIMATE-PRIMER.pdf), accessed May 25, 2018.
- American Petroleum Institute (API). 2016. Internal Revenue Service Form 990. Online at [http://990s.foundationcenter.org/990\\_pdf\\_archive/130/130433430/130433430\\_201612\\_9900.pdf](http://990s.foundationcenter.org/990_pdf_archive/130/130433430/130433430_201612_9900.pdf), accessed September 6, 2018.

- American Petroleum Institute (API). No date. Members. Online at [www.api.org/membership/members](http://www.api.org/membership/members), accessed May 25, 2018.
- America's Pledge on Climate. No date. About America's Pledge. Online at [www.americaspledgeonclimate.com/about](http://www.americaspledgeonclimate.com/about), accessed August 20, 2018.
- Arch Coal. 2018. United States Securities and Exchange Commission Form 10-K. Online at [www.sec.gov/Archives/edgar/data/1037676/000162828018002109/aci-20171231x10k.htm](http://www.sec.gov/Archives/edgar/data/1037676/000162828018002109/aci-20171231x10k.htm), accessed May 21, 2018.
- Aspen Skiing Company, BP America, Burton Snowboards, Calpine Corporation, Campbell Soup Company, Clif Bar & Company, Danone North America, DSM North America, The Dow Chemical Company, DTE Energy, DuPont, EDP Renováveis, Equinor US, Gap Inc., General Motors, IKEA North America Services, LLC, Ingersoll Rand, JLL, Levi Strauss & Co., Lyft, Inc., Mars Incorporated, National Grid, New Belgium Brewing Company, Outdoor Industry Association, PG&E Corporation, Schneider Electric, Seventh Generation, Shell, Sierra Nevada Brewing Co., Stonyfield Farm, Inc., Symantec Corporation, Unilever, Vail Resorts, and Worthen Industries. 2018. Letter to Representative Carlos Curbelo, July 25. Online at [https://curbelo.house.gov/uploadedfiles/curbelo\\_letter\\_market\\_choice\\_act\\_thank\\_you.pdf](https://curbelo.house.gov/uploadedfiles/curbelo_letter_market_choice_act_thank_you.pdf), accessed August 22, 2018.
- Bacher, D. 2018. Big Oil's top 3 spenders lavish \$17.6 million in lobbying "hush money" in 2017. *Consumer Watchdog*, February 3. Online at [www.consumerwatchdog.org/news-story/big-oils-top-3-spenders-lavish-176-million-lobbying-hush-money-2017](http://www.consumerwatchdog.org/news-story/big-oils-top-3-spenders-lavish-176-million-lobbying-hush-money-2017), accessed August 15, 2018.
- Baidawi, A. 2017. B.H.P. Billiton, acknowledging climate change, to quit coal group. *New York Times*, December 19. Online at [www.nytimes.com/2017/12/19/business/energy-environment/australian-mining-company-climate-change.html](http://www.nytimes.com/2017/12/19/business/energy-environment/australian-mining-company-climate-change.html), accessed August 15, 2018.
- Barnard College. 2018. Climate action at Barnard. Online at <https://barnard.edu/vision-values/divestment>, accessed August 15, 2018.
- Berg, J., P. Campbell, V. Kiermer, N. Raikhel, and D. Sweet. 2018. Joint statement on EPA proposed rule and public availability of data. *Science*, April 30. doi:10.1126/science.aau0116. Online at <http://science.sciencemag.org/content/early/2018/04/30/science.aau0116>, accessed September 10, 2018.
- Bezdek, R.H. 2014. *The social costs of carbon? No, the social benefits of carbon*. Prepared for the American Coalition for Clean Coal Electricity by Management Information Services, Inc. Online at [https://www.eenews.net/assets/2014/01/22/document\\_pm\\_03.pdf](https://www.eenews.net/assets/2014/01/22/document_pm_03.pdf), accessed August 17, 2016.
- Blum, J. 2015. Shell leaving conservative ALEC over climate change views. *Fuel Fix*, August 7. Online at <https://fuelfix.com/blog/2015/08/07/shell-leaving-conservative-alec-over-climate-change-views>, accessed August 16, 2018.
- Bouso, R. 2018. Shell CEO says "foolhardy" to set carbon reduction targets. *Reuters*, July 5. Online at [www.reuters.com/article/us-shell-carbon/shell-ceo-says-foolhardy-to-set-carbon-reduction-targets-idUSKBN1JVOZY](http://www.reuters.com/article/us-shell-carbon/shell-ceo-says-foolhardy-to-set-carbon-reduction-targets-idUSKBN1JVOZY), accessed August 15, 2018.
- BP PLC. 2018. Energy and the environment. Online at <https://web.archive.org/web/20180705183906/https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/primary-energy/energy-and-the-environment.html>, accessed July 4, 2018.
- BP PLC. No date. Energy and the environment. Online at [www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/primary-energy/energy-and-the-environment.html](http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/primary-energy/energy-and-the-environment.html), accessed August 24, 2018.
- Brulle, R.J. 2014. Institutionalizing delay: Foundation funding and the creation of US climate change counter-movement organizations. *Climatic Change* 122(4):681-694. Online at <https://doi.org/10.1007/s10584-013-1018-7>, accessed August 17, 2018.
- Brulle, R.J. 2018. The climate lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016. *Climatic Change* 149(3-4):289-303. Online at <https://link.springer.com/article/10.1007%2Fs10584-018-2241-z>, accessed October 17, 2018.
- California Air Resources Board (California ARB). 2018. AB 32 scoping plan. Online at [www.arb.ca.gov/cc/scopingplan/scopingplan.htm](http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm), accessed September 6, 2018.
- Cama, T. 2017. ExxonMobil opposes ALEC's attempt to fight EPA climate policy. *The Hill*, December 5. Online at <http://thehill.com/policy/energy-environment/363389-exxon-opposes-alecs-attempt-to-fight-epa-climate-policy>, accessed August 15, 2018.
- Campos, R., and N. Groom. 2017. US coal stocks fall; exit from climate deal may hurt, not help. *Reuters*, May 31. Online at [www.reuters.com/article/us-usa-climatechange-winners/u-s-coal-stocks-fall-exit-from-climate-deal-may-hurt-not-help-idUSKBN18R2BO](http://www.reuters.com/article/us-usa-climatechange-winners/u-s-coal-stocks-fall-exit-from-climate-deal-may-hurt-not-help-idUSKBN18R2BO), accessed August 15, 2018.
- Carlson, C., G. Goldman, and K. Dahl. 2015. *Stormy seas, risking risks: What investors should know about climate change impacts at oil refineries*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/sites/default/files/attach/2015/02/stormy-seas-rising-risks-ucs-2015.pdf](http://www.ucsusa.org/sites/default/files/attach/2015/02/stormy-seas-rising-risks-ucs-2015.pdf), accessed August 20, 2018.
- Carrington, D. 2018. Ireland becomes world's first country to divest from fossil fuels. *Guardian*, July 12. Online at [www.theguardian.com/environment/2018/jul/12/ireland-becomes-worlds-first-country-to-divest-from-fossil-fuels](http://www.theguardian.com/environment/2018/jul/12/ireland-becomes-worlds-first-country-to-divest-from-fossil-fuels), accessed August 24, 2018.
- CDP. 2017a. Climate change—Chevron Corporation. Online at [www.cdp.net/en/formatted\\_responses/pages?locale=en&organization\\_name=Chevron+Corporation&organization\\_number=3191&program=Investor&project\\_year=2017&redirect=https%3A%2F%2Fwww.cdp.net%2Fsites%2F2017%2F91%2F3191%2FClimateChange+2017%2FPages%2FDisclosureView.aspx](http://www.cdp.net/en/formatted_responses/pages?locale=en&organization_name=Chevron+Corporation&organization_number=3191&program=Investor&project_year=2017&redirect=https%3A%2F%2Fwww.cdp.net%2Fsites%2F2017%2F91%2F3191%2FClimateChange+2017%2FPages%2FDisclosureView.aspx), accessed August 15, 2018.
- CDP. 2017b. Climate change—ConocoPhillips. Online at [www.cdp.net/en/cdp2/redirect?discloser\\_id=122005&organization\\_name=ConocoPhillips&organization\\_number=3751&program=Investor&project\\_year=2017&redirect=https%3A%2F%2Fwww.cdp.net%2Fsites%2F2017%2F51%2F3751%2FClimate+Change+2017%2FPages%2FDisclosureView.aspx&response\\_type=search\\_response](http://www.cdp.net/en/cdp2/redirect?discloser_id=122005&organization_name=ConocoPhillips&organization_number=3751&program=Investor&project_year=2017&redirect=https%3A%2F%2Fwww.cdp.net%2Fsites%2F2017%2F51%2F3751%2FClimate+Change+2017%2FPages%2FDisclosureView.aspx&response_type=search_response), accessed August 15, 2018.
- Center for Media and Democracy (CMD). 2018a. ALEC corporations. *SourceWatch*, May 25. Online at [www.sourcewatch.org/index.php/ALEC\\_Corporations](http://www.sourcewatch.org/index.php/ALEC_Corporations), accessed May 25, 2018.
- Center for Media and Democracy (CMD). 2018b. ALEC "private enterprise" board of directors. *SourceWatch*, April 13. Online at [www.sourcewatch.org/index.php/ALEC\\_%22Private\\_Enterprise%22\\_Board\\_of\\_Directors](http://www.sourcewatch.org/index.php/ALEC_%22Private_Enterprise%22_Board_of_Directors), accessed August 15, 2018.
- Center for Political Accountability (CPA). 2018. Collision course: The risks companies face when their political spending and core values conflict and how to address them. Online at [http://files.politicalaccountability.net/reports/cpa-reports/Final\\_Draft\\_Collision\\_Report.pdf](http://files.politicalaccountability.net/reports/cpa-reports/Final_Draft_Collision_Report.pdf), accessed September 6, 2018.
- Center for Political Accountability (CPA). 2017. The 2017 CPA-Zicklin Index of Corporate Political Disclosure and Accountability: Sustained growth among S&P 500 companies signals commitment to political disclosure and accountability. Online at <http://files.politicalaccountability.net/index/2017%20Index.pdf>, accessed September 6, 2018.

- Center for Responsive Politics (CRP). 2017a. American Coalition for Clean Coal Electricity. Online at [www.opensecrets.org/lobby/clientsum.php?id=D000046880&year=2017](http://www.opensecrets.org/lobby/clientsum.php?id=D000046880&year=2017), accessed August 24, 2018.
- Center for Responsive Politics (CRP). 2017b. American Petroleum Institute. Online at [www.opensecrets.org/orgs/summary.php?id=D000031493&cycle=2017](http://www.opensecrets.org/orgs/summary.php?id=D000031493&cycle=2017), accessed August 24, 2018.
- Center for Responsive Politics (CRP). 2017c. National Association of Manufacturers. Online at [www.opensecrets.org/lobby/clientsum.php?id=D000054156&year=2017](http://www.opensecrets.org/lobby/clientsum.php?id=D000054156&year=2017), accessed August 24, 2018.
- Center for Responsive Politics (CRP). 2017d. National Mining Assn. Online at [www.opensecrets.org/lobby/clientsum.php?id=D000000308&year=2017](http://www.opensecrets.org/lobby/clientsum.php?id=D000000308&year=2017), accessed August 24, 2018.
- Center for Responsive Politics (CRP). 2017e. US Chamber of Commerce. Online at [www.opensecrets.org/lobby/clientsum.php?id=D000019798&year=2017](http://www.opensecrets.org/lobby/clientsum.php?id=D000019798&year=2017), accessed August 24, 2018.
- Chevron Corporation. 2018. Climate change resilience—A framework for decision making. San Ramon, CA. Online at [www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf](http://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf), accessed August 17, 2018.
- Chevron Corporation. 2017a. United States Securities and Exchange Commission Form 10-K. Online at [www.sec.gov/Archives/edgar/data/93410/000009341018000010/cvx12312017-10kdoc.htm](http://www.sec.gov/Archives/edgar/data/93410/000009341018000010/cvx12312017-10kdoc.htm), accessed September 6, 2018.
- Chevron Corporation. 2017b. Chevron announces \$18.3 billion capital and exploratory budget for 2018. Press release, December 6. Online at [www.chevron.com/stories/chevron-announces-18-3-billion-capital-and-exploratory-budget-for-2018](http://www.chevron.com/stories/chevron-announces-18-3-billion-capital-and-exploratory-budget-for-2018), accessed August 17, 2018.
- Chevron Corporation. No date a. Policy principles for addressing climate change. Online at [www.chevron.com/corporate-responsibility/climate-change/policy-principles](http://www.chevron.com/corporate-responsibility/climate-change/policy-principles), accessed August 24, 2018.
- Chevron Corporation. No date b. Board of directors, governance, and ethics. Online at [www.chevron.com/corporate-responsibility/our-approach/board-of-directors-governance-and-ethics](http://www.chevron.com/corporate-responsibility/our-approach/board-of-directors-governance-and-ethics), accessed May 25, 2018.
- Cleetus, R., J. McNamara, and A. Rosenberg. 2018. Letter to EPA Acting Administrator Andrew Wheeler, August 13. Online at [www.ucsusa.org/sites/default/files/attach/2018/08/UCS-Cost-BenefitANPRM-Comments-8-13-18.pdf](http://www.ucsusa.org/sites/default/files/attach/2018/08/UCS-Cost-BenefitANPRM-Comments-8-13-18.pdf), accessed August 17, 2018.
- Climate Action 100+. No date. Global investors driving business transition. Online at [www.climateaction100.org](http://www.climateaction100.org), accessed September 10, 2018.
- Climate Leadership Council (CLC). No date. The four pillars of our carbon dividends plan. Online at [www.clcouncil.org/our-plan](http://www.clcouncil.org/our-plan), accessed August 22, 2018.
- ConocoPhillips. 2018. Climate change position. Online at [https://web.archive.org/web/20180914141242/http://static.conocophillips.com/files/resources/climate-change-position\\_final.pdf](https://web.archive.org/web/20180914141242/http://static.conocophillips.com/files/resources/climate-change-position_final.pdf), accessed May 22, 2018.
- ConocoPhillips. No date a. Political contributions. Online at [www.conocophillips.com/about-us/sustainability-approach/policies-positions/political-contributions](http://www.conocophillips.com/about-us/sustainability-approach/policies-positions/political-contributions), accessed August 15, 2018.
- ConocoPhillips. No date b. Political support policy & procedures. Online at [www.conocophillips.com/about-us/sustainability-approach/policies-positions/political-support-policy-procedures](http://www.conocophillips.com/about-us/sustainability-approach/policies-positions/political-support-policy-procedures), accessed August 15, 2018.
- ConocoPhillips. No date c. Public policy engagement. Online at [www.conocophillips.com/environment/climate-change/public-policy-engagement](http://www.conocophillips.com/environment/climate-change/public-policy-engagement), accessed September 5, 2018.
- ConocoPhillips. No date d. Ryan Lance. Online at [www.conocophillips.com/about-us/leadership/ryan-lance](http://www.conocophillips.com/about-us/leadership/ryan-lance), accessed May 25, 2018.
- CONSOL Energy Inc. 2018. United States Securities and Exchange Commission Form 10-K. Online at [www.sec.gov/Archives/edgar/data/1710366/000171036618000006/ceix-123117x10k.htm](http://www.sec.gov/Archives/edgar/data/1710366/000171036618000006/ceix-123117x10k.htm), accessed June 18, 2018.
- CONSOL Energy. No date. Environmental. Online at [www.consolenergy.com/responsibility/environmental](http://www.consolenergy.com/responsibility/environmental), accessed August 15, 2018.
- Crooks, E. 2017. Chevron investors back off from climate change proposal. Financial Times, May 15. Online at [www.ft.com/content/b32f9d10-3984-11e7-821a-6027b8a20f23](http://www.ft.com/content/b32f9d10-3984-11e7-821a-6027b8a20f23), accessed August 16, 2018.
- Dahl, K. 2018. How do big oil companies talk about climate science? Four takeaways from a day in court. Cambridge, MA: Union of Concerned Scientists. Blog, March 22. Online at <https://blog.ucsusa.org/kristy-dahl/big-oil-companies-and-climate-science-four-takeaways-from-a-day-in-court>, accessed September 10, 2018.
- DeSmog. No date. ExxonMobil's funding of climate science denial. Online at [www.desmogblog.com/exxonmobil-funding-climate-science-denial](http://www.desmogblog.com/exxonmobil-funding-climate-science-denial), accessed August 15, 2018.
- Deyette, J., S. Clemmer, R. Cleetus, S. Sattler, A. Bailie, and M. Rising. 2015. *The natural gas gamble: A risky bet on America's clean energy future*. Cambridge MA: Union of Concerned Scientists. Online at [www.ucsusa.org/sites/default/files/attach/2015/03/natural-gas-gamble-full-report.pdf](http://www.ucsusa.org/sites/default/files/attach/2015/03/natural-gas-gamble-full-report.pdf), accessed August 20, 2018.
- Dlouhy, J. 2018. Republicans move to kill carbon tax before it gains any momentum. *Bloomberg*, July 18. Online at [www.bloomberg.com/news/articles/2018-07-18/republicans-move-to-kill-carbon-tax-before-it-gets-gains-steam](http://www.bloomberg.com/news/articles/2018-07-18/republicans-move-to-kill-carbon-tax-before-it-gets-gains-steam), accessed August 25, 2018.
- Dommm, P. 2017. Shell CEO's plan for a smaller carbon footprint. *CNBC*, March 9. Online at [www.cnn.com/2017/03/09/oil-ceo-actions-speak-louder-than-epa-chief-pruitts-carbon-denial.html](http://www.cnn.com/2017/03/09/oil-ceo-actions-speak-louder-than-epa-chief-pruitts-carbon-denial.html), accessed August 15, 2018.
- Ekwurzel, B., J. Boneham, M.W. Dalton, R. Heede, R.J. Mera, M.R. Allen, and P.C. Frumhoff. 2017. The rise in global atmospheric CO<sub>2</sub>, surface temperature, and sea level from emissions traced to major carbon producers. *Climatic Change* 144:579–590. Online at <https://link.springer.com/article/10.1007%2Fs10584-017-1978-0#Bib1>, accessed September 10, 2018.
- ExxonMobil Corporation. 2018a. *Energy & carbon summary*. Irving, TX. Online at <https://cdn.exxonmobil.com/-/media/global/files/energy-and-environment/2018-energy-and-carbon-summary.pdf>, accessed August 17, 2018.
- ExxonMobil Corporation. 2018b. *Outlook for energy: A view to 2040*. Irving, TX. Online at <http://cdn.exxonmobil.com/-/media/global/files/outlook-for-energy/2018/2018-outlook-for-energy.pdf>, accessed June 27, 2018.
- ExxonMobil Corporation. 2018c. ExxonMobil announces greenhouse gas reduction measures. Online at <https://news.exxonmobil.com/press-release/exxonmobil-announces-greenhouse-gas-reduction-measures>, accessed September 6, 2018.
- ExxonMobil Corporation. 2016. 2016 worldwide giving report: Public information and policy research. Online at [https://cdn.exxonmobil.com/-/media/global/files/worldwide-giving/2016\\_ww\\_giving-public\\_information\\_and\\_policy\\_research.pdf](https://cdn.exxonmobil.com/-/media/global/files/worldwide-giving/2016_ww_giving-public_information_and_policy_research.pdf), accessed September 6, 2018.

- ExxonMobil Corporation. No date a. Meeting global needs managing climate change business risks. Online at <https://corporate.exxonmobil.com/en/current-issues/climate-policy/climate-perspectives/managing-climate-change-business-risks>, accessed August 24, 2018.
- ExxonMobil Corporation. No date b. Our position on climate change. Online at <https://corporate.exxonmobil.com/en/current-issues/climate-policy/climate-perspectives/our-position>, accessed August 24, 2018.
- Farrell, J. 2016. Corporate funding and ideological polarization. *Proceedings of the National Academy of Sciences* 113(1):92–97. doi:10.1073/pnas.1509433112. Online at [www.pnas.org/content/113/1/92](http://www.pnas.org/content/113/1/92), accessed September 10, 2018.
- Fossil Free. No date. Divestment commitments. Online at <https://gofossilfree.org/divestment/commitments>, accessed August 24, 2018.
- Friedman, L., and B. Plumber. 2018. E.P.A. drafts rule on coal plants to replace Clean Power Plan. *New York Times*, July 5. Online at [www.nytimes.com/2018/07/05/climate/clean-power-plan-replacement.html](http://www.nytimes.com/2018/07/05/climate/clean-power-plan-replacement.html), accessed August 15, 2018.
- Frumhoff, P., R. Heede, and N. Oreskes. 2015. The climate responsibility of industrial carbon producers. *Climatic Change* 132(2):157–171. Online at <https://link.springer.com/article/10.1007/s10584-015-1472-5>, accessed September 10, 2018.
- Gabbatiss, J. 2018. Church of England votes to withdraw funds from companies that contribute to climate change. *Independent*, July 9. Online at [www.independent.co.uk/news/uk/home-news/church-of-england-climate-change-investment-withdraw-paris-agreement-fossil-fuels-a8437781.html](http://www.independent.co.uk/news/uk/home-news/church-of-england-climate-change-investment-withdraw-paris-agreement-fossil-fuels-a8437781.html), accessed August 24, 2018.
- Gaumont, K. 2018. Chevron shareholders made methane a key priority at annual general meeting. *Forbes*, May 31. Online at [www.forbes.com/sites/edfenergyexchange/2018/05/31/chevron-shareholders-made-methane-a-key-priority-at-annual-general-meeting/#2a0a920e3472](http://www.forbes.com/sites/edfenergyexchange/2018/05/31/chevron-shareholders-made-methane-a-key-priority-at-annual-general-meeting/#2a0a920e3472), accessed August 15, 2018.
- Goldman, G., and C. Carlson. 2014. *Tricks of the trade: How companies anonymously influence climate policy through their business and trade associations*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/center-for-science-and-democracy/tricks-of-the-trade.html](http://www.ucsusa.org/center-for-science-and-democracy/tricks-of-the-trade.html), accessed September 10, 2018.
- Goldman, G., and P. Rogerson. 2013. *Assessing trade and business groups' positions on climate change*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/center-for-science-and-democracy/assessing-trade-and-business-groups.html](http://www.ucsusa.org/center-for-science-and-democracy/assessing-trade-and-business-groups.html), accessed September 10, 2018.
- Grande, B. 2017. Letter to ALEC energy, environment, and agriculture task force members about withdrawing resolution on endangerment findings. Heartland Institute. Online at [www.heartland.org/publications-resources/publications/letter-to-alec-energy-environment-and-agriculture-task-force-members-about-withdrawing-resolution-on-endangerment-finding](http://www.heartland.org/publications-resources/publications/letter-to-alec-energy-environment-and-agriculture-task-force-members-about-withdrawing-resolution-on-endangerment-finding), accessed September 6, 2018.
- Greenpeace International. 2016. ExxonMobil response to the Commission on Human Rights. Online at [https://web.archive.org/web/20180522174549/http://www.greenpeace.org/seasia/ph/PageFiles/735291/Corporate\\_Responses\\_and\\_Comments/Exxon\\_Response.pdf](https://web.archive.org/web/20180522174549/http://www.greenpeace.org/seasia/ph/PageFiles/735291/Corporate_Responses_and_Comments/Exxon_Response.pdf), accessed May 22, 2018.
- Grifo, F., G. Goldman, B. Gutman, J. Freeman, P. Rogerson, and D. Veysey. 2012. *A climate of corporate control: How corporations have influenced the US dialogue on climate science and policy*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/sites/default/files/legacy/assets/documents/scientific-integrity/a-climate-of-corporate-control-report.pdf](http://www.ucsusa.org/sites/default/files/legacy/assets/documents/scientific-integrity/a-climate-of-corporate-control-report.pdf), accessed September 6, 2018.
- Hafker, B. 2018. Former Exxon executive calls on oil industry to clean up its climate act. *CNBC*, April 30. Online at [www.cnn.com/2018/04/30/oil-industry-needs-to-address-climate-change-says-former-exxon-exec.html](http://www.cnn.com/2018/04/30/oil-industry-needs-to-address-climate-change-says-former-exxon-exec.html), accessed August 15, 2018.
- Heede, R. 2014. Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854–2010. *Climatic Change* 122(1–2):229–241. Online at <https://link.springer.com/article/10.1007/s10584-013-0986-y>, accessed September 10, 2018.
- InfluenceMap. 2016. *How much big oil spends on obstructive climate lobbying*. London, UK. Online at [https://influencemap.org/site/data/000/173/Lobby\\_Spend\\_Report\\_March\\_2016.pdf](https://influencemap.org/site/data/000/173/Lobby_Spend_Report_March_2016.pdf), accessed August 20, 2018.
- Intergovernmental Panel on Climate Change (IPCC). 2013. *Climate change 2013: The physical science basis*. Contribution of Working Group I to the Fifth Assessment Report of the IPCC. Cambridge, UK: Cambridge University Press.
- Jeong, S., and R. Becker. 2018. Chevron's lawyer, speaking for major oil companies, says climate change is real and it's your fault. *Verge*, March 22. Online at [www.theverge.com/2018/3/22/17151532/climate-tutorial-san-francisco-oakland-lawsuits-judge-alsup-chevron-exxon](http://www.theverge.com/2018/3/22/17151532/climate-tutorial-san-francisco-oakland-lawsuits-judge-alsup-chevron-exxon), accessed August 15, 2018.
- Johnson, P. 2018. Big oil is already spending almost \$1m to oppose carbon pricing. *Seattle Transit Blog*, July 25. Online at <https://seattletransitblog.com/2018/07/25/big-oil-already-spending-almost-1m-oppose-carbon-pricing>, accessed August 22, 2018.
- Landuyt, W., A. Lee, L. Verduzco, J. Castaneda, and R. Siveter. 2014. Addressing adaptation to climate risks in the oil and gas industry. Presented at the SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility, 2014. doi:10.2118/168370-ms.
- Logan, Andrew. 2018. The hidden story of climate proposals in the 2018 proxy season. *Ceres*, May 29. Online at [www.ceres.org/news-center/blog/hidden-story-climate-proposals-2018-proxy-season](http://www.ceres.org/news-center/blog/hidden-story-climate-proposals-2018-proxy-season), accessed August 22, 2018.
- McWilliams, G. 2018. Exxon Mobil joins exodus of firms from lobbying group ALEC. July 12. Online at [www.reuters.com/article/us-exxon-mobil-alec/exxon-mobil-joins-exodus-of-firms-from-lobbying-group-alec-idUSKBN1K231R](http://www.reuters.com/article/us-exxon-mobil-alec/exxon-mobil-joins-exodus-of-firms-from-lobbying-group-alec-idUSKBN1K231R), accessed August 15, 2018.
- Meza, S. 2018. Coal lobbyist-turned-EPA chief Andrew Wheeler's first act as administrator is to roll back standards on coal ash disposal. *Week*, July 18. Online at <http://theweek.com/speedreads/785538/coal-lobbyistturnedepa-chief-andrew-wheelers-first-act-administrator-roll-back-standards-coal-ash-disposal>, accessed August 15, 2018.
- Millar, R., C. Hepburn, J. Beddington, and M. Allen. 2018. Principles to guide investment towards a stable climate. *Nature Climate Change* 8:2–4. Online at [www.nature.com/articles/s41558-017-0042-4](http://www.nature.com/articles/s41558-017-0042-4), accessed September 10, 2018.
- Mills, V. 2018. 4 reasons companies from BP America to Unilever are thanking Rep. Curbelo for leadership on climate. *Forbes*, July 26. Online at [www.forbes.com/sites/edfenergyexchange/2018/07/26/4-reasons-companies-from-bp-america-to-unilever-are-thanking-rep-curbelo-for-leadership-on-climate/#7384923e66bf](http://www.forbes.com/sites/edfenergyexchange/2018/07/26/4-reasons-companies-from-bp-america-to-unilever-are-thanking-rep-curbelo-for-leadership-on-climate/#7384923e66bf), accessed August 17, 2018.

- Minow, N. 2018. The Main Street Investors Coalition is an industry-funded effort to cut off shareholder oversight. *Harvard Law School Forum on Corporate Governance and Financial Regulation*, June 14. Online at <https://corpgov.law.harvard.edu/2018/06/14/the-main-street-investors-coalition-is-an-industry-funded-effort-to-cut-off-shareholder-oversight>, accessed August 17, 2018.
- Mufson, S. 2017. Financial firms lead shareholder rebellion against ExxonMobil climate change policies. *Washington Post*, May 31. Online at [www.washingtonpost.com/news/energy-environment/wp/2017/05/31/exxonmobil-is-trying-to-fend-off-a-shareholder-rebellion-over-climate-change/?utm\\_term=.4afb6e9411c0](http://www.washingtonpost.com/news/energy-environment/wp/2017/05/31/exxonmobil-is-trying-to-fend-off-a-shareholder-rebellion-over-climate-change/?utm_term=.4afb6e9411c0), accessed August 15, 2018.
- Mulvey, K. 2017. Investors want transparency. ExxonMobil offers smoke and mirrors. Cambridge, MA: Union of Concerned Scientists. Blog, June 30. Online at <https://blog.ucsusa.org/kathy-mulvey/investors-want-transparency-exxonmobil-offers-smoke-and-mirrors>, accessed August 22, 2018.
- Mulvey, K., J. Piepenburg, G. Goldman, and P. Frumhoff. 2016. *The climate accountability scorecard: Ranking major fossil fuel companies on climate deception, disclosure, and action*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/sites/default/files/attach/2016/10/climate-accountability-scorecard-full-report.pdf](http://www.ucsusa.org/sites/default/files/attach/2016/10/climate-accountability-scorecard-full-report.pdf), accessed August 15, 2018.
- Mulvey, K., S. Shulman, D. Anderson, N. Cole, J. Piepenburg, and J. Sideris. 2015. *The climate deception dossiers: Internal fossil fuel industry memos reveal decades of corporate disinformation*. Cambridge, MA: Union of Concerned Scientists. Online at [www.ucsusa.org/sites/default/files/attach/2015/07/The-Climate-Deception-Dossiers.pdf](http://www.ucsusa.org/sites/default/files/attach/2015/07/The-Climate-Deception-Dossiers.pdf), accessed August 17, 2016.
- National Association of Manufacturers (NAM). No date. Board of directors. Online at [www.nam.org/About/Board-of-Directors](http://www.nam.org/About/Board-of-Directors), accessed May 25, 2018.
- National Mining Association (NMA). 2017. LinkedIn blog: A new era of American energy has begun. Online at <https://nma.org/2017/03/29/linkedin-blog-a-new-era-of-american-energy-has-begun>, accessed May 25, 2018.
- National Mining Association (NMA). 2016. Internal Revenue Service Form 990. Online at [http://990s.foundationcenter.org/990\\_pdf\\_archive/131/131084330/131084330\\_201612\\_9900.pdf](http://990s.foundationcenter.org/990_pdf_archive/131/131084330/131084330_201612_9900.pdf), accessed September 6, 2018.
- Natter, A. 2017. Koch-backed business group splinters in climate-change dispute. *Bloomberg*, December 8. Online at [www.bloomberg.com/news/articles/2017-12-08/corporate-revolt-has-business-group-at-a-crossroads-over-climate](http://www.bloomberg.com/news/articles/2017-12-08/corporate-revolt-has-business-group-at-a-crossroads-over-climate), accessed September 6, 2018.
- Negin, E. 2017. ExxonMobil talks a good game, but it's still funding climate science deniers. *HuffPost*, June 30. Online at [https://www.huffingtonpost.com/entry/exxonmobil-talks-a-good-game-but-its-still-funding\\_us\\_5956673de4b0c85b96c66116](https://www.huffingtonpost.com/entry/exxonmobil-talks-a-good-game-but-its-still-funding_us_5956673de4b0c85b96c66116), accessed September 6, 2018.
- Olson, B. 2018. Exxon, once a "perfect machine," is running dry. *Wall Street Journal*, July 13. Online at [www.wsj.com/articles/exxon-once-a-perfect-machine-is-running-dry-1531490901](http://www.wsj.com/articles/exxon-once-a-perfect-machine-is-running-dry-1531490901) (subscription required), accessed September 10, 2018.
- Paulos, B. 2015. Why the Koch brothers' war against clean energy is still failing. *Grist*, May 6. Online at <https://grist.org/climate-energy/why-the-koch-brothers-war-against-clean-energy-is-still-failing>, accessed August 1, 2018.
- Peabody Energy Corporation. 2018. United States Securities and Exchange Commission Form 10-K. Online at [www.sec.gov/Archives/edgar/data/1064728/000106472818000007/btu\\_20171231-10k.htm](http://www.sec.gov/Archives/edgar/data/1064728/000106472818000007/btu_20171231-10k.htm), accessed June 18, 2018.
- Peabody Energy Corporation. No date. Position statement on energy and climate change. Online at <https://web.archive.org/web/20180522181703/https://www.peabodyenergy.com/Sustainability/Energy-Carbon>, accessed May 22, 2018.
- Popovich, N., L. Albeck-Ripka, and K. Pierre-Louis. 2018. 76 environmental rules on the way out under Trump. *New York Times*, July 6. Online at [www.nytimes.com/interactive/2017/10/05/climate/trump-environment-rules-reversed.html](http://www.nytimes.com/interactive/2017/10/05/climate/trump-environment-rules-reversed.html), accessed August 15, 2018.
- Public Disclosure Commission (PDC). 2018. No on 1631 (sponsored by Western States Petroleum Assn). Online at [www.pdc.wa.gov/reports/debt\\_download?filer\\_id=NO1631%20507&election\\_year=2018](http://www.pdc.wa.gov/reports/debt_download?filer_id=NO1631%20507&election_year=2018), accessed September 5, 2018.
- Raden, B. 2015. ALEC confidential: Tales from the supply-side. *Capital & Main*, July 25. Online at <https://capitalandmain.com/alec-confidential-ales-from-the-supply-side-0724>, accessed August 16, 2018.
- Regulations.gov. 2018. Comment submitted by A. Verona Dorch, executive vice president and chief legal officer, government affairs and corporate secretary, Peabody Energy Corporation. Online at [www.regulations.gov/document?D=EPA-HQ-OAR-2017-0355-21005](http://www.regulations.gov/document?D=EPA-HQ-OAR-2017-0355-21005), accessed September 5, 2018.
- Reichmuth, D. 2018. Electric vehicle sales are taking off in 2018. Cambridge, MA: Union of Concerned Scientists. Blog, September 6. Online at [https://blog.ucsusa.org/dave-reichmuth/electric-vehicle-sales-are-taking-off-in-2018?\\_ga=2.5160752.2090710680.1536586047-2013138170.1522774563](https://blog.ucsusa.org/dave-reichmuth/electric-vehicle-sales-are-taking-off-in-2018?_ga=2.5160752.2090710680.1536586047-2013138170.1522774563), accessed September 10, 2018.
- Royal Dutch Shell. 2018a. Sky scenario. Online at [www.shell.com/energy-and-innovation/the-energy-future/scenarios/shell-scenario-sky.html](http://www.shell.com/energy-and-innovation/the-energy-future/scenarios/shell-scenario-sky.html), accessed August 15, 2018.
- Royal Dutch Shell. 2018b. Notice of annual general meeting. Online at [www.shell.com/investors/retail-shareholder-information/annual-general-meeting/\\_jcr\\_content/par/textimage\\_d70a.stream/1523547663423/591160a18417d3a0a345be40193229f56c7f7f8b8e-521f1153890af7158d7820/notice-of-general-meeting-22-may-2018.pdf](http://www.shell.com/investors/retail-shareholder-information/annual-general-meeting/_jcr_content/par/textimage_d70a.stream/1523547663423/591160a18417d3a0a345be40193229f56c7f7f8b8e-521f1153890af7158d7820/notice-of-general-meeting-22-may-2018.pdf), accessed September 10, 2018.
- Royal Dutch Shell. No date. Climate change and energy transitions. Online at [www.shell.com/sustainability/environment/climate-change.html](http://www.shell.com/sustainability/environment/climate-change.html), accessed August 15, 2018.
- Rushe, D. 2017. Shareholders force ExxonMobil to come clean on cost of climate change. *Guardian*, May 31. Online at [www.theguardian.com/business/2017/may/31/exxonmobil-climate-change-cost-shareholders](http://www.theguardian.com/business/2017/may/31/exxonmobil-climate-change-cost-shareholders), accessed August 15, 2018.
- Sanzillo, T., K. Hipple, and C. Williams-Derry. 2018. *The financial case for fossil fuel divestment*. Cleveland, OH: Institute for Energy Economics and Financial Analysis. Online at [http://ieefa.org/wp-content/uploads/2018/07/Divestment-from-Fossil-Fuels-The-Financial-Case\\_July-2018.pdf](http://ieefa.org/wp-content/uploads/2018/07/Divestment-from-Fossil-Fuels-The-Financial-Case_July-2018.pdf), accessed September 5, 2018.
- Science Based Targets. No date. Companies taking action. Online at <https://sciencebasedtargets.org/companies-taking-action>, accessed August 15, 2018.
- Scott, M. 2018. The sky's the limit in Shell's new climate targets scenario. *Forbes*, March 29. Online at [www.forbes.com/sites/mikescott/2018/03/29/the-skys-the-limit-in-shells-new-climate-targets-scenario](http://www.forbes.com/sites/mikescott/2018/03/29/the-skys-the-limit-in-shells-new-climate-targets-scenario), accessed September 10, 2018.

- Siders, D. 2015a. Adwatch: Oil interests mislead about vehicle monitoring. *Sacramento Bee*, August 31. Online at [www.sacbee.com/news/politics-government/election/california-elections/poligraph/article33015918.html](http://www.sacbee.com/news/politics-government/election/california-elections/poligraph/article33015918.html), accessed September 5, 2018.
- Siders, D. 2015b. Fact check: Ad misleads on gas reduction law. *Sacramento Bee*, August 22. Online at [www.sacbee.com/news/politics-government/election/california-elections/poligraph/article31851906.html](http://www.sacbee.com/news/politics-government/election/california-elections/poligraph/article31851906.html), accessed September 5, 2018.
- Steinberger, K., and A. Levin. 2017. Chamber inflates costs, ignores benefits of climate action. NRDC, March 22. Online at [www.nrdc.org/experts/kevin-steinberger/chamber-inflates-costs-ignores-benefits-climate-action](http://www.nrdc.org/experts/kevin-steinberger/chamber-inflates-costs-ignores-benefits-climate-action), accessed September 10, 2018.
- Stephens, J.C., P.C. Frumhoff, and L. Yona. 2018. The role of college and university faculty in the fossil fuel divestment movement. *Elementa: Science of the Anthropocene* 6(1):41. Online at <http://doi.org/10.1525/elementa.297>.
- Stracqualursi, V. 2017. How the US coal industry is reacting to the Paris climate accord withdrawal. *ABC News*, June 2. Online at <https://abcnews.go.com/Politics/us-coal-industry-reacting-paris-climate-accord-withdrawal/story?id=47789832>, accessed August 15, 2018.
- Task Force on Climate-Related Financial Disclosures (TCFD). 2017. Final report: Recommendations of the Task Force on Climate-Related Financial Disclosures. Online at [www.fsb-tcfd.org/publications/final-recommendations-report](http://www.fsb-tcfd.org/publications/final-recommendations-report), accessed August 15, 2018.
- The People of the State of California v. BP P.L.C., Chevron Corporation, ConocoPhillips Company, Exxon Mobil, and Royal Dutch Shell. 018a. Transcript of proceedings. Online at [www.documentcloud.org/documents/4435400-SF-Oakland-Transcript-of-Alsup-Tutorial-032118.html](http://www.documentcloud.org/documents/4435400-SF-Oakland-Transcript-of-Alsup-Tutorial-032118.html), accessed September 10, 2018.
- The People of the State of California v. BP P.L.C., Chevron Corporation, ConocoPhillips Company, Exxon Mobil, and Royal Dutch Shell. 2018b. ConocoPhillips Company's response to court order. Online at [http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180404\\_docket-317-cv-06011\\_response-5.pdf](http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180404_docket-317-cv-06011_response-5.pdf), accessed September 10, 2018.
- Union of Concerned Scientists (UCS). No date a. The disinformation playbook. Online at [www.ucsusa.org/our-work/center-science-and-democracy/disinformation-playbook](http://www.ucsusa.org/our-work/center-science-and-democracy/disinformation-playbook), accessed August 22, 2018.
- Union of Concerned Scientists (UCS). No date b. Environmental impacts of natural gas. Online at [www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/environmental-impacts-of-natural-gas](http://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/environmental-impacts-of-natural-gas), accessed August 24, 2018.
- United Nations Framework Convention on Climate Change (UNFCCC). 2017. Shell vows to halve carbon footprint by 2050 to achieve Paris goals. Online at <https://unfccc.int/news/shell-vows-to-halve-carbon-footprint-by-2050-to-achieve-paris-goals>, accessed August 15, 2018.
- United Nations Framework Convention on Climate Change (UNFCCC). 2015. The Paris Agreement. Online at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>, accessed August 15, 2018.
- University of Houston. No date. John Minge. Online at [www.uh.edu/uh-energy/about-uh-energy/advisory-board/john-minge](http://www.uh.edu/uh-energy/about-uh-energy/advisory-board/john-minge), accessed May 25, 2018.
- US Chamber of Commerce (US Chamber). No date. Board of directors. Online at [www.uschamber.com/about/board-of-directors](http://www.uschamber.com/about/board-of-directors), accessed May 25, 2018.
- US Government Accountability Office (US GAO). 2018. Climate-related risks: SEC has taken steps to clarify disclosure requirements. Online at [www.gao.gov/products/GAO-18-188](http://www.gao.gov/products/GAO-18-188), accessed August 15, 2018.
- US Securities and Exchange Commission (US SEC). 2016. Business and financial disclosure required by regulation S-K. 17 CFR Parts 210, 229, 230, 232, 239, 240, and 249. Online at [www.sec.gov/rules/concept/2016/33-10064.pdf](http://www.sec.gov/rules/concept/2016/33-10064.pdf), accessed August 17, 2016.
- US Securities and Exchange Commission (US SEC). 2010. Commission guidance regarding disclosure related to climate change. 17 CFR Parts 211, 231, 241. Online at [www.sec.gov/rules/interp/2010/33-9106.pdf](http://www.sec.gov/rules/interp/2010/33-9106.pdf), accessed August 17, 2016.
- Walden Asset Management. 2018. Walden & ConocoPhillips agree to expansion of lobbying disclosure. Online at <http://waldenassetmgmt.com/resources/walden-conocophillips-agree-expansion-lobbying-disclosure>, accessed August 15, 2018.
- Weissert, W. 2018. Big oil asks government to protect it from climate change. *Associated Press*, August 22. Online at [https://apnews.com/amp/4adc5a2a2e6b45df953ebc6a6b63d171?\\_twitter\\_impression=true](https://apnews.com/amp/4adc5a2a2e6b45df953ebc6a6b63d171?_twitter_impression=true), accessed September 10, 2018.
- Western States Petroleum Association (WSPA). 2016. Internal Revenue Service Form 990. Online at [http://990s.foundationcenter.org/990\\_pdf\\_archive/950/950596680/950596680\\_201612\\_9900.pdf](http://990s.foundationcenter.org/990_pdf_archive/950/950596680/950596680_201612_9900.pdf), accessed September 5, 2018.
- Western States Petroleum Association (WSPA). No date. Member companies. Online at [www.wspa.org/about](http://www.wspa.org/about), accessed May 25, 2018.
- Zimonyi, S. 2018. Will Europe be first to adopt the TCFD recommendations? London, UK: Climate Disclosure Standards Board. Blog, February 1. Online at [www.cdsb.net/mandatory-reporting/765/will-europe-be-first-adopt-tcfd-recommendations](http://www.cdsb.net/mandatory-reporting/765/will-europe-be-first-adopt-tcfd-recommendations), accessed September 10, 2018.

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