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“GREEN” INVESTMENTS AND OIL COMPANIES

1. INTRODUCTION. – In this contribution, I will try to focus attention on the fact that, despite there being a clear growth in investments in renewables, oil companies remain essentially firm in their intention to maintain their positions in the oil Exploration and Production (E&P) sector. In fact, in 2023, encouraging results were reported concerning investments in renewables. According to Bloomberg NEF (2023, p. 11), they equaled the overall ones relating to fossil fuels (1,110 billion USD). For its part, the International Energy Agency (IEA) states that investments in renewables have even exceeded those of oil since 2016 (IEA, 2023a, p. 8), and investments in photovoltaics alone have exceeded investments related to fossil fuels (*ibid.*, p. 12). Also, the IEA, in 2021, published the report *Net Zero by 2050: A Roadmap for the Global Energy Sector* (IEA, 2021) which states that “[t]here is no need for investment in new fossil fuel supply in our net zero pathway” (p. 21). This peremptory statement – which was subsequently corroborated by the prediction that peak oil will be reached by 2030 (Birol, 2023) – made the oil system restless, as it appeared as an implicit invitation to oil companies to divert part of the investments towards renewables.

Over the next two years, direct or indirect responses to IEA came from the Big Oil front. Among these, Sultan al-Jaber, CEO of the Abu Dhabi National Oil Company (ADNOC) and president of COP 28 in Dubai in 2023) on many occasions, has prudently avoided talking about the relationship between climate change and fossil fuels¹ and, in any case, stated that since peak oil will not arrive before 2045, “[w]e cannot unplug the current energy system before we have built the new one [...] We must minimize their carbon footprint, only invest in the least carbon-intensive barrels and continue to reduce their intensity” (Tan, 2023). This is even though the Crown Prince of the United Arab Emirates, Sheikh Khaled bin Mohamed bin Zayed Al Nahyan, speaking to the executive committee of the ADNOC board of directors, communicated his intention to bring forward the net zero emissions program to 2045, compared to the previous 2050². Even the International Oil Companies (IOCs) do not seem to give way in oil E&P, continuing to invest massively.

The IEA itself, in reality, maintains a “fluid” position. Its 2022 annual report clearly states that there is no need to disinvest in fossil fuels (IEA, 2022, p. 134). In fact, in the 2023 revision of *Net Zero by 2050*, the peremptory “There is no need for investment in new fossil fuel supply”, becomes a softer “No new long-lead time upstream oil and gas projects” (IEA, 2023c, pp. 15, 105).

In fact, oil is the immediate solution to the technical difficulties of electrifying the transport sector (which is the reference sector for oil producers). This has led to the consideration that the energy transition in this sector will not be fast and immediate at all and that, as the oilman Harold Hamm stated bluntly, for oil companies, investing in renewables is like cutting their own throats (Jacobs *et al.*, 2023): oil is unlikely to become a *stranded asset* anytime soon. Furthermore, the energy transition will have to take place despite the abundance of oil and this makes it even more complex because, on the one hand, this abundance of oil determines prices that are low enough to discourage investments in renewables, but not so low as to also stiffen the investments in the oil *upstream* (de Vincenzo, 2022); on the other, it diverts attention from the urgency of a change of direction.

¹ For example, a statement from the Presidency of COP 28 on the *Declaration on Climate and Health* talks about the damage caused by the climate on human health without ever mentioning fossil fuels either as a cause of pollution harmful to health or even as a leading cause of climate change (<https://tinyurl.com/2p9v3hvs> [Here and in the following foot page notes, I have, if necessary, used tinyurl service for shorter URL. Use these links to reach the original website]). This created a prompt and decisive reaction from the media and healthcare community, which published an open letter to the President-designate of COP 28 asking “to commit to an accelerated, just and equitable phase-out of fossil fuels as the decisive path to health for all. Ending our dangerous dependency on fossil fuels will improve the health prospects of future generations and will save lives” (<https://cop28healthletter.com>).

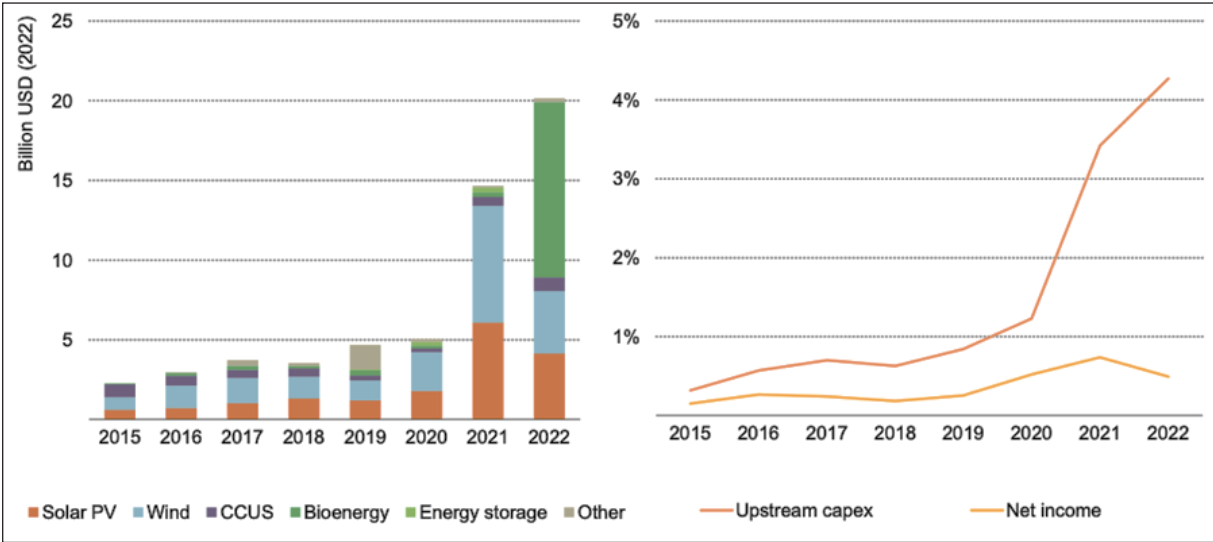
² ADNOC website: <https://tinyurl.com/ycx8j75v>.



2. WHAT THE OIL COMPANIES PROMISE. – Changing how energy production is approached within a de-fossilized global energy system also implies a change in the attitude of oil companies. They have long hidden that they know perfectly well the relationship between CO₂ emissions and climate change (Grasso, 2019). When they have publicly acknowledged this relationship, they have surreptitiously and secretly fueled doubts about the scientific validity of climate change (Matthews, 2023). Many oil companies have for some years announced their participation in emission reduction programs and investments in renewable energy sources. This is partly due to public opinion, increasingly attentive to the issue of climate change, and partly due to a fear of legal cases for compensation, according to the “polluter pays” principle (Grasso and Heede, 2023). Shell, which in 2021 was sentenced by a Dutch court not to pay damages, but to reduce CO₂ emissions by 45% by 2030, even admitted that, to achieve the objectives of the Paris Agreement, the growth in fossil fuel consumption must immediately cease (Shell, 2023).

Projects in the renewables sector of oil companies, as reported by IEA (2023a), grew consistently in 2021 and 2022 (Fig. 1, left), going from 5 billion USD in 2020 to 20 billion USD in 2022. However, it should be noted that investments in offshore are decreasing, and investments in biofuels are increasing. Compared to investments in E&P, despite going from 1% in 2020 to 4% in 2022, investments of oil companies in renewables are still marginal and appear even more so compared to the companies’ net revenues taken into consideration (Fig. 1, right).

Investments in renewables are mainly practiced by European companies (such as BP, ENI, Equinor, Repsol, Shell, and Total). However, most of the time, they prefer to invest in large-scale projects, approaching the typical scale of upstream investments in oil. On the other hand, US companies are more likely to move towards producing biofuels or synthetic fuels or carbon capture sequestration and use (CCSU) in crude oil refining processes or hydrogen production. Above all, European oil companies (Shell, BP, Equinor, and European energy companies such as Ørsted and EDF) invest in wind projects in the United States, especially offshore. In 2021, the US Chevron also timidly approached wind projects, reported as the first investment by a US oil major in this energy sector (Saul and Crowley, 2021; Gosh, 2021), while ExxonMobil no longer boasts of its collaboration with WEICan (Wind Energy Institute of Canada) for the development of lubricants for offshore wind turbines, at least until January 2023³.



Source: IEA, 2023a.

Fig. 1 - Investments by oil companies in clean energy: by technology (billions of USD, 2021) (left); share of clean energy investments over the upstream capital expenditures and net revenues (right)

³ ExxonMobil website: <https://tinyurl.com/hcr3s34e>.

That of European oil companies could be the first step towards their transformation into energy companies⁴. There are oil companies that have already, in fact, carried out this transformation⁵. Still, the transition from oil to energy companies is not a given, despite the large IOCs having such economic strength that they could compete without significant problems with other players interested in renewables. Moreover, when they do so, they put operators operating in the renewables field out of the market for longer, as they can offer services at lower costs. This happened precisely to Ørsted, which declared that it could not compete with the prices offered by BP or Total in wind expansion projects in the United Kingdom (Wasser and Storow, 2021).

Most national oil companies (NOCs) – i.e., state-owned oil companies representing 40% of total world oil production – have taken a more cautious attitude towards the energy transition. NOCs are linked to the energy transition choices of the governments they belong to and, for some countries, represent the most critical financial income, significantly impacting the state's revenue and balance of payments. This makes them unwilling to cut crude oil and natural gas production, putting them at risk should the energy transition happen soon. The NOCs from countries with low oil extraction costs, such as the “petrostates” of the Persian Gulf can hope to be the ‘last one standing’ after all others have ceased or reduced extraction. This notion plays into corporate mythologies that they can be the smartest or best-performing. In any case, the measures that will determine who remains standing – low production costs, strategic flexibility, effective project management – are valuable regardless of the transition (Mahdavi *et al.*, 2021, p. 5). But if this were not the case, the repercussions would be disastrous for the economies of entire countries which are supported by the revenues derived from the exploitation of oil and natural gas deposits. Therefore, the solution could come from diversifying activities, while remaining within the energy sector.

Saudi Aramco, owned by the Saudi government, is the first company in the world in terms of profits (with almost 300 billion USD in 2022, approximately four times more than ExxonMobil) and among the first in terms of market capitalization (2.1 trillion USD). This company pays particular attention to communicating its policies on the subject of energy transition⁶. Still, it follows the example of the US *majors*, focusing above all on reducing emissions intending to achieve zero emissions by 2050, i.e. they mostly focus on “Scopes” 1 and 2 of the GHG Protocol relate to emissions from the consumption of energy purchased from third parties and the consumption of fuels within company activities instead of “Scope 3”, relating to emissions deriving mainly from the use of products, equal to 80% of total company emissions⁷.

Aramco is among the founding members of the Oil and Gas Climate Initiative (OGCI), together with IOCs such as ExxonMobil, BP, Shell, and Eni. OGCI aims to promote corporate policies and investments in solutions to achieve *net-zero*, reduction of methane emissions, Carbon Capture Use and Storage (CCUS): precisely the choices that most *oil companies individually make* in addressing climate change mitigation policies. Furthermore, Saudi Arabia, although not as directly as Aramco, is promoting investments in renewable energy, proactively anticipating the consequences of a contraction in the crude oil market by promoting big projects whose actual impact in terms of sustainability and ecological transition is controversial. Among these, “Vision 2030”⁸ stands out in particular – a modernization and eco-sustainable development project for Saudi Arabia, promoted by King Salman and, above all, by his son Mohamed bin Salman, within which it is expected, by 2030, generation with renewables (wind and solar PV) of 50% of the kingdom's energy – and “Neom”, the pharaonic construction of a linear city on the Red Sea of 170 km, powered 100% by renewables.

PetroChina (i.e., the China National Petroleum Company, CNPC), unlike Aramco, is not the largest financier of the Chinese government but is nevertheless central to the country's energy policies. PetroChina is also part of OGCI and, in 2021, presented its line regarding the energy transition (PetroChina, 2021, p. 31)

⁴ The Italian ENI, for example, has separated its activities in the E&P field from those in the energy field, creating in 2021 “Plenitude”. This company deals with the production of energy from renewable sources, together with the marketing of gas and electricity to families and companies (as “ENI Gas & Luce” already did previously).

⁵ For example, the Ørsted, as mentioned above (before 2017, DONG Energy), a Danish multinational with an exclusive interest in gas and oil extraction, has gradually moved on to interests in the energy field more generally, which in 2019 led to developing an expansion plan called “85/15”, i.e., the gradual transition from 85% of energy production with fossil sources and 15% with renewables, to 85% of energy production with renewable sources.

⁶ Aramco website: <https://tinyurl.com/2ph4tvu2>.

⁷ Aramco website: <https://tinyurl.com/24zaf676>. “Scopes” 1 and 2 of the GHG Protocol relate to emissions resulting from the consumption of energy purchased from third parties and the consumption of fuels within company activities. “Scope 3”, relating to emissions deriving mainly from the use of products, equal to 80% of total company emissions, is excluded.

⁸ Saudi Vision 2030 website: <https://tinyurl.com/4a9wtbya>.

based on the reduction of methane emissions, the development of the Hydrogen+ project, as well as electrification and CCUS. Furthermore, PetroChina has announced that it intends to reach peak carbon emissions by 2025 and “net zero” by 2050. The same report also refers to investments in renewables and waste for electricity production, expressing the values of installed capacity in kW, probably to emphasize them, given the relatively modest values (57,500 kW of installed solar and wind capacity in 2021, +187% compared to the previous year; 17,900 kW of installed power of waste-to-energy plants in 2021, +24.5% compared to the previous year).

We have seen so far that the good intentions of oil companies in relation to the energy transition are often of limited scope. In the next paragraph, we will see that even these good intentions disappear behind the real interests of the oil companies, which try to maintain all the economic power inherent in the oil system.

3. WHAT THE OIL COMPANIES DO. – The twelve months between mid-2021 and mid-2022 have been a window of opportunity for redefining the corporate commitment within the energy transition and their communication strategies. In fact, the end of the most acute phase of the management of the pandemic led to a surge in demand for fuel and growth in their prices; furthermore, the outbreak of the Russian-Ukrainian crisis created an energy emergency, especially for gas. These two events marked a sensational change of pace for oil companies, which put their commitment to the climate issue on the back burner, allowing them to be less careful in communicating their corporate strategies.

The Israeli-Palestinian crisis of October 2023 could push a step beyond this trend towards investments in the upstream of oil & gas for energy security needs and – contrary to what had happened 50 years earlier with the oil crisis following the war of Yom Kippur, when we actually began to think organically about possible alternatives to fossil fuels – could weaken the energy transition⁹.

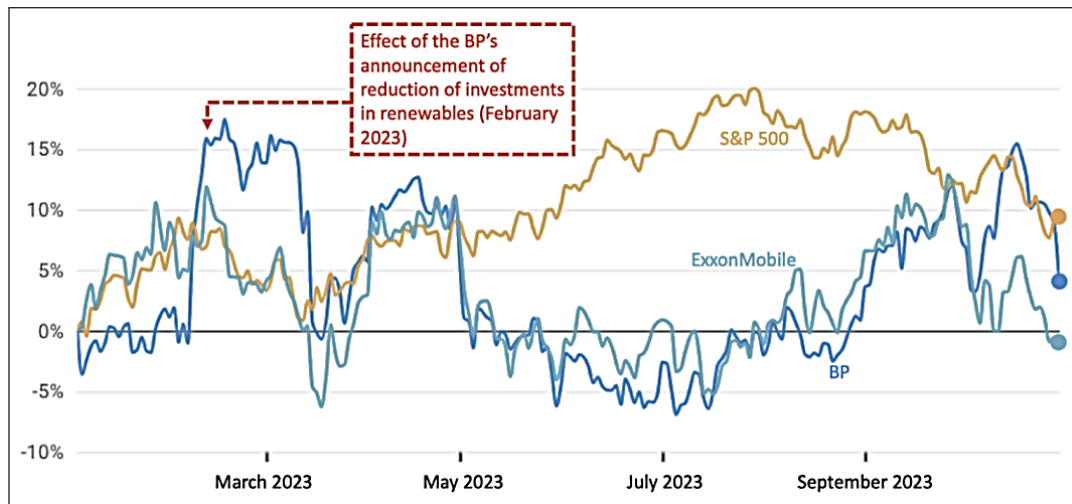
BP, which was a pioneer in the field of renewables (Pickl, 2019; 2021), has already had the opportunity in the past to reduce its interest in this field significantly¹⁰. While, on the one hand, it took on a leading role in the turning point of renewables (McFarlane, 2021), on the other hand, it has recently declared (Strasburg, 2023) that it wants to reduce the push on renewables, due to delays in returns. At the time of the announcement of this new change of direction, the value of BP's shares grew more than proportionally compared to that of its competitors and to a greater extent than those of ExxonMobil (Fig. 2). Further confirmation of the change of course, occurred in May 2023 with the intervention in Washington of CEO Bernard Looney, who painted a gloomy picture for humanity at a time when the supply of gas and oil were not satisfy demand and this led to a surge in their price, as happened between 2021 and 2022 with natural gas (Jacobs *et al.*, 2023). Painting the future of the world in gloomy colors with a weakened oil system is not new for oil companies, given that already in 2013 the then-CEO of ExxonMobil Rex Tillerson stated “What good is it to save the planet if humanity suffers?” (Associated Press, 2013).

However, BP has accustomed us to the fast changes ahead. In fact, in July 2023, BP, together with TotalEnergies, won a €12.6 billion auction for the construction of three offshore wind farms *in* the North Sea and one in the Baltic Sea, for a total of 7 GW (4 GW to BP and 3 to TotalEnergies). It would seem to sign a new interest in renewables on the part of (European) oil companies (Eckert *et al.*, 2023). The conflicting news, however, follows one another, as TotalEnergis intends to sell 25% of the shares in Seagreen Wind Energy, a 3-billion-pound project for the construction of the fixed offshore park (114 turbines already installed), the deepest in the world, off the coast of Scotland (Chan and De Beaupuy, 2023).

Shell also seems to have less interest in renewables showing once again the idiosyncrasy between Shell's “conscious” communication and its corporate policies. Shell CEO Wael Sawan, among other things, has said that cutting oil and gas production is unhealthy (Bouso and Nasralla, 2023); furthermore, it announced that it would reduce the number of employees in low-carbon activities and contract the hydrogen sector (Bouso, 2023).

⁹ In 1973, the oil crisis was also perceived as a crisis of fossil fuels and the danger of their imminent exhaustion; in 2023, we have a diametrically opposite perception, in which the abundance (actual and potential) of oil and gas on the market leads us to evaluate the energy transition towards renewables as a morally flawless, but economically devastating process.

¹⁰ BP – as has been said, a pioneer among oil companies in the field of renewables since 1980, to the point of dissolving its acronym with “Beyond Petroleum” – had to sell almost all of its commitments in renewables in 2010, following premature investments in renewables in the early 2000s and also as a consequence of the 2010 “Deep Water Horizon accident” (Pickl, 2019).



Source: Google Finanza (modified).

Fig. 2 - Share performance of BP, ExxonMobil, and S&P500, % change, January 1st-November 1st, 2023

ExxonMobil is one of the oil majors that has not succumbed to the lure of renewables, not because – states president and CEO Darren Woods in an interview – “we didn’t see a market for wind and solar, but because we didn’t see how that fit with our core capabilities. We will stay anchored in what we know we’re good at. We’re a company that has built its success on transforming molecules. Our capabilities are generating revenue in our existing businesses” (Hundertmark, 2023). This means continuing to transform oil molecules into fuels and, at most, producing hydrogen molecules from methane (it already produces over 40 million cubic meters per day), possibly storing CO₂ molecules (it claims to capture and store almost five million tons of CO₂ per year)¹¹. In this way, ExxonMobil largely avoids “Scope 3”, where 80% of CO₂ emissions occur. Remaining consistent with its own competencies, ExxonMobil had also undertaken, in 2009, studies relating to the production of biofuels from algae, a project that it had presented with much fanfare, definitively abandoned in 2023. Instead, it reiterates its interest in the CCSU, purchasing – also thanks to the incentives (tax credits) offered by the US government for the removal of carbon emissions (Hampton, 2022) – Denbury (July 2023), a company specialized in the storage and transport of CO₂ (Valle and Kumar, 2023), but also in *enhanced* oil extraction, using CO₂ itself. It reiterates its strong interest in E&P by signing an agreement for the purchase of “Pioneer Natural Resources” (October 2023), a company that operates in shale oil in the Permian basin (Texas), for almost 60 billion USD: its largest major acquisition since Exxon merged with Mobil in 1999 (Krauss, 2023). A few days later, Chevron made an investment similar to that of ExxonMobil: it agreed to buy Hess, an oil drilling company operating in Guyana (together with Exxon and China’s CNOOC), for USD 53 billion (Valle and Roy, 2023). These bets on the future, still linked to fossil fuels, are the definitive evidence that ExxonMobil, Chevron, and a large part of the fossil fuel system do not believe in a rapid loss of importance of oil within the global energy system.

In light of the real strategies of the oil companies, we can affirm that their apparently contradictory strategies actually show, on the one hand, attitudes similar to greenwashing and, on the other, mild attempts to overcome the limits of an oil company, which however often clash with shareholders who prefer not to risk themselves in the rough terrain of renewables, which often have medium-long term economic returns.

Especially for the less resilient NOCs, the need to exploit the still-growing demand for oil could lead to the so-called green paradox (Jensen *et al.*, 2015; Sinn, 2015), in which the fear of a future reduction in demand, a consequence of policies to reduce CO₂ emissions, could lead to the release of large quantities of oil onto the market in the short term.

4. CONCLUSIONS. – Despite the push of policies to reduce CO₂ emissions, oil companies firmly maintain investments in oil E&P, even if there are some openings in the renewables sector, especially by some European oil majors and some NOCs, such as Saudi Aramco, particularly exposed in the event of a transformation of the global energy system. The US majors, on the contrary, prefer to focus on the decarbonization of fossil

¹¹ A new plant is planned in Baytown, Texas, where ExxonMobil has a refinery capable of producing nearly 30 million cubic meters per day. The investment decision is expected to take place in about two years (ExxonMobil website: <https://tinyurl.com/yc3kdmep>).

fuel production processes with CCSU or on the production of hydrogen starting from natural gas again with CCSU. The recent investments of oil companies in the field of oil extraction and the objective difficulties and substantial costs in activating the CCSU on a large scale, however, highlight that the enthusiastic adherence to energy policies for the reduction of CO₂ emissions are modeled in such a way to maintain its core business; furthermore, they leave the door open to the suspicion that the open attitude of oil companies towards the energy transition can mainly be interpreted as *greenwash*.

Big Oil does not seem concerned nor convinced about the upcoming energy transition and a vicious circle might emerge. At the moment, a clear policy for a full transition has yet to be defined and implemented and oil companies keeping the current strategies make this policy turn even less likely to occur. COP 28, held in December 2023, showed the true face of oil companies. By now, in view of an environmental policy decidedly against fossil fuels, the oil system has responded in a compact manner that phasing out of oil is an option completely devoid of future possibilities. This position concerns the entire oil system, both the European one (ENI, in the lead), the US one (but there was no doubt about this), and the Middle East (which publicly announces its adherence to policies of reducing emissions and entry into the production of renewable energy, but without reducing their main interest, obviously: oil exploration and extraction). The watchword of COP 28 was “unabated”. According to COP 28, it means continuing to extract and consume oil with a possible reduction in CO₂ emissions through CCUS. How? It is not known with certainty how unabated oil emissions will be “reduced”, but the important thing is to affirm that they will be reduced with CCUS.

The oil companies communicate but are unwilling to practice (or practice with difficulty) medium-long-term policies that are not based on new investments in the upstream of oil & gas, even though electricity can be considered “the new oil” of the global energy system.

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SUMMARY: Investments in renewables are certainly growing. However, what is the weight of the oil companies in this context? How much and how are oil companies investing in “green” projects related to the energy transition? The oil & gas companies, on the one hand, have an undeniable interest in maintaining their dominant positions in the energy sector; on the other, they cannot ignore the pressing requests of citizens, governments, and international institutions to start serious policies to reduce CO₂ emissions. This “Copernican revolution” is not entirely underway and, in many cases, there are clear gaps between what the oil companies publicly declare and their adequate adherence to policies to reduce emissions from fuel consumption (and not just production) fossils (the so-called Scope 3 of the GHG Protocol). The oil companies are now openly declaring what they have always considered being an indisputable truth: in the medium term, fossil fuels will not cease to have a crucial importance within the global energy system and, above all, it is not possible to reduce at this time investments in E&P. Indeed, while maintaining the “reassuring” communication system regarding their commitment to “green” investments, the oil companies actually reduce their interest in them.

RIASSUNTO: Gli investimenti in rinnovabili sono sicuramente in crescita. Ma qual è il peso delle società petrolifere in questo contesto? Quanto e come le società petrolifere stanno investendo in progetti “verdi”, relativi alla transizione energetica? *Le oil & gas companies*, da una parte hanno un innegabile interesse per la conservazione delle proprie posizioni dominanti nel settore energetico, dall'altra non possono non tener conto di quelle che sono le pressanti richieste di cittadini, governi e istituzioni internazionali per l'avvio di serie politiche di riduzione delle emissioni di CO₂. Tale “rivoluzione copernicana” non è pienamente in atto e, in molti casi, vi sono evidenti scollamenti tra ciò che le *oil companies* dichiarano pubblicamente e l'effettiva adesione a politiche di riduzione delle emissioni da consumo (e non solo da produzione) di combustibili fossili (il cosiddetto “Scope 3” del GHG Protocol). *Le oil companies* ormai dichiarano apertamente ciò che hanno sempre ritenuto essere una verità incontestabile: i combustibili fossili, nel medio periodo, non cesseranno di avere un'importanza nodale all'interno del sistema energetico globale e, soprattutto, che non è possibile ridurre in questo momento gli investimenti in E&P. In effetti, le *oil companies* pur mantenendo in piedi il sistema di comunicazione “rassicurante” circa il loro impegno negli investimenti “verdi” riducono nei fatti il loro interesse per essi.

Keywords: oil companies, energy transition, “green” investments

Parole chiave: società petrolifere, transizione energetica, investimenti “verdi”

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