

# The Oil and Gas Companies Suing to Pollute Without Limits

By Erin Auel, Alison Cassady, and Julie Katsnelson January 26, 2017

In 2013, the Obama administration announced the Climate Action Plan to "protect our kids' health and begin to slow the effects of climate change so we leave a cleaner, more stable environment for future generations." Now that President Donald Trump—who has called climate change a "hoax"—has entered the White House, the Climate Action Plan is in jeopardy.2

Components of the Climate Action Plan are already under attack. In 2016, the Environmental Protection Agency, or EPA, finalized the first-ever federal limits on methane pollution from the oil and gas sector, the largest industrial source of methane in the United States.<sup>3</sup> In November 2016, the Bureau of Land Management, or BLM, also finalized a rule to reduce methane leaks and waste from oil and gas operations on public lands.<sup>4</sup> Methane is a supercharged global warming pollutant that is 87 times more potent than carbon dioxide over a 20-year timescale. 5 Methane emissions are often packed with other pollutants as well, including volatile organic compounds—a key ingredient in smog—and toxic air pollutants.

The oil and gas sector immediately filed suit against the EPA and BLM methane rules and likely will support congressional and administrative action to revoke these standards in 2017. To better understand the parties behind the efforts to nullify the methane limits, the Center for American Progress examined the oil and gas industry trade associations that are suing the EPA and BLM; identified, when possible, the member companies of those associations; and tallied those member companies' methane pollution levels. CAP found that:

- At least 104 oil and gas production companies are members of the litigating trade associations and reported methane pollution in 2014 or 2015.
- These 104 companies emitted more than 38 million metric tons of methane, measured in carbon dioxide equivalent, in 2015—enough methane to power 4 million homes per year.

Without strong limits on methane pollution from the oil and gas sector, the United States likely will not be able to meet its climate commitments as part of the Paris Agreement.<sup>6</sup> Oil and gas companies will face no federal limits on the methane pollution leaking from their operations. And, importantly, communities downwind from those operations will continue to breathe unhealthy air.

### Methane pollution standards under attack

As part of the Obama administration's broader climate change mitigation strategy, it set a goal of reducing methane emissions from the oil and gas sector by 40 percent to 45 percent from 2012 emissions levels by 2025.<sup>7</sup> To that end, the EPA and BLM finalized two critical rules in 2016 to cut methane pollution from this industry.

In May 2016, the EPA issued the first federal standards to regulate methane emissions from new oil and gas operations.<sup>8</sup>

Methane can escape at numerous points in the oil and natural gas system—from leaky valves and pipes, for example, or from intentional equipment venting. The EPA rule sets emissions limits for methane pollution from new equipment and facilities and requires oil and gas companies to find and repair methane leaks. It also requires producers to capture methane gas at new oil wells that otherwise would be released into the atmosphere as a byproduct. The EPA estimates that these standards will prevent the release of \$10,000 short tons of methane in 2025, which is equivalent to the emissions from the electricity needed to power 1.2 million homes for one year. The standards will have the co-benefit of reducing other pollutants by 2025, including 210,000 tons of smog-forming volatile organic compounds and 3,900 tons of air toxins.

In November 2016, the BLM updated 30-year-old regulations to mitigate the waste of natural gas—the primary component of which is methane—from onshore oil and gas production facilities on public lands. <sup>11</sup> The BLM estimates that oil and gas operations on public lands wasted enough natural gas between 2009 and 2015 to serve 6 million households for a year. <sup>12</sup>

The oil and gas industry, however, came out in opposition to these standards. In August 2016, 24 trade associations representing the oil and gas industry sued the EPA to block the rule. In November, two of these trade associations also filed suit against the BLM. (see Sidebar) In filing these lawsuits, many of the groups argued that oil and gas companies should lead the way in reducing methane emissions—and should do so without regulatory oversight. The American Petroleum Institute, or API, for example, warned that the EPA's new source standards would "disrupt our progress reducing emissions." The Independent Petroleum Association of America called the EPA pollution limits "excessive" and "counterproductive."

Some of these trade associations also have expressed support for using administrative or legislative tools in 2017 to prevent the agencies from implementing their methane standards or to block the EPA from promulgating additional standards for existing pollution sources. The president and CEO of API, Jack Gerard, stated the group's intention to push for the repeal of federal methane standards, and the Western Energy Alliance declared its intention to work with the incoming administration to "roll back many unlawful regulatory orders."16 Policy observers suggest that the EPA and BLM methane rules could be a top target of a Congressional Review Act resolution of disapproval in the early weeks of the 115th Congress.<sup>17</sup>

## Trade associations that are suing the EPA to block methane pollution standards for the oil and gas sector

- American Exploration & Production Council
- · American Petroleum Institute
- Domestic Energy Producers Alliance
- Eastern Kansas Oil and Gas Association
- GPA Midstream Association
- · Illinois Oil & Gas Association
- · Independent Oil and Gas Association of West Virginia
- Independent Petroleum Association of America\*
- · Indiana Oil and Gas Association
- International Association of Drilling Contractors
- · Interstate Natural Gas Association of
- Kansas Independent Oil and Gas Association

- · Kentucky Oil & Gas Association
- · Michigan Oil and Gas Association
- National Stripper Well Association
- North Dakota Petroleum Council
- · Ohio Oil and Gas Association
- Oklahoma Independent Petroleum Association
- · Pennsylvania Independent Oil & Gas Association
- Texas Alliance of Energy Producers
- Texas Independent Producers & Royalty **Owners Association**
- Texas Oil and Gas Association
- · West Virginia Oil and Natural Gas Association
- Western Energy Alliance\*

\*These trade associations also filed suit against the BLM methane waste prevention rule

Sources: Independent Petroleum Association of America, American Exploration & Production Council, Domestic Energy Producers Alliance. Eastern Kansas Oil & Gas Association, Illinois Oil & Gas Association, Independent Oil and Gas Association of West Virginia, Inc., Indiana Oil and  $Gas\ Association, International\ Association\ of\ Drilling\ Contractors, Kansas\ Independent\ Oil\ \&\ Gas\ Association, Kentucky\ Oil\ \&\ Gas\ Association$ Michigan Oil and Gas Association, National Stripper Well Association, North Dakota Petroleum Council, Ohio Oil and Gas Association, Oklahoma Independent Petroleum Association, Pennsylvania Independent Oil & Gas Association, Texas Alliance of Energy Producers, Texas Independent Producers & Royalty Owners Association, and West Virginia Oil and Natural Gas Association v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1262, Petition for Review, August 2, 2016; Western Energy Alliance v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1266, Petition for Review, August 2, 2016; Interstate Natural Gas Association v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1266, Petition for Review, August 2, 2016; American Petroleum Institute v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1270, Petition for Review, August 2, 2016; GPA Midstream Association v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1267, Petition for Review, August 2, 2016; Texas Oil and Gas Association v. U.S. Environmental Protection Agency, U.S. Court of Appeals for the District of Columbia Circuit, Case No. 16-1269, Petition for Review, August 2, 2016. Western Energy Alliance and Independent Petroleum Association of America v. Sally Jewell and Bureau of Land Management, U.S. Court of Appeals for the District of Columbia Circuit, Petition for Review, Case No. 16-cv-00285-SWS, November 15, 2016.

# Findings: EPA opponents are responsible for significant methane pollution

The member companies of the 24 trade associations listed in the sidebar are responsible for much of the pollution that makes the oil and gas sector the largest industrial source of methane emissions in the United States. (see Text Box)

CAP reviewed these trade associations' membership lists—when available—and crossreferenced the member companies with those that reported methane emissions to the Greenhouse Gas Reporting Program, or GHGRP, in 2014 and 2015. When the full membership list was not publicly available, the authors used other lists, such as lists of companies serving on the associations' boards of directors. (see the Methodology section for a complete discussion of the sources used)

Through its review, CAP found that:

- At least 104 oil and gas production companies reported methane pollution in 2014 or 2015 and are members of these trade associations—and are therefore affiliated with the lawsuits to block the EPA and BLM oil and gas methane standards. This number is likely an underestimate, since not every trade association makes its full membership list public.
- These 104 companies emitted 38.6 million metric tons of methane, measured in carbon dioxide equivalent, in 2014 and 38.1 million metric tons in 2015. The 2015emissions are equivalent to the emissions generated from running more than 11 coalfired power plants for a year or the emissions from burning 20 million tons of coal.<sup>18</sup> The United States could power 4 million homes for a year with the methane that these companies wasted in 2015.19

CAP's findings underestimate the total amount of methane pollution from the companies affiliated with the lawsuits for two key reasons. First, the trade associations that are fighting to block the rules represent some companies that may not report their emissions to the GHGRP, which only requires companies to report if they release 25,000 metric tons of carbon dioxide equivalent methane in any given year.<sup>20</sup> Second, more than half of the litigating trade associations do not make their full membership lists publicly available. (see Methodology)

Table 1 shows 2014 and 2015 emissions of the oil and gas companies that are confirmed members in at least one of the trade associations currently challenging the EPA's methane rule. Many companies are members of more than one trade association.

TABLE 1
Methane emissions of companies affiliated with at least one trade association suing the EPA

Metric tons of carbon dioxide equivalent

Parent company	2014 methane emissions	2015 methane emissions
ABARTA Inc.	*	1,981
Anadarko Petroleum Corp.	1,743,867	1,519,338
Antero Resources	69,952	97,476
Apache Corp.	633,740	501,699
Approach Resources Inc.	98,476	93,909
Ascent Resources LLC	*	49,991
Atlas Energy Inc.	681,668	401,517
Badlands Energy Inc.	*	78,001
BHP Billiton Ltd.	388,082	411,204
Bill Barrett Corp.	185,227	169,216
Bonanza Creek Energy Inc.	146,188	210,565
BOPCO LP	105,163	78,534
BP America	2,309,971	2,516,029
BreitBurn Energy Partners LP	285,831	285,124
Burnett Oil Co.	9,612	48,816
Cabot Corp.	115,899	225,465
California Resources Corp.	34,935	206,433
Carrizo Oil & Gas Inc.	48,987	136,843
Castleton Commodities International	23,887	64,305
Chaparral Energy Inc.	177,426	184,064
Chesapeake Energy Corp.	2,767,333	2,775,382
Chevron Corp.	736,235	602,141
Chief Oil & Gas LLC	27,829	38,292
Cimarex Energy	781,466	707,133
Comstock Resources Inc.	141,249	121,638
Concho Resources Inc.	*	117,230
ConocoPhillips Corp.	4,653,752	3,371,391
CONSOL Energy Inc.	*	531,977
Continental Resources Inc.	207,979	229,680
Denbury Resources Inc.	263,967	101,816
Devon Energy Corp.	1,005,238	1,231,535
Diamondback Energy Inc.	432,156	137,311
Duncan Oil Properties Inc.	28,890	38,148
Encana Corp.	858,833	774,157
Endeavor Energy Resources LP	224,696	268,041

Parent company	2014 methane emissions	2015 methane emissions
Energen Corp.	323,001	167,628
Energy Corporation of America	26,997	26,364
Enerplus Resources Corp.	95,589	28,089
EnerVest Operating Company	1,403,018	1,464,547
Eni US Operating Company Inc.	67	67
EOG Resources Inc.	2,668,380	2,551,278
EP Energy E&P Co. LP	402,741	397,713
EQT Corp.	62,850	158,497
Ergon Inc.	2,009	*
Exco Resources Inc.	186,091	300,106
ExxonMobil Corp.	3,491,197	3,186,410
Fasken Oil and Ranch	10,537	11,041
FourPoint Energy LLC	*	247,285
Gulfport Energy Corp.	7,943	25,393
Halcon Resources Corp.	172,299	172,040
Helis Oil & Gas Co.	5,263	4,449
Hess Corp.	139,889	154,511
Hilcorp Energy Company	178,205	591,179
Hunt Consolidated Inc.	30,646	33,220
JMA Energy Company LLC	25,405	24,377
Jonah Energy LLC	159,627	140,629
Jones Energy Holdings LLC	*	138,856
Kinder Morgan	2	5
Legacy Reserves Operating LP	50,545	143,544
Linn Energy LLC	940,884	980,660
Magnum Hunter Resources Corp.	2,359	*
Marathon Oil Corp.	530,956	455,114
Matador Production Co.	37,512	93,418
Mountaineer Keystone LLC	13,688	16,942
Murex Petroleum Corporation	6,233	4,579
Murphy Oil Corp.	62,496	57,867
Newfield Exploration Co.	229,770	252,573
Nextera Energy Inc.	1,845	*
Noble Energy Co.	279,921	234,857
Oasis Petroleum	36,844	77,666
Occidental Petroleum Corp.	542,142	467,008
PDC Energy	573,802	466,756
Peak Exploration & Production LLC	3,733	2,639
Penn Virginia Corp.	82,488	67,634

Parent company	2014 methane emissions	2015 methane emissions
Pennsylvania General Energy Co. LLC	171,382	77,829
Pennsylvania Land Resources Holding Co. LLC	54,129	53,758
Petro-Hunt LLC	45,053	54,868
Pioneer Natural Resources Co.	487,716	310,694
QEP Resources Inc.	990,500	1,071,966
Questar Corp.	385,940	335,894
Range Resources Corp.	62,626	276,254
Resolute Energy Corp.	16,619	19,469
Rex Energy Operating Corp.	59,870	40,352
Rice Energy Inc.	*	16,069
RKI Exploration & Production LLC	118,125	*
SandRidge Energy Inc.	824,292	947,000
Seneca Resources Corp.	212,822	148,335
Shell Oil Co.	205,070	204,940
SK	23,306	30,111
Slawson Companies	19,044	11,928
SM Energy Co.	71,512	118,459
Southwestern Energy Co.	1,159,863	1,230,344
Statoil	143,850	88,501
Stone Energy Corporation	21,500	1,077
Swift Energy Operating LLC	66,758	49,641
Synergy Resources Corp.	*	20,908
Talisman Energy Inc.	121,716	103,390
Texas Keystone Inc.	15,506	6,144
Ultra Petroleum Corp.	144,940	192,478
Vanguard Natural Resources LLC	262,829	285,397
W&T Offshore Inc.	6,242	*
Ward Petroleum Corp.	29,146	16,222
Whiting Petroleum Corp.	180,822	194,847
WPX Energy Inc.	723,202	767,595
Total	38,599,888	38,145,793

Note: \* indicates that a parent company did not report data for one of the years, which may be because the company did not meet reporting thresholds in that year or the company is no longer reporting under that name. The parent company names may not reflect mergers, acquisitions, and bankruptcies that have occurred since the 2015 reporting period ended.

Source: Author's analysis of methane emissions data obtained from Environmental Protection Agency, "EPA Facility Level GHG Emissions Data: Onshore Oil and Gas Production," available at https://ghgdata.epa.gov/ghgp/main.do (last accessed December 2016).

## Profiles of key trade associations involved in the EPA litigation

Twenty-four oil and gas associations are suing the EPA over the methane standards for new oil and gas operations. Four of the largest associations are profiled below.

#### **American Exploration & Production Council**

The American Exploration & Production Council is a national trade association that represents 32 of the biggest independent oil and gas producers in the country.<sup>21</sup> Of those producers, three companies—Exxon Mobil Corp., Chesapeake Energy Corp., and EOG Resources Inc.—are among the top four biggest methane emitters in 2015.<sup>22</sup>

#### **Independent Petroleum Association of America**

The Independent Petroleum Association of America, or IPAA, is one of the largest oil and gas trade associations in the country, representing thousands of companies in the industry.<sup>23</sup> Six of the top 10 biggest methane-polluting companies are represented on the IPAA's board of directors.<sup>24</sup> IPAA also is suing to block the BLM methane waste prevention rule.

#### **American Petroleum Institute**

The American Petroleum Institute, or API, is a trade association that represents more than 625 oil- and gas-related companies, ranging from multimillion dollar corporations to independently owned producers to refiners and pipeline operators.<sup>25</sup> All of the top 10 methane-emitting companies in 2015 are members of API.<sup>26</sup>

#### **Western Energy Alliance**

The Western Energy Alliance, or WEA, represents more than 300 oil and gas companies engaged in exploration and production in the American West.<sup>27</sup> Several of the top methane emitters—including Anadarko Petroleum Corp., Devon Energy Corp., Exxon Mobil Corp., and EOG Resources Inc.—are members of the WEA's board of directors.<sup>28</sup> WEA also is suing to block the BLM methane waste prevention rule.

#### Conclusion

Addressing methane emissions is essential to protecting the health of Americans and to achieving the goals of the U.S. Climate Action Plan. Unfortunately, the oil and gas industry is fighting the first-ever methane limits for the oil and gas sector and suing the EPA and BLM to defend its ability to pollute. With the close ties among the oil and gas industry, the new Trump administration, and their allies in Congress, the trade associations working to block methane pollution limits may soon be guiding the future of environmental and health protections.

## Methodology

CAP obtained and downloaded company-level data from the EPA's GHGRP in November 2016. The EPA data reflect the data that companies reported to the EPA in August 2016.<sup>29</sup>

CAP worked to compile membership lists for the trade associations that have filed suit against the EPA, two of which have also filed suit against the BLM. Many of the trade associations—15 of 24—do not make their full membership lists public. For those trade associations, CAP identified the corporate members of the associations' boards of directors. The Michigan Oil and Gas Association does not make its membership nor its board of directors publicly available. Because of these methodological limitations, the authors' findings likely underestimate the amount of methane pollution represented by the member companies of the litigating trade associations.

The list below shows what sources each association makes publicly available—including membership lists, boards of directors, and executive committees.

- American Exploration & Production Council: Full membership list<sup>30</sup>
- American Petroleum Institute: Full membership list<sup>31</sup>
- Domestic Energy Producers Alliance: Executive committee and board members only<sup>32</sup>
- Eastern Kansas Oil & Gas Association: Board members only<sup>33</sup>
- GPA Midstream Association: Full membership list<sup>34</sup>
- Illinois Oil & Gas Association: Board of directors only<sup>35</sup>
- Independent Oil and Gas Association of West Virginia: Board of directors and executive committees<sup>36</sup>
- Independent Petroleum Association of America: Board of directors and a limited list of corporate members<sup>37</sup>
- Indiana Oil and Gas Association: Full membership list<sup>38</sup>
- International Association of Drilling Contractors: Full producer membership list<sup>39</sup>
- Interstate Natural Gas Association of America: Full membership list<sup>40</sup>
- Kansas Independent Oil & Gas Association: Board of directors, committees, and officers<sup>41</sup>
- Kentucky Oil & Gas Association: Board of directors only<sup>42</sup>
- Michigan Oil and Gas Association: Not available
- National Stripper Well Association: Executive committee and board of directors only<sup>43</sup>
- North Dakota Petroleum Council: Board of directors only<sup>44</sup>
- Ohio Oil and Gas Association: Full membership list<sup>45</sup>
- ullet Oklahoma Independent Petroleum Association: Executive committee and board of directors only  $^{46}$
- Pennsylvania Independent Oil & Gas Association: Current officers and executive committee, 2013–2014 membership list<sup>47</sup>
- Texas Alliance of Energy Producers: Executive committee and board of directors only<sup>48</sup>

- Texas Independent Producers & Royalty Owners Association: Board of directors and members of individual committees<sup>49</sup>
- Texas Oil and Gas Association: Board of directors only<sup>50</sup>
- West Virginia Oil and Natural Gas Association: Full membership list<sup>51</sup>
- Western Energy Alliance: Board of directors and advisors only<sup>52</sup>

Erin Auel is a Research Associate for the Energy Policy team at the Center for American Progress. Alison Cassady is Director of Domestic Energy Policy at the Center. Julie Katsnelson was an intern at the Center.

#### Endnotes

- 1 White House Office of the Press Secretary, "Fact Sheet: President Obama's Climate Action Plan," Press release, June 23, 2013, available at https://obamawhitehouse.archives.gov/ the-press-office/2013/06/25/fact-sheet-president-obama-sclimate-action-plan.
- 2 Louis Jacobson, "Yes, Donald Trump did call climate change a Chinese hoax," Politifact, June 3, 2016, available at http:// www.politifact.com/truth-o-meter/statements/2016/ jun/03/hillary-clinton/yes-donald-trump-did-call-climatechange-chinese-h/.
- 3 U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (2016), available at https://www3.epa.gov/climatechange/Downloads/ ghgemissions/US-GHG-Inventory-2016-Main-Text.pdf.
- 4 U.S. Department of the Interior, Bureau of Land Management, "Waste Prevention, Production Subject to Royalties, and Resource Conservation; Final Rule," Federal Register 81 (223) (2016).
- 5 Gunnar Myhre and others, "Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change" (Geneva, Switzerland: Intergovernmental Panel on Climate Change, 2013), available at http://www. ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\_Chapter08 FINAL.pdf.
- 6 John Larsen and others, "Taking Stock: Progress Toward Meeting US Climate Goals" (New York: Rhodium Group, 2016), available at http://rhg.com/wp-content/uploads/2016/01/RHG\_Taking\_Stock\_of\_US\_Climate\_Goals\_ Jan28 2016.pdf.
- 7 White House Office of the Press Secretary, "Fact Sheet: Administration Takes Steps Forward on Climate Action Plan by Announcing Actions to Cut Methane Emissions," Press release, January 14, 2015, available at https://obamawhitehouse.archives.gov/the-press-office/2015/01/14/fact-sheetadministration-takes-steps-forward-climate-action-plananno-1.
- 8 U.S. Environmental Protection Agency, "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources; Final Rule," Federal Register 81 (107) (2016).
- 9 U.S. Environmental Protection Agency, "EPA's Actions to Reduce Methane Emissions from the Oil and Natural Gas Industry: Final Rules and Draft Information Collection Request" (2016) available at https://www.epa.gov/sites/ production/files/2016-09/documents/nsps-overview-fs.pdf; Equivalencies calculated from U.S. Environmental Protect tion Agency, "Greenhouse Gas Equivalencies Calculator," available at https://www.epa.gov/energy/greenhouse-gasequivalencies-calculator (last accessed January 2017).
- 10 U.S. Environmental Protection Agency, "EPA's Actions to Reduce Methane Emissions from the Oil and Natural Gas Industry.
- 11 U.S. Department of the Interior, Bureau of Land Management, "Waste Prevention, Production Subject to Royalties, and Resource Conservation."
- 12 U.S. Department of the Interior, "Interior Department Announces Final Rule to Reduce Methane Emissions & Wasted Gas on Public, Tribal Lands," Press release, November 15, 2016, available at https://www.doi.gov/pressreleases/ interior-department-announces-final-rule-reduce-methaneemissions-wasted-gas-public.
- 13 The petitions for review are available at Environmental Defense Fund, "Oil and gas standards resources," available at https://www.edf.org/energy/oil-and-gas-standards-resources (last accessed December 2016).

- 14 American Petroleum Institute, "API Files Suit Against EPA's Final Oil and Natural Gas Sector Rule," Press release, August 3, 2016, available at http://www.api.org/news-policy-andissues/news/2016/08/03/api-files-against-epa-rule.
- 15 Independent Petroleum Association of America, "IPAA Raises Serious Concerns, Files Litigation Over EPA's Final Methane Regulations," Press release, August 3, 2016, available at http://www.ipaa.org/press-releases/ipaa-raisesserious-concerns-files-litigation-over-epas-final-methaneregulations/.
- 16 Chris Mooney, "Trump could roll back Obama rules on methane, a potent greenhouse gas," The Washington Post, November 11, 2016, available at https://www.washingtonpost.com/news/energy-environment/wp/2016/11/11/ this-is-the-other-way-that-trump-could-worsen-globalwarming/; Western Énergy Alliance, "Western Energy Alliance Congratulates President-Elect Trump," Press release, November 9, 2016, available at https://www.westernenergyalliance.org/press-room/western-energy-alliance-congratulates-president-elect-trump.
- 17 Marianne Lavelle, "Here are 9 Obama Environmental Regulations in Trump's Crosshairs," InsideClimate News, November 22, 2016, available at https://insideclimatenews. org/news/22112016/donald-trump-obama-environmentalregulations-deregulation-epa.
- 18 The authors calculated the equivalency using 2015 methane emissions (in carbon dioxide equivalent) and the U.S. Environmental Protection Agency, "Greenhouse Gas Equivalencies Calculator."
- 19 Ibid.
- 20 40 CFR § 98.2.
- 21 American Exploration & Production Council, "Mission," available at http://www.axpc.us/about\_profile.html (last accessed January 2017).
- 22 Authors' analysis of methane emissions data obtained from U.S. Environmental Protection Agency, "EPA Facility Level GHG Emissions Data: Onshore Oil and Gas Production," available at https://ghgdata.epa.gov/ghgp/main.do (last accessed November 2016).
- 23 Independent Petroleum Association of America, "About IPAA," available at http://www.ipaa.org/about/ (last accessed November 2016)
- 24 Author's analysis of methane emissions data obtained from U.S. Environmental Protection Agency, "EPA Facility Level GHG Emissions Data: Onshore Oil and Gas Production."
- 25 American Petroleum Institute, "About API," available at http://www.api.org/about (last accessed November 2016).
- 26 Author's analysis of methane emissions data obtained from U.S. Environmental Protection Agency, "EPA Facility Level GHG Emissions Data: Onshore Oil and Gas Production."
- 27 Western Energy Alliance, "The Alliance," available at https:// www.westernenergyalliance.org/alliance (last accessed December 2016).
- 28 Author's analysis of methane emissions data obtained from U.S. Environmental Protection Agency, "EPA Facility Level GHG Emissions Data: Onshore Oil and Gas Production.
- 29 U.S. Environmental Protection Agency, "2015 Greenhouse Gas (GHG) Emissions from Large Facilities," available at https://ghgdata.epa.gov/ghgp/main.do (last accessed November 2016).
- 30 American Exploration & Production Council, "Members," available at http://www.axpc.us/about\_members.html (last accessed January 2017).

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- 31 American Petroleum Institute, "Members," available at http://www.api.org/membership/members (last accessed January 2017).
- 32 Domestic Energy Producers Alliance, "DEPA Executive Committee," available at http://depausa.org/about/executive-committee (last accessed January 2017); Domestic Energy Producers Alliance, "DEPA Board," available at http:// depausa.org/about/board (last accessed January 2017).
- 33 Eastern Kansas Oil & Gas Association, "EKOGA Board Members," available at http://www.ekoga.org/board-members (last accessed December 2016).
- 34 GPA Midstream Association, "Our Members," available at https://www.gpaglobal.org/about/members (last accessed January 2017)
- 35 Illinois Oil & Gas Association, "2016 Board of Directors," available at https://iogaa.memberclicks.net/board-of-directors (last accessed December 2016).
- 36 West Virginia Independent Oil and Gas Association, "Board of Directors," available at https://iogawv.com/board-ofdirectors/ (last accessed December 2016); West Virginia Independent Oil and Gas Association, "2016-2017 Committee Chairs," available at https://iogawv.com/committees/ (last accessed December 2016).
- 37 Independent Petroleum Association of America, "Board of Directors," available at http://www.ipaa.org/about/boardof-directors/ (last accessed December 2016); Independent Petroleum Association of America, "Welcome to the IPAA Annual Report & 10K Service," available at http://www.irsolutions.com/Hardcopy/ipaa (last accessed December 2016).
- 38 Indiana Oil and Gas Association, "Member Websites," available at http://www.inoga.org/member-websites (last accessed January 2017).
- 39 International Association of Drilling Contractors, "Producer Members," available at http://www.iadc.org/producermembers/ (last accessed December 2016).
- 40 Interstate Natural Gas Association of America, "INGAA Member Companies," available at http://www.ingaa.org/ INGAAMembers.aspx (last accessed January 2017).
- 41 Kansas Independent Oil & Gas Association, "Board of Directors," available at http://www.kioga.org/about-kioga/ board-of-directors (last accessed December 2016); Kansas Independent Oil & Gas Association, "Committees," available at http://www.kioga.org/about-kioga/committees (last accessed December 2016); and Kansas Independent Oil & Gas Association, "Officers," available at http://www.kioga.org/ about-kioga/leadership (last accessed December 2016).
- 42 Kentucky Oil & Gas Association, "Board of Directors," available at http://www.kyoilgas.org/ABOUT/BoardofDirectors. aspx (last accessed December 2016).
- 43 National Stripper Well Association, "2016 Executive Committee and Board of Directors," available at https://nswa. us/custom/showpage.php?id=23 (last accessed December 2016).

- 44 North Dakota Petroleum Council, "Board of Directors," available at http://ndoil.org/about\_us/board-of-directors/ (last accessed December 2016).
- 45 Ohio Oil and Gas Association, "Premier Members," available at http://www.ooga.org/?page=Premier; Ohio Oil and Gas Association, "Discovery Members," available at http://www. ooga.org/?page=Discovery; Ohio Oil and Gas Association, "Wildcat Members," available at http://www.ooga. org/?page=Wildcat; Ohio Oil and Gas Association, "Scout Members," available at http://www.ooga.org/?page=Scout; Ohio Oil and Gas Association, "Roustabout Members," available at http://www.ooga.org/?page=Roustabout (last accessed December 2016).
- 46 Oklahoma Independent Petroleum Association, "OIPA Executive Committee & Board," available at http://oipa.com/ custom/showboard.php?toplevel=25&id=68 (last accessed
- 47 Pennsylvania Independent Oil & Gas Association, "Board and Committees," available at https://www.pioga.org/about/ who-we-are/board-and-committees/ (last accessed December 2016); Pennsylvania Independent Oil & Gas Association, "Membership Directory 2013-2014" (2013), available at https://www.pioga.org/wp-content/uploads/2014/01/2013membership-directory-electronic-version.pdf.
- 48 Texas Alliance of Energy Producers, "Alliance Executive Committee," available at http://texasalliance.org/wp-content/ uploads/2016/11/2016-2017-Exec-Committee.pdf; Texas Alliance of Energy Producers, "Board of Directors," available at http://texasalliance.org/wp-content/uploads/2016/04/ BoD-16-18.pdf (last accessed December 2016).
- 49 Texas Independent Producers & Royalty Owners Association, "Board of Directors," available at http://www.tipro.org/ about-us/leadership/77-board-of-directors; Texas Independent Producers & Royalty Owners Association, "State Issues Committee," available at http://www.tipro.org/about-us/ leadership/79-state-issues-committee: Texas Independent Producers & Royalty Owners Association, "Regulatory Committee," available at http://www.tipro.org/about-us/ leadership/154-regulatory-committee; Texas Independent Producers & Royalty Owners Association, "Audit Committee," available at http://www.tipro.org/about-us/leadership/80audit-committee (last accessed December 2016).
- 50 Texas Oil & Gas Association, "Board of Directors," available at https://www.txoga.org/about-us/ (last accessed December
- 51 West Virginia Oil and Natural Gas Association, "Our Members," available at http://wvonga.com/about/our-members. html (last accessed September 2016). This link no longer works, and the membership list is no longer publicly posted. An archived list of board members is available at https:// web.archive.org/web/20161104093656/http:/wvonga.com/ about/our-board.html.
- 52 Western Energy Alliance, "Board of Directors & Advisors," available at https://www.westernenergyalliance.org/alliance/who-we-are/board-directors-advisors (last accessed December 2016).