

## EXXON MOBIL- IN NEED OF STRATEGIC CSR

*"I don't think you stay in business for 135 years, without being attentive to the needs of your customers, your stakeholders, and the communities that you operate in"*<sup>1</sup>

Darren Woods  
CEO and Chairman of Exxon

Texas-based Exxon Mobil Corp (Exxon), one of the world's most valued petroleum and petrochemicals company, lost \$184 billion<sup>2</sup> in its market valuation between 2014 and early 2020, and by August 2020, exited the Dows Jones index.<sup>3</sup> The loss in market valuation was equivalent to Boeing's entire value, or 1.5 times the value of Tesla.<sup>4</sup> According to media sources and experts, the decline represented global concern towards the climate crisis created by Exxon,<sup>5</sup> and the growing demand for renewable energy that was considered more sustainable<sup>6</sup> and in which Exxon had minimal investments. Experts thought Exxon's investment in corporate social responsibility (CSR) projects as lip service.<sup>7</sup> Technologies in which Exxon was investing in, such as algae usage for absorbing carbon emission, were declared ineffective, and other petroleum companies ceased their investment in algae-related technologies.<sup>8</sup> Commenting on Exxon's investment in renewable energy, Darren Woods, CEO and Chairman of Exxon, said that he did not intend to invest in solar and wind power, as there was no "unique advantage" in developing such renewable sources of energy as profit margin was less in renewable energy.<sup>9</sup> He believed demand for oil and gas could not decline in the long run. International Energy Agency also estimated that by 2040, \$20 trillion of oil and gas investment would be required to meet energy demand.<sup>10</sup> However, Ben Cook, a portfolio manager at BP Capital Fund Advisors, said, "Fossil fuels have a PR issue."<sup>11</sup> He further added, "As long as the market perceives them to be the culprit for carbon emissions, they will have a difficult time." Several ESG (Environmental, Social, and Governance) based asset management companies through shareholder activism (see Exhibit 1) demanded Woods' resignation as Chairman of Exxon, as they believed dual-position holding made Exxon socially less responsible due to lack of investment in carbon emission control mechanisms.<sup>12</sup> Exxon's current and former employees also believed that the management did not respond to climate change threats through appropriate carbon emission control mechanisms or investing in more sustainable solutions to renewable energy.<sup>13</sup> Should Woods revisit his decision of not investing in renewable energy? Should he approach CSR more responsively or strategically? Is there a way he can balance investment in renewable energy and fossil fuels?

### BACKGROUND

In 2019, Exxon was one of the largest oil and gas producers globally, with operations in more than 45 countries.<sup>14</sup> Exxon had more than 75,000 employees globally.<sup>15</sup> It was a vertically integrated company with three main business units: upstream (extraction of oil or natural gas from the ground), downstream, (refining of crude oil to gasoline or other byproducts), and chemicals (refining of oil into other chemical byproducts, such as plastics and glue).<sup>16</sup> Exxon earned most of its upstream revenues from non-American markets, while downstream revenues were largely from the US market.<sup>17</sup> Exxon's chemical division revenues were almost equally distributed within and outside America (see Exhibit 2). Downstream revenue, in particular, showed an erratic trend between 2015 and 2019. It decreased between 2015-16 and then again between 2018-19 when the revenue reduction was more than 50 percent.<sup>18</sup> In its 10-Q filing in 2019, Exxon mentioned that it could write down 20 percent of its oil reserves totaling 22.4 billion barrels of oil equivalent at the year-end 2019, implying a 4.5 billion write-down.<sup>19</sup> The Covid-19 Pandemic was expected to further result in a write-down of oil-based assets as crude oil price outlook was lower.<sup>20</sup>

Being in the energy sector, Exxon was a significant contributor to greenhouse gas emission, leading to global warming. In between 1965 to 2017, among the top 20 largest fossil fuel companies globally, Exxon ranked fourth in contributing to greenhouse gas emissions<sup>21</sup> (see Exhibit 3). Renewable energy was also gradually replacing

fossil fuels. In the 22<sup>nd</sup> Century, it was expected that all of the electricity need, globally, would be met by renewable energy sources like solar energy.<sup>22</sup> In response to solar energy's potential, in the 1960s, Exxon created an in-house venture-capital division for developing solar cells for commercial purposes. Nevertheless, giving Exxon's preference for profit over sustainability, it sold the unit in the 1980s and decided to continue with fossil fuel.<sup>23</sup> Though global concerns for greenhouse gases kept increasing, Exxon did not change its oil and gas sector growth strategy. Taking advantage of low oil prices,<sup>24</sup> in 2019, Exxon further expanded its operations by acquiring oil reserves, which experts criticized, given the growth of renewable energy globally.<sup>25</sup> Some of the Exxon employees also pressed the company on its responsibility towards climate change. Enrique Rosero, a former Exxon geoscientist at Exxon, said, "We acknowledge the need to reduce our emissions, yet they are set to increase by at least 20% over the next five years [i.e., 2025]."<sup>26</sup> However, such employees were fired by the company on the grounds of performance issues.<sup>27</sup>

## **SUSTAINABILITY STRATEGY**

### *Strategy of Peers*

The oil and gas sector was often considered as the dirtiest sector within the energy industry.<sup>28</sup> Although all the six oil "super-majors" – BP, Shell, Chevron, Total, Eni, and Exxon – invested billions of dollars into clean energy projects, critics raised questions if they were good enough investments. On average, these companies spent only one percent of their annual budget on green energy projects<sup>29</sup> (see Exhibit 4 for green energy projects of some of the oil companies). Experts believed that for oil companies to contribute to the low carbon economy, they required changes in their business models.<sup>30</sup> Luke Fletcher, a senior analyst at CDP Global, a not-for-profit, commenting on the implications of low carbon economy on oil companies said, "The shift to a low-carbon economy presents the question of what role oil and gas companies will play in this transition, and what their strategic options are in the more immediate and longer term."<sup>31</sup> Some oil companies, such as Equinor, rebranded themselves to a broad energy company. Equinor also intended to invest 15-20 percent of (its capital expenditures) in new energy solutions by 2030. Industry experts considered this a symbolic shift.<sup>32</sup> BP was also committed to reducing greenhouse gas emissions to net-zero by 2050 and reducing its products' carbon content by 50 percent.<sup>33</sup> Royal Dutch Shell also aimed to reduce its fuel's carbon intensity by 65 percent by 2050.<sup>34</sup> Yet another European company, Total, is also assured to reduce emissions from its drilling and refining operations by 2050.<sup>35</sup>

### *Exxon's Strategy*

#### Investment in biofuel research

Exxon, continued investments in new technologies initiated in the year 2000,<sup>36</sup> to reduce greenhouse gas emissions, by advancing biofuels and capturing and storing carbon.<sup>37</sup> It significantly invested in geoengineering technology to capture carbon in fuel cells.<sup>38</sup> Geoengineering solutions implied using large-scale technological interventions to combat climate change. It included strategies such as putting 20,000 tons of sulfuric acid into the atmosphere or creating clouds or developing space shields to reflect the sun's rays.<sup>39</sup> Exxon utilized carbon capture and sequestration (CCS) as a geoengineering solution. CCS technology was used to capture carbon emissions from the air and store them.<sup>40</sup> However, according to reports, CCS technology was expected to increase carbon emissions and create ecological destruction.<sup>41</sup> This was because such technologies manipulated the earth's natural climate cycles, which could have severe long-term consequences.<sup>42</sup> Moreover, rather than directing efforts to reduce carbon emission, Exxon's carbon capture investment was also directed with the inherent motive of using the captured carbon to further explore oil, with available technologies.<sup>43</sup>

For advanced biofuels research, Exxon funded and researched algae, non-food-based biomass feedstock, and agricultural waste.<sup>44</sup> In July 2017, Exxon announced a breakthrough in algae biofuels research, wherein algae could absorb greenhouse gases.<sup>45</sup> The company also invested and participated in various algae-related research programs at leading US universities (e.g., MIT and Stanford) and governmental research programs (such as the US Department of Energy and International Energy Agency).<sup>46</sup> However, research suggested that algae's potential as a biofuel was limited, and several energy companies gave up their algae energy projects.<sup>47</sup> Experts commenting on the problem with algae-based biofuel mentioned that algae biofuel required too many inputs--“too much fertilizer, too much water, and too much energy.”<sup>48</sup> Nevertheless, Exxon continued with its investment in the algae project and claimed great potential of algae as a biofuel.<sup>49</sup>

Exxon's initiation of algae-based biofuel projects, when other energy companies discarded such projects, was seen with suspicion by critics.<sup>50</sup> The *Harvard Political Review*, in one of the article commenting on Exxon's treating sustainability as a public relations issue, mentioned, “This is the same company that, not too long ago, was actively discrediting legitimate climate science” with “one of the ‘most sophisticated and most successful disinformation campaign[s]’ ever, on par with the tobacco industry’s campaign to discredit links between smoking and lung cancer.”<sup>51</sup> As Exxon continued with biofuel investment, it was criticized for paying lip service to sustainability and carbon emission projects.<sup>52</sup>

### Sustainability and social responsibility initiatives

Although Exxon's sustainability initiatives were criticized in the energy sector, it was active in sustainability and social responsibility initiatives that were not related to problems of the energy sector. In 2018, Exxon became the first energy company to join The Recycling Partnership, a US sustainability-based nonprofit, with an investment of \$1.5 million.<sup>53</sup> It offered the recycling of goods in hundreds of communities within the USA. Exxon was among 34 other companies, including Coca-Cola, Target, Amazon, Pepsi, Starbucks, and P&G, to create a sustainable future through recycling.<sup>54</sup> Commenting on venturing into the recycling program, Dave Andrew, vice president of sustainability at Exxon, said, “At ExxonMobil, we believe our fundamental purpose is to help improve peoples’ lives and empower human progress.”<sup>55</sup> He further added, “We are committed to providing sustainable solutions that make modern life possible so future generations can thrive. Expanding community access to efficient recycling systems is a priority for us, and we are very excited to be a part of the great work The Recycling Partnership is doing in this area.”<sup>56</sup>

### **CONTROVERSY RELATED TO CLIMATE CHANGE**

In 2015, at The Paris Agreement, members of the United Nations Framework Convention on Climate Change reached an agreement “to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degree Celsius.”<sup>57</sup> There was also a general perception among the common public, environmental journalists, and scientist community that greenhouse gases released due to human activities caused global warming and a threat to humanity. Nevertheless, several controversies remained around this argument.<sup>58</sup>

In 2017, more than 31,000 scientists worldwide signed a petition stating clearly “there is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth’s atmosphere and disruption of the Earth’s climate.”<sup>59</sup> Leighton Steward, a reputed geologist who co-authored the *New York Times* bestseller *Sugar Busters* asserted that reducing carbon dioxide levels may hurt the environment more as plants under more carbon dioxide conditions made larger fruits and vegetables.<sup>60</sup> Some scientists did not agree with Steward's arguments and pointed out that such studies were laboratory-based. In real life, the presence of nitrogen also mattered for how much biomass was produced. Richard Norby, a corporate research fellow in the Environmental Sciences Division and Climate Change Science Institute of Oak Ridge

National Laboratory, commenting on such findings, said, “If you isolate a leaf [in a laboratory] and you increase the level of CO<sub>2</sub>, photosynthesis will increase. That’s well established.”<sup>61</sup> Commenting on the role of nitrogen in this process, Norby further added, “If nitrogen is limited, the benefit of the CO<sub>2</sub> increase is limited.... You can’t just look at CO<sub>2</sub>, because the overall context really matters.”

The most widely held claim in the global warming debate was that 97 percent of scientists agreed that climate change was human-made and dangerous.<sup>62</sup> Craig D. Idso, Robert M. Carter, and S. Fred Singer — three prominent climate scientists affiliated with the Nongovernmental International Panel on Climate Change in a book titled “Why Scientists Disagree About Global Warming.” — commenting on the agreement within the scientific community wrote, “This claim is not only false, but its presence in the debate is an insult to science.”<sup>63</sup> The scientists highlighted the flawed methodology used by climate change scientists.<sup>64</sup> One of the reputed Australian climate scientists, Tom Wigley, commented on the claim that climate change threatened civilization and said, “It really does bother me because it’s wrong.”<sup>65</sup> He further added, “All these young people have been misinformed. And partly it’s Greta Thunberg’s fault. Not deliberately. But she’s wrong.”<sup>66</sup> Wigley has been working on climate science since 1975 and created one of the first climate models (MAGICC) in 1987, which remained one of the main climate models in use as of November 2019.<sup>67</sup>

In 2017, Dr. Jennifer Marohasy, a respected Australian scientist, found in research that global temperatures would have increased even if there was no industrial revolution and that climate change was a natural phenomenon, and humans were not responsible for it.<sup>68</sup> According to Marohasy, most scientists worked on a scientific model to measure climate change established approximately 120 years ago, which led to the conclusion that human activity caused climate change.<sup>69</sup> Marohasy, along with her co-author, using data from tree rings and coral reefs and using neural network-based technology, ran an analysis that revealed that temperatures for the last two millennia were the same even if there was not extra carbon dioxide.<sup>70</sup> Another group of scientists also urged that humanity must worry about climate change and its adverse impact, but only after putting things in perspective. For instance, wheat yields increased 100 to 300 percent globally between the 1960s and 2019, and according to scientific evidence, a one-degree rise in temperature would cause a six percent decrease in crop yield.<sup>71</sup>

#### *Controversies related to Exxon’s management of climate change activities*

In 2015, a research by InsideClimate News, the Los Angeles Times, and Columbia Journalism School exposed Exxon’s documents revealing potential damages to the climate, oil exploration activities could cause, and the company was aware of the damages since the 1970s.<sup>72</sup> Exposure of Exxon’s documents led to lawsuits against the company for disclosure violations regarding oil’s adverse climatic impact.<sup>73</sup> In 2020, law students of Harvard University even protested against the law firm, Paul, Weiss, Rifkind, Wharton & Garrison LLP, representing Exxon in the US Supreme Court and got it cleared from the allegations of hiding critical information from the public.<sup>74</sup> Exxon denied that fossil fuel usage was responsible for climate change between the 1970s and 2015<sup>75</sup> and urged more research. The company hired several scientists and mathematicians to develop better climate models and got the studies published in academic peer-review journals.<sup>76</sup>

Furthermore, contrary to its peers, Exxon had no long-term plans for reducing carbon emission.<sup>77</sup> It did not align its operations with *The Paris Agreement* of 2015.<sup>78</sup> Carbon Tracker Initiative, a London based independent financial think tank, in 2019 found that 55 percent of Exxon’s production to 2040 was outside The Paris Agreement’s below two-degree Celsius goals.<sup>79</sup> However, in 2017, Exxon urged the US President to be a part of the Paris Agreement.<sup>80</sup>

## RENEWABLE ENERGY SECTOR

### *Growth of the Renewable Energy Sector*

Renewable energy globally was growing at a substantial pace (Exhibit 5). The US reported a 100 percent growth in renewable energy between 2000-2018.<sup>81</sup> Also, 26 percent of the global electricity in 2018 was generated through renewables, mainly solar, wind, and hydropower.<sup>82</sup> Cost of renewable energy was also much cheaper than fossil fuels.<sup>83</sup>

The renewable energy market was fragmented and highly competitive.<sup>84</sup> Wood McKenzie, a UK-based consulting firm, commenting on the growth of energy companies in the renewable energy sector mentioned, “The Majors [oil companies] may want to look towards mergers and acquisitions, developing offshore wind, or solar PV in emerging markets, in order to find a competitive edge and be able to deploy sufficient capital to grow in the sector.”<sup>85</sup>

However, energy companies were skeptical about investing in renewable energy because of comparative low-profit margins, though it provided a cushion against oil price volatility.<sup>86</sup> On average, in the solar energy industry, the profit margin was 24.5 percent<sup>87</sup> between 2015 and 2020.<sup>88</sup> The gross profit margin for SolarEdge, a solar inverter making company, was 33.6 percent in 2019. Exxon’s gross profit margin between the same period ranged between 19-20 percent approximately.<sup>89</sup> The wind energy sector had a profit margin of approximately 16 percent (2015-2020) and fragmented with 223 players.<sup>90</sup> Profit potential in renewable energy also varied with different stages of the industry value chain. For example, inverters (i.e., components that kept electricity flow through the grid) had a better profit margin than making solar panels or batteries.<sup>91</sup>

Proponents of renewable energy noted that solar panels were increasingly the cheapest source of electricity. According to Lazard, a US-based investment firm, solar panels could deliver power to 650 homes for one hour at \$31 to \$111 a megawatt-hour.<sup>92</sup> By comparison, natural gas peaking plants, which utilities can turn on and off quickly to meet surging demand, deliver power at \$122 to \$162 a megawatt-hour.<sup>93</sup> However, according to US utility companies, they needed to keep using natural gas because wind and sun based energy resources were unreliable.<sup>94</sup> Katharine Bond, vice president at Dominion Energy, said, “We’ve got to have a resource that has an ‘on’ and ‘off’ switch.”<sup>95</sup>

### *Challenges of the Renewable Energy Sector*

According to experts, such as those at the Institute of Political Economy (IPE) at Utah State University, certain renewables such as solar and wind were unreliable.<sup>96,97</sup> This was because users had to switch to traditional forms of energy in the absence of sun and wind. Moreover, renewable energy could not fulfill all of the human needs. For instance, while flying a 737-800 commercial aircraft with solar or wind energy required ten times of its empty weight to be stored in batteries for flying five hours.<sup>98</sup>

The COVID-19 pandemic also adversely impacted the renewable energy sector globally.<sup>99</sup> The economic downturn, due to the COVID-19 pandemic, dampened the demand for power as millions of people stayed at home, and heavy industries operated at minimum capacity.<sup>100</sup> Supply chains of renewable energy companies were also stretched to a breaking point, and financing had frozen, choking off lifelines to renewable energy companies that desperately required it.<sup>101</sup> For governments, focusing on COVID-19 pandemic-related rescue packages and fiscal support, clean energy investment was not a priority.<sup>102</sup> Fatih Birol, executive director of the International Energy Agency, said, “The combination of coronavirus and volatile market conditions will distract the attention of policymakers, business leaders and investors away from clean energy transitions.”<sup>103</sup>

Looking further ahead, low oil prices, globally, were expected to deter consumers from buying electric vehicles.<sup>104</sup> According to Ed Crooks, Vice Chairman of Wood Mackenzie, “Low crude prices, if they last, will slow the shift away from oil by making internal combustion engine vehicles more competitive against electric cars and trucks.”<sup>105</sup> However, big corporates such as RE100 firms, including Ikea, Apple, or Goldman Sachs, were committed to becoming 100 percent renewable energy companies by 2030. Still, critics raised concerns if renewable energy was something that society would pursue during good times and waylaid during bad times.<sup>106</sup>

## **SHAREHOLDER ACTIVISM FOR CLIMATE CHANGE AGAINST EXXON**

In the US, 26 percent of all professionally managed debt and equity investments were ESG-oriented funds. These funds invested in companies that had robust environmental, social, and governance practices.<sup>107</sup> The New York State Common Retirement Fund, an ESG fund<sup>108</sup> in May 2020, announced that they would vote against every individual on Exxon’s board, including Woods, as they were not satisfied with Exxon’s environmental sustainability initiatives. The New York State Common Retirement Fund stated, “Our voting intentions are, again, a measure of our profound dissatisfaction with [Exxon Mobil’s] approach to climate change risks and the governance failures that underpin it. We believe that [Exxon Mobil] can do so much better, and that a change in strategy and governance can bring about a long overdue improvement in shareholder returns.”<sup>109</sup> Investors further demanded that Exxon’s CEO should commit to net-zero emissions as its competitors were doing; else he needed to be replaced.<sup>110</sup>

In May 2020, UK’s Legal and General Investment Management, which was Europe’s largest asset manager, also voted against Woods as chairman of Exxon. The asset manager believed that Exxon required an independent chairman and not a CEO holding the chairman position to push for initiatives combatting climate change.<sup>111</sup> Exxon was the only oil major that Legal and General Investment Management divested from, as competitors such as Chevron Corp. and Royal Dutch Shell Plc met or exceeded the asset manager’s basic standards on climate change action.<sup>112</sup> BlackRock, Exxon’s largest shareholder, and world’s largest fund manager, also had similar views, like Legal and General Investment Management, about Woods holding dual positions in Exxon and not setting standards for reducing carbon emission.<sup>113</sup> On the contrary, Woods believed that the target for greenhouse gas emission or its reduction was needed to be set by the government and not individual companies like Exxon. He said, “As an individual company, we can’t drive that but we can certainly participate in it.”<sup>114</sup> Moreover, Exxon believed that they were also accomplishing internal targets set for themselves. Scott Silvestri, a spokesperson for Exxon, said, “We’re on track to meet greenhouse gas reduction measures. “They include a 15% decrease in methane emissions and a 25% reduction in flaring by 2020.”<sup>115</sup>

Storebrand, the largest asset management company in Norway, also divested from Exxon as it believed that Exxon was using political power to block climate policies.<sup>116</sup> Lobbyists from Exxon met with European Commission officials in 2019 to influence the European Green Deal, with the request of watering down strict carbon dioxide emission limits on vehicles.<sup>117</sup> The intervention aimed at slowing the adoption of electric vehicles.<sup>118</sup> InfluenceMap, a non-profit firm that tracked climate lobbying worldwide, reported that five of the largest oil companies together spent around \$200 million per year to delay, block or control policies aimed at tackling climate emergency.<sup>119</sup>

## **FUTURE OF OIL AND GAS SECTOR**

In the USA, critics expected fossil fuel to remain a prominent energy source, with coal being the second-leading source of electric power and natural gas being the number one. However, renewable energy was gaining traction<sup>120</sup> (see Exhibit 6). Pavel Molchanov, Director of Raymond James & Associate, a financial services firm, said, “Fossil fuels are the dominant portion of global energy supply, and it will remain that way, for decades in the future.”<sup>121</sup> Molchanov also believed that for oil companies to remain “relevant and

investable” to ESG-oriented funds, stark changes to business was required.<sup>122</sup> Moreover, meeting The Paris Agreement commitments, i.e., “no more than 2° C above pre-industrial levels,” would require 50 percent of all fossil fuel assets, including coal, oil, and gas resources needed to be written off. That would imply zero value, and a stricter 1.5-degree Celsius target would mean declaring 80 percent of oil and gas assets as stranded.<sup>123</sup> But some of these oil companies' assets were found to add value to marine life. According to scientific studies, underwater platform structures installed for oil drilling could support animals and plants that built their homes around these platforms.<sup>124</sup> These platforms acted as artificial reefs for marine life, significantly adding value to fisheries for commercial and recreational purposes.<sup>125</sup>

Owing to shareholder activism, international oil companies were divesting their oil and gas assets. However, the major international oil companies represented only 10 percent of the global market share. The remaining oil companies were mostly state-owned in the middle- and low-income countries such as Saudi Aramco, National Iranian Oil Company, China National Petroleum Corporation, and Petroleos de Venezuela.<sup>126</sup> These national oil companies (NOCs) did not require transparency about their operations, and their location in authoritarian countries made them less susceptible to pressure from civil society. According to the Natural Resource Governance Institute, these national oil companies were “dangerously under scrutinized.”<sup>127</sup> Patrick Heller, a researcher at The Natural Resource Governance Institute, commenting on the actual commitment of countries (owning the NOCs) to The Paris Agreement, said, “The fact that many NOCs remain so opaque has major implications for how well their countries respond to climate change.”<sup>128</sup> In 2019, 71 such state-controlled companies, except Norway’s Equinor, lacked accountability for global efforts tackling climate change.<sup>129</sup> Instead, out of the top 20 biggest carbon emitters in the energy sector, 12 were NOCs exploiting their country’s fossil fuels, mostly oil but also gas and coal.<sup>130</sup> According to the International Energy Agency, in 2018, the biggest NOCs produced 84 million barrels of oil and gas per day compared to 21 million by the seven biggest publicly listed oil companies globally.<sup>131</sup> Moreover, NOCs contributed to more than one-fifth of income for 25 countries.<sup>132</sup>

## **THE ROAD AHEAD**

Exxon, unlike other oil major companies, was sticking to its upstream growth plans.<sup>133</sup> Industry experts believed that oil prices would spike in the future, and Exxon could benefit due to its oil-based project pipelines.<sup>134</sup> The top management of Exxon remained unapologetic about their decision to invest in oil and gas, pointing to their decades-long consistent strategy of using the balance sheet to navigate cyclical downturns.<sup>135</sup> BlackRock believed that Exxon lacked a proper “sense of urgency” for climate change.<sup>136</sup> However, Exxon believed that shying away from fossil fuels was not a solution to managing the climate crisis. Commenting on divesting its fossil fuels assets, Ken Choen, Exxon’s Vice President for public and government affairs, said, “Divestment represents a diversion from the real search for technological solutions to managing climate risks that energy companies like ours are pursuing.”<sup>137</sup> Exxon believed that being a pioneer in researching carbon capture technologies, and encouraging carbon tax and urging the US government to be a part of The Paris Agreement, implied that it was serious about climate change concerns.<sup>138</sup> Critics believed that Exxon’s efforts towards climate change were more greenwashing. It primarily confined its green energy investments to legacy projects with no vision, investment plan, budget, or genuine ambition for future renewable energy.<sup>139</sup> How can Wood devise a way to do good to society and improve financial performance? Should he consider a more strategic approach to CSR then a responsive approach?

**EXHIBIT 1: KEY TERMS**

Key term	Definition
<i>Shareholder Activism</i>	Wherein an activist shareholder "attempts to use his or her equity stake in a company to achieve certain goals. The main goal of activist shareholders is bringing change within or for the company. They intend to affect the behavior of a company by exercising their voting power or influencing other shareholders."
<i>Low carbon economy</i>	"the green ecological economy based on low energy consumption and low pollution."
<i>Greenhouse gas</i>	"Greenhouse gases are gases in Earth's atmosphere that trap heat. They let sunlight pass through the atmosphere, but they prevent the heat that the sunlight brings from leaving the atmosphere." Water vapor, carbon dioxide, methane, etc. are major greenhouse gases
<i>Greenwashing</i>	"is used to describe the practice of companies launching adverts, campaigns, products etc. under the pretence that they are environmentally beneficial, often in contradiction to their environmental and sustainability record in general."

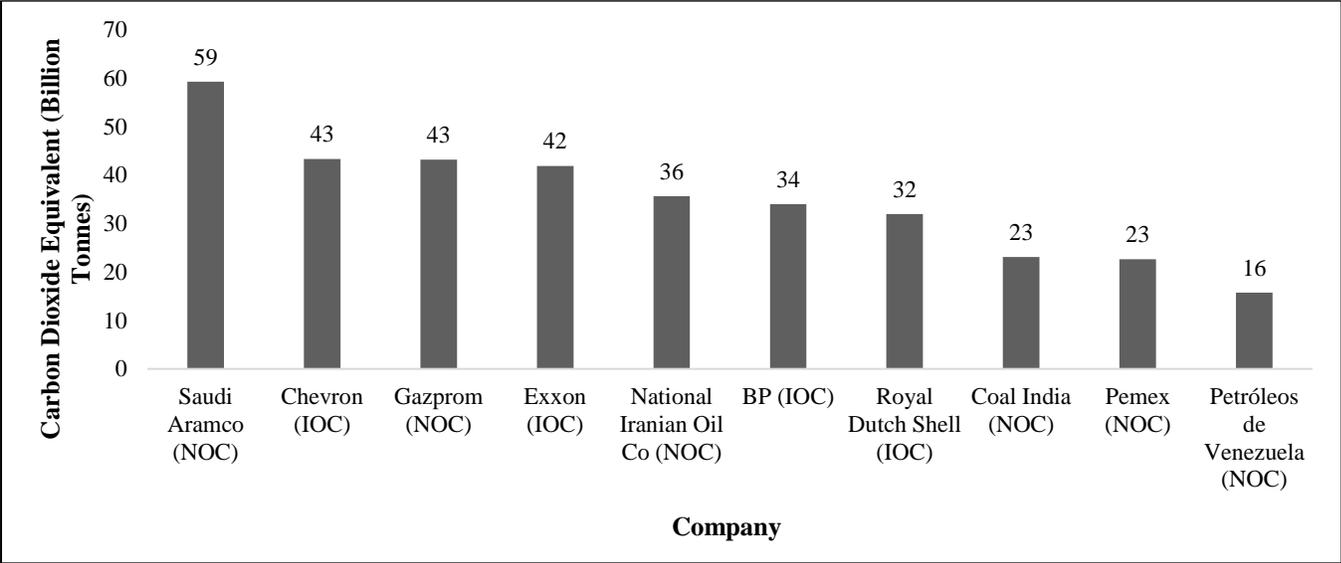
Source: CFI. (2019). Activist shareholder. Corporatefinanceinstitute.com. Retrieved from <https://corporatefinanceinstitute.com/resources/knowledge/finance/activist-shareholder/> ; Chen, H., and Wang, L. (2017). Coproducts generated from biomass conversion processes. *Carbon Economy*. Retrieved from <https://www.sciencedirect.com/topics/engineering/carbon-economy> ; Meet the greenhouse gases! (n.d.). *Nasa: Climate Kids*. Retrieved from <https://climatekids.nasa.gov/greenhouse-cards/> ; What is greenwashing? (n.d.). Ethical Consumer. Retrieved from <https://www.ethicalconsumer.org/transport-travel/what-greenwashing>

**EXHIBIT 2: EXXON FUNCTIONAL EARNINGS (2015-2019) (\$ BILLION)**

<b>Function</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b><i>Upstream Earnings</i></b>					
USA	-1.1	-4.2	6.6	1.7	0.5
Non-USA	8.2	4.3	6.7	12.3	13.9
Total	7.1	0.2	13.4	14.1	14.4
<b><i>Downstream Earnings</i></b>					
USA	1.9	1.1	1.9	3.0	1.7
Non-USA	4.7	3.1	3.6	3.0	0.6
Total	6.6	4.2	5.6	6.0	2.3
<b><i>Chemical</i></b>					
USA	2.4	1.9	2.2	1.6	0.2
Non-USA	2.0	2.7	2.3	1.7	0.4
Total	4.4	4.6	4.5	3.4	0.6
<b>Corporate Financing</b>	-1.9	-1.2	-3.8	-2.6	-3.0
<b>Net Income</b>	16.2	7.8	19.7	20.8	14.3

Source: Exxon: 2019 Financial and operating data. (2019). Exxon. Retrieved from <https://corporate.exxonmobil.com/-/media/Global/Files/annual-report/2019-Financial-and-Operating-Data.pdf>

**EXHIBIT 3: CARBON DIOXIDE EQUIVALENT EMISSION: TOP 10 FOSSIL FUEL COMPANIES (1965-2017)**



Source: Taylor, M. and Watts, J. (October 9, 2019). Revealed: the 20 firms behind a third of all carbon emissions. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions>

Note: NOC: National Oil Company; IOC: International Oil Company

**EXHIBIT 4: GREEN ENERGY PROJECTS OF OIL COMPANIES (2018)**

<b>Company</b>	<b>Project</b>
<b>Exxon</b>	Formed a \$500 million joint venture with Synthetic Genomics to make genetically modified photosynthetic algae to produce renewable crude using sunlight and carbon dioxide.
<b>Royal Dutch Shell</b>	Acquired a 44 percent stake in Silicon Ranch, a solar company, for \$217 million. It also acquired an on-site power generation management company MP2 Energy.
<b>Chevron</b>	Project-based investment covering wind, solar, and geothermal energy.
<b>BP</b>	Greenfield investment in 1.4 gigawatts (GW) of American wind power; 50-50 joint venture with DuPont for renewable fuels.
<b>Total SA</b>	Invested \$160 million in total across 20 start-ups covering renewable energy projects such as lithium-ion batteries, microbial fuel factories. Also acquired a 56 percent share in solar panel manufacturer SunPower.

Source: Chatsko, M. (June 4, 2018). Big oil is investing billions in renewable energy. Here's where and how. *The Motley Fool*. Retrieved from <https://www.fool.com/investing/2018/06/04/big-oil-is-investing-billions-in-renewable-energy.aspx>

**EXHIBIT 5: ENERGY CONSUMPTION IN THE USA BY SOURCE (2018)**

<b>Energy Consumption Source</b>		<b>%</b>
Petroleum		37
Natural Gas		32
Renewable Energy		11
	Geothermal	2
	Solar	9
	Hydroelectric	22
	Wind	24
	Biomass	43
Coal		11
Nuclear Electric Power		8

**Source:** U.S. Energy Information Administration. (May 7, 2020). U.S. energy facts explained. Eia.gov. Retrieved from <https://www.eia.gov/energyexplained/us-energy-facts/>

**EXHIBIT 6: TOTAL RENEWABLE ENERGY (2016-2019)**

<b>CAP (MW)</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
World	2,009,632	2,179,492	2,356,065	2,532,866
Asia	808,944	915,183	1,023,860	1,119,265
Europe	488,496	513,025	537,428	573,612
North America	331,179	348,558	368,956	391,241
<b>Production (GWh)</b>				
World	5,898,277	6,209,836	6,586,124	n/a
Asia	2,227,197	2,424,481	2,643,589	n/a
Europe	1,194,734	1,208,734	1,297,883	n/a
North America	1,119,942	1,202,235	1,226,317	n/a

**Source:** IRENA. (July, 2020). Renewable energy statistics 2020. *International Renewable Energy Agency*. Retrieved from <https://www.irena.org/publications/2020/Jul/Renewable-energy-statistics-2020>

## ENDNOTES

- <sup>1</sup> Crowley, K., and Gruley, B. (April 30, 2020). The humbling of Exxon. *Bloomberg*. Retrieved from <https://www.bloomberg.com/features/2020-exxonmobil-coronavirus-oil-demand/>
- <sup>2</sup> All currency figures are in US dollars.
- <sup>3</sup> Egan, M. (February 5, 2020). Exxon's market value has crumbled by \$184 billion. *CNN*. Retrieved from <https://edition.cnn.com/2020/02/05/business/exxonmobil-oil-stock/index.html>
- <sup>4</sup> Ibid.
- <sup>5</sup> Ibid.
- <sup>6</sup> Bromels, J. (July 21, 2020). Forget oil stocks: Buy renewable energy stocks instead. *The Motley Fool*. Retrieved from [fool.com/investing/2020/07/21/forget-oil-stocks-buy-renewable-energy-stocks-inst.aspx](http://fool.com/investing/2020/07/21/forget-oil-stocks-buy-renewable-energy-stocks-inst.aspx)
- <sup>7</sup> Crowley, K. and Rathi, A. (July 2, 2020). Exxon faces more pressure than ever to release a private outlook. *Bloomberg Quint*. Retrieved from <https://www.bloomberqqint.com/business/climate-minded-investors-prod-exxon-chevron-on-oil-price-outlook>
- <sup>8</sup> Zaremba, H. (January 28, 2020). Does Exxon know something about biofuel that its peers don't? *Oil Price*. Retrieved from <https://oilprice.com/Alternative-Energy/Biofuels/Does-Exxon-Know-Something-About-Biofuel-That-Its-Peers-Dont.html>
- <sup>9</sup> Grandoni, D. (May 28, 2020). The Energy 202: ExxonMobil declines to set long-term climate goal, bucking oil industry trend. *The Washington Post*. Retrieved from <https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2020/05/28/the-energy-202-exxonmobil-declines-to-set-long-term-climate-goal-bucking-oil-industry-trend/5ece8a9788e0fa6727006975/>
- <sup>10</sup> ExxonMobil: 2019 summary annual report. (2019). *ExxonMobil*. Retrieved from <https://corporate.exxonmobil.com/media/Global/Files/investor-relations/annual-meeting-materials/annual-report-summaries/2019-Summary-Annual-Report.pdf>
- <sup>11</sup> Egan, M. (February 5, 2020). Exxon's market value has crumbled by \$184 billion. Op. cit.
- <sup>12</sup> Ashworth, W. (May 18, 2020). Darren Woods must address ESG concerns to save Exxon Mobil stock. *Investor Place*. Retrieved from <https://investorplace.com/2020/05/exxon-mobil-stock-darren-woods-esg-concerns/>
- <sup>13</sup> Matthews, C. M. (September 14, 2020). Exxon used to be America's most valuable company. What happened? *The Wall Street Journal*. Retrieved from <https://www.wsj.com/articles/exxon-used-to-be-americas-most-valuable-company-what-happened-oil-gas-11600037243>
- <sup>14</sup> ExxonMobil: 2019 summary annual report. (2019). op. cit.
- <sup>15</sup> Garside, M. (April 20, 2020). Number of employees at ExxonMobil from 2001 to 2019. *Statista*. Retrieved from <https://www.statista.com/statistics/264122/number-of-employees-at-exxon-mobil-since-2002/>
- <sup>16</sup> ExxonMobil: Why consider renewables if my business is already profitable? (November 4, 2016). Digital.Hbs.edu. Retrieved from <https://digital.hbs.edu/platform-rctom/submission/exxonmobil-why-consider-renewables-if-my-business-is-already-profitable/>
- <sup>17</sup> Ibid.
- <sup>18</sup> Taylor, M. and Watts, J. (October 9, 2019). Revealed: the 20 firms behind a third of all carbon emissions. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions>
- <sup>19</sup> Luhavalja, A. (August 6, 2020). ExxonMobil, Chevron may write down big chunk of reserves if weak prices persist. *S&P Global*. Retrieved from <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/080620-exxonmobil-chevron-may-write-down-big-chunk-of-reserves-if-weak-prices-persist>
- <sup>20</sup> Ibid.
- <sup>21</sup> Taylor, M. and Watts, J. (October 9, 2019). Revealed: the 20 firms behind a third of all carbon emissions. op. cit.
- <sup>22</sup> Could renewable energy completely replace fossil fuels? (October 11, 2018). *Shell.com*. Retrieved from <https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/shell-scenario-sky/could-society-reach-the-goals-of-the-paris-agreement/can-renewables-replace-fossil-fuels.html>
- <sup>23</sup> Matthews, C. M. (September 14, 2020). Exxon used to be America's most valuable company. What happened? op. cit.
- <sup>24</sup> Ibid.
- <sup>25</sup> Ashworth, W. (May 18, 2020). Darren Woods must address ESG concerns to save Exxon Mobil stock. op. cit.
- <sup>26</sup> Ibid.
- <sup>27</sup> Matthews, C. M. (September 14, 2020). Exxon used to be America's most valuable company. What happened? op. cit.
- <sup>28</sup> Murray, J. (January 16, 2020). How the six major oil companies have invested in renewable energy projects. *NS Energy*. Retrieved from <https://www.nsenerybusiness.com/features/oil-companies-renewable-energy/>
- <sup>29</sup> Ibid.
- <sup>30</sup> Orr, B. and Vanags, A. (July 22, 2020). Why the oil industry has less time to decarbonize than it might think. *World Economic Forum*. Retrieved from <https://www.weforum.org/agenda/2020/07/oil-industry-less-time-to-decarbonize-than-it-might-think/>
- <sup>31</sup> Brenchley, D. (September 20, 2020). Analysts: European oil majors more prepared for low-carbon economy than US peers. *Investment Week*. Retrieved from <https://www.investmentweek.co.uk/analysis/4020372/analysts-european-oil-majors-prepared-low-carbon-economy-us-peers>
- <sup>32</sup> Silverstein, K. (April 7, 2019). Big oil is feeling the heat and dipping into green energy. *Forbes*. Retrieved from <https://www.forbes.com/sites/kensilverstein/2019/04/07/big-oil-is-feeling-the-heat-and-dipping-into-green-energy/#7675745662e7>
- <sup>33</sup> BP sets ambition for net zero by 2050, fundamentally changing organisation to deliver. (February 12, 2020). *Bp.com*. Retrieved from <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bernard-looney-announces-new-ambition-for-bp.html>

- 
- <sup>34</sup> We are an energy provider. (October 2, 2020). *Shell*. Retrieved from <https://www.shell.com/energy-and-innovation/the-energy-future/shells-ambition-to-be-a-net-zero-emissions-energy-business.html#iframe=L3dYmFwcHMvY2xpbWF0ZV9hbWJpdGlybi8>
- <sup>35</sup> Grandoni, D. (May 28, 2020). The Energy 202: ExxonMobil declines to set long-term climate goal, bucking oil industry trend. op. cit.
- <sup>36</sup> Takahashi, P. (September 21, 2020). Exxon Mobil, Global Thermostat widen carbon capture venture. *Houston Chronicle*. Retrieved from <https://www.houstonchronicle.com/business/energy/article/Exxon-Mobil-expands-carbon-capture-venture-15583590.php>
- <sup>37</sup> Pickl, M. J. (2019). The renewable energy strategies of oil majors—From oil to energy? *Energy Strategy Reviews*, 26, 100370. <https://doi.org/10.1016/j.esr.2019.100370>
- <sup>38</sup> Nabarro, J. L. (October 4, 2019). Geoeengineering is a Scam. *CounterPunch*. Retrieved from <https://www.counterpunch.org/2019/10/04/geoengineering-is-a-scam/>
- <sup>39</sup> Ibid.
- <sup>40</sup> Ibid.
- <sup>41</sup> Ibid.
- <sup>42</sup> Ibid.
- <sup>43</sup> Ibid.
- <sup>44</sup> Pickl, M. J. (2019).
- <sup>45</sup> Ibid.
- <sup>46</sup> Ibid.
- <sup>47</sup> Zaremba, H. (January 28, 2020). Does Exxon know something about biofuel that its peers don't? op. cit.
- <sup>48</sup> Ibid.
- <sup>49</sup> Ibid.
- <sup>50</sup> Ibid.
- <sup>51</sup> Ibid.
- <sup>52</sup> Crowley, K. and Rathi, A. (July 2, 2020). Exxon faces more pressure than ever to release a private outlook. op. cit.
- <sup>53</sup> Wilbur, S. (April 9, 2018). ExxonMobil joins The Recycling Partnership with \$1.5 million commitment. The Recycling Partnership. Retrieved from <https://recyclingpartnership.org/exxonmobil-joins-the-recycling-partnership-with-1-5-million-commitment/>
- <sup>54</sup> Ibid.
- <sup>55</sup> Ibid.
- <sup>56</sup> Ibid.
- <sup>57</sup> United Nations Climate Change. (December, 2015). What is the Paris Agreement? *United Nations Framework Convention on Climate Change*. Retrieved from <https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement>
- <sup>58</sup> Shellenberger, M. (November 25, 2019). Why apocalyptic claims about climate change are wrong. *Forbes*. Retrieved from <https://www.forbes.com/sites/michaelshellenberger/2019/11/25/why-everything-they-say-about-climate-change-is-wrong/#5fb302b612d6>
- <sup>59</sup> Bast, J. (April 24, 2017). Heartland Institute replies to the National Science Teachers Association. *The Heartland Institute*. Retrieved from <https://www.heartland.org/news-opinion/news/heartland-institute-replies-to-the-national-science-teachers-association>
- <sup>60</sup> Bedard, P. (October 7, 2009). Scientist: Carbon Dioxide doesn't cause global Warming," *U.S. News*. Retrieved from <https://www.usnews.com/news/blogs/washington-whispers/2009/10/07/scientist-carbon-dioxide-doesnt-cause-global-warming>
- <sup>61</sup> Sneed, A. (January 23, 2018). Ask the experts: Does rising CO2 benefit plants? *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/ask-the-experts-does-rising-co2-benefit-plants1/>
- <sup>62</sup> DuHamel, J. (August 7, 2017). Reviews of Why Scientists Disagree. *NIPCC*. Retrieved from <http://climatechangereconsidered.org/reviews-of-why-scientists-disagree/>
- <sup>63</sup> Ibid.
- <sup>64</sup> Ibid.
- <sup>65</sup> Shellenberger, M. (November 25, 2019). Why apocalyptic claims about climate change are wrong. op. cit.
- <sup>66</sup> Ibid.
- <sup>67</sup> Ibid.
- <sup>68</sup> Martin, S. (August 25, 2017). Climate Change - the REAL inconvenient truth: Scientist claims global warming is NATURAL *Express*. Retrieved from <https://www.express.co.uk/news/science/845901/climate-change-natural-global-warming-evidence-jennifer-marohasy>
- <sup>69</sup> Ibid.
- <sup>70</sup> Ibid.
- <sup>71</sup> Shellenberger, M. (November 25, 2019). Why apocalyptic claims about climate change are wrong. op. cit.
- <sup>72</sup> Exxon's Climate Denial History: A Timeline. (January 21, 2016). *Greenpeace*. Retrieved from <https://www.greenpeace.org/usa/global-warming/exxon-and-the-oil-industry-knew-about-climate-change/exxons-climate-denial-history-a-timeline/>
- <sup>73</sup> Ibid.
- <sup>74</sup> Ibid.
- <sup>75</sup> Ibid.

- <sup>76</sup> Banerjees, N., Song, L., and Hasemyer, D. (September 16, 2015). Exxon's own research confirmed fossil fuels' role in global warming decades ago. InsideClimate News. Retrieved from <https://insideclimatenews.org/news/15092015/Exxons-own-research-confirmed-fossil-fuels-role-in-global-warming>
- <sup>77</sup> Crrok, Ed. (April 2, 2019). Exxon shareholders denied vote on emissions targets. *Financial Times*. Retrieved from <https://www.ft.com/content/6807e7ee-5588-11e9-a3db-1fe89bedc16e>
- <sup>78</sup> Ibid.
- <sup>79</sup> Exxon Mobil: Climate change risk reporting. (December, 2019). As You Sow. <https://www.asyousow.org/resolutions/2019/12/18/exxon-mobil-climate-change-risk-reporting>
- <sup>80</sup> Egan, M. (March 29, 2017). Exxon to Trump: Don't ditch Paris climate change deal. *CNN Business*. Retrieved from <https://money.cnn.com/2017/03/29/investing/exxon-trump-paris-climate-change/>
- <sup>81</sup> Exxon Mobil: Climate change risk reporting. (December, 2019). As You Sow. <https://www.asyousow.org/resolutions/2019/12/18/exxon-mobil-climate-change-risk-reporting>
- <sup>82</sup> Ibid.
- <sup>83</sup> Renewables increasingly beat even cheapest coal competitors on cost. (June 2, 2020). *International Renewable Energy Agency*. Retrieved from <https://www.irena.org/newsroom/pressreleases/2020/Jun/Renewables-Increasingly-Beat-Even-Cheapest-Coal-Competitors-on-Cost>
- <sup>84</sup> Silverstein, K. (April 7, 2019). Big oil is feeling the heat and dipping into green energy. op. cit.
- <sup>85</sup> Ibid.
- <sup>86</sup> Parnell, J. (March 13, 2020). Could the oil price collapse drive more investment into renewables? *Greentech Media*. Retrieved from <https://www.greentechmedia.com/articles/read/oil-price-means-renewables-are-a-better-investment-for-the-majors>
- <sup>87</sup> SolarEdge Announces Fourth Quarter and Full Year 2019 Financial Results. (February 19, 2020). Last10K.com. Retrieved from <https://last10k.com/sec-filings/sedg>
- <sup>88</sup> Crompton, T. (August, 2020). Solar Power in the US. *IBISWorld*. Retrieved from <https://www.ibisworld.com/>
- <sup>89</sup> Exxon Profit Margin 2006-2020 | XOM. (2020). *MacroTrends*. Retrieved from <https://www.macrotrends.net/stocks/charts/XOM/exxon/profit-margins>
- <sup>90</sup> Patel, K. (August, 2020). Wind Power in the US. *IBISWorld*. Retrieved from <https://www.ibisworld.com/>
- <sup>91</sup> Martin, C. (August 8, 2019). The most profitable part of solar power isn't panels or batteries. *Los Angeles Times*. Retrieved from <https://www.latimes.com/business/story/2019-08-08/the-most-profitable-part-of-solar-power-isnt-panels-or-batteries>
- <sup>92</sup> Penn, I. (July 6, 2020). The next energy battle: Renewable vs. natural gas. *The New York Times*. Retrieved from <https://www.nytimes.com/2020/07/06/business/energy-environment/renewable-energy-natural-gas.html>
- <sup>93</sup> Ibid.
- <sup>94</sup> Penn, I. (July 9, 2020). Battle lines shift, pitting natural gas against renewable energy. *StarTribune*. Retrieved from <https://www.startribune.com/battle-lines-shift-pitting-natural-gas-against-renewable-energy/571699102/?refresh=true>
- <sup>95</sup> Ibid.
- <sup>96</sup> Reliability of renewable energy: Wind. (November, 2015). *Strata*. Retrieved from <https://www.strata.org/reliability-of-renewable-energy/wind/>
- <sup>97</sup> Reliability of renewable energy: Solar. (November, 2015). *Strata*. Retrieved from <https://www.strata.org/reliability-of-renewable-energy/solar/>
- <sup>98</sup> ExxonMobil: 2019 summary annual report. (2019). op. cit.
- <sup>99</sup> Clowes, E. (April 3, 2020). Future of renewable energy could be harmed by an untimely double whammy; Analysis Virus-hit world economies and public budgets may mean oil is not as dead as predicted, says Ed Clowes. *Daily Telegraph*. Retrieved from <https://link.gale.com/apps/doc/A619300841/GRNR?u=psucic&sid=GRNR&xid=89beae56>.
- <sup>100</sup> Ibid.
- <sup>101</sup> Ibid.
- <sup>102</sup> Ibid.
- <sup>103</sup> Birol, F. (March 14, 2020). Put clean energy at the heart of stimulus plans to counter the coronavirus crisis. *iea.org*. Retrieved from <https://www.iea.org/commentaries/put-clean-energy-at-the-heart-of-stimulus-plans-to-counter-the-coronavirus-crisis>
- <sup>104</sup> Crrok, E. (March 20, 2020). Five ways the coronavirus changed the world of energy this week. *Wood Mackenzie*. Retrieved from <https://www.woodmac.com/news/opinion/five-ways-the-coronavirus-changed-the-world-of-energy-this-week/>
- <sup>105</sup> Ibid.
- <sup>106</sup> Clowes, E. (April 3, 2020). Future of renewable energy could be harmed by an untimely double whammy; Analysis Virus-hit world economies and public budgets may mean oil is not as dead as predicted, says Ed Clowes. op. cit.
- <sup>107</sup> Egan, M. (January 9, 2020). Bill De Blasio and Sadiq Khan want your city to dump fossil fuels. *CNN*. Retrieved from <https://www.cnn.com/2020/01/09/investing/fossil-fuels-divestment-new-york-london/index.html>
- <sup>108</sup> Corporate Governance. (March 7, 2019). *Office of the New York State Comptroller*. Retrieved from <https://www.osc.state.ny.us/common-retirement-fund/corporate-governance>
- <sup>109</sup> Ashworth, W. (May 18, 2020). Darren Woods must address ESG concerns to save Exxon Mobil stock. op. cit.
- <sup>110</sup> Ibid.
- <sup>111</sup> Ashworth, W. (May 18, 2020). Darren Woods must address ESG concerns to save Exxon Mobil stock. op. cit.
- <sup>112</sup> Gilblom, K. and Mathis, W. (June 21, 2019). Large Exxon shareholder starts divesting over climate change. *Bloomberg*. Retrieved from <https://www.industryweek.com/leadership/article/22027797/large-exxon-shareholder-starts-divesting-over-climate-change>
- <sup>113</sup> Exxon Mobil Corp (NYSE:XOM), (n.d.). *CNN Money*. Retrieved from <https://money.cnn.com/quote/shareholders/shareholders.html?symb=XOM&subView=institutional>

- 
- <sup>114</sup> Grandoni, D. (May 28, 2020). The Energy 202: ExxonMobil declines to set long-term climate goal, bucking oil industry trend. op. cit.
- <sup>115</sup> Gilblom, K. and Mathis, W. (June 21, 2019). Large Exxon shareholder starts divesting over climate change. op. cit.
- <sup>116</sup> Frost, R. (August 28, 2020). Norwegian investors divest from fossil fuels, saying oil companies should not “rest easy.” *Euro News*. Retrieved from <https://www.euronews.com/living/2020/08/28/norwegian-investors-divest-from-fossil-fuels-saying-oil-companies-should-not-rest-easy>
- <sup>117</sup> Ibid.
- <sup>118</sup> Ibid.
- <sup>119</sup> Ibid.
- <sup>120</sup> Egan, M. (January 9, 2020). Bill De Blasio and Sadiq Khan want your city to dump fossil fuels. op. cit.
- <sup>121</sup> Ibid.
- <sup>122</sup> Ibid.
- <sup>123</sup> Doshi, T. (August 23, 2020). Big oil asset write-downs are not the end of the oil age. *Forbes*. Retrieved from <https://www.forbes.com/sites/tilakdoshi/2020/08/23/big-oil-asset-write-downs-are-not-the-end-of-the-oil-age/#28c482cc2da3>
- <sup>124</sup> There comes a time when the useful life of an oil platform comes to an end - at least when it comes to drilling for oil. (March 1, 2014). *Blue Latitudes*. Retrieved from <http://www.rig2reefexploration.org/read-me>
- <sup>125</sup> Bureau of Ocean Energy Management. (October, 2007). Alternate uses of existing oil and natural gas. In Bureau of Ocean Energy Management (Ed.), *Guide to the OCS Alternative Energy Final Programmatic Environmental Impact Statement (EIS)* (Vol. III) Chapter 6. Retrieved from [https://www.boem.gov/sites/default/files/renewable-energy-program/Regulatory-Information/Alt\\_Energy\\_FPEIS\\_Chapter6.pdf](https://www.boem.gov/sites/default/files/renewable-energy-program/Regulatory-Information/Alt_Energy_FPEIS_Chapter6.pdf)
- <sup>126</sup> Andreasson, S. (November 25, 2019). Fossil fuel divestment will increase carbon emissions, not lower them – here’s why. *The Conversation*. Retrieved from <https://theconversation.com/fossil-fuel-divestment-will-increase-carbon-emissions-not-lower-them-heres-why-126392>
- <sup>127</sup> Ibid.
- <sup>128</sup> Harvey, F. (October 9, 2019). Secretive national oil companies hold our climate in their hands. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2019/oct/09/secretive-national-oil-companies-climate>
- <sup>129</sup> Ibid.
- <sup>130</sup> Ibid.
- <sup>131</sup> Ibid.
- <sup>132</sup> Ibid.
- <sup>133</sup> ExxonMobil streamlining upstream organization to support growth plans. (January 31, 2019). *ExxonMobil*. Retrieved from [https://corporate.exxonmobil.com/News/Newsroom/News-releases/2019/0131\\_ExxonMobil-Streamlining-Upstream-Organization-to-Support-Growth-Plans](https://corporate.exxonmobil.com/News/Newsroom/News-releases/2019/0131_ExxonMobil-Streamlining-Upstream-Organization-to-Support-Growth-Plans)
- <sup>134</sup> Exxon Mobil: Doubling down while facing peak oil demand. (August 10, 2020). *Seeking Alpha*. Retrieved from <https://seekingalpha.com/article/4367169-exxon-mobil-doubling-down-while-facing-peak-oil-demand>
- <sup>135</sup> Ibid.
- <sup>136</sup> Grandoni, D. (May 28, 2020). The Energy 202: ExxonMobil declines to set long-term climate goal, bucking oil industry trend. op. cit.
- <sup>137</sup> Geman, B. and National Journal. (October 13, 2014). Exxon blasts movement to divest from fossil fuels. *The Atlantic*. <https://www.theatlantic.com/politics/archive/2014/10/exxon-blasts-movement-to-divest-from-fossil-fuels/446928/>
- <sup>138</sup> Understanding the #ExxonKnew controversy. (January 9, 2020). *ExxonMobil*. Retrieved from <https://corporate.exxonmobil.com/Energy-and-environment/Environmental-protection/Climate-change/Understanding-the-ExxonKnew-controversy>
- <sup>139</sup> Pickl, M. J. (2019).