The Climate Stigmatization of the Global Oil and Gas Industry: Response Strategies

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Abstract

One of the most recent trends in the global economy is the stigmatization of the global oil and gas industry, i.e., the sharply negative public perception of the industry as a whole and of its key players in particular. These processes, directly related to the aggravation of climate-related issues, have already become a source of substantial problems for major industry players. In recent years, public opinion regarding major international oil and gas corporations has changed markedly, at least in most Western countries. Global industry leaders (the so-called supermajors) are increasingly perceived as an existential threat to humanity, laying upon them culpability for global warming. Faced with the challenges of the industry-level public ostracism (industry stigma), these companies have been the first to develop a set of responses. This paper attempts to take a fresh look at the supermajors' climate strategies for responding to the industry stigma. Looking through the prism of the stigma management concept helps one identify the reasons behind the changes in global oil and gas corporations' relevant strategies in the course of their evolution and understand the logic behind the different approaches to green transformation employed by European and US supermajors.

Keywords: stigmatization of the oil and gas industry; stigma management strategies; oil and gas supermajors; corporate climate strategies.

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Introduction

Over the past few years, the growing threat of the stigmatization of the global oil and gas industry has evolved into a new, distinct phenomenon. Even a decade and a half ago the industry was seen as a respectable and attractive investment area or place of work in almost all countries. But with the global warming issue rising to the fore and the rapid growth of the climate activist movement against fossil fuels, the situation has drastically deteriorated. In a very short period of time the public perception of the largest global oil and gas companies has changed dramatically, at least in North America and Europe. Since responsibility for global warming was put primarily onto these giants, the public started to perceive them not as respectable members of the corporate community, but as outcasts condemned by all, since their core business is considered a source of an existential threat to humanity.

Due to the above trends, the oil and gas industry and the fossil fuel sector as a whole in the near future run a high risk of joining the dubious club of "controversial" industries which traditionally include alcohol, tobacco, gambling, and arms production. As a Canadian financial analyst described the current situation, "regardless of one's own personal views on traditional oil and gas companies and their impact on our environment and society, there is no doubt that the grand consensus verdict is already in - guilty. Oil and gas companies of all stripes, from the most junior exploration venture right up to the world's most recognizable names like Exxon Mobil and Royal Dutch Shell, are under considerable pressure from all fronts" (Cherepuschak, 2021).

Today, Western international oil and gas companies have become the main targets of climate-related stigmatization by the public. The largest of them, the so-called supermajors,[1] were the first to face the serious negative consequences of such a severe change in public opinion, so they started thinking about the steps with which to respond to this trend. Even though some researchers have touched upon this topic in their works on oil and gas companies' adaptation to the energy transition and on the impact of the fossil fuel divestment movement (Ansar et al., 2013; Ferns et al., 2019), the specific strategies of these companies to address industry stigmatization remain understudied.

The negative change in public opinion on the oil and gas business was driven by a combination of science and technology, economic, and socio-political factors. The academic community has made a huge contribution to promoting climate-related issues to the rank of a global challenge (Maslin, 2021; Klingelhöfer et al., 2020). Many years of national and international academic debates have not only contributed to making the global warming topic popular, but also led to its perception as an impending global catastrophe, which in its turn resulted in the transformation of research findings into public policy priorities. In many countries, powerful political parties and social movements have emerged around the green agenda, while at the international level, the climate change issues have become the subject of regular multilateral negotiations in its own right, including at the UN. Their most important outcome was the signing of the Paris Climate Agreement in 2015, which set the key targets for reducing greenhouse gas emissions and transforming national energy systems.[2]

In parallel with these processes, renewable energy technologies (primarily solar- and wind-based) were actively developed and spread, expected to become a real alternative to fossil fuels, and to ensure the transition to a low-carbon energy future. In 2020, renewable energy sources met over 12.6% of global final energy demand, compared to 8.7% in 2009. Particularly substantial shifts occurred in the electricity generation segment, where in just five years from 2015 the share of renewables increased by 13.5 percentage points, reaching 28% (REN21, 2022).

The most reputable forecasts of global energy sector development have long predicted relentless changes in the global energy balance in favor of renewables. Thus, according to the International Energy Agency (IEA) estimates, in 2020-2026 the world's renewable power generation capacity is expected to grow by more than 60% and exceed 4,800 GW, which is equivalent to the current global power capacity of fossil fuels and nuclear combined. Moreover, the accelerated growth of renewables over the same period is to account for almost 95% of the increase in global power capacity through 2026 (IEA, 2021). Another recent world energy outlook developed by BP (2022) suggests that the share of renewables in global primary energy consumption will grow from around 10% in 2019 to between 35% and 65% by 2050, depending on the scenario, leading to the respective reduction of fossil fuels.

At the same time, since the middle of 2021, the situation in the global energy sector has significantly

[1] The experts traditionally include only five companies in the group of the global supermajors: US-based ExxonMobil and Chevron, British-Dutch Shell (until January 2022 Royal Dutch Shell), UK-based BP, and French TotalEnergies (until June 2021 Total).

[2] Central to the Paris Agreement is the target to keep the rise in the global average temperature well below 2 degrees Celsius above pre-industrial levels and a commitment to limit the temperature rise to 1.5 degrees Celsius. https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement, accessed on 22.11.2022.

changed. The acute energy crisis which erupted following the sharp increase in energy demand during the post-COVID recovery of the global economy, and was further aggravated by the imposition of Western sanctions on the Russian oil and gas industry, forced the governments in several leading EU countries, as well as in the UK and the US, to ease the pressure on their own fossil fuel sector. To protect the public and home economies from a physical shortage of energy resources, many conventional energy facilities, including the least environmentally friendly coal-fired power plants, are to be brought back into operation in the next few months. The inclusion of natural gas and nuclear energy in the EU's "green taxonomy" in early July 2022 by the European Parliament was particularly indicative, essentially allowing European companies to classify investments in gas and nuclear power plants as green ones. This move provoked strong condemnation by many political forces (Igini, 2022).

The initiators of this reversal in Western countries' energy policies present it as a purely temporary solution aimed at overcoming the crisis in the global energy sector. The vast majority of Western politicians and industry experts are confident that the strategic course toward an accelerated transition to renewables is not only inevitable, but should also serve as the basis for a political response to current energy crisis (REN21, 2022). Therefore, the pressure on the major oil and gas players from the regulatory authorities and public opinion will only increase.

Given the aforementioned gap in the academic literature, this paper aims to identify the key challenges faced by the oil and gas supermajors due to the growing industry stigma and the changes in their corporate strategies designed to address these issues. Apart from being of academic interest on their own, the above range of issues can also turn out to be useful for shaping a viable international climate policy. Structurally, the paper is organized as follows. After a brief analysis of the evolving industry stigmatization concepts, the specific features of stigma-related processes taking place in the oil and gas industry are examined, along with the challenges noted above. Next, the evolution of oil and gas giants' climate strategies in the context of dealing with industry stigmatization is analyzed. The final section presents the main conclusions.

The Development of the Industry Stigmatization Concept

The industry stigmatization concept emerged relatively recently. Its origins can be traced in the socio-psychological studies of the 1960s which produced a whole range of constructs and approaches, which were developed further under the organizational theory. Sociologists were not only the first to suggest a detailed definition of the stigma phenomenon in the context of specific relations between various groups of individuals, but also identified its most important characteristics. In social terms, the notion of a "stigma" was initially applied to describe the status of an individual who, for one reason or another, was rejected by society and found him- or herself in a position of an outcast (or a pariah). Under this approach, stigma is seen not as an inherent characteristic, but as an externally assigned attribute, which undermines the individuals' social status and generates a negative attitude toward them on the part of others (Goffman, 1963). Sociologists also made a number of theoretically valuable conclusions that stigma presupposes and maintains a certain social hierarchy, and acts as an important control mechanism (Neuberg et al., 2000; Paetzold et al., 2008).

Transferring the concept of stigmatization into the conceptual apparatus of organizational theory allowed for applying it to various entities, in particular, enterprises (firms). In this context, stigma is seen as a social construct that arises from a negative collective perception of an organization by various influential stakeholder groups. In (Devers et al., 2009), organizational stigma is defined as "a collective stakeholder group-specific perception that an organization possesses a fundamental, deep-seated flaw that de-individuates and discredits the organization". Unlike individual stigma, which can arise from external differences of the stigmatized targets (e. g. ethnic, religious, and other social characteristics), organizational stigma tends to be behavioral in nature, i.e., it is closely linked to certain actions (or inactions) of the organization's representatives. This is why organizations almost always bear full responsibility for the acquired stigma.

In this context, the idea about the need to distinguish between event-based and core organizational stigma suggested by a number of researchers becomes particu-

[3] At the end of June 2022 the German government issued a temporary (until 2024) permission to resume operations of 27 coal-fired power plants, while the governments of France, Italy, Austria ,and the Netherlands announced the need to restart already closed thermal power plants "to avoid blackouts this winter" (Cessac, 2022).

larly important (Hudson, 2008; Hampel, Tracey, 2017). Event-based stigma typically arises in response to specific incidents that have serious negative consequences for a wide range of participants. These include, for example, bankruptcies of large enterprises, environmental disasters caused by irresponsible business practices, corporate scandals related to business misconduct, and so on. The emergence of core stigma is associated with a specific persistent characteristic of the organization directly related to its core activities. Regarding business organizations (firms), such characteristics in most cases are associated with the key parameters of the markets on which they operate (above all with the specific features of their products or customer types). Accordingly, in the latter case, the organizational stigma of an affected firm is closely intertwined with the stigmatization of a particular market or the industry as a whole (Shantz et al., 2019).

A significant level of stigmatization of a particular industry, which essentially means depriving industry players' of their social license to operate, leads to tangible negative consequences for the affected firms, both direct and indirect. Direct effects typically involve the disruption of many important business relationships (with investors, suppliers, and lenders who usually prefer not to deal with stigmatized businesses) and a massive exodus of skilled personnel whose future career prospects may be significantly damaged if they carry on working for such firms (Groysberg et al., 2016). Direct consequences may also include corporate expenditures on paying fines, out-of-court settlements, or legal fees in case of lawsuits initiated by the victims (Grougiou et al., 2016). Indirect effects can be no less painful. As noted by (Vergne, 2012), "a high level of disapproval attracts public scrutiny, raises doubts, and creates suspicion among stakeholders <…>, which increases the risk of isolation and scapegoating for the stigmatised group members that are publicly challenged". In some cases this can lead to artificially low share prices of stigmatized firms (Killins et al., 2020) or to a massive boycott of their products (McDonnell, King, 2013).

To mitigate these negative effects, the firms operating in a stigmatized industry implement various stigma management strategies. Industry stigma researchers initially focused on a defensive type of these strategies based on impression management techniques (Hudson, 2008; Carberry, King, 2012). Such strategies aim to minimize the organization's negative perception solely by PR means, without affecting the actual activities that have caused the public discontent and condemnation.

The biggest contribution to studying such strategies was made by the authors of the corporate image restoration concept, whose foundations were set in (Benoit, 1997). The proponents of this school of thought identified five main strategic options to respond to events causing serious damage to the corporate image: denial, evading responsibility, reducing offensiveness, taking corrective action, and mortification. As the actual experience of applying this concept to restore the reputation of various large companies in different industries has shown, a hybrid approach is usually taken. Firms combine various strategies carefully choosing the options in accordance with a particular set of threats to their image, their own risk assessments, their abilities to influence the situation, and so on (Metzler, 2001; Blaney et al., 2002; Grimmer, 2017).

Another transformational type of stigma management strategy involves real changes in the defamed firm's business. In particular, such strategies include diversification into industries or segments more safe in terms of public opinion, which essentially means expanding the company's business portfolio. An example is Boeing, one of the world's largest aircraft producers, which managed to avoid stigmatization as a maker of "instruments of death and destruction" (a wide range of missile and space systems, and other military equipment) by also manufacturing civilian aircraft.

A less studied transformational type of stigma management strategy implies the development of new products, the adoption of innovative technologies and business models. In recent years such strategies have become increasingly popular in the context of the digital transformation of companies in almost all sectors of the economy. A striking example is provided by the fairly successful efforts of Philip Morris and other major tobacco manufacturers to improve their image through introducing radically new products on world markets: electronic cigarettes and digital tobacco heating devices (Gillette et al., 2017).

Finally, the most radical transformational strategy is divesting from the stigmatized industry, either partial or complete (defection). Thus, a special study of the US nuclear industry concluded that "higher stigma intensity also results in a higher likelihood of defection" (Piazza, Perretti, 2015).

The latest research on industry stigmatization revealed a number of new factors significantly affecting cor-

[4] Each of these strategies can be further broken down into several sub-strategies. Thus, the denial strategy can take the form of denying the very fact of reprehensible behavior or involvement in it or shifting the blame (scapegoating) by arguing that there is another, true culprit, etc.

porate stigma management strategies. This is about an increased understanding of the cultural and value diversity of the public as factor in the emergence of negative attitudes toward a particular industry (Smith et al., 2021), and a broader comprehension of the drivers of industry stigma spreading, especially regarding the roles of social movements, NGOs, and social networks (Ferns et al., 2021). At the same time, the current mechanisms of the industry stigma emergence remain outside the scope of the aforementioned studies: What causes the stigmatization of industries which until recently remained perfectly respectable? What are the key driving forces of this process? How do the response strategies of the leading players in the stigmatized industries evolve as the stigma grows? An analysis of various aspects of the stigmatization of the oil and gas industry, and of the specific strategies implemented by the supermajors to address this stigma, will help to answer these questions.

Stigmatization of the Oil and Gas Industry and Challenges for the Supermajors

Though it is rather difficult to determine the starting point of the stigmatization process in the global oil and gas industry, many researchers associate it with the emergence of a massive Fossil Fuel Divestment Movement (FFDM) in Western Europe and North America in 2011 (Ansar et al., 2013; Gunther, Ferns, 2017). While the key role in creating fertile soil for industry sigma was played by the climate science community and state policymakers (in the countries which took firm steps towards decarbonization), the real driving force behind the deliberate destruction of the industry's reputation and the discrediting of its major players, were the climate activists, and above all the FFDM. The successful campaign to divest from South Africa during apartheid in the 1980s gave the initial impulse to this movement. In June 2012 the prominent US ecologist Bill McKibben published an article which became a kind of FFDM manifesto (McKibben, 2012). The main thrust of the paper and its emotionally expressive style (as well as that of the subsequent publications) leave no doubt that the stigmatization of the fossil fuel sector, including the oil and gas industry, was the movement's key priority from the very start. Firstly, the fossil fuel sector was directly named as the main culprit of climate change, threatening the existence of life on the planet, and therefore declared a public enemy that must be destroyed. Secondly, moral condemnation of fossil fuel companies for profiteering from climate destruction was announced as the central area of the FFDM efforts (McKibben, 2013).

The important specific features of the FFDM approach include reliance on think tank networks focused on the green agenda, especially on the Carbon Tracker Initiative (CTI), and the public naming of stigmatization targets among the leading oil and gas (and coal) industry players. One of the first steps taken by the movement founders was publishing a list of divestment targets among the world's top 200 fossil fuel companies, both private and state-controlled.[5] This personification of the biggest culprits of climate change became a powerful catalyst for the deterioration of their public image.

The participants in FFDM made no secret of the fact that their ultimate goal was to instill into the mass consciousness a toxic image of the fossil fuel sector in general, and the oil and gas industry in particular, to discredit the industry leaders and deprive them of government support. According to a member of the movement, "the aim has been to remove the social license of the fossil fuel industry, creating a stigma that would open the door for broader restrictive legislation, and create broader shifts in political, social, moral, and even financial norms" (Lenferna, 2018).

The FFDM's efforts to create and spread industry stigma started to bear fruit very quickly due to a number of factors. Firstly, a growing proportion of the population, mainly in Western countries, became painfully aware how real the global warming threat was. So the prompt identification of the culprits for public condemnation has become a sort of social imperative. Social psychologists have long since demonstrated that "what represents a physical danger for others, is systematically stigmatized" (Vergne, 2012).

Secondly, the oil and gas and coal industries themselves were partly responsible for becoming the "natural suspects" in climate-related problems, due to their dubious environmental track record and reputation tarnished by many human-caused disasters. Throughout the global oil and gas industry's history, environmental incidents occurred with depressing regularity all over the world, and their scale has only grown along with the increasing complexity of oil and gas technologies.

Thirdly, the smart tactics employed by the FFDM leaders to deliberately stigmatize the fossil fuel sector played an important role, effectively combining the tried and tested techniques of past social movements, such as those against the tobacco industry or the apartheid in South Africa. A study of these practices by the

[5] The list was borrowed from the report by Carbon Tracker Initiative (CTI, 2011), which actively feeds the FDDM with new climate policy-related ideas and materials. It comprised the world's top 100 listed coal, and top 100 listed oil and gas companies ranked according their fossil fuel reserves.

British-German group of researchers demonstrated that FFDM activists successfully borrowed various methods from the past mass campaigns, including the construction of "a stark dualistic moral contrast", which "painted the target of stigmatisation as completely evil, while those doing the stigmatising as entirely moral in their quest for justice" (Ferns et al., 2021).

Fourthly and finally, the active use of social networks in the global media space by the FFDM contributed a lot to the rapid spread of industry stigma. Unlike traditional media which often prefer not to disseminate negative information about solid businesses, to avoid the risks of losing advertising revenues and lucrative contracts (and facing lawsuits), social networks as virtual platforms for sharing information between individuals have no economic links with these organizations, and therefore enjoy much greater freedom to express various views. Furthermore, social networks are in no way constrained by journalistic ethics. Consequently, they do not need to be neutral and objective, and are not required to verify information they disseminate (Etter et al., 2019). As a result, the information circulating on social networks often turns out to be much more subjective, strengthening the emotional assessments of organizations and creating favorable conditions for their stigmatization.

What were the main challenges faced by the world's largest oil and gas companies due to the rapidly growing stigmatization of their industry? One of the most serious blows the FFDM dealt to the industry leaders was focused on their financial potential, or rather, on their ability to attract external funding. The FFDM ideologists tried their best to restrict the access of the largest industry players to external sources of finance as they considered this approach to be an effective means of undermining the supermajors' market positions and economic influence. At the same time, unlike other mass divestment campaigns, the climate activists used not only public shaming tools to discredit the targets of their attack (appealing to the moral principles of the audience), but also purely economic arguments.

In this case, the demands to divest from the fossil fuel sector had to be supported with economic arguments because of the specific features of the mechanism chosen to put destructive pressure on the largest industry players: institutional investors, the traditional financial backbone of the sector. The Carbon Tracker Initiative (CTI) experts were instrumental in suggesting the appropriate arguments: they perfectly understood the workings of the financial sector, and the peculiarities of its interaction with the oil and gas industry players. So they came up with the "unburnable carbon" and "carbon bubble" topics (CTI, 2011) closely intertwined with the stranded assets concept.[6]

According to CTI estimates, 60%-80% of publicly listed fossil fuel reserves should be recognized as "unburnable" to prevent catastrophic climate change (CTI, 2013). Further reasoning led to the conclusion about the significantly increased risks of investing in fossil fuel companies. Since their share prices are largely determined by the size of their hydrocarbon reserves, and the projected prices for them, the threat of these assets' depreciation poses a serious risk of collapse for oil and gas companies' shares, especially under much more stringent climate policies in their home countries. The inevitable mass exodus of investors from fossil fuel companies' capital would result in the burst of "carbon bubble", which in turn will likely provoke a major financial crisis.

The use of economic arguments has not only significantly strengthened the moralistic rhetoric of the FFDM activists, but also enabled the further expansion of the movement (including those who actually shared its ideas and casual fellow travelers not ready to resist the aggressive mainstream). As a result, from 2014 to mid-2021 the number of financial institutions publicly committed to at least some form of fossil fuel divestment increased from just 181 to 1,485, while the assets under their management grew from approximately 52 billion to 39.2 trillion USD (IEEFA, 2021).

Despite the increased scope of FFDM activities and the rapid growth in the number of its supporters in the financial sector, many analysts remain very sceptical about the movement's direct impact upon fossil fuel companies. The share of investors ready to stop investing in this traditionally highly profitable sector appears to be not large enough to seriously undermine its economic foundations. The sale of industry companies' shares only leads to a change of owners, i.e., the redistribution of assets among investors. A recent study showed that despite the rise of the FFDM, the global oil and gas sector's fundraising on average grew at over 8% per year since 2008 (Cojoianu et al., 2021). Another reputable study (RAN, 2021) revealed that despite the world's largest investment banks declared loyalty to the green agenda, their investments in the fossil fuel sector in 2016-2020 have only increased.

However, it would be wrong to conclude that the growing industry stigma does not pose any threat to the financial stability of the global oil and gas corporations

[6] In the context of the climate agenda, stranded assets refer to investments or assets that will become prematurely obsolete and consequently losing their value due to the green transformation of the global energy sector.

at all. First of all, attention should be paid to the long-term dynamics of indices that reflect the companies' positions on stock markets: these are traditionally seen as important indicators of general economic health in a particular industry and its investment attractiveness. In particular, the dynamics of stock indices, such as the S&P500 and MSCI Europe Index[7], show that since 2012, the financial positions of oil and gas companies have been steadily deteriorating compared to other industries (Ameli et al., 2021). Despite the fact that fundamental macroeconomic factors as well as the consequences of the pandemic have undoubtedly made a decisive contribution to the development of these negative trends (for more details see (IEA, 2020)), the industry stigmatization has clearly played significant role, too. Thus, a BCG survey of the 250 largest international institutional investors in the oil and gas industry conducted in 2021 showed that over 57% of them felt pressured to divest from the fossil fuel sector, 65% to decrease the weight of fossil fuels in their portfolios, and 75% to invest in green funds and stocks (BCG, 2022).

An increasingly serious problem for the global oil and gas corporations is related to the growing difficulties with recruiting and retaining skilled personnel due to the industry stigma. Despite fairly high starting salaries compared to other industries, educated young people in North America and Europe tend to see working in this sector as an unappealing prospect, mainly due to the sharp decline of its reputation. A survey of 1,200 young university graduates in the United States conducted by EY (2017) revealed that 44% of the respondents aged 20 to 35 do not consider a career in oil and gas to be an attractive option, while the similar indicator for respondents aged 16 to 19 was as high as 62%. According to KPMG (2022), 56% of the industry employees, motivated by similar reasons, are actively considering jobs with renewable organizations, and 43% have already decided to quit within the next five years.

Another looming threat facing the global supermajors due to the industry stigmatization is posed by the significantly increased risks of regulatory intervention, including possible lawsuits demanding compensation for climate change damages, the adoption of new legislation to limit greenhouse gas emissions, the introduction of new types of reporting on low-carbon development, and so on. In May 2021 the Hague District Court ruled that Shell must reduce its global net carbon emissions by 45% by 2030 compared to 2019 levels (Rechtspraak, 2021). In other words, Shell became the first of the global oil and gas supermajors that was ordered by a court of law to bring its strategy in line with the Paris climate agreement. Whether the courts in countries where other oil and gas giants' headquarters are located will follow suit remains to be seen, but the very precedent has already created enormous risks for these companies' further operations, at least in Europe and the United States.

The Evolution of Corporate Strategies to Address Industry Stigma

As the stigmatization of the oil and gas industry increased, along with the negative consequences for its leaders, the attitude toward the problem on the part of the affected companies also changed. At first, these challenges were perceived by the top management of oil and gas corporations as ordinary, or very remote risks, but over time they were increasingly recognized as top priority threats, and moved to the fore of the corporate agenda. Initially, activities in this area did not extend to developing full-fledged strategic documents setting long-term goals and specifying relevant action plans. Rather, strategic responses have taken place less formally, under the broader objectives of corporate image management and strengthening business reputation, most often included in sustainability programs.

In the 1990s, the sustainable development concept became widely accepted as the dominant strategic paradigm of large international businesses in general, and the global oil and gas industry leaders in particular. This was reflected, among other things, in the adequate perception of regulatory measures limiting their environmental impact. However, for a long time this attitude did not extend to the area of climate change response (Boon, 2019). The negative reaction of the oil and gas giants to any kind of climate regulation was quite predictable, since in the absence of affordable technological solutions, meeting these requirements essentially created a serious threat to the supermajors' traditional business model.

It was no coincidence that the initial response of the oil and gas giants was reduced to the total denial of human-induced climate change. A number of US industry associations were engaged to defend the interests of the largest fossil fuel companies as opponents of climate regulations. The supermajors, in particular ExxonMobil, set the tone in shaping the strategy and tactics of these organizations.[8] Though in the 1990s the

[7] These indices are widely used by investors to assess the financial results of large companies traded on the stock markets in the US and Europe, respectively.

[8] These include, in particular, the oldest US oil producers association (American Petroleum Institute, API), and the Global Climate Coalition (GCC) established in 1989 specifically to lobby in the interests of the largest oil and gas and coal companies in the field of climate regulation.

formal tasks of these associations were mainly limited to opposing the introduction of any emission regulations (including participation in developing the US position at international climate negotiations), in effect their strategy perfectly fit into the classic framework of defensive behavior addressing the emerging industry stigma with well-tried image restoration techniques.

The collective defensive strategies of the oil and gas giants were based on a combination of two key tools. On the one hand, the main efforts were focused on denying the very existence of human-induced climate change using influential but obviously biased pseudo-scientific ("junk science") reports produced by formally independent research centers which received generous funding from the largest oil and gas companies (Oreskes, Conway, 2010). The basic tactics chosen in this case were "raising questions about, and undercutting the prevailing scientific wisdom on climate change to cast doubts in the mind of the public and policy-makers on the existence of a problem" (Van den Hove et al., 2002).

On the other hand, the so-called methods of reducing offensiveness became no less important in countering the growing industry stigma. By adopting these methods, the supermajors sought to prove to consumers that the attempts to build up pressure on the oil and gas industry by tightening climate regulations were fraught with very serious consequences and that their negative effects could become unbearable for the national economy (especially since the very existence of human-induced climate change was called into question). In particular, public attention was drawn to such destructive consequences as reduced energy access for consumers, increased fuel costs, higher taxes, and even a redistribution of national wealth in favor of other countries – major oil and gas exporters.

By the beginning of the 2000s, the defensive strategy that the supermajors employed to address the industry stigma had undergone some changes. The prevailing global consensus on the anthropogenic nature of climate change has left little room for climate sceptics to continue to deny the catastrophic consequences of this process. One after another, the oil and gas giants began to recognize the importance of global warming and to curtail their direct lobbying campaigns against climate regulations. However, these shifts did not mean that the strategies to address the climate change-related industry stigma were abandoned. Rather, they were modified using communication tools to shift the focus from "explicit doubt" (about the existence of an anthropogenic global warming problem) to "implicit acknowledgement confused by 'risk' rhetoric". This conclusion was based on a detailed analysis of more than 200 ExxonMobil communications since 2017, including external publications, advertisements, corporate reports, and other documentation. The thrust of corporate rhetoric moved on to "shifting responsibility for global warming from the fossil fuel industry and onto consumers" (Supran, Oreskes, 2021).

BP came up with an even smarter communication approach to address the industry stigma. It was this British supermajor that introduced the very concept of a "personal carbon footprint" into global circulation. The company started to actively promote this idea under a large-scale (about 100 million USD) marketing campaign in 2004-2006. To organize this campaign, BP brought in marketing professionals who developed a personal carbon footprint calculator which, in effect, elegantly shifted the responsibility for climate risks from the oil and gas industry to consumers of its products (Schendler, 2021).

Since about 2015, one could notice a major turning point in the strategic positioning of the supermajors regarding the climate agenda. Climate scepticism and attempts to avoid responsibility for growing climate-related threats began giving way to specific roadmaps containing concrete steps aimed at reducing greenhouse gas (GHG) emissions, or even certain initiatives for the greening of corporate business models.[9] Essentially this shift is about the transition to transformational strategies which go beyond purely media-communication tools in interactions with the public, and may include measures related both to the introduction of new low-carbon technologies, and to the structural reorientation of the core company business into other energy segments untainted by the stigma, above all to rapidly growing renewables.

These changes were most clearly manifested in the contents of strategic plans and decisions related to the climate agenda. From 2017-2018, all supermajors began to publish special strategy papers presenting their own climate-related vision and goals, and then regular implementation progress reports. This in itself represented a significant change compared to the previous period (when climate issues were buried in the broader sustainability agenda), and signaled a dramatic increase in the importance of the climate problem for the global positioning of oil and gas businesses. In the relatively short period of time since the supermajors began to develop their climate strategies, a certain

[9] See, e.g.: https://www.investopedia.com/terms/g/green-investing.asp, accessed on 22.11.2022.

Table 1. **Oil and Gas Supermajors' Climate Strategies: Measurable Goals, and Planned Initiatives with a Transformative Potential, 2020-2021.**

Key aspects of climate strategies	BP	Shell	TotalEnergies	ExxonMobil	Chevron
Adopting low-carbon technologies while maintaining traditional business model					
Setting measurable targets for reducing greenhouse gas emissions	✓	✓	✓	✓	✓
Applying carbon capture and storage technologies	✓	✓	✓	✓	✓
Investing in research and development of low carbon technologies	✓	✓	✓	✓	✓
Production of new motor fuel types	✓	✓	✓	✓	✓
Diversifying into new industries, which involves changing business model					
Setting zero emissions goals	✓	✓	✓	—	—
Investing in renewable energy (wind, solar, etc.)	✓	✓	✓	—	—
Investing in electric charging stations	✓	✓	✓	✓	✓

Source: author, based on data from (BP, 2020; Chevron, 2021; ExxonMobil, 2022; Shell, 2021; TotalEnergies, 2021).

standard approach to the content of such documents has emerged, which allows one to identify their common and specific features (Table 1).

An analysis of these climate strategies revealed, among other things, that their main goals and planned actions perfectly fit into the logic of transformational counter-stigma response. These measures evidently go beyond purely media-communication influence on the target audience, and imply making actual efforts to decarbonize the supermajors' business. At the same time, the planned actions can be broken down into two main groups in terms of their nature and depth: (1) adopting low-carbon technologies, while maintaining the traditional oil and gas business model, and (2) diversifying into new energy segments, especially renewables, leading to the transformation of the traditional business model.

The differences between these two types of transformational strategies largely reflect the different approaches taken by the European and US supermajors to address climate-related issues. While BP, Shell, and TotalEnergies opted for a transition to various renewables and achieving absolute net zero,[10] ExxonMobil and Chevron have set a course toward reducing the carbon intensity of their operations while avoiding the risky restructuring of the current business model. As Daniel Droog, Chevron's Vice President for Energy Transition noted, "Our strategy is not to follow the Europeans. Our strategy is to decarbonize our existing assets in the most cost-effective way, and consistently bring in new technology and new forms of energy. But we're not asking our investors to sacrifice return, or go forward with three decades of uncertainty on dividends" (Krauss, 2020).

As soon as the very first climate strategies of the supermajors were published, they were harshly criticized by climate activists, analysts of intergovernmental organizations, and experts from various research centers (Oil Change International, 2020; CTI, 2021; Naimoli, Ladislaw, 2019). Initially, the main criticism addressed the emission reduction targets (set in corporate strategies) and the planned investments in renewable energy - most often declared insufficient to ensure energy transition and meeting the goals of Paris climate agreement. Very soon after the focus began to shift toward the discrepancies between the declared objectives and their practical implementation. Many researchers noted that the supermajors' climate strategies constituted more pledges than actual action plans (Van Lierop, 2022). A group of Japanese scholars conducted a thorough analysis of climate strategies, and of their implementation by the four supermajors (BP, Chevron, ExxonMobil, Shell) in 2009-2020, and concluded that despite "increasing tendencies towards strategies related to decarbonisation and clean energy", these strategies were "dominated by pledges rather than concrete actions", while "continuing business models' dependence on fossil fuels, along with insignificant and opaque spending on clean energy" was quite evident (Li et al., 2022).

Without questioning the accuracy of these assessments it should be noted, however, that they all stem from the evaluation of the analyzed strategies from the perspective of their potential contribution to solving the climate problem. However, the supermajors usually follow a completely different logic of behavior. As for any corporate entity, the main and unconditional

[10] This concept implies achieving zero emissions across the company's entire value chain, including scope one (GHG emissions as a result of direct production activities), two (emissions of the company's partners, e.g. suppliers of electricity, equipment, etc.), and the most difficult to achieve scope three (emissions resulting from the consumption of the company's products by its customers). https://www.treehugger.com/forget-net-zero-target-should-be-absolute-zero-5194775, accessed on 17.11.2022.

priority for them is to protect shareholders' financial interests, primarily short-term ones, reflected in regular financial statements.[11] From this angle, the management is concerned about the climate issues only to the extent the solutions can extend the social licence for company operations under the growing public pressure on the oil and gas industry. This is why to understand the true motives of the largest industry players regarding the adoption and implementation of climate strategies, these documents should be evaluated not in terms of their contribution to solving climate-related problems, but from the perspective of addressing the industry stigma. This approach sheds light on many issues related to the content of corporate climate strategies and the specifics of their implementation. Thus, many experts criticize oil supermajors for relatively modest investments in new energy.[12] But as empirical studies have shown, it is the very fact of investing in other industries untainted by stigma, and not the amount of these investments, that makes companies' transformational counter-stigma strategies effective. Even relatively small volumes of such investments usually turn out to be sufficient to dilute the association with stigmatized products (Vergne, 2012).

The analysis of the corporate response strategies addressing industry stigmatization allows one to take a fresh look at the origins of the different approaches to climate-related issues employed by the European and US supermajors. The divergences in the climate strategies of companies that operate across national borders in the same global industry, respond to common external challenges, and traditionally rely on very similar business models, initially appears quite hard to explain. Furthermore, in recent decades, the trend was rather opposite: the positions of global oil and gas giants were getting closer in many key areas. However, it is precisely in the climate sphere that their strategic approaches have begun to diverge sharply, and the main reason for this seems to be the fundamentally different level of industry stigmatization pressure these companies experience in their home countries (where the majority of their shareholders are based). In particular, according to special surveys, the majority of the population in major European countries is much more concerned about climate issues than residents in the United States.[13] In Europe, unlike in the US, both societal and government support for climate policy has created conditions which encourage the adoption of proactive corporate environmental strategies. Under mounting public pressure, the top management of European oil companies have made stronger public commitments to climate action and sustainable development in general (Boon, 2019).

Conclusion

The approach chosen to analyze corporate climate strategies in response to the growing industry stigmatization on the whole has turned out to be quite productive. Firstly, it allowed for identifying the main challenges that the global players in oil and gas industry face in the financial, HR, and regulatory spheres due to deliberate public pressure initiated by climate activists. It was these challenges that gave the initial impetus to the emergence of specially designed climate strategies - essentially the main instrument the supermajors applied to address the industry stigma. Secondly, this approach allows one to trace the evolution of these strategies: from the total denial of human-induced climate change to shifting the responsibility for global warming onto consumers by means of special communication tools, and then to adopting transformational strategies which involve the introduction of new low-carbon technologies and entering the renewable energy segments. Thirdly and finally, looking through the lens of stigmatization makes it possible to understand the reasons for significant differences between the climate strategies employed by the European and US supermajors.

Another part of our findings relates to the impact of the stigmatization of the oil and gas industry and its leading players on the ongoing transformation of the global energy sector. In our opinion, the rapid development of the oil and gas stigma is largely attributable to the willingness of governments, which have decisively embarked toward decarbonization, to use this stigma as an instrument to accelerate the energy transition. So far the outcomes of this approach have been mixed. The pressure of Western governments on their home-based oil and gas companies is clearly excessive. The tacit and sometimes open support of climate activist movements as the drivers of industry stigmatization has made a significant contribution to

[11] One of the main barriers hindering the large-scale penetration of supermajors into the renewable energy sector, most often referred to by the management of oil and gas giants, is its relatively low profit margins. Global industry players' shareholders are accustomed to traditionally high returns (at 15-20% on investments in oil production), while renewables typically return between 5% and 10%. As Mark Lewis, a respected analyst at BNP Paribas points out, "the so-called yield gap is the most important blocking factor in these companies' path into the renewable energy sector" (quoted from: (Edwards-Evans et al., 2020)).

[12] Indeed, according to a number of studies, the share of such investments in supermajors' total capital investments does not exceed 1%-2.5%. (Shojaeddini et al., 2019; Murray, 2020).

[13] According to a 2021 survey, at least 75% of residents in Germany, France, Italy, Spain, and Greece expressed their concern that climate change will, at one stage or another, negatively affect their lives, while in the US the relevant figure was 58% (Pew Research Center, 2021).