

# 2020: A CLEAR VISION FOR PARIS COMPLIANT SHAREHOLDER ENGAGEMENT

Investors at Risk Must Demand Oil & Gas  
Companies Deliver 2°C Transition Plans



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# INTRODUCTION

*The oil and gas industry and its products account for half of global carbon dioxide emissions. If humanity is to stand any chance of effectively addressing climate change, global oil and gas companies must become part of the solution.*<sup>1</sup>

The emissions of the oil & gas industry collectively account for approximately half of global carbon dioxide (CO<sub>2</sub>) emissions.<sup>2</sup> If fossil fuels continue to be extracted at the same rate over the next 28 years, as they were between 1988 and 2017, global average temperatures would be on course to rise 4°C by the end of the century.<sup>3</sup> Such an increase will have catastrophic consequences.

With the adoption of the Paris Climate Agreement and the global recognition that swift action must be taken to limit global temperature rise to significantly below 2°C, shareholder pressure has increased on oil & gas companies to address their contribution to growing climate risk.

It is within this context that we pose the following questions for consideration in this Strategy Review:

- Is shareholder engagement on pace to move oil & gas companies to achieve Paris goals?
- Are oil & gas company demand projections realistic and do they justify continued capital expenditures on exploration and production of more reserves?
- What is the portfolio cost and continued risk to investors of holding oil & gas stocks?
- Can shareholders influence oil & gas companies to adopt a Paris compliant transition plan?

## EXECUTIVE SUMMARY

One hundred and sixty climate change shareholder resolutions were filed at 24 U.S. oil & gas companies between 2012 and 2018 (see Figures 1 & 2). These resolutions resulted in a range of successes—from appointing climate-competent board members<sup>4</sup> to reducing some operational greenhouse gas emissions. Despite this movement, none of these U.S. oil & gas companies have adopted plans, or targets, to limit their full lifecycle contribution of greenhouse gas emissions. Instead, the vast majority of these companies are continuing business as usual investments to maintain or expand production. Specifically, there has been no material progress in reducing the emissions that matter most, Scope 3 product emissions,<sup>5</sup> in alignment with the Paris Climate Accord. These emissions, because of their size and scale, are the relevant proxy for assessing company progress on climate change goals, as is a company's disclosure of Paris compliant business plans to rapidly ramp down these emissions.

The fact that global greenhouse gas emissions, and oil & gas company capital expenditures on exploration and production, keep rising signals a fundamental limitation of the current shareholder engagement strategy. Shareholders must grapple head-on with the implications of an oil & gas business model that continues to invest unabated in products which, when used, run counter to science-based targets and the Paris Agreement.

1. Bill Hakfer, "Former Exxon executive calls on oil industry to clean up its act," CNBC, May 2018, <https://www.cnbc.com/2018/04/30/oil-industry-needs-to-address-climate-change-says-former-exxon-exec.html>.
2. Tarek Soliman, Luke Fletcher and Charles Fruitiere, "In the Pipeline. Which oil & gas companies are preparing for the future? Executive Summary," CDP, November 2016, P3, <https://www.cdp.net/en/investor/sector-research/oil-and-gas-report>.
3. Damian Carrington, "Planet likely to warm by 4C by 2100, scientist warn," *The Guardian*, December 31, 2013, <https://www.theguardian.com/environment/2013/dec/31/planet-will-warm-4c-2100-climate>.
4. Following three years of resolutions, in 2017, Exxon gave way and welcomed Dr. Susan Avery, an atmospheric scientist, and former president and director of the Woods Hole Oceanographic Institution, to its board. <https://insideclimatenews.org/news/26012017/exxons-nod-climate-change-board-member-who-studied-it>.
5. The GHG Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes.' Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including emissions associated with use of product, which for oil & gas companies, is their greatest source of emissions. [https://ghgprotocol.org/sites/default/files/standards\\_supporting/FAQ.pdf](https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf).



Oil & gas companies' demand projections and rationales for continued capital expenditures are based on assumptions that are not in alignment with Paris goals. Too few companies are conducting true 2°C scenario planning and stress test analyses, or disclosing sufficient information when they do, including assumptions and outcomes. The result for the companies that have performed such analysis is generally projections of demand far beyond what can be burned while keeping global temperatures safely below 2°C. Company intentions to supply whatever demand exists irrespective of climate impact, and to continue investments in exploration and production of reserves that are likely to be stranded under Paris compliance, contributes directly to the world continuing to overshoot its Paris goals and is in defiance of accepted science-based targets.

While many shareholders of oil & gas companies have divested or committed to divest,<sup>6</sup> others remain steadfast in holding these investments in order to engage company management. For pension funds, university endowments, mutual funds, and foundations such investments are increasingly a financial risk. Over the past ten years, the energy sector has underperformed the benchmark, leading to significant portfolio underperformance and fiduciary risk for the trustees and investment committees of these institutions. While oil prices have recently increased, giving some performance relief, long-term risk for this sector continues to rise. An array of negative business indicators that increase performance risk include: high costs of capital expenditures on exploration and production; mounting debt, credit downgrades, increased litigation targeting oil & gas companies on climate; increased cost competitiveness of renewables and other low carbon technologies; the likelihood of declining demand as efficiency and climate policies move forward globally; and associated fiduciary risk to large institutional shareholders.

In addition, climate change negatively impacts the global economy threatening all sectors of shareholder portfolios—from supply chain blockages, to cycles of flood and drought, to lack of fresh water, to agriculture losses, to reduced global demand for products, among others. As global climate impacts rise,<sup>7</sup> broader portfolios will suffer.

There is a short window of time to ensure that global temperature rise does not exceed 2°C. Moving oil & gas companies—one of the largest sources of greenhouse gas emissions—to transition to Paris compliant, low carbon business plans is critical to meeting this goal. After seven years of shareholder advocacy focused on financial, risk-based climate engagement with the oil & gas industry, it is time for a strategic shift to increase impact. Having gained so little on material climate change, and given up so much in portfolio underperformance, a new course of action is needed.

Shareholders must therefore demand 2°C transition plans from oil & gas companies by 2020. This will mean that shareholders must unify and demand that oil & gas companies immediately undertake scenario analysis compatible with a 2°C demand level, with transparent methods of assessment and disclosure, and then adopt Paris compliant business plans with clear timelines for implementation.<sup>8</sup> Such plans must provide sufficient detail that shareholders can review, understand, and compare companies' actions.

We no longer have the luxury of time. Shareholder engagement must focus on one last, fit for purpose demand, seeking 2-degree assessments from companies in year one and 2-degree action plans by 2020. If Paris Compliant Engagement fails, then investors must divest. It is the only way investors themselves can be Paris compliant.

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6. Some of the largest funds to recently announce divestment include The Church of England (\$16 billion) which announced in July 2018 a commitment to divesting in five years' time from companies "not on track to meet the aims of the Paris Agreement (<https://www.bloomberg.com/news/articles/2018-07-09/church-of-england-to-divest-companies-not-backing-paris-deal>);" In July 2018, Ireland, which has a €8.9 billion (\$10.4 billion) sovereign development fund, became the world's first country to commit to divest its wealth fund from fossil fuels (<https://www.theguardian.com/environment/2018/jul/12/ireland-becomes-worlds-first-country-to-divest-from-fossil-fuels>); in 2018, New York City became the largest city in the world to commit to divest to date (<https://www.theguardian.com/us-news/2018/jan/10/new-york-city-plans-to-divest-5bn-from-fossil-fuels-and-sue-oil-companies>) [Cite 2016 Arabella Report: [https://www.arabellaadvisors.com/wp-content/uploads/2016/12/Global\\_Divestment\\_Report\\_2016.pdf](https://www.arabellaadvisors.com/wp-content/uploads/2016/12/Global_Divestment_Report_2016.pdf)].

7. <https://climate.nasa.gov/effects/>

8. See "Make Climate Transition Focus of Next Proxy Season says DWS," Environmental Finance, June 2018, <https://static1.squarespace.com/static/59a706d4f5e2319b70240ef9/t/5b91696a2b6a2869d8738180/1536256383913/Deutsche+Bank+-+Make+climate+transition+focus+of+next+proxy+season+-+EF.pdf>

## I. SHAREHOLDER ADVOCACY IS NOT ON PACE WITH PARIS COMPLIANT GOALS

Shareholder advocacy is a powerful tool. For decades this advocacy has helped companies in nearly every sector avoid risk and take advantage of opportunities in social, governance, and environmental issues. Investors have successfully worked with companies across a wide variety of non-extractive sectors to implement measures that reduce greenhouse gas emissions. From tech manufacturers, to utilities and retail stores—progress is being made in adopting energy efficiency measures, decarbonizing operations, locking in renewables, reducing coal use, and adopting science-based targets. These efforts toward achieving the Paris goal of maintaining global temperature below 2°C have also improved company bottom lines.

Shareholder actions, however, have been less successful in moving oil & gas companies to adopt 2°C compatible business practices.<sup>9</sup> Two years after the defeat of the cap and trade bill in 2009,<sup>10</sup> the Carbon Tracker initiative introduced a climate-based financial risk concept called the “Carbon Bubble,”<sup>11</sup> pioneering the idea of oil & gas reserves becoming stranded due to climate change. This led to the filing of the first financial risk-based climate shareholder resolution in 2012.<sup>12</sup> The field has evolved and grown as shareholders have focused intensely on the credible and growing threat of climate risk to the global financial system.

Shareholder engagement with oil & gas companies, when compared with all other sectors, stands out in two ways. First, oil & gas companies have received more engagement and resolution filings than any other sector.

Second, although modest climate gains have been made, these companies have been the least responsive on the key climate change issue of reducing their lifecycle<sup>13</sup> greenhouse gas emissions.

There has been little to no progress by oil & gas companies in aligning business plans with the Paris goal of maintaining global temperature increase to well below 2°C.

In order to assess the impact of this strategy we analyzed 23 distinct types of resolutions (Figure 1) filed at 24 U.S. oil & gas companies (Figure 2) in 160 instances, between 2012 and 2018. The analysis shows there while there has been progress on issues such as reporting on climate risk or reducing operational greenhouse gas emissions, there has been little to no progress by oil & gas companies in aligning business plans with the Paris goal of maintaining global temperature increase to well below 2°C. As the majority of oil & gas emissions are in the end-use of the fossil fuel product (Scope 3 emissions) either the product or the business model must change to align with climate goals. In other words, companies must either invest in diversifying their energy production to lower carbon energy sources, or curb new investments in fossil fuel production assets.<sup>14, 15</sup> Becoming Paris compliant will require a fundamental

9. One simple measure to assess a company's alignment with “Paris” or “well below 2°C” goals is to benchmark total (full lifecycle) greenhouse gas emissions against percentage reductions identified by IEA under its Beyond Two Degrees Scenario (B2DS). The B2DS scenario best aligns with the Paris Agreement's goal of maintaining global warming well below 2°C. Under B2DS, demand for oil and gas in 2040 is almost 50 percent lower than a business-as-usual case. Even under the IEA's 2008 Sustainable Development Scenario [SDS] (which we believe is less well aligned with achieving Paris goals by assuming only a 60% chance of maintaining temperatures below 2°C and positing significant negative emissions), oil must be reduced by 29% and gas by 23% by 2030 to meet Paris goals. Under either of these scenarios, companies will have to diversify their energy base or limit development of future reserves. For further discussion see “Crude Awakening: Making Oil Major Business Models Climate-Compatible,” E3G, Oxford University, <http://www.smithschool.ox.ac.uk/research/sustainable-finance/publications/E3G-Oil-Majors-Report-Digital-March-2018.pdf>; See also “Assessing Energy Transition Risk in the Oil and Gas Industry: The Role of 2 Scenario Analysis, Boling, <https://www.americansecurityproject.org/wp-content/uploads/2018/05/Assessing-Energy-Transition-Risk.pdf>

10. John M. Broder, “‘Cap and Trade’ Loses Its Standing as Energy Policy of Choice,” New York Times, March 23, 2010, <https://www.nytimes.com/2010/03/26/science/earth/26climate.html>

11. “Unburnable Carbon: Are the World's Financial Markets Carrying a Carbon Bubble?” Carbon Tracker, July 13, 2011, <https://www.carbontracker.org/reports/carbon-bubble/>

12. <https://archive.asyousow.org/wp-content/uploads/2013/07/2013-consol-reso.pdf>

13. Lifecycle greenhouse gas emissions refers to the full lifecycle associated with a company's products, from production through use (Scopes 1, 2, and 3).

14. Rodrigo Orohela, “Repsol to End Pursuit of Oil Growth,” *Bloomberg*, May 16, 2018, <https://www.bloomberg.com/news/articles/2018-05-15/repsol-said-to-end-pursuit-of-oil-growth-amid-energy-transition>

15. Although a third alternative frequently cited by oil & gas companies is carbon capture and storage, there is no indication that such technology is likely to be energy or cost effective in the time frame necessary to maintain global temperature rise below 2°C.

shift in the business models for oil & gas companies, but it is critical for companies to make this transition and be part of the clean energy economy in order to preserve a livable planet.

## METHODOLOGY

While establishing a direct cause and effect relationship between shareholder engagement and corporate behavior is difficult, we have defined success as actions taken by companies corresponding to shareholder resolutions. Best-efforts have been made to draw links between an engagement and material corporate action. It is acknowledged that corporate action – or inaction – is also informed by engagements not publicly disclosed (typical of major mutual funds), as well as numerous external factors including customer and market pressures; regulations; and a variety of other influences.

Figure 1 lists the 23 different types of climate resolutions filed with U.S. oil & gas companies from 2012-2018 as defined in the Sustainable Investments Institute data base. Each indicator of success may be a criterion for a resolution being withdrawn or may be part of corporate engagement following a vote. For example, if a resolution asks for a report then the first indicator of success is the delivery of the report, a secondary indicator requires that the report be deemed sufficient.

**FIGURE 1: TYPES OF CLIMATE-RELATED SHAREHOLDER RESOLUTIONS FILED WITH OIL & GAS COMPANIES**

	RESOLUTION	INDICATOR 1	INDICATOR 2	INDICATOR 3
A	Report on 2°C strategy and scenario	Report written and published	Report satisfactory	
B	Adopt GHG emissions targets	Targets adopted	lower CO2 emission/bbl <sup>16</sup> or boe <sup>17</sup>	CAPEX Reduction
C	Methane emissions reduction	Emissions reduced	lower CO2 emission/bbl or boe	
D	Nomination of environmental board member	Board member nominated	Board member elected	
E	Create task force to study climate risk and report	Task force created	Task force report	
F	Report on climate change impacts	Report written	Report satisfactory	
G	Increased authorized dividends given stranded assets	Dividends increased		
H	Report on stranded carbon assets	Report written and published	Report satisfactory	
I	Report on climate change financial risks	Report written and published	Report satisfactory	
J	Adopt goal for flaring reduction	Goal adopted	lower CO2 emission/bbl or boe	CAPEX Reduction
K	Report on changed carbon assets mixed options	Report written and published	Report satisfactory	
L	Report on climate friendly business model	Report written and published	Report satisfactory	
M	Report on high carbon asset dividends	Report written and published	Report satisfactory	
N	Adopt climate change action principles	CC action principles adopted	lower CO2 emission/bbl or boe	CAPEX Reduction
O	Publish sustainability report	Sustainability report published	Report satisfactory	
P	Change reserve replacement accounting	Reserves reported in BTU		
Q	Report on energy management	Report written and published	Report satisfactory	
R	Report on fossil fuel demand risk	Report written and published	Report satisfactory	
S	Report on offshore oil wells	Report written and published	Report satisfactory	
T	Report on oil and gas transport risks	Report written and published	Report satisfactory	
U	Report on tar sands operations	Report written and published	Report satisfactory	
V	Report on hydraulic fracturing	Report written and published	Report satisfactory	
W	Link Exec pay to sustainability not reserves	Exec comp report with (de)link	comp package adopted	

**Figure 1:** The descriptions of the 23 climate-based resolution categories is taken from data provided by Sustainable Investments Institute<sup>18</sup> (Si2) methodology

16. bbl = barrel of oil; <http://www.businessdictionary.com/definition/barrel-bbl.html>

17. boe (or bble) = barrel of oil equivalent; <https://www.investopedia.com/terms/b/barrelofoilequivalent.asp>

18. <https://siinstitute.org/>

**FIGURE 2: OIL & GAS COMPANIES – CLIMATE CHANGE RESOLUTIONS FILED 2012-2018**

COMPANIES	2012	2013	2014	2015	2016	2017	2018
Alpha Natural Resources		A	A				
Anadarko	V	O	A	H	H	A	A,C
Antero					C		
Cabot	O, W	V	B				
Carizzo Oil	W				V		
Chesapeake				A, D	W		H
Chevron	D,S,W	D,F,S,W	A,D,S,W	B,D,G,S,W	A,B,D,G,P,S,W	A,D,K	C,D,K
ConocoPhillips	B	B	B	T,W	A	W	
CONSOL		A	A	H	W		
Continental		J		O	C,W		
Devon			A	A	A,W	A	A,V
EOG	V	V	C,Q,V	C	C	C	B,C
EQT							C
ExxonMobil	B,L,R,U,V	B,E,F,V	A,B,H,V	B,D,G,T,V,W	A,D,G,N,P,V	A,D,G,M,V	A,K
Hess			A	C,H	H	A	
Marathon Oil			C	A, C	I		
Newfield		D		A	V		
Noble	V			A	A	A	A
Occidental	D		C	C,V	A,C	A,C	
Pioneer		V	V		C	O,V	
Range Resources	V,W	C	C				C
Southwestern	W		C	C			H
Ultra Petroleum	V	V		O			
WPX			B	V	C	C	

**Figure 2:** Information provided by Sustainable Investments Institute<sup>19</sup> (Si2)

Figure 2 presents the 24 oil & gas companies that have received climate-related shareholder resolutions from 2012-2018, the type of resolution filed (designated by a letter corresponding to resolutions in Figure 1), and the year the resolution was filed.

Analysis of the above climate resolutions indicates that a number of climate related resolutions have borne fruit, and shareholders have achieved modest success in some areas of moving U.S. oil & gas companies to adopt climate-responsible actions. For example, many companies now provide reports on sustainability and other issues related to climate change and the company's climate-related actions. It should be noted that these reports are of varying quality and transparency.<sup>20</sup> Other examples of companies taking action include, Exxon responding, after three shareholder proposals, to appoint a climate competent board member, and Devon Energy agreeing to delink executive compensation from reserves growth.<sup>21</sup> Many companies adopting best management practices to reduce methane emissions,<sup>22</sup> while other companies adopting greenhouse gas reduction targets for operational (Scope 1 & 2) emissions,<sup>23</sup> and overall improved climate reporting.

19. <https://siinstitute.org/>

20. For example, Exxon's climate risk report, produced after a 62 percent majority vote in 2017, was deemed "defective," "unsatisfactory," and "inadequate" by leading analysts. See, respectively, Kathy Hipple, Tom Sanzillo, "ExxonMobil's Climate Risk Report: Defective and Unresponsive," IEEFA.org, March 2018, <http://ieefa.org/wp-content/uploads/2018/03/ExxonMobils-Climate-Risk-Report-Defective-and-Unresponsive-March-2018.pdf>, Greg Rogers, "Grading Exxon's First Climate Risk Assessment," *LinkedIn*, March 14, 2018, <https://www.linkedin.com/pulse/grading-exxons-first-climate-risk-assessment-greg-rogers-1/>, "Falling Short – An assessment of ExxonMobil's disclosure of climate-related risk," Carbon Tracker, March 27, 2018, <https://www.carbontracker.org/reports/company-profile-exxon-mobil>

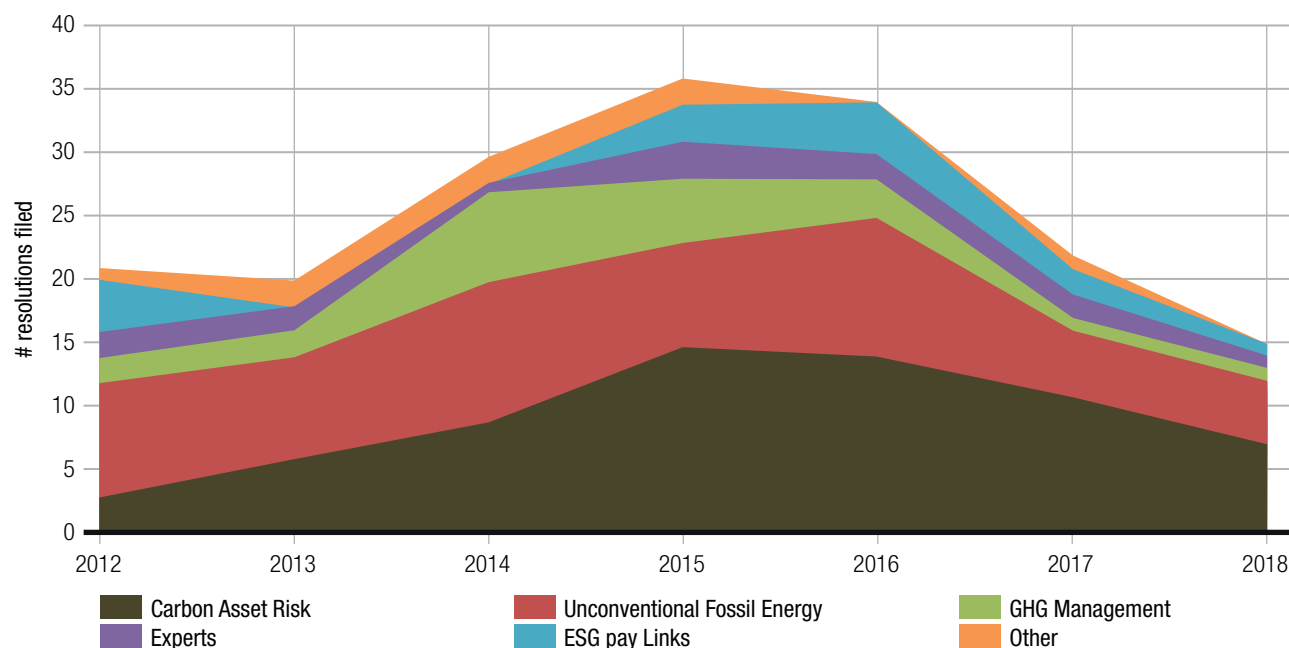
21. Ernest Scheyder, "Investors push U.S. shale firms to separate executive pay from drilling," *Reuters*, September 29, 2017, <https://www.reuters.com/article/us-usa-oil-compensation/investors-push-u-s-shale-firms-to-separate-executive-pay-from-drilling-idUSKCN1C42RZ>.

22. "Disclosing the Facts: Transparency and Risk in Methane Emissions," 2017, <http://disclosingthefacts.org/2017/>.

23. <http://disclosingthefacts.org/2017/>



**FIGURE 3: OIL & GAS COMPANY FILINGS 2012-2018**



**Figure 3:** Sustainable Investments Institute<sup>24</sup> (SI2)

Data compiled by the Transition Pathways Initiative<sup>25</sup> (TPI), a partnership between the Grantham Institute, The London School of Economics, FTSE Russell, and UNPRI, analyzed 105 major global oil & gas companies on 17 key performance indicators (KPIs) related to climate, many of which can be correlated to the U.S. shareholder resolutions listed in Figure 1. Note that parentheses following each of the 17 KPIs contain letters linking back to “Figure 1: Types of Climate-Related Shareholder Resolutions Filed with Oil & Gas Companies”.

- 100% companies acknowledge climate change as a significant issue for the business. (E, H, I)
- 86% explicitly recognize climate change as a relevant risk and/or opportunity to the business (E, H, I)
- 95% have a policy (or equivalent) commitment to action on climate change (N)
- 54% have set greenhouse gas emission reduction targets (B)
- 73% have published information on its Scope 1 and 2 greenhouse gas emissions
- 64% have nominated a board member or board committee with explicit responsibility for oversight of the climate change policy (D)
- 50% have set quantitative targets for reducing greenhouse gas emissions (J, K)
- 56% report on Scope 3 emissions<sup>26</sup>
- 52% have had operational (Scope 1 and/or 2) greenhouse gas emissions data verified
- 51% support domestic and international efforts to mitigate climate change (L, N)
- 70% have a process to manage climate-related risks (E, F, H, I)
- 20% disclose Scope 3 use of product emissions
- 42% have set long-term quantitative targets for reducing greenhouse gas emissions (B)
- 71% have incorporated environmental, social and governance issues into executive remuneration (W)
- 30% incorporate climate change risks and opportunities into business strategy (E)
- 22% undertake climate scenario planning (A)
- 22% have an internal price of carbon

24. <https://siinstitute.org/>

25. <http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/>

26. This indicator covers reporting of one or more Scope 3 indicators; such reporting does not necessarily reflect product-related emissions.

The achievements captured in the above TPI data amount to a form of progress, however, that progress has had little or no material impact on limiting total company greenhouse gas emissions, including Scope 3 product emissions, and therefore has had far too little impact on reducing climate change. Some of the above metrics may also be misleading. For example, the TPI data states that 56 percent of companies report on Scope 3 emissions; there are 15 types of Scope 3 emissions<sup>27</sup> and to earn a “yes” in this category a company is only required to report on one of these emissions types, such as business travel or supplier emissions, that do not include the use of sold products. Furthermore the reliability of self-reported Scope 3 emissions may be considered low due to variances in reporting methodology.<sup>28</sup>

Other limitations of progress include that company climate reporting tends to be qualitative, with a focus on anecdotes, generalized company-wide practices, or examples of individual climate-related projects. Most companies fail to provide quantitative data allowing shareholders to concretely analyze the company’s success in reducing lifecycle greenhouse gas emissions. Similarly, the majority of companies do not provide energy production data either by total production, or by fuel type, and the vast majority fail to provide Scope 1, 2, and 3 greenhouse emissions data. Very few companies provide greenhouse gas intensity data (CO<sub>2</sub> emissions per barrel (bbl) of oil or barrel of oil equivalent (boe)) which would allow shareholders to comparatively measure companies’ progress in reducing greenhouse gas emissions by removing the variable of total production.

As noted above, in response to significant (and in some cases majority) votes asking for 2°C climate risk reports, a number of companies have produced reports analyzing climate risk associated with a decarbonizing energy market.<sup>29</sup> The carbon asset risk reports produced to date have generally lacked a sufficient level of disclosure, including: basic assumptions, specific descriptions of potential impacts, and the majority of reports have denied that their company is likely to experience stranded assets (even in the face of recent write downs).<sup>30</sup> While imperfect, the production of these reports has initiated a critical and necessary awareness of the issue of carbon asset risk by major oil & gas companies.

Similarly, the climate risk reporting engagements, high profile resolutions, as well as the global fossil fuel divestment movement, have helped<sup>31</sup> define and cement the concepts of climate risk and stranded assets first introduced by the Carbon Tracker Initiative<sup>32</sup> into the awareness of the broader shareholder and financial communities. Not only have companies brought teams together to focus on and account for carbon risk, major shareholders are now aware of, and actively discussing the issue of climate risk with companies and assessing them for potential risk. This includes major funds like BlackRock and State Street. Similarly, rating agencies such as Moody’s, have begun to take climate risk into account.<sup>33</sup> The Task force on Climate related Financial Disclosures (TCFD),<sup>34</sup> chaired by Michael Bloomberg, has advanced the concept that climate risk reporting is fundamental to shareholders and has established a process to define the necessary reporting elements of climate risk. As a result of the high visibility of these issues, the fossil fuel sector is now appropriately viewed as an increasingly risky and vulnerable investment in a world that must substantially reduce dependence on fossil fuels.

In stark contrast to shareholders’ growing success in obtaining climate risk reporting, the U.S. oil & gas sector has remained recalcitrant in responding to resolutions seeking 2°C aligned transition plans. While, according to TPI, 86 percent of the oil & gas companies in its analysis “explicitly recognize climate change as a relevant risk and/or opportunity to the business,”<sup>35</sup> few oil & gas companies globally and no U.S. oil & gas company has adopted plans or

27. “Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions. Overview of Methodologies,” IPIECA, (June 2016): 12, <http://www.ipieca.org/resources/good-practice/estimating-petroleum-industry-value-chain-scope-3-greenhouse-gas-emissions-overview-of-methodologies/>.

28. *Id.*

29. TPI shows 44 out of 105 companies have done this: see <http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/>

30. <http://fortune.com/2017/02/23/exxon-mobil-oil-sands-sec/>

31. A broad array of groups including Climate Tracker, 350.Org, Smith School of Enterprise at Cambridge, the Bank of England, TCFD, oil change international, and many others have been focused on ensuring that climate risk is acknowledged and addressed by the broader financial community.

32. <https://www.carbontracker.org/>

33. Christopher Flavelle, “Moody’s Warns Cities to Address Climate Risks or Face Downgrades,” *Bloomberg*, November 29, 2017, <https://www.bloomberg.com/news/articles/2017-11-29/moody-s-warns-cities-to-address-climate-risks-or-face-downgrades>

34. <https://www.fsb-tcfd.org>

35. <http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/>

targets to limit its full lifecycle contribution of greenhouse gas emissions. Instead, the vast majority of U.S. companies continue to argue the need for business as usual investments to meet growing global demand—even if that production contributes directly to the world overshooting its Paris goals and locking in global and economic calamity.

Exxon, Chevron, and Occidental have each cited growing demand to explain why they believe there is no risk of stranded assets associated with climate change. What each of these companies has failed to explain is how they can contribute to meeting Paris goals without decreasing their carbon contribution. For instance, in Exxon's 2018 "Explore the Outlook for Energy: A View to 2040" report,<sup>36</sup> the company notes that, "Like all credible forecasts, we see fossil fuels continuing to shoulder the bulk of societal needs in the future."<sup>37</sup> The company also cites increases in transportation and commerce as a reason for rising global oil demand. It fails to acknowledge what the company will do if global demand is limited to what is required to keep the planet from warming above 2°C. Bottom line, the company's report fails to address any material changes in its business plans that would reduce its Scope 3 emissions.

Similarly, Chevron is insistent on the critical role that oil, and fossil fuels in general, will play in the future, refuting the case for stranded assets in its 2017 report, "Managing Climate Change Risks: A Perspective for Investors."<sup>38</sup> In the report, the company denies the potential for stranded assets citing a study by the IEA projecting that, "oil and natural gas will meet 44 percent of global energy demand by 2040."<sup>39</sup> Furthermore, Chevron explains that because it is particularly able to "adjust investment patterns and portfolios to reflect these policy and demand circumstances," the case for stranded assets is weak. This statement implies that the company will continue to supply oil and gas so long as demand exists. Only if demand falls will Chevron decrease its investment patterns. While Chevron's report indicates plans to reduce flares, increase CO2 injection, and increase energy efficiency, it is unclear at what scale across its operations Chevron plans to apply these climate strategies. More importantly, Chevron provides no indication that it intends to reduce its Scope 3 product-related greenhouse gas emissions to achieve Paris compliance. Business as usual appears to be the order of the day.

In its 2018 report, "Climate-Related Risks and Opportunities: Positioning for a Lower Carbon Economy,"<sup>40</sup> Occidental states that it has tested "... *our proved reserves* against ... the 450 Scenario, which aims to reduce emissions with the goal of limiting the global increase in temperature to 2°C" (emphasis added). Based on this analysis, we can expect the company to continue business as usual. The true question in attaining a Paris compliant business plan is not the risk inherent in its *current* proved reserves, but its future investments in finding and producing *new* reserves. It is those future investments that must either be reduced or invested in low carbon energy sources to ensure Paris compliance.

No U.S. oil & gas company has adopted plans or targets to limit its full lifecycle contribution of greenhouse gas emissions. Instead, the vast majority of U.S. companies continue to argue the need for business as usual investments to meet growing global demand—even if that production contributes directly to the world overshooting its Paris goals and locking in global and economic calamity.

36. "Explore the Outlook for Energy: A View to 2040," ExxonMobil, <https://corporate.exxonmobil.com/en/energy/energy-outlook>.

37. "Meeting global needs – managing climate change business risks" <https://corporate.exxonmobil.com/en/current-issues/climate-policy/climate-perspectives/managing-climate-change-business-risks>.

38. "Managing Climate Change Risks," Chevron, March 2017, <https://www.chevron.com/-/media/shared-media/documents/climate-risk-perspective.pdf>.

39. "Managing Climate Change Risks," Chevron, March 2017, Page 6, <https://www.chevron.com/-/media/shared-media/documents/climate-risk-perspective.pdf>.

40. "Climate-Related Risks and Opportunities: Positioning for a Lower-Carbon Economy," Oxy, 2018, [https://www.oxy.com/SocialResponsibility/overview/SiteAssets/Pages/Social-Responsibility-at-Oxy/Assets/Occidental\\_Climate%20Report\\_2018.pdf](https://www.oxy.com/SocialResponsibility/overview/SiteAssets/Pages/Social-Responsibility-at-Oxy/Assets/Occidental_Climate%20Report_2018.pdf).

## SUMMARY OF SECTION I

Shareholder engagement with oil & gas companies to date has not achieved Paris compliance. While tangible results from resolutions have occurred, they are not moving the needle fast enough or substantively enough to meet the goals of the Paris Agreement. The demands of oil & gas sector resolutions to date generally remain incremental, diffused across differing approaches, and are not moving companies onto a true transition pathway. This leaves shareholder advocates with a choice; either continue to work on the margins of climate change, achieving incremental and insufficient gains in disclosure, reporting, and operational GHG emission reductions; or unify behind a bold demand that oil & gas companies demonstrate how they will transition their business plans in accordance with Paris goals. If companies fail to heed that demand, investors engagement efforts have not succeeded and they must protect their assets.

## II. OIL & GAS COMPANIES' DEMAND PROJECTIONS AND CAPITAL EXPENDITURES ON EXPLORATION AND PRODUCTION OF NEW RESERVES ARE NOT IN LINE WITH PARIS COMPLIANT GOALS

Oil & gas companies' demand projections and their rationale for continued capital expenditures are based on assumptions that are not in alignment with Paris goals. Few companies are conducting true 2°C scenario planning or stress test analyses. None have created a business plan that would limit the company's total lifecycle greenhouse gas emissions in accordance with Paris goals. This lack of affirmative planning creates the likelihood that, as oil prices increase, industry-wide capital investments will put the world onto a pathway far exceeding 2°C.

According to the Carbon Tracker Initiative<sup>41</sup> report "*Under the Microscope*,"<sup>42</sup> oil & gas companies' demand projections are unrealistic in a climate constrained energy economy, noting that such scenario analyses, intended to assure investors of the company's continued resilience "have historically delivered the message that demand for oil and gas is only going in one direction: upwards."<sup>43</sup>

Climate-related scenario analysis flips this process on its head. It asks companies to take a limited carbon budget and think about what the impact might be upon their business as the world meets future demand for energy while producing fewer emissions. For fossil fuel companies thinking about the risk to their assets and investments, the key question that management should be asking is: what will be the impact on the demand for, and prices of, our products in the future?<sup>44</sup>

Oil & gas companies' demand projections and their rationale for continued capital expenditures are based on assumptions that are not in alignment with Paris goals.

Almost universally, the oil & gas industry is not planning for a world consistent with Paris goals of well-below 2°C warming. A few European companies including Shell, Equinor<sup>45</sup> (formerly Statoil), "are beginning either to set targets for decarbonisation of their business or to diversify their portfolio away from fossil fuels. Total goes one step further, indicating that it has placed 2°C at the heart of its strategy."<sup>46</sup> Repsol SA, a Spanish energy company, recently

41. <https://www.carbontracker.org/>

42. "Under the Microscope: Are Companies' Scenario Analyses Meeting Investors' Requirements?" Carbon Tracker, May 21, 2018, <https://www.carbontracker.org/reports/under-the-microscope/>.

43. *Id.*, p. 3.

44. *ibid*

45. Jonas Cho Walsgard and Mikael Holter, "Statoil No Longer Wants 'Oil' in its Name," *Bloomberg*, March 15, 2018, <https://www.bloomberg.com/news/articles/2018-03-15/statoil-changes-name-to-remove-oil-in-renewable-energy-push>.

46. "Under the Microscope: Are Companies' Scenario Analyses Meeting Investors' Requirements?" Carbon Tracker, May 21, 2018, p. 3, <https://www.carbontracker.org/reports/under-the-microscope/>

announced that it will no longer seek growth for its oil & gas business in preparation for the global transition to cleaner energy”...saying “it wants to become known as an energy company, rather than an oil producer.”<sup>47</sup> In addition,

Europe’s largest oil company, Royal Dutch Shell, surprised the world late last year when it announced an ambition to slash its carbon footprint by 20 percent per unit of energy<sup>48</sup> by 2035 and by 50 percent per unit of energy by 2050. Banks and investors are increasingly looking to align their investments with the Paris Agreement, demanding greater transparency from energy companies on just how they are preparing for the low-carbon transition while plummeting costs and soaring demand for renewables are transforming the global energy market.<sup>49</sup>

According to Cynthia Summis, Deputy Director, Greenhouse Gas Protocol, World Resources Institute and Paul Griffin, Energy Data Analyst, CDP, “The only way an oil & gas company can align with 2 degrees Celsius scenarios without reducing the emissions intensity of its energy products is by declining the production of its energy products.”<sup>50</sup>

While none of the above companies have explicitly stated they are moving toward a 2°C transition business path, they are leaders in the industry by working to get ahead of what they view as an unavoidable decline in demand. The International Energy Agency’s (IEA) assessment of future energy scenarios indicates a long-term decline in demand for fossil fuels. The IEA’s Sustainable Development Scenario<sup>51</sup> (SDS) sees one-third and one-fifth less oil and gas, respectively, in 2040, when compared to its New Policies Scenario (NPS), which is considered a business-as-usual (BAU) outlook. Looking at a pathway considered more aligned with the Paris Agreement, demand for oil and gas in 2040 under the IEA’s Beyond Two Degrees Scenario (B2DS) is almost 50 percent lower than a business-as-usual case.<sup>52</sup> In addition, a third scenario by Oil Change International<sup>53</sup> uses a 66% probability of staying within Paris goals, concludes that the potential carbon emissions from the oil, gas, and coal in the world’s *currently operating* fields and mines would take us beyond 2°C of warming (reserves in currently operating oil and gas fields alone would take the world beyond 1.5°C). Perhaps understating the facts, Equinor writes, “the transition to a low-carbon energy future poses fundamental strategic challenges for the oil and gas industry.”<sup>54</sup>

## CAPITAL EXPENDITURES ON NEW OIL & GAS RESERVES

Clearly defined curbs on capital expenditures on new oil and gas reserves is one way to assess a company’s intentions to align with Paris goals. Companies cannot state that they intend to align with a 2°C path, while continuing to invest in exploration and development of new reserves without boundaries or limitations. Investors have a clear responsibility to ensure that any capital expenditures are consistent with the transition plans.

Looking at Rystad Energy data, oil & gas companies appear to be heading in the wrong direction as capex on oil & gas projects is projected to increase.<sup>55</sup>

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47. Rodrigo Orohela, “Repsol to End Pursuit of Oil Growth,” *Bloomberg*, May 16, 2018, <https://www.bloomberg.com/news/articles/2018-05-15/repsol-said-to-end-pursuit-of-oil-growth-amid-energy-transition>

48. While this new target creates forward progress, we note that by setting only an intensity target Shell leaves room to increase its total production.

49. Cynthia Cummis, Paul Griffin, “How Oil and Gas Companies Can Prepare for a Low-Carbon World,” *GreenBiz*, February 6, 2018, <https://www.greenbiz.com/article/how-oil-and-gas-companies-can-prepare-low-carbon-world>

50. Cynthia Cummis, Paul Griffin, “How Oil and Gas Companies Can Prepare for a Low-Carbon World,” *GreenBiz*, February 6, 2018, <https://www.greenbiz.com/article/how-oil-and-gas-companies-can-prepare-low-carbon-world>

51. <https://www.iea.org/weo/weomodel/sds/>

52. “Under the Microscope: Are Companies’ Scenario Analyses Meeting Investors’ Requirements?” *Carbon Tracker*, May 21, 2018, <https://www.carbontracker.org/reports/under-the-microscope/>

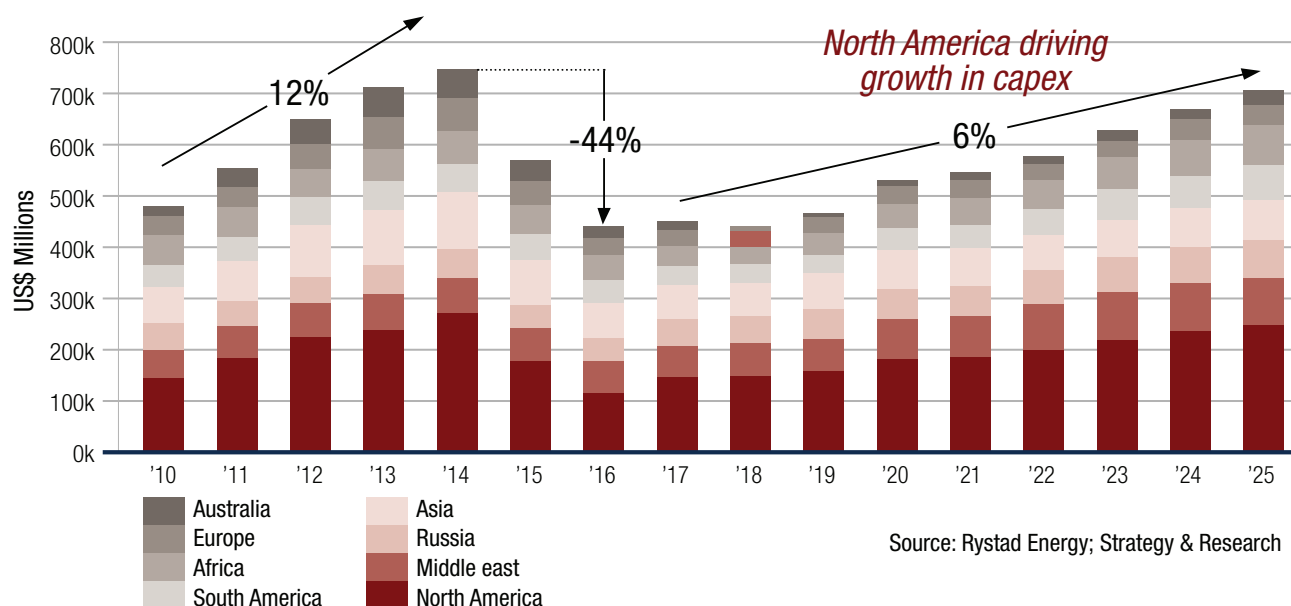
53. Oil Change International, & The Institute for Energy Economics and Financial Analysis, (IEEFA), “Off Track,” April 2018, <http://priceofoil.org/content/uploads/2018/04/OFF-TRACK-the-IEA-Climate-Change.pdf>

54. Statoil ASA, “2017 Statoil Petroleum AS Report,” 2017, <https://www.equinor.com/content/dam/statoil/documents/debt-and-credit-ir/statoil-petroleum-as-annual-report-2017.pdf>

55. Giorgio Biscardini, Reid Morrison, David Branson, Adrian Del Maestro, “Oil and Gas Trends 2018-19,” PwC <https://www.strategyand.pwc.com/trend/2018-oil-gas>



**FIGURE 4: PROJECTIONS OF FUTURE OIL & GAS CAPEX<sup>56</sup>**



According to PwC Oil and Gas Trends 2018-2019,

... global upstream capital expenditure, which dropped nearly 45 percent between 2014 and 2016 is now forecast to rise 6 percent year-on-year in the medium term. Oil and gas rig activity levels are rising, driven by the North American market, and major projects are being approved. To name a few examples: BP went ahead with the second phase of Mad Dog, a floating production platform, in the Gulf of Mexico. Shell reached a final decision to invest in the Penguins field redevelopment, its first new staffed installation in the northern North Sea in almost 30 years. **Exploration is on the rise again for the first time since the global recession.**<sup>57</sup>

In reviewing U.S. companies' capital expenditures, we see that with the rising price of oil, most U.S. companies have begun to increase capital investment. Exxon is planning substantial increases in fossil fuel reserve development under the assumption that the global economy will continue to rely heavily on fossil fuels.<sup>58</sup> Exxon's "Energy and Carbon Report"<sup>59</sup> defends this increase by citing its projections of increasing worldwide demand for oil and gas<sup>60</sup> and discounting the impact of the Paris Agreement. While the world will indeed require new energy resources to meet future demand, current policies indicate that much of that energy will come in the form of cleaner resources.<sup>61</sup> Unbounded capital investment in new oil & gas resources is not only imprudent from a risk perspective, but is destructive from a climate perspective.

## SUMMARY OF SECTION II

Oil & gas companies are not using Paris compliant 2°C goals when budgeting for capital expenditures on exploration and production. The Rystad projections show growth in capex on exploration and production across the globe, with the majority coming from North America. In short, companies continue to ignore demands from science and shareholders to adjust their operations to reflect a carbon constrained world.

56. *Id.*

57. Giorgio Biscardini, Reid Morrison, David Branson, Adrian Del Maestro, "Oil and Gas Trends 2018-19," PwC <https://www.strategyand.pwc.com/trend/2018-oil-gas>

58. Exxon Mobil, "2018 Energy & Carbon Summary," 2018, <https://cdn.exxonmobil.com/~media/global/files/energy-and-environment/2018-energy-and-carbon-summary.pdf>

59. *Id.*

60. *Id.*

61. David Roberts, "The World's Largest Car Market Just Announced an Imminent End to Gas and Diesel Cars," Vox, September 13, 2017, <https://www.vox.com/energy-and-environment/2017/9/13/16293258/ev-revolution>

### III. THE PORTFOLIO RISK TO INVESTORS OF CONTINUED INVESTMENT IN OIL & GAS STOCKS IS GROWING

According to the July 2018 report from the Institute for Energy Economics and Financial Analysis' (IEEFA), "The Financial Case for Fossil Fuel Divestment,"<sup>62</sup> a clear case is made showing that portfolio risk exists in holding fossil fuel stocks.

The fossil fuel sector is shrinking financially, and the rationale for investing in it is untenable... The financial case for fossil fuel divestment is strong. Over the past three and five years, respectively, global stock indexes without fossil fuel holdings have outperformed otherwise identical indexes that include fossil fuel companies. Fossil fuel companies once led the economy and world stock markets. They now lag... For decades, fossil fuel investments were the major driver of world equity markets; they also made large, reliable annual contributions to institutional funds. In the early 1980s, for example, fossil fuel stocks accounted for seven of the top 10 companies in the Standard and Poor's 500. Today, only one, ExxonMobil, is in that class; and while it used to be the largest firm among the top 10, it has fallen to seventh.<sup>63</sup>

**FIGURE 5: STANDARD AND POOR'S TOP TEN 1980–2018**

	1980	1990	2000	2010	2018
1	IBM	IBM	GE	Exxon*	Apple
2	AT&T	Exxon*	Exxon*	Apple	Microsoft
3	Exxon*	GE	Pfizer	Microsoft	Amazon
4	Standard Oil Indiana*	Phillip Morris	Citigroup	Berkshire	Facebook
5	Schlumberger*	Shell Oil*	Cisco Systems	GE	Berkshire
6	Shell Oil*	Bristol Meyers	Walmart	Walmart	JP Morgan
7	Mobil*	Merck	Microsoft	Google	ExxonMobile*
8	Standard Caif*	Walmart	AIG	Chevron*	Alphabet, Inc. B
9	Atlantic Richfield*	AT&T	Merck	IBM	Alphabet, Inc. C
10	GE	Coca Cola	Intel	Proctor Gamble	Johnson & Johnson

\* Represent Oil and Gas companies. Source: <https://us.spindices.com/indices/equity/sp-500>

In the past five years fossil fuel stocks, and the energy sector broadly, has underperformed nearly every other sector, dragging down the returns of portfolios holding this sector in a traditional "modern portfolio theory" allocation versus a 21st century portfolio that has underweighted or divested fossil fuels. Figure 6 shows this dramatic divergence.

Failure by trustees and investment committees at pension funds, university endowments, mutual funds, and foundations to act, leads to growing portfolio risk and lost opportunities. A broad range of reports and media stories outline the increasing risk associated with fossil fuel investments in a globally decarbonizing energy economy.<sup>64, 65</sup>

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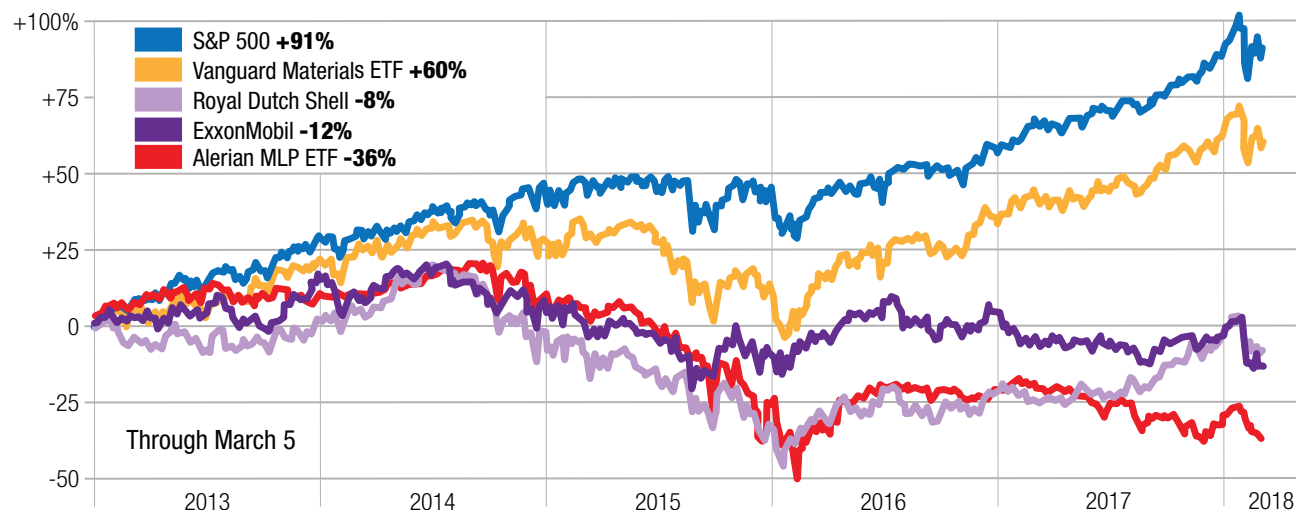
62. Tom Sanzillo, Kathy Hipple, Clark Williams-Derry, "The Financial Case for Fossil Fuel Divestment," IEEFA, July 2018, [http://ieefa.org/wp-content/uploads/2018/07/Divestment-from-Fossil-Fuels\\_The-Financial-Case\\_July-2018.pdf](http://ieefa.org/wp-content/uploads/2018/07/Divestment-from-Fossil-Fuels_The-Financial-Case_July-2018.pdf)

63. *Id.*

64. Mike Scott, "1.6 Trillion of Investments at Risk If Fossil Fuel Firms Fail To Heed Climate Targets," *Forbes*, March 8, 2018, <https://www.forbes.com/sites/mikescott/2018/03/08/1-6-trillion-of-investments-at-risk-if-fossil-fuel-firms-fail-to-heed-climate-targets/#7193f9752a03>

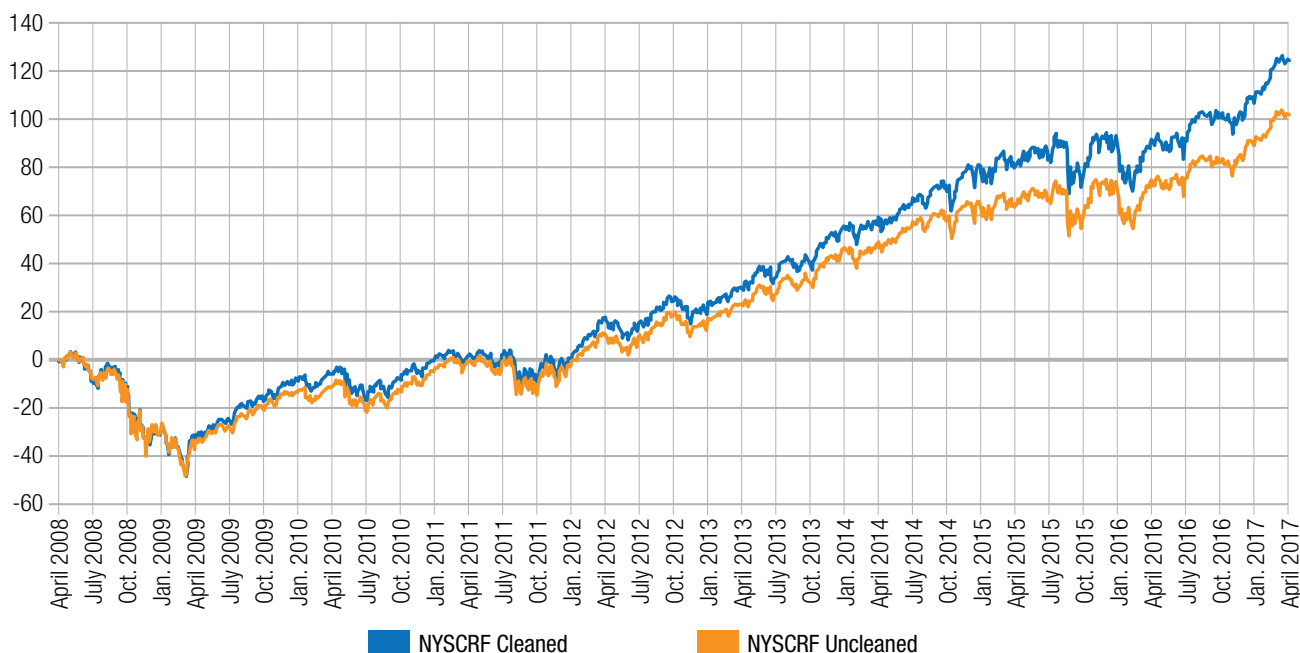
65. Andy Rowell, "Fund Managers Recognise 'Imminent Risks Posed to Fossil Fuel Investments From Climate Change,'" Oil Change International, April 26, 2018, <http://priceofoil.org/2018/04/26/fund-managers-recognise-imminent-risks-posed-to-fossil-fuel-investments-from-climate-change/>

**FIGURE 6: FIVE-YEAR PERFORMANCE OF OIL & GAS STOCKS VS BENCHMARK**



Evidence of this is made clear in a recent report by Corporate Knights,<sup>66</sup> which back-tested the \$201.3 billion New York State Common Retirement Fund's (NYSCRF) portfolio over ten years, comparing a fossil fuel-clean version to the returns of the actual portfolio. Over the past ten years the NYSCRF portfolio missed out on \$15.6 billion in potential returns by not divesting their fossil fuel holdings. This equates to \$14,136 for each of the fund's 1,104,779 members.

**FIGURE 7: NEW YORK STATE COMMON RETIREMENT FUND PORTFOLIO OVER 10 YEARS VS. CLEANED OF FOSSIL FUEL** (Data from Corporate Knights<sup>67</sup>)



66. Corporate Knights, "New York State Common Retirement Fund Pays High Price for holding Fossil Fuel Price," September 4, 2018, <http://www.corporateknights.com/channels/climate-and-carbon/new-york-state-common-retirement-fund-pay-high-price-holding-fossil-fuel-stocks-15251358/>

67. *Id.*

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This example highlights the growing risk and reduced value proposition associated with investments in the status quo oil & gas industry as well as the growing fiduciary risks for the trustees and investment committees of the pension fund. Many other pensions have similar portfolios and follow similar investing guidelines to NYSCRF. All else being equal, their portfolios will likely have seen similar missed revenue. For instance, if we assume the endowment for Harvard University follows these investing guidelines and weightings as the NYSCRF, it would mean that the university would have lost close to \$3 billion in potential

returns over the past ten years. That is approximately \$136,000 for every student, or three semesters of tuition. Harvard President Drew Faust, opposing 72 percent of students and faculty on this issue, refused to divest saying that, "divesting would hurt Harvard's bottom line."<sup>68</sup> In a rapidly changing energy market, that analysis does not necessarily hold true.

In December 2017, New York Governor Andrew Cuomo encouraged NYSCRF to cease all significant fossil-fuel investments and develop a plan to "decarbonize" the portfolio, citing the need for immediate action on climate change. Despite vocal warnings about the risk of fossil fuel investments from the Governor, beneficiaries, and climate activists, New York State Common Retirement Fund chose the path of greater financial risk in order to engage oil & gas companies. Thomas DiNapoli, the state comptroller, has held fast to a decision to not divest preferring to leverage shareholder power to achieve climate action from companies. DiNapoli indicated that he would work with the governor to find ways in which the fund can contribute to a low-carbon economy. The fund has since invested \$2 billion in a low-carbon index, yet its portfolio continues to underperform. Its efforts to bring change to oil & gas companies through shareholder advocacy have contributed to the mainstreaming of climate risk topics, achieved in part through a high-profile majority vote on a resolution with Exxon in 2017, but have yet to result in material progress from a company toward reducing total greenhouse gas emissions.

## MYTH OF THE IMPACT OF DIVESTMENT

The case is often made that divestment limits a portfolio's diversity and increases fundamental risk. Yet, famed investor and financial analyst Jeremy Grantham<sup>69</sup> of Grantham, Mayo, & van Otterloo (GMO)<sup>70</sup> concludes that you can divest an entire sector with minimal impact on a portfolio's risk/return profile.<sup>71</sup>

This is especially true with regard to maintaining portfolio diversity through ownership of the S&P 500 Energy Sector, which is comprised 100% of oil & gas companies and has been underperforming the market for a decade.

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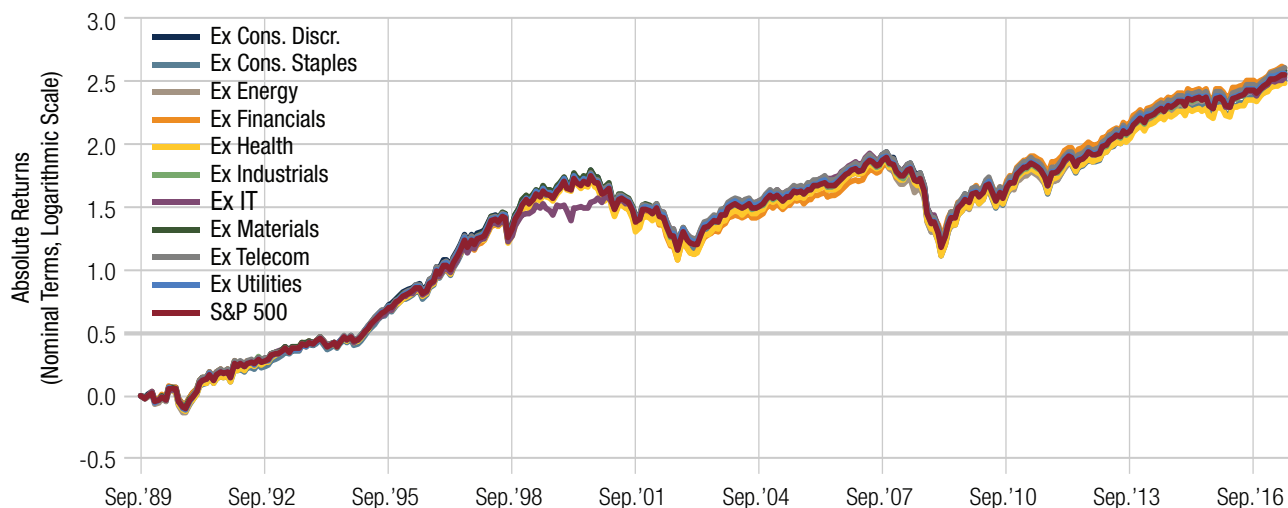
68. Jeff Spross, "Harvard's Four Reasons for Not Divesting from Fossil Fuels, And Why They're All Wrong," ThinkProgress, October 4, 2013, <https://thinkprogress.org/harvards-four-reasons-for-not-divesting-from-fossil-fuels-and-why-they-re-all-wrong-bab9355d3f91/>

69. [https://en.wikipedia.org/wiki/Jeremy\\_Grantham](https://en.wikipedia.org/wiki/Jeremy_Grantham)

70. <https://www.gmo.com/>

71. Investopedia Staff, "Modern Portfolio Theory," <https://www.investopedia.com/walkthrough/fund-guide/introduction/1/modern-portfolio-theory-mpt.aspx>

**FIGURE 8: DIVESTMENT FROM ANY SECTOR HAS LITTLE IMPACT<sup>72</sup>**



## OTHER FACTORS:

Projections for the future of the oil & gas industry see the trend of underperformance continuing. The report “Not Long Now” which surveyed 30 fund managers who collectively hold over \$18 trillion in assets under management warns, “The fund management sector is clear that International Oil Companies (IOCs) will be negatively revalued within a few years because of climate change related risks. 90% of fund managers expect at least one risk to impact significantly the valuation of IOCs within 2 years.”<sup>73</sup>

This long-term bearishness for oil & gas is driven by several key indicators including:

- Negative business indicators including high costs of increased capex, mounting debt, and credit downgrades
- Increased litigation concerning climate and targeting oil & gas companies
- Increased demands for financial transparency
- Increased cost competitiveness of renewables
- Fiduciary risk to investors
- Global economic losses for inaction on climate threatening overall portfolio value

## Negative Business Indicators

In the last decade, financial indicators of structural risk in the oil industry have become more pronounced. These risks include declining market dominance, increasing cost of capital expenditures due to the relatively high cost of exploration for new sources of oil & gas such as tar sands, ultra-deep oil, and Arctic drilling; declining production levels; declining profit margins; mounting debt and credit downgrades; decreasing cash; risky dividend policies; stock repurchasing; oil price volatility; and an inadequate risk basement from Wall Street. All of these factors are detailed in As You Sow’s report, “Unconventional Risks: The Growing Uncertainty of Oil Investments.”<sup>74</sup>

Many oil & gas companies point to hydraulic fractured gas production (“fracking”) as their financial savior, however, “Some of fracking’s biggest skeptics are on Wall Street. They argue that the industry’s financial foundation is unstable: Frackers haven’t proven that they can make money. ‘The industry has a very bad history of money going into it and

72. Jeremy Grantham, Divesting Sectors. The Impact on Returns. Evidence That Oil Divestment May Not Impact Returns, June 22, 2018, <https://www.thendobetter.com/investing/2018/6/22/divesting-sectors-the-impact-on-returns-evidence-that-oil-divestment-may-not-impact-returns>

73. “Not Long Now: Survey of Fund Managers’ Responses to Climate-Related Risks Facing Fossil Fuel Companies,” UKSIF, 2018, <http://uksif.org/wp-content/uploads/2018/04/UPDATED-UKSIF-Not-Long-Now-Survey-report-2018-ilovepdf-compressed.pdf>

74. As You Sow, “Unconventional Risks: The Growing Uncertainty of Oil Investments,” July 13, 2016, <https://www.asyousow.org/reports/unconventional-risks-the-growing-uncertainty-of-oil-investments>.



never coming out.”<sup>75, 76</sup> Of the top 20 U.S. oil companies that focus mostly on fracking, only five managed to generate more cash than they spent in the first quarter [of 2018], according to a Wall Street Journal analysis of FactSet data.<sup>77</sup> “Shale firms are on an unparalleled money-losing streak.”<sup>78</sup>

## Fiduciary Risk

According to the April 2018 Department of Labor (DOL) interpretive Bulletin 2018-01,<sup>79</sup> “Fiduciaries may never subordinate the economic interests of the plan to unrelated objectives, and may not select investments on the basis of any factor outside the economic interest of the plan except in very limited circumstances.” The DOL further commented that fiduciaries may pursue unrelated objectives, but, “may not accept lower expected returns or take on greater risks.” While the energy sector has historically been viewed as a profitable industry with little risk, the last ten years of analysis shows the energy sector has delivered returns worse than bonds, with equity risk increasing.

Equally important, “[c]limate change poses a significant and increasing systemic risk to the global economy and thus to the portfolios of diversified investors, in turn threatening the security and financial well-being of their beneficiaries... Institutional investors have a fiduciary obligation to control this risk and prevent it increasing as much as they reasonably can.”<sup>80</sup>

While many fiduciaries have cited the importance of engaging productively with companies on climate, this cannot be the basis for continuing to hold stocks that are not performing or that are creating substantial portfolio risk. After seven years of engagement, with major portfolio opportunity costs and insufficient climate progress to show for engagement efforts, the question of fiduciary breach looms large.

## Increased Climate-Based Litigation Risk

Other factors that portend underperformance by the oil & gas sector include increased climate-related litigation. Client Earth<sup>81</sup> lawyers have warned some of the UK’s largest pension funds that “Pension schemes are at an increasing risk of litigation if trustees fail to develop their approach to climate risk in line with improving data and market practices.” Client Earth’s climate finance lawyers have written to the trustees of 14 pension schemes which are already in the spotlight after the House of Commons’ Environmental Audit Committee (EAC)’s recent green finance inquiry highlighted a poor understanding of climate risk among some of the UK’s largest pension schemes.

The August 2018 report commissioned by Client Earth, “Why Investors Should Act in Response to Climate-Related Risks and Opportunities: A Survey of Current Evidence”<sup>82</sup> states that,

The evidence shows that there are clear trends emerging and irreversible shifts under way. . . These changes will have highly significant impacts on the success, income and value of companies directly exposed to climate change risks (e.g. fossil fuel companies), on sectors with secondary exposure (including banking and finance, insurance, transport, and construction) and on the economy as a whole... Overall, the imperative to act in response to climate-related financial risks and opportunities is becoming clearer all the time while the case in

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75. The New York Times, “The Next Financial Crisis Looms Underground”, September 1, 2018, <https://www.nytimes.com/2018/09/01/opinion/the-next-financial-crisis-lurks-underground.html>.

76. *Id.*, quote within NYT article referenced to hedge fund manager Jim Chanos, who founded one of the world’s largest short-selling hedge funds.

77. The Wall Street Journal, “Oil is Above \$70 but Frackers Still Struggle to Make Money” May 17, 2018, <https://www.wsj.com/articles/oils-at-70-but-frackers-still-struggling-to-make-money-1526549401>.

78. The Economist, “America’s shale firms don’t give a frack about financial returns, March 25, 2017, <https://www.economist.com/business/2017/03/25/americas-shale-firms-dont-give-a-frack-about-financial-returns>

79. Field Assistance Bulletin No. 2018-01,” US Department of Labor, April 23, 2018 <https://www.dol.gov/agencies/ebsa/employers-and-advisers/guidance/field-assistance-bulletins/2018-01>

80. “Investors, Climate Risk and Forceful Stewardship: An agenda for Action,” Preventable Surprises, (2015), [http://fairimpact.nl/esg/wp-content/uploads/Forceful-Stewardship-Report\\_Sept2015.pdf](http://fairimpact.nl/esg/wp-content/uploads/Forceful-Stewardship-Report_Sept2015.pdf)

81. Client Earth, “Top UK pension funds put on notice over climate risk,” August 13, 2018, <https://www.clientearth.org/top-uk-pension-funds-put-on-notice-over-climate-risk/>

82. Robert Nash, “Why Investors Should Act in Response to Climate-Related Risk and Opportunities: A Survey of Current Evidence,” Client Earth, August 2018, <https://www.documents.clientearth.org/wp-content/uploads/library/2018-08-13-why-investors-should-act-in-response-to-climate-related-risks-and-opportunities-a-survey-of-current-evidence-coll-en.pdf>

favour of a 'wait-and-see' approach is now difficult to support. The question now is 'how', rather than 'if', investors should integrate climate risk into their investment strategies and decisions.

## **Risk of Insufficient Financial Transparency**

The oil & gas industry continues to not disclose material information to investors. The Task Force on Climate-Related Financial Disclosures<sup>83</sup> (TCFD) and the International Organization of Securities Commissions<sup>84</sup> (IOSCO) are pushing hard for disclosure of this information. A recent report, "Mobilising IOSCA to Take Action on TCFD recommendations – Joint Report,"<sup>85</sup> states that,

Regulatory divergence in terms of climate related risk disclosure and corporate governance makes it difficult for investors with a global portfolio to accurately assess risk and allocate capital. Widespread implementation of the recommendations from the Task Force on Climate-Related Financial Disclosures across global markets would help address this issue. IOSCO occupies the most favourable position for action at a global scale, and should be a key target of investor-led initiatives seeking to ensure harmonised climate risk reporting. IOSCO has remained silent on this issue since the release of the recommendations – but investors have a strong basis for demanding action either through activating national securities regulators to engage with IOSCO on their behalf, or through engaging IOSCO directly.

As systematic climate risk disclosures are established, many oil & gas companies are likely to compare unfavorably both to leading peers and to other sectors.

## **Increasing Cost Competitiveness of Renewables**

As the price of electric vehicles, batteries, and renewables continues to drop, a material risk is created for oil & gas companies. Renewables eliminate commodity price fluctuations, a key driver for major industrial utility customers to install solar or wind generation. These renewables not only power factories, hospitals, schools, and stores but also provide charging power for EV fleets, reducing fuel costs and incentivizing purchase of electric vehicles (EVs). Similarly, as solar and wind prices decrease, competitive pressure is increased on natural gas. In some instances, renewables are already cheaper than natural gas. Effective storage further increases risk.

In October 2016, Fitch Ratings predicted that electric vehicles will be a "resoundingly negative" threat to the oil industry and urged energy companies to plan for "radical change."<sup>86</sup> Morgan Stanley recently found that shrinking battery costs, shorter charging times, and increasing driving ranges mean EVs could account for an estimated 48 percent of all miles traveled by 2040.<sup>87</sup> In addition China will require 40 percent of cars sold by 2030 be electric, and has stated its intent to ban internal combustion engines.<sup>88</sup> India plans that 30% of vehicles on its roads will be electric by 2030. Other countries and cities have announced measures to ban internal combustion engines (ICE). For example, Austria and Germany will ban petrol and diesel ICE vehicles for new sales beginning in 2030, and the U.K. and France by 2040. California recently announced an executive order to increase the State's goal of 1.5 million zero emission vehicles (ZEV) on the road by 2025 to 5 million by 2030.<sup>89</sup>

As costs for renewable energy fall and the carbon content of energy takes on increased urgency for producers and consumers, fossil-fuel based energy sources—including natural gas—face competitive risks: According to HSBC, "Given the installed costs and the performance of today's renewable technologies, and the costs of conventional technologies, the fact is this: renewable power generation is increasingly competing head-to-head with fossil fuels, without financial support."<sup>90</sup> Indeed, according to Energy Innovation,<sup>91</sup> "renewable electricity levelized cost of energy [is] already cheaper than fossil fuels, and prices keep plunging."<sup>92</sup>

89. Michael J. Coren, "Nine Countries Say They'll Ban Internal Combustion Engines. So far, It's Just Words," *Quartz*, August 7, 2018, <https://qz.com/1341155/nine-countries-say-they-will-ban-internal-combustion-engines-none-have-a-law-to-do-so/>

90. "Renewable Energy's Increasingly Competitive Credentials," HSBC Newsletter (April, 2017) <http://www.gbm.hsbc.com/solutions/sustainable-financing/edition4-newsletter-april-2017/renewable-energys-increasingly-competitive-credentials> (citing U.N. Chronicle 2015, <https://unchronicle.un.org/article/how-renewable-energy-can-be-cost-competitive>).

91. <http://energyinnovation.org/about-us/>

92. "Renewable Electricity Levelized Cost of Energy Already Cheaper Than Fossil Fuels, and Prices Keep Plunging," Energy Innovation, January 22, 2018, <http://energyinnovation.org/2018/01/22/renewable-energy-levelized-cost-of-energy-already-cheaper-than-fossil-fuels-and-prices-keep-plunging/>

In addition, Goldman Sachs pegs the low carbon economy at a \$600 billion-plus revenue opportunity, estimating that solar photo-voltaic (PV) and wind will add more to the global energy supply between 2015 and 2020 than shale oil production did between 2010 and 2015. Historically, the pace of renewable energy adoption has beaten government and company projections by significant percentages. When companies rely on such conservative projections, the potential for stranding of long-lived assets increases. Citibank estimates that unburnable fossil fuel reserves could amount to over \$100 trillion in stranded assets out to 2050 if the global community meets its Paris commitments.<sup>93</sup>

Research group Wood Mackenzie reports that slowing demand for oil and forecasts of rapid growth in renewables pose both a threat and an opportunity that large oil companies cannot ignore.<sup>94</sup> Even natural gas is at risk. MIT's Energy Collective notes that natural gas now provides only a "short and narrow bridge" to a low carbon future.<sup>95</sup>

## **Global Economic Losses due to Inaction on Climate Change Threatens Overall Portfolio Values**

Recent studies indicate there is less than 5 percent chance of reaching the goal of avoiding climate warming by at least 2°C by the end of the century. An academic from the University of Washington pointed out that "If we want to avoid 2°C, we have very little time left. The public should be very concerned."<sup>96</sup> According to the World Health Organization, 250,000 people are expected to die from climate change-related consequences between the years 2030 and 2050.<sup>97</sup> Such deaths are predicted to be a result of increased malnutrition, malaria, diarrhea, and heat stress alone.<sup>98</sup> Climate change-related migrations are already fueling civil wars.<sup>99</sup> Social and economic instability, limited water, increase of wildfires, diseases and crop failure are also a likely outcome of the rising temperatures.<sup>100</sup>

The UN Intergovernmental Panel on Climate Change Report (IPPC- AR5)<sup>101</sup> goes further in describing climate related risk, including the potential for total breakdown of food systems, water systems, global supply chains, delivery of medical care, and the collapse of civil order. Middle Eastern and African countries already impacted by repeated climate-related cycles of drought and flood.

In the likely event some of the scenarios presented unfold, there is a high risk of adverse effect not only on the returns of oil & gas companies, but on the entire economy, threatening the portfolios managed by fiduciaries and the ability of their beneficiaries to retire. The ripple effect of catastrophic events on infrastructure, supply chains, food systems, air and water quality, and global markets has the potential to wreak havoc on nearly all sectors of the economy, and therefore the entire portfolio of the pensions and endowments currently determined to maintain their investment in fossil fuel companies.

## **SUMMARY OF SECTION III:**

Structural changes are occurring within the global energy market. There is no longer a question of *whether* change will occur, the question is what will be the speed and scale of change, and how well are institutional investors and oil & gas companies preparing for, and reducing their contribution to, such change.

In recognition of this reality and to protect their beneficiaries' investments, institutional investors must respond to the imperatives of climate change either by demanding immediate 2°C transition plans, with date specific deadlines for

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93. "Energy Darwinism," Citibank, August 2015

94. Adam Vaughan, "Oil Giants Need to Invest Heavily in Renewables by 2035, Says Analysis," *The Guardian*, June 12, 2017, <https://www.theguardian.com/environment/2017/jun/12/oil-giants-need-to-invest-heavily-in-renewables-by-2035-analysis-finds>

95. "Natural Gas Provides Only a 'Short and Narrow' Bridge to the Future," The Energy Collective, MIT, Nov. 2017, <http://www.theenergycollective.com/energyatmit/2415970/natural-gas-provides-short-narrow-bridge-low-carbon-future>

96. Oliver Milman, "Planet Has Just 5% Chance of Reaching Paris Climate Goal, Study Says," *The Guardian*, July 31, 2017, <https://www.theguardian.com/environment/2017/jul/31/paris-climate-deal-2c-warming-study>

97. "Climate Change and Health." World Health Organization. February 1, 2018. <http://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>.

98. Ibid.

99. Samberg, Leah. "World hunger is increasing thanks to wars and climate change." *The Conversation*. October 7, 2017. <https://theconversation.com/world-hunger-is-increasing-thanks-to-wars-and-climate-change-84506>.

100. <http://www.cbc.ca/news2/interactives/2degrees/>

101. <https://www.ipcc.ch/report/ar5/>

response, or underweighting or fully divesting oil & gas company holdings. Objectively, recent studies<sup>102</sup> indicate that underweighting or full divestment from fossil fuel companies is a rational course of action, while holding these high carbon stocks is increasingly risky, with the potential not only for underperformance, but for value destruction. While each U.S. oil & gas company may assert individually that it has no risk, there is no debate that sectoral climate risk exists in a rapidly decarbonizing economy.

Given the global need to reduce carbon emissions quickly and substantially, and the outsize impact of oil & gas companies in maintaining climate-destroying energy supplies, the 346 UNPRI members whose assets total \$72 trillion, must use their power and influence to create change in a timeframe that recognizes the urgency of the problem.<sup>103</sup> Without proactive action, such change will not be orderly or predictable, nor is it reasonable to assume such changes will leave the industry intact. Only those companies that immediately begin planning and acting proactively will weather the coming storm.

## IV. SHAREHOLDERS CAN INFLUENCE OIL & GAS COMPANIES TO ADOPT PARIS COMPLIANT PLANS

Institutional and retail shareholders have a decision to make – and the time is now. To date, shareholder engagement has not delivered results at scale or commensurate with the timeframe imposed by science. Therefore, we have reached the point where shareholders must plainly state to the oil & gas industry that it is time to take action and present feasible and time-sensitive plans to transition to the clean energy future or describe to investors how they plan to wind-down.

Shareholders need to unify behind a bold resolution asking companies to immediately present a **Paris Compliant business plan** that details a progressively lower carbon energy portfolio, or managed decline from the fossil fuel portion of their business model. The plan should:

- a. Apply a reasonable, transparent approach to assessing fossil fuel projections and rationalize capital expenditures for developing reserves tied to an analysis of each company's share of the remaining global carbon budget.<sup>104</sup>
- b. Identify which type of assets are likely to become stranded under scenario planning, and how the company will move away from such assets.
- c. Provide capital expenditure plans that are demonstrably in line with maintaining global temperatures well below 2°C and commit to immediately ceasing capital expenditures for exploration of new sources of fossil fuels that would bring company emissions outside of such parameters, especially high cost, high carbon, long term reserves.

Creating a unified shareholder force backing such a request is necessary and must occur in the short term. The bottom line is that the investor community needs to see a much greater commitment from all oil & gas companies to curb their contribution to climate change in alignment with Paris goals.

Shareholders must plainly state to the oil & gas industry that it is time to take action and present feasible and time-sensitive plans to transition to the clean energy future or describe to investors how they plan to wind-down.

102. Tom Sanzillo, Kathy Hipple, Clark Williams-Derry, "The Financial Case for Fossil Fuel Divestment," IEEFA, July 2018, [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)

103. The Climate Action 100 (CA100), a global initiative made up of 289 investors with nearly \$30 trillion in assets under management, provides an ideal forum for demanding Paris compliant business plans from oil & gas companies within a 2 year time frame. The goal of the CA100 initiative is to systematically engage important greenhouse gas emitters across the global economy that can drive the clean energy transition and help achieve the goals of the Paris Agreement.

104. For instance, a scenario that achieves a minimum of 66% chance of attaining 2°C or below warming, without reliance on negative emissions such as carbon capture and sequestration.

## **OIL & GAS COMPANIES MUST RECOGNIZE THE IMPORTANCE OF THE PARIS AGREEMENT AS A “FIRST STEP TOWARDS A GLOBAL FRAMEWORK”**

In the case of Chevron, which will serve as a proxy for the broader oil & gas industry for this section of this paper, its latest report “Climate Change Resilience: A Framework for Decision Making”<sup>105</sup> mentions that it considers the Paris Agreement to be, for the most part, in line with the company’s Policy Principles for Addressing Climate Change.<sup>106</sup> Among these principles, the company states that “we must create solutions that balance environmental objectives with global economic growth and our aspirations for a better quality of life for people across the world.” Considering Chevron’s current plan of adhering to demand corresponding to the New Policies Scenario from the IEA’s World Energy Outlook,<sup>107</sup> the company is currently working toward and contributing to a scenario where the temperature will rise approximately 2.7°C by 2100,<sup>108</sup> if not more. Such a temperature rise can have devastating consequences, far from improving the quality of peoples’ lives around the world.

In the “Unconventionals” section of its report,<sup>109</sup> Chevron discloses its plans for unconventional shale gas and tight oil development in line with the New Policies Scenario. Such actions undermine the world’s efforts to keep temperatures from rising. While Chevron does address the Sustainable Development Scenario (SDS) of the IEA, the company takes a reactive stance on the scenario. Chevron monitors the SDS as a “downside scenario” and argues that it would be able to adjust to such events if externalities forced the company to do so. This approach, however, does not address the concerns identified in this paper, which focuses on placing Chevron in a position where it is able to contribute to decarbonizing the economy, thereby providing shareholders with less risk and higher value in the long term.

Chevron does state that it is involved in “understanding and evaluating the economic viability of renewable energy sources” and has invested in projects revolving around solar, wind, geothermal, biofuels, and renewable diesel. These, however, are identified as being at a research stage.<sup>110</sup>

## **OVERALL PROFITABILITY IS HIGHLY DEPENDENT ON THE UPSTREAM BUSINESS.**

Like most oil & gas companies, Chevron’s dependence on the price of crude oil has increased the company’s risk profile, making it vulnerable to a downturn in fossil fuel demand and continued low oil prices. In its most recent annual report, the company reports a total loss of \$2.5 billion USD for its upstream operations, and a net income loss of \$497 million USD.<sup>111</sup> The company attributes the losses to the price of crude oil, which it expects to rise as supply of the commodity declines.<sup>112</sup> The company also mentions that the time of such increase is unknown.<sup>113</sup> At the same time, Chevron also discloses that it is evaluating the value of acquiring assets and operations complementary to its asset base to help improve the firm’s financial performance and growth.<sup>114</sup> This insistence on higher prices tends to ignore the likelihood of decreasing demand to meet global 2°C goals. Even the IEA has projected the need for reduced oil & gas in a decarbonizing economy. Such predicted demand decrease is likely to reduce oil & gas prices over the medium to longer term.

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105. “Climate Change Resilience – A Framework for Decision Making,” Chevron, March 2018, <https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf>

106. “Policy Principles for Addressing Climate Change,” Chevron website, <https://www.chevron.com/corporate-responsibility/climate-change/policy-principles>

107. World Energy Outlook 2017,” International Energy Agency, 2017, [http://www.iea.org/media/weo/website/2017/Chap1\\_WEO2017.pdf](http://www.iea.org/media/weo/website/2017/Chap1_WEO2017.pdf)

108. <https://www.iea.org/weo2017/>

109. “Climate Change Resilience – A Framework for Decision Making,” Chevron, March 2018, <https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf>

110. Ibid.

111. 2016 Annual Report,” Chevron, February 23, 2017, <https://www.chevron.com/-/media/chevron/annual-report/2016/2016-Annual-Report.pdf>

112. Ibid.

113. Ibid.

114. Ibid.



## A PATH FORWARD:

Oil & gas companies can compete effectively in an increasingly carbon constrained world if they act quickly. The companies that lead this transition will reap the benefits for their stakeholders. Shareholders that remain invested in oil & gas must, at a minimum, demand that the companies develop transition paths that are transparently disclosed, evaluated, and implemented. Company policies must recognize and be compatible with a net zero-emissions world by 2050, a path that is necessary to uphold the goals of the Paris Climate Agreement.

A well below 2°C compatible pathway must include an immediate end to capital expenditures for new resource development, especially high cost, high carbon, long term, reserves.<sup>115</sup> While the world will require some oil and gas in the near and midterm, existing fossil fuel reserves significantly exceed what the world can afford to burn within 2°C limits<sup>116</sup>. Oil & gas companies cannot be permitted to wait for governments to compel them to action; all companies must assume responsibility for taking immediate action to reduce their impact on climate change.

Given that lead times for most conventional oil & gas projects are five to ten years, a 2°C compatible plan would require that oil companies not only avoid significant new investments in high carbon assets including tar sands, but avoid high cost, long-term projects including Arctic and deep-water projects. Only such disciplined investment will enable these companies to remain competitive in a 2°C world, while reducing risk, volatility, and the increasing prospect of stranded assets.<sup>117</sup> Those companies following a business model of stepped down production in low cost, low carbon resources will insulate their businesses and create a buffer against falling demand. In fact, the Carbon Tracker Initiative estimates that the oil majors' combined upstream assets would be worth **more** if they choose to undertake projects on the low end of the cost curve that are consistent with a 2°C demand level.<sup>118</sup> Significantly, even if the price of oil were to rise to just below \$120/bbl (a scenario that remains unlikely), investments in 2°C compliant projects would still render upstream assets worth more than under a business as usual approach.<sup>119</sup>

As noted, given the growing potential for a warming climate that is harmful to the global economy and for regulatory and technological responses that erode demand for oil & gas, trustees and investment committees—as fiduciaries—must take action either by demanding and receiving immediate plans compatible with a 2°C economy, or by divesting from oil & gas companies that are failing to respond to clear market signals from a decarbonizing energy market.

## CONCLUSION AND RECOMMENDATION

We are at a crossroads on climate change. The impact of the 160-plus shareholder resolutions filed at 24 oil & gas companies from 2012-2018 has not been enough. These efforts resulted in marginal change in corporate policies and actions, but has not resulted in material change on climate. At the same time, companies continue to invest

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115. See, “Two degrees of separation – transition risk for oil & gas in a low carbon world,” Carbon Tracker Initiative, PRI, et al., (2017), <https://www.carbontracker.org/reports/2-degrees-of-separation-transition-risk-for-oil-and-gas-in-a-low-carbon-world-2/>

116. Oil Change International, & The Institute for Energy Economics and Financial Analysis (IEEFA), “Off Track,” April 2018, page 17 <http://priceofoil.org/content/uploads/2018/04/OFF-TRACK-the-IEA-Climate-Change.pdf> (also see citation 61 in Off Track: Malte Meinshausen, “Greenhouse-gas emission targets for limiting global warming to 2°C”, Nature, Vol 458, 30 April 2009; IPCC, Climate Change 2014, Synthesis Report, pp.63-64, [http://ipcc.ch/pdf/assessmentreport/ar5/syr/AR5\\_SYR\\_FINAL\\_All\\_Topics.pdf](http://ipcc.ch/pdf/assessmentreport/ar5/syr/AR5_SYR_FINAL_All_Topics.pdf))

117. See “Engaging for a Low Carbon Transition, Why a 2C Business Model is Less Risky Than ‘Business-As-Usual’ for Oil Companies,” Local Authority Pension Fund Forum, Carbon Tracker, 2016, <http://www.lapfforum.org/engaging-for-a-low-carbon-transition-new-report-published-by-lapff-and-carbon-tracker-initiative/> for a discussion of the benefits to companies and shareholders of adopting a low carbon business model.

118. See, e.g., “Sense and Sensitivity: Maximising Value with a 2D Portfolio,” <http://www.carbontracker.org/report/fossil-fuels-stress-test-paris-agreement-managed-decline/>; see also “Engaging for a Low Carbon Transition, Why a 2C Business Model is Less Risky Than ‘Business-As-Usual’ for Oil Companies,” Local Authority Pension Fund Forum, Carbon Tracker, 2016, <http://www.lapfforum.org/engaging-for-a-low-carbon-transition-new-report-published-by-lapff-and-carbon-tracker-initiative/>

119. “Engaging for a Low Carbon Transition, Why a 2C Business Model is Less Risky Than ‘Business-As-Usual’ for Oil Companies,” Local Authority Pension Fund Forum, Carbon Tracker, 2016, <http://www.lapfforum.org/engaging-for-a-low-carbon-transition-new-report-published-by-lapff-and-carbon-tracker-initiative/>

major capital on exploration for risky and potentially stranded reserves. The underperformance of the energy sector over the past decade has created portfolio underperformance and continued risk for fiduciaries of pension funds, university endowments, foundations, and mutual funds. Meanwhile the growing impacts of a warming climate are creating economy-wide and portfolio-wide risks.

Corporate shareholder engagement must continue its work with all non-energy sectors to bring them in compliance with the Paris goals. With the oil & gas industry, however, shareholders must focus on core issues; we can no longer act incrementally or apply diffused approaches and methods. The world needs one powerful last round of effective engagement with a proposal that is fit for purpose.

Therefore the authors of this report recommend that over the next two coming proxy seasons—through the 2020 annual meetings—**shareholders unify and demand that oil & gas companies immediately undertake scenario analysis compatible with a 2°C demand level, with transparent methods of assessment and disclosure and, by the following year, adopt Paris compliant business plans with clear timelines for implementation.**<sup>120</sup> Such plans must provide sufficient detail that shareholders can review, understand, and compare companies' actions.

If oil & gas companies do not respond with feasible plans and science-based timelines, then fiduciaries must act to protect their beneficiaries. Companies that refuse to plan for transition have by their own volition declared themselves to be rogue global actors. Shareholders that continue to support companies engaging in globally destructive action become complicit in both the risk and the outcome.

We no longer have the luxury of time. **Shareholder engagement must focus on one last, fit for purpose demand, seeking 2°C assessments from companies in year one and 2°C action plans by 2020. If Paris Compliant Engagement fails, then investors must divest. It is the only way investors themselves can be Paris compliant.**

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120. Such disclosures must start with accurate disclosures on the CO2 embedded in each company's reserves and resources, and how emissions will be reduced.



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