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From Big Oil to Big Green

Holding the Oil Industry to Account for the Climate Crisis

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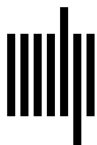
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In the immediate aftermath of the International Panel on Climate Change's (IPCC) publication of the landmark *IPCC Special Report on Global Warming of 1.5°C* (IPCC 2018) urging the rapid phasing out of fossil fuels to avert the direst consequences of global warming, Shell CEO Ben van Beurden affirmed to industry leaders at the Oil and Money Conference in London in 2018 that a huge tree-planting project the size of the Amazon rain forest would be needed to achieve the 1.5°C target. Is there anything intrinsically deplorable about this claim besides its patent impossibility, as the finite space on our planet would not allow for such mass-scale tree-planting projects, roughly equivalent to a small continent (ActionAid et al. 2020)?

According to the analysis in the previous chapters of part II exploring Big Oil's role in the climate crisis from a moral perspective, van Beurden's words are an attempt to redefine the parameters of the morally acceptable, as they are a testament to Shell's willful disdain toward its responsibility arising from the harm done by the fossil fuels manufactured by the company. Such obliviousness makes Shell implicitly reject cross-the-board duties of addressing climate harm that moral reasoning

assigns to it, despite its repeated green claims and pledges. Shell's plan appears, rather, to assume the form of an attempted *easy way out* through actions (tree-planting) involving unspecified agents that would have to relinquish something (land, labor, investments, time) to avert the dire situation that the IPCC report depicts. And talk of trees always garners approval from the marketing spin doctors, the media, and the wider public. Unfortunately, Shell and their fossil-fuel-producing peers cannot shelter from their moral responsibility under the protective canopy of a forest.

Indeed, the Shell CEO's claim prompts a host of questions on the controversial connection between the oil industry and society, which has been a love-hate relationship since its very inception. In the good old days it was comforting to believe, among the many reassuring tales of that not-too-distant golden age of hope and abundance, in the industry's "*Happy Oil*" narrative. It basically trumpeted that what was good for the oil industry was good for all, since any human problem could be solved through more fossil fuels and fossil-based technological breakthroughs. The immediate advantages of a plentiful source of cheap oil were extraordinarily compelling. *The Guardian* newspaper painted an insightful portrait: "the fossil fuel industry told us that we could take out an interest-only mortgage against the future of the planet and prices would always go up, interest rates would always go down and there would never be a reckoning" (McDuff 2018). But like the 2008 subprime mortgage crisis that led to one of the most severe financial crashes since the Great Depression, things had to change, and the image of the *Happy Oil* bubble burst dramatically. Humanity now knows that the Faustian pact made with what went on to become known as Big Oil was not actually that advantageous, and, in fact, "we [humans] find ourselves facing repayments on the scale of trillions of dollars. That does not even cover the human costs that these dry figures obscure: the lives lost, the homes flooded, the farms wasted away to drought."

This chapter explores some salient features of the complex relationship between the industry and the society it operates in to further clarify how Big Oil's responsibility for climate change can be translated into

duties. It is worth recalling that these duties of reparation and decarbonization are, so to speak, the bridging elements that connect the more normative-theoretical perspective of responsibility examined in chapter 4 to the more political-empirical perspective of climate governance and politics aligned with the demands of civil society covered in part III.

To magnify this interlocking role of duties, it is worthwhile to further investigate a few elements of Big Oil's conduct in relation to society. In particular, this chapter first defends the claims of duties owed to society against the most pressing counterclaims that dispute this view: rebuttals in which the terms *benefit provision*, *consumption-based*, and *law-abiding* ring loud. Then, to fully clarify the relationship between Big Oil and society, the chapter focuses on the moral status of fossil fuels per se and on the intrinsic moral wrongness of the harm the industry has caused. The chapter goes on to point out some specifications of Big Oil's duties in light of the demand emerging from society. Finally, the chapter sheds some light on how Big Oil has started to respond to society's expectations, especially in relation to decarbonization.

COUNTERING THREE COMMONSENSE REBUTTALS

In order to foster the cogency of Big Oil's duties toward society, it is necessary to systematically argue their case against the most pressing claims that dispute this view. Basically, this section addresses three common and apparently sound rebuttals to oil and gas companies' responsibility and duties, often used by fossil fuel advocates: (1) thanks to their fossil fuel-related activities, oil and gas companies have largely benefited humanity; (2) final consumers of fossil fuels are the ultimate agents responsible for emissions; and (3) oil and gas companies, at least in democratic societies with well-functioning markets, have no other obligations beyond what is required by law.

The Benefit Provision Rebuttal

Fossil fuels have benefited societies and improved the quality of life of humanity: given this, some observers point out that all things considered, associated costs must be tolerated. The more ardent supporters of this thesis loudly proclaim that the benefits far outweigh the costs.

There are a number of reasons why the cost/benefit frame should be avoided in analyzing the role of Big Oil in climate change. First and foremost to consider is that the moral obligation to *do no harm* takes precedence over any cost/benefit considerations, and the actual harm being done overrides the concept of any societal gains. Second, any benefits that were obtained by society at large were not deliberately premeditated by Big Oil, whose only intention was to reap as much of a financial reward as possible. Intentionality is a fundamental issue to defining *moral* responsibility: that the fossil fuel industry provoked positive—although unintentional—repercussions on global wealth and society is undeniable but irrelevant to the question of moral responsibility. Indeed, Big Oil has been more than amply rewarded for any benefits to society by the extraordinary wealth accrued over the years, so this aspect should not counterbalance the costs in any cost/benefit consideration.

Parallels can be drawn with the past. Mainly thanks to the world trade in cotton, the antebellum South in the United States was one of the economic engines of a thriving country. Its fuel of choice? Slavery. The same was to some extent true of the British Empire; both economies could claim that slavery had enabled them to produce great benefits for their industries and therefore their citizens. And while lawmakers and religious institutions of the day were split on the moral question of human bondage and its inhumanity, there remained consensus over its economic necessity. Today, nobody would argue that a cost/benefit analysis could ever justify such atrocity. Social norms eventually adapted, favoring the growth of a large abolitionist movement and finally leading to the establishment of antislavery laws before being formally abolished by the US Congress in 1865.

And yet some of the very same rhetoric used to defend slavery is adopted today to endorse the use of fossil fuels. In his *Memoir on Slavery*,

South Carolina senator William Harper (1838) made an appeal against a rash overturn of the slave-centered economic status quo that would upset the pecuniary interests of the South: “Very different indeed is the course of [the abolitionists] whose precipitate and ignorant zeal would overturn the fundamental institutions of society, uproar its peace and endanger its security, in pursuit of a distant and shadowy good, of which they themselves have formed no definite conception—whose atrocious philosophy would sacrifice a generation—and more than one generation—for any hypothesis” (qtd. in Davidson 2008, 73). Replace the word *abolitionists* with *environmentalists*, and they are barely distinguishable from the sentiments expressed by today’s oil lobbyists.

But the cost/benefit debate is also misleading on a methodological, so to speak, front: it only takes a short- and medium-term view. A long-term cost/benefit approach would inevitably have to take into account the infinitely higher costs of a climate catastrophe and the related economic collapse.

The Consumption-Based Rebuttal

Final consumers, through the choices they make on the marketplace, are indeed the main agents who shape and determine the demand for oil and gas. So, why hold the industry responsible and duty-bound for the emissions generated by the consumption of oil and gas if they simply meet a demand for those products freely expressed by autonomous agents on markets or otherwise?

At the very least, it is dubious to point the finger at consumers as the sole or even main agents responsible for climate change in that, by and large, they have a limited ability to express their proenvironmental preferences. Consumers have less information than producers on the negative externalities that fossil fuels provided by the latter generate: in the case of carbon emissions, consumers are, for example, typically unaware of the long life span of greenhouse gases in the atmosphere, whereas Big Oil’s scientists and executives have been aware of the facts for a long time. Furthermore, current consumers are also somehow *culturally*

trapped in fossil fuels: most of us grew up in a time when fossil fuels were *the good thing* and when there was no problem that could not be solved by throwing more fossil fuels at it. It is certainly a challenge to modify these entrenched mindsets.

From a different perspective, *greenwashing* has become pervasive in the oil industry. This practice involves putting an environmentalist spin on marketing to deceive the public into believing in the industry's green credentials; many consumers therefore do believe that fossil fuels are becoming less disruptive for the planet and humanity. Additionally—and this is not a minor issue—many consumers lack the access to or the financial capacity to afford less carbon-intensive goods and services.

Even in the absence of such distortionary conditions, markets do not reflect the environmental and social values of individuals, who are in fact not only consumers. As consumers, individual agents are forced to make choices that differ from those they would make as citizens (Sunstein 1997): limited alternatives, material impossibility, routines, and habits can lead them to knowingly utilize carbon-intensive products despite an inclination that would otherwise lead them to make alternative choices. Therefore, as emissions are dictated by dynamics largely beyond individual control, the same individuals are likely to experience a sense of impotence (Cuomo 2011). As a consequence, it is even more psychologically problematic for disenfranchised individuals to reduce their externally constrained emissions.

This consumption-focused standpoint, besides obfuscating the responsibility and role of Big Oil, establishes a sort of *personal sacrifice trap* that ignores that consumption choices are constrained by a complex sociopolitical and regulatory landscape and powerful economic interests that promote the use of fossil fuels. Individual actions are surpassed by the structural dynamics (Bernstein and Hoffmann 2019) of the oil regime, as evinced in part III. Focusing only on demand for oil and gas would attribute the failure to address climate change solely to consumers' lack of green credentials while obscuring the sociopolitical and regulatory structures that shape their choices (Lenferna 2018). Furthermore, such an

emphasis is counterproductive, as psychological investigations show that a focus on consumers' personal responsibility decreases the individual's willingness to engage in proenvironmentalist behavior (Obradovich and Guenther 2016; Lavallee et al. 2019).

Such individualistic rhetoric—pointing the finger resolutely at the consumer as sinner—is, in fact, another consequence of decades of oil industry propaganda and has contributed to undermining climate action (Supran and Oreskes 2021). Big Oil's deceptive narratives have succeeded in framing the question of climate change as one of individual consumption-based responsibility, thus preventing the general public from understanding that the climate crisis is a *structural* problem largely driven by the oil industry's denial, misinformation, lobbying, and disablement of climate policy and legislation. For instance, the notion of the personal carbon footprint was first popularized by BP: in its "*Beyond Petroleum*" rebranding, the oil major in the early aughts introduced and promoted the term *carbon footprint* and launched one of the first personal carbon footprint calculators that provided untold hours of fun at dinner-table conversations.

In this way, Big Oil has managed to circumvent responsibility and duties for climate change and to present itself as a mere supplier of a product that meets existing demand rather than as the major underlying cause of the problem: these *deflection campaigns* have long been funded by industry (Mann 2019). Contrary to widespread belief, Big Oil has always been keen to discuss climate change as long as the dialogue was kept at the level of individual responsibility and duties—on light bulbs, single-use straws, or exotic fruits shipped from around the globe—nimble avoiding reference to its own responsibility or systemic change.

It is worth recalling that final consumer emissions, especially those of individuals, make up a minor share of total global emissions: this is known as *the insufficiency problem* (Cuomo 2011). This problem does not imply that consumers' efforts to cut their emissions are not justified; indeed, especially in regard to wasteful and unnecessary/luxury emissions, consumers do have a duty to limit such emissions and shift their

consumption patterns toward less carbon-intensive goods and services. Dismissing individual emissions altogether as negligible would be a mistake in moral mathematics. Individuals at this point in time must know that the emissions generated by their consumptions are part of a bigger picture of similar actions that together result in greater harm, so this should be their cue to make informed choices about their consumption-related emissions.

This is not, of course, an attempt to alleviate individuals from any personal responsibility and duties or discourage their meaningful personal engagement in the fight against climate change, given that even scientific evidence shows that individual lifestyles—particularly those of climate change communicators—do have a remarkable systemic impact (Attari, Krantz, and Weber 2019). At any rate, consumer responsibility and duties to curb/stop their emissions are small in comparison to those of large corporate emitters. Therefore, while individual consumers have a duty to take meaningful and adequate action to reasonably limit their emissions—especially the better-off ones whose lifestyles obviously cause greater emissions to the point that the richest 1 percent produces more than twice as much emissions of the poorest half of humanity (Oxfam 2020)—they should also feel duty-bound as indirect agents to be a driving force in imposing duties on *metalevel emitters*, among which oil and gas companies are prominent first-order agents.

The Law-Abiding Rebuttal

While it is unanimously acknowledged that Big Oil must take part in the global struggle against the climate crisis if this effort is to be successful, it seems less obvious whether oil and gas companies have further obligations besides those set by legislation.

To investigate this issue, the shareholder versus stakeholder debate of business ethics (also known as the *Friedman-Freeman debate* from the names of the two main scholars defending the two different positions) must be briefly addressed. In a nutshell, the first view holds that corporations must focus on the interest of shareholders, while the second holds

that corporations must consider and balance the interests of a wider group of stakeholders (Arnold and Bustos 2005; Hormio 2017). The 1976 Nobel laureate in economics Milton Friedman, father of the managerial shareholder theory, affirmed that business, as long as it plays by the rules imposed by the society it operates in, need only concentrate its activities on whatever will increase its profits (Friedman 1962). He maintains that managers have a legal fiduciary duty that requires them to make decisions on behalf of the corporation to further the interests of shareholder and that the social responsibility of business is to increase its profits (Friedman 1970). On the other hand, the stakeholder theory, while not denying that profit is a necessary goal of business, argues that its primary objective is to manage stakeholder interests (Freeman 1984). Freeman christens the view that business decisions should be considered as distinct from ethical ones as the *separation fallacy*, whereby profiteering is free of any moral dimension, as it is merely a business decision. The stakeholder theory, aligned with the demand of corporate social responsibility, requires executives to pursue goals that go beyond the mere interests of shareholders, practicing the interests of a broader constituency of societal stakeholders.

The overall merits of these two views will not be assessed here. For our purposes, suffice it to say that in the shareholder theory, endorsed by and large by economists and business schools but increasingly called into question outside this perimeter, abiding by laws generated by the democratic process grants full legitimacy to corporations' actions. Market failures, such as greenhouse gas emissions, are addressed through regulations and economic instruments; the absence of any such regulations presumes that citizens voted against imposing any such directives, so corporations have no responsibility whatsoever for their lawful processes and products emitting greenhouse gases. Thus, the shareholder theory would suggest that the harm generated by them is morally permissible (Bowie 2013).

It seems, however, simplistic and somewhat instrumental to exclude corporations from climate change responsibilities by claiming that

regulations and market-based solutions in democratic contexts are open and revisable processes. First and foremost, as part III clearly shows, although most oil and gas companies—at least international oil companies (IOCs)—are based in democratic contexts, they are nonetheless part of a hegemonic bloc with political authorities, governmental agencies, influential segments of civil society, media, and the epistemic communities with the capacity to shape and establish policies, norms, and institutions that structure the climate governance system in ways that are sympathetic to their interests (Levy and Newell 2002). From a different perspective, given the overwhelming scientific consensus on the relation between carbon emissions and climate harm, the precautionary principle alone would justify corporations taking resolute action to mitigate climate change.

In particular, there are further unique elements that make Big Oil's inclusion among, so to speak, *proactive* main agents of climate justice inescapable. First, given its much greater expertise than other constituent groups with regard to the dynamics of climate change, Big Oil—all else being equal—should have greater responsibility and duties in addressing climate harm (Bowie 2013) through, for instance, developing and promoting less carbon-intensive alternatives, taking steps toward becoming Big Green Energy. Second, as underlined in chapter 2, at least some of the major IOCs have contributed to climate change by funding, shaping, and advancing climate denial. By engaging in these activities and campaigns, the corporations have stepped outside their normal sphere of influence, wielding their power in places that in normal circumstances should be alien terrain, such as in national and international policies and treaties trying to combat climate change (Hormio 2017).

Furthermore, besides denying its existence and/or its severity, the role played by anthropogenic carbon emissions, and its science, one of the main objectives of Big Oil's underhand struggle with climate change was impeding and/or slowing action to address it. As said, leading investor-owned oil companies actively opposed and in many cases successfully prevented policies to reduce greenhouse gas emissions. In brief, through

such behavior, these companies have undermined the authoritativeness of the entire oil world and paralyzed global climate policy for decades. Big Oil's denial and political disablement activities cannot therefore be justified through the dominant business ethics normative view of market and business practices in democratic societies.

To sum up, this book espouses a view consistent with the stakeholder theory that industry has a greater obligation to protect the environment than the obligations established by laws and that it must also develop and demonstrate environmental moral leadership. Given the facts previously examined, this is particularly true for Big Oil, which should respond to the needs and pressures of society and coalesce into an increasing involvement in environmental and community concerns if it wants to retain its *social license to operate*, that is, the ability to meet the expectations of society and avoid activities that societies consider unacceptable (Gunningham, Kagan, and Thornton 2004).

The invalidation of the law-abiding rebuttal further confirms that Big Oil is morally responsible for climate change, and, as a full-fledged agent of climate justice, it has overwhelming duties to make amends for the harm done and to decarbonize its business in order to avert any further harm.

THE MORAL WRONGNESS OF FOSSIL FUELS AND THE EMERGENCE OF ANTI-FOSSIL FUEL NORMS

To fully fathom the complex relationship between Big Oil and society, it is necessary to investigate the moral status of fossil fuels per se in view of dealing with the intrinsic moral wrongness of the harm caused by the former to the latter. This is a further harm-centered perspective that adds to the moral salience of the harm generated by fossil fuel combustion. It is, in fact, the overall moral wrongness of dealing in fossil fuels that in many respects prompts the more practical demands of justice and responsibility that Big Oil will have to address in terms of the duties of reparation and decarbonization.

Humanity has sourced far more fossil fuels than it can safely burn. Welsby et al. (2021) claim that by 2050 nearly 60 percent of oil and gas and 90 percent of coal reserves should remain unused in order to meet the 1.5°C target. The upshot is that despite the enormous importance of fossil fuels for almost every aspect of human life, most must remain unburned and be substituted by low-carbon/noncarbon-emitting resources.

In an interview with *The Telegraph* in 2000, the former oil minister of Saudi Arabia, Sheik Yamani, famously proclaimed that “the Stone Age came to an end not because we had a lack of stones, and the oil age will come to an end not because we have a lack of oil” (Fagan 2000). Basically, Yamani claimed that cost issues and technological improvements would sound the death knell for fossil fuels, with cheaper and more effective clean energy a metaphor for the Bronze Age tools that provided the nail in the coffin of the Neolithic period. Yamani’s was a rational claim, yet it seems incomplete: in order to bring about changes in the political and social conditions to end the *Oil Age*, economic and technological rationales must be complemented by social/moral norms that hold fossil fuel-related activities morally wrong because of the harm they cause. Such norms would in fact provide the theoretical background for initiatives aimed at destabilizing the oil world based on the highlighted claims of civil society about the impacts and emissions debts, such as those envisaged in part III.

A norm is here understood as a given behavior expected of a particular agent and usually enforced through social sanctions. An anti-fossil fuel norm should aim at changing the behavior of the entire industry, in line with relevant conceptions of responsibility and duties. For such norms to work, people must be convinced, intellectually and emotionally, that the relentless use of fossil fuels poses a danger to humanity and Earth, and therefore it is morally wrong to continue their use. Such norm-based models would consist of the direct imposition/prohibition of select actions (rectifying the harm produced by climate impacts and operating with fossil fuels) and in forms of suasion aimed at inducing agents to modify their behavior. More operational details of anti-fossil fuel norms are provided in part III.

What are the moral reasons that can prompt the emergence of anti-fossil fuel norms? To address this question it is useful to first clarify the notion of moral progress: it is widely believed to consist of the dominance of objective/impersonal reasons for action over subjective/personal ones (Buchanan and Powell 2015; Jamieson 2017). In this view, moral progress is pragmatic and strictly context-dependent. Accordingly, limiting climate change is exemplary moral progress for the current times. This objective requires maximizing current efforts, a herculean achievement that can be carried out only by restraining and eventually abandoning fossil fuels. In short, anti-fossil fuel norms can emerge only if fossil fuels are widely acknowledged as being products that are morally wrong and with Big Oil having both responsibility and duties. Accordingly, the phasing out of fossil fuels would be moral progress for humanity.

At the root of the moral wrong caused by fossil fuels is, as said, the harm that their combustion brings about, yet the very act that causes damaging carbon emissions has always been and still is seen as natural, necessary, and inevitable in our lives (Jamieson 2017). Some scholars compare the naturalized use of fossil fuels to the passive acceptance and, in some quarters, endorsement of slavery before its abolition (e.g., Davidson 2008; Mouhot 2011; Hayes 2014; Jamieson 2017): both have major roles in sustaining economic growth while causing untold harm. The same reactionary rhetorical arguments—the ruinous economic effects their banning would cause—that defended the appalling use of slave labor are now recycled to defend the continued use of fossil fuels. Indeed, it is mostly in these arguments that the naturalization of the two is embedded, with each branded as a necessary cornerstone of the status quo (Jamieson 2017).

While this book will not investigate the (certainly instructive) comparisons between slavery and fossil fuels addressed by the authors cited above, the main upshot of their analyses is crucial: in order to increase the emergence of a social/moral norm against fossil fuels, it is first and foremost necessary to *denaturalize* their use. Step one in this challenge is to loudly proclaim the harm they cause to humanity and the

environment, reiterating it time and time again. This is an arduous undertaking, though, despite the extraordinary progress in attribution science. As said in chapter 4, harm arising from climate change is a distant and abstract one—an impersonal harm—that makes it easy to argue that humans tend not to see climate change as a moral problem, and therefore they lack the motivation to act with the urgency of usual responses to moral challenges.

So, despite the fact that recent studies—for instance those already cited in previous chapters by Heede (2014), Ekwurzel et al. (2017), and Licker et al. (2019)—make it possible to pinpoint Big Oil as a main agent bringing about climate change, the circuit linking oil and gas companies, fossil fuels, and the harm they cause must be closed in space, time, and scale so that they are reconnected in the consciousness of the wider public. This in turn entails climate science abandoning the manifest reductionism dictated by the hegemony of predictive natural sciences that could induce people to see climate change and the harm it causes as physically isolated processes independent from human agency (Hulme 2011). On the contrary, a more integrated and multidisciplinary approach to climate change would help broaden the evidence base and map out possible future scenarios and the ways for achieving them. In short, such an approach would make it possible to reconnect anthropogenic climate change to its root source, that is, the combustion of fossil fuels. In the end, only through the rewiring of our mindsets to make this connection can anti-fossil fuel norms develop and flourish globally.

In conclusion, it would be naive to expect Big Oil to change its behavior on its own. Only a strong societal focus on its responsibility and duties, backed and prompted by widely accredited anti-fossil fuel norms, can encourage it to accept—both through binding provisions and spontaneously—making reparations and transitioning to a cleaner business. As part III shows, this is by any means an arduous journey that involves resistance, struggles, and social, political, and economic risks. Hopefully these difficulties would not be comparable to those caused by the abolition of slavery: a bloody civil war in the United States that took

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the lives of more than 750,000 men (Hacker and McPherson 2011), by far the greatest toll of any war in American history. And for the British Empire, payments to slave owners totaled £20 (\$27.0) million in 1834 (currently estimated at £23 [\$31.1] billion), that is, 40 percent of the total government expenditure for that year, a sum borrowed by the British government that it only finished repaying in 2015 (Guthrie 2020).

SOCIETY AND BIG OIL'S DUTIES

Based largely on the harmfulness and moral wrongness of fossil fuels, society is coming around to exhorting Big Oil to abide by less harmful behavior by addressing its impacts and emissions debts: societal pressure requires fossil fuel companies to undertake predetermined actions to stop contributing to climate change. At the same time, there is a solid and composite moral basis for Big Oil's duties vis-à-vis climate change, grounded in the violation of the no-harm principle that compels oil and gas companies to follow operational behavioral guidelines. In other words, oil and gas companies must comply with certain duties. Such duties—morally grounded standards of behaviors—are not obscure philosophical concepts and should be considered as immediate and highly relevant informal *sanctions* to comply with what is required by society.

A sound justification of Big Oil's duties could provide a helpful framework for a reasoned dialogue with civil society as well as between political representatives belonging to different ends of the spectrum and subject to different constraints. Despite their alleged abstractedness, the duties of reparation and decarbonization are, in fact, societal-agreed moral provisions with major relevance to current international climate governance. These terms—*reparation* and *decarbonization*—reflect and emphasize the kind of actions required from the industry by society in light of its unique agency and moral responsibility.

Chapter 3 suggests that the duty of reparation can be understood as a specific and contingent form of the duty of adaptation, a form of *ex post* adaptation. In particular, the duty of reparation is intended as the

financial rectification of climate-related harm, as explained in chapter 6. In other words, this duty implies rectification through financial means, that is, through money, which should be disbursed by Big Oil to redress the suffering of people and communities due to climate change. In this perspective, the duty of reparation implies that people have a right to live in a world where they are not harmed by man-made climate change. When this entitlement is not met, rectification is owed to remedy an unjust situation. On the other hand, when financial means are provided to maintain or restore people's ability to protect themselves from harm, this counts as adaptation (Batz 2017). According to this view, it seems straightforward to maintain that rectification with regard to the issue at hand concerns the right to not be harmed and therefore should be seen as a duty of reparation rather than within the perspective of the duty of adaptation. It is worth emphasizing that, as more exhaustively explained in chapter 9, in practical terms the duty of reparation is also meant to help displaced workers and frontline communities adapt, thereby increasing its political feasibility.

The actions demanded by the duty of decarbonization require, by and large, a reduction in carbon emissions to avoid/prevent future harm. This seems, as pointed out in chapter 3, to mirror the requirements of the duty of mitigation whereby, consistent with the UNFCCC (1992) and the IPCC (2014b), mitigation is understood as both the reduction of carbon emissions and the enhancement of carbon sinks. In fact, the duty of decarbonization is different and in many respects more stringent: it indeed requires Big Oil to mitigate its emissions. But more specifically, as already stressed, it means that oil and gas companies must reduce carbon emissions associated with their operations *and* products. However, the ultimate objective of the duty of decarbonization is that these companies phase out fossil fuels from their business in order to eventually eliminate carbon emissions. In turn, this would entail Big Oil ultimately changing its behavior by either ceasing operations completely or progressively transitioning to dealing in zero-carbon-intensive products, such as renewable energy, while of course keeping its operations carbon-free. In a nutshell, this duty requires Big Oil to eventually morph into Big Green Energy.

In sum, based on the demands emerging from society, the duties of reparation and decarbonization provide the moral basis for Big Oil's actions, that is, for the possibility that oil and gas companies take action of their own volition and indirect agents compel Big Oil to undertake practical initiatives.

IS BIG OIL RESPONDING TO SOCIETY?

A few further questions on the relationship between the oil industry and society in the context of the current climate crisis need to be addressed. How is Big Oil responding to society? How much do oil and gas companies accept the moral requirements posed by society and engage in activities for their achievement? Obviously, Big Oil has not yet engaged in any reparation activities based on the theoretical provisions discussed thus far. Therefore, the attention of this section is inevitably limited to steps being taken by the industry to reduce emissions, consistent with the requirements of the duty of decarbonization. Dealing with the other side of the argument—exploring how oil and gas companies actually operate in a climate-shaken world—makes it possible to better understand their nuanced moral roles and to more effectively shape their subsequent duties.

Big Oil, like other powerful corporate entities, has had a propensity to shape environmental policy in more ways than simply supporting or opposing regulations (Meckling 2015). As explained in chapter 2, until a few years ago major US IOCs substantially adopted a reactive strategy based on the rebuttal of responsibility for climate change, whereas European IOCs embraced a more proactive strategy that accepted some forms of responsibility. For instance, Bloomberg's *Climate Transition Score* highlights that European oil companies—especially TotalEnergies, Portuguese Galp, Norwegian Equinor, BP, Shell, and Italian ENI—are those most prepared for a low carbon-transition, while US oil companies lag far behind (BloombergNEF 2021).

Despite a resurgence of a new cynical form of denialism that sows doubts about the motives of those studying climate change and communicating their findings, things today appear to have changed, at least in

terms of attitudes and intentions. All the largest fossil fuel companies have recognized climate change and started to aim, with different objectives and paces, at a lower-carbon future.

For the first time in its history, the oil industry is consciously facing a new uncertain age in which climate change and the expansion of other low-carbon energy sources could downgrade its dominance and power. For instance, two leading IOCs seem to question their future business. BP, in its 2020 *Energy Outlook* (BP 2020b), affirms that oil saw its peak in 2019, due to the growth in renewable energy and consumers shifting to electric vehicles. ExxonMobil's 2019 *Energy Outlook* (ExxonMobil 2019b) acknowledges a similar peak in oil as well as in demand for gasoline, stressing that its assets may not be attractive investments in the near future. The Organization of the Petroleum Exporting Countries in its 2020 *World Oil Outlook* (OPEC 2020) instead claims that world oil demand will plateau in the late 2030s, and only then could it begin to decline.

At the same time, despite the intrinsic vagueness of net-zero targets (Rogelj et al. 2021) and the actual uncertainties associated with negative emissions technologies (Anderson and Peters 2016), Spanish IOC Repsol announced its plan to achieve net-zero emissions by 2050 and, importantly, stressed that its abatement commitment extends to scope 3 emissions, those originating from the downstream combustion of oil and gas Repsol has distributed within the global economic system (Storrow 2019).¹ Equinor vowed net-zero emissions from both its operations and products by 2050 (Coleman 2020). BP heralded an analogous ambition of net-zero emissions—at least in upstream production—in a press release in February 2020 (BP 2020b), although there were no claims that it would shelve plans to increase its oil and gas extraction. Shell followed suit in April 2020 and announced an ambitious strategy to become a “net zero energy business by 2050 or sooner” largely based on offset expansion via carbon capture, nature-based solutions, and the rapid growth of biofuels and hydrogen.² These targets, however, clash with its plans to invest \$8 billion a year in oil and gas in the short term, compared to the \$2 billion to \$3 billion a year being tabled for nonfossil sources (Cooke, Sherrington, and Hope 2021). In fact, in an attempt to

gain shareholders' endorsement, Shell called on them to vote on its climate and energy transition strategy (Ambrose 2021). Interestingly, Petrobras CEO Roberto Castello Branco dismisses his European peers' 2050 net-zero claims as pie in the sky: "That's like a fad, to make promises for 2050. It's like a magical year, . . . On this side of the Atlantic we have a different view of climate change" (Millard 2020).

At any rate, the same formidable industry that successfully denied anthropogenic climate change and slowed/halted climate policy for decades now seems to have not only recognized climate change but also acknowledged the inevitability of the low-carbon transition and the impact on its own business, as increasingly urged by its stakeholders. This is also consistent with the demands posed by larger investors to shift more effectively and rapidly toward a low-carbon future to sustain the global economy and increase the prosperity of their clients. With Big Oil being a highly capital-intensive industry that largely relies on outside investments, this plea is taken very seriously in oil and gas companies' boardrooms.

In the face of the enormous challenge the industry faces and fully aware that its recurrent pledges about a low-carbon future are to be taken with more than a grain of salt, major oil and gas companies' current carbon management practices should be examined, with emission-reduction pathways envisioned.

With regard to carbon management, it seems that by and large, almost all companies perceive climate change as a business risk—though to varying degrees—and are sensitive to the requests from governments, investors, nongovernmental organizations, and, more broadly, society (Sullivan and Gouldson 2017). As previously stated, European companies led the way in acknowledging climate change; non-European IOCs and national oil companies (NOCs) followed in their footsteps later and in more ambiguous and roundabout ways. For instance, Russia's Gazprom, while agreeing with the necessity to cut carbon emissions, envisions and frames decarbonization mostly within a political and ideological perspective (Nasiritousi 2017). In sum, Big Oil proclaims that it can come up with the necessary solutions to strike the right balance between reducing emissions and safeguarding economic growth and prosperity.

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