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RELATIONSHIP BETWEEN LARGE OIL COMPANIES AND THE RENEWABLE ENERGY SECTOR

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Abstract

An important target of the European Union and national governments is to increase the contribution of renewable energy to the total energy supply. According to numerous estimates, the proportion of renewable energy sources of the global energy consumption could reach 15 to 20 percent by the middle of the 21th century; moreover the total amount of investments in renewable energy sources could be 2.5 times greater than the current level. This increased investment is definitely achievable due to the significant interventions of governments. However, the decrease of the share of fossil fuels in the global energy consumption seems rather doubtful because it partly depends on how the future visions of transnational oil companies handle renewables. In this paper, I examine the characteristics of the renewable energy investments of the Supermajors, the largest public oil companies. I also examine how their communications regarding renewables meet reality. The results indicate that certain companies firmly deny investments in the renewable energy sector (because of the lower-than-expected returns), while others superficially address them, and that there is only one company that has globally important renewable energy businesses.

Key words: energy consumption, oil industry, renewable energy, Supermajors

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1. Introduction

In past decades, Sadorsky (2012) argued that the renewable energy sector has become one of the fastest growing segments of the energy industry due not only to concerns regarding climate changes, energy security issues, and peak oil but also to new technologies and environmentally conscious consumers. Masini and Menichetti (2013) indicated that investments in renewable energy technologies of the five most active players, China, Germany, the United States, Italy, and Brazil, accelerated in the 2000s, primarily after the financial and economic crisis of 2007/2008. Considering the forecasted plans, this investment trend will continue in the future.

According to Bloomberg's *Global Renewable Energy Market Outlook*, published in 2011, the annual value of renewable energy capacity installed will double in real terms to 395 billion USD in 2020, rising to 460 billion USD in 2030, compared with 195 billion USD in 2010 (Bloomberg, 2011). As a result, in two decades 15.7% of total energy production will come from renewable sources (including large hydro), up from 12.6%, 2010. The Bloomberg forecast indicates that the European Union, the current leader of the renewable energy market, will achieve the energy aims of EU 2020 strategy, but will account for a dwindling share of the world investment as the governments of the Community scale back clean energy support in the face of sovereign debt problems.

According to the European Renewable Energy Council, the 2020 energy and climate framework has made the renewable energy sector one of the most recession-resistant areas of European economy; therefore, the renewable energy sector has exhibited positive growth in the face of the crisis. The renewable energy industry currently contributes 1% of the European Union's GDP, and in view of the Community's plans, this proportion will obviously increase. However, it can be forecasted that the

rapidly developing country of China (Jiang and Lin, 2013), whose energy demand exhibits significant growth, will invest 50 billion USD a year in renewables and assume the global leading role from the European Union by 2020. This situation is not surprising at all. Xie Zhenhua, vice chairman of the National Development and Reform Commission argues that the Chinese government – and the state-owned oil companies, such as Sinopec and PetroChina – will invest 670 billion USD over the five years through 2015 into energy-saving, emission-reducing projects and renewable energy projects.

Bloomberg forecasts that the United States and Canada are also expected to experience no lasting slowdowns in project construction, together hitting 50 billion USD of investment in 2020, especially if the *New Energy for America* plan, proposed by the Obama-Biden administration, is implemented. Of course, Japan does not want to drop behind the leading economies: after the nuclear disaster caused by the tsunami in Fukushima in 2011, the Japanese government set the renewable energy targets of between 25% and 35% of the total power generation by 2030, by which time some 700 billion USD would be invested in renewable energy projects (McLellan et al., 2013).

After Fukushima, some other leading economies have also decided to increase the use of renewables in the total energy consumption, for example South-Korea (Park and Ohm, 2013), Germany (Stegen and Seel, 2013), and most countries of the European Union (Wittneben, 2012). Furthermore, numerous globally significant developed and developing economies (for example Australia, Brazil, India, Indonesia, and Turkey) see exploitable opportunities in renewable energies that can satisfy the increasing energy demand of their growing economies.

Thus, the aims and the instruments of the new energy policies seem impressive and grandiose. However, are they really? Can plans focusing on the promotion of renewable energy investments change the current dependence on fossil fuels? Can national governments achieve their renewable energy goals by themselves if the companies interested in exploitation of fossil fuels do not provide assistance?

In 2013, Rolling Stone magazine published an energy policy analysis by Antonia Juhasz, American oil and energy analyst and journalist, entitled *Big Oil's Big Lies about Alternative Energy*, in which the author claims that oil companies are not concerned about investments in renewable energies. Moreover, most of them do not even care about the pretense. For example, ExxonMobil, the largest Supermajor, argues in *The Outlook for Energy: A View to 2040* that, although the use of renewable energy will grow significantly in the next some decades, oil will remain the leading global fuel, while natural gas will overtake coal for the second spot (ExxonMobil, 2013). For this reason, over the next five years, ExxonMobil expects to invest approximately 185 billion USD in energy projects primarily in the oil and gas industry. Thus, one of the Supermajors plans to invest 37 billion USD a year in fossil fuels, while China, the world's second-largest economy, will become the leader of the renewable energy market, with an expected 50 billion USD in investments.

Of course, most of the energy companies believe in cheap energy: oil, gas and coal (Juhasz, 2009). Loren Steffey explains in Forbes that oil companies expended millions of dollars on renewable energy programs during the past decade, but those investments have generated little, if any return. Katrina Landis, CEO of BP's alternative energy division indicated: "All of our alternative energy businesses are businesses. We have to compete for investment dollars with all the hydrocarbon resources within BP."

Furthermore, not only are the return and the profit important, but rigid conviction in fossil fuels is also required. Spangler and Pompper (2011) indicate that rhetoric of arrogance has permeated oil operations for decades and that this arrogance is also discoverable in the CEO's opinion on renewables. For example, Rex Tellerson, CEO of ExxonMobil said at an annual meeting of the company: "There's no quick replacement for oil, and sharply cutting oil's use to reduce greenhouse gas emissions would make it harder to lift 2 billion people out of poverty. What good is it to save the planet if humanity suffers?"

Thus, wider utilization of renewable energy depends on the interaction of two opposing factors: on the one hand, there are national governments (and the EU), whose unambiguous effort is to increase the contribution of renewable energies to the total energy supply, but on the other hand, there are oil and gas companies, who have serious interests in the conservation of the world's dependence on fossil fuels (Lovell, 2010).

In this paper, I analyze the linkage between the Supermajors (as the leaders of the energy industry) and renewable energies. First, I provide an overview on the world's current and estimated energy consumption, then, I analyze the role of renewable energy sources in the portfolio of the Supermajors:

- Is there any visible effort on the wider utilization of renewables?
- Do they have significant renewable energy investments?
- Do they intend to become energy companies instead of remaining oil and gas companies?

2. The world's current and estimated energy consumption

In 2012, the primary energy consumption of the world (from oil, gas, coal, nuclear energy, hydropower, and renewables) was 12,746.6 Mtoe, 30% more than it was in 2002, and more than it was any previous year (BP, 2013a). 87% of the total energy consumption came from fossil fuels, with one third of the fossil fuel consumption from oil itself.

The economic crises of 2007/2008 set back the use of the conventional energy sources, but only for a short time (Tverberg, 2012).

Aside from this crucial period, the world's total energy consumption has been characterized by dynamic growth. However, not surprisingly, the use of the nuclear energy has exhibited a significant decrease. After the Fukushima nuclear power plant accident that occurred in 2011, most of the countries preferred nuclear energy (for example, Germany, the United States, Switzerland, Italy, and of course Japan) decided on supervising or suspending their civil nuclear programs. According to Faúndez (2008), 16 trillion USD would need to be invested in the world's energy systems over the next 25 years to satisfy the 60% demand growth that is expect to take occur over the same period. Sadorsky (2012) indicated that the renewable energy sector has become the most rapidly developing segment of the energy industry. Moreover, the current decrease of nuclear energy, the reality of peak oil, and the concerns about climate changes are all urging the more intensive use of renewable energy. BP's data indicates that although the proportion of renewables in the total energy consumption (without hydropower) was only 2% in 2012, the growth is threefold compared with the 0.6% in 2002.

However, it is a doubtless fact that the significant increase of the use of renewable energies does not represent a solution for the world's growing energy demand. According to the Organization of the Petroleum Exporting Countries (OPEC), the world's oil dependency continues to increase: the consumption will reach 107.3 million barrels per day by 2035 (which will be 23% more than it was in 2010). Of course, a shift will appear among the geographic regions: on the one hand, after the 2005 peak, the proportion of the Organization for Economic Co-operation and Development (OECD) countries in the total energy consumption will decline, but on the other hand, as OECD estimates, 87% of the global demand increase will be in developing Asia. According to BP's forecast, there will be a 36% increase in the primary energy consumption by 2030 (BP, 2013b). Oil will exhibit the most significant decline (regarding its proportion in the total energy supply), but the dominant role of fossil fuels, due to gas and coal, will remain steady.

Although there are differences regarding their main data, of the OPEC, as well as BP and ExxonMobil agree that there will not be real replacement for fossil fuels (at least by the middle of the 21th century). The proportion of oil will decline in the total energy consumption; however, its global leading role will not be threatened by any other energy sources because China alone will almost be the responsible for the increase of the global coal consumption (China's contribution was 51% to the global coal consumption in 2012). According to the data of the U.S. Energy Information Administration, the proportion of renewable energies in the total energy consumption may not reach 4% (11% with hydropower and biomass), while the proportion of fossil fuels will remain approximately 80%.

Thus, eliminating fossil fuels is not realistic in the short term; however, the end of the oil era is unavoidable. Therefore, the question is not whether the world needs fossil fuels or not, but what will powerful oil companies do to change the current structure of the global energy consumption, and do they intend to become energy companies (Nersesian, 2010) instead of remaining oil companies.

3. Why would it be worthwhile for oil companies to invest in renewable energy?

The question is: why would investments in renewable energies be important for profit-oriented oil and gas companies if they not profitable enough? According to Hartley and Medlock (2008), national oil companies (NOCs) control 90% of the world's proven oil and gas reserves, while IOCs are becoming less capable of accessing large reserves. The Economist has recently published an article about the Supermajors, in which the author claimed that in the 1970s, 90% of the international oil market was controlled by the Supermajors, but after radical political changes had occurred in many oil producing countries, the situation changed: government-owned NOCs took control of those countries oil and gas reserves. Ernst & Young's 'Global oil and gas reserves study' argues that in 2013, the world's 76 largest listed oil and gas companies (including the Supermajors) proven oil reserves were 152,475 million barrels, while the gas reserves were 624,284 billion cubic feet (Bcf) (Ernst & Young, 2013a). However, according to PetroStrategies, there are five NOCs whose oil reserves exceed 100,000 million barrels by themselves (moreover Saudi Arabian Oil Co. and Petróleos de Venezuela S.A. has more oil than the 76 IOCs combined), while the gas reserves of nine NOCs reach 100,000 Bcf (the gas reserve of National Iranian Oil Company is over 1,000,000 Bcf). Furthermore, comparing the IOCs' proven oil reserves at the end of 2012 and the previous year, a significant decrease was observed in some cases (Ernst & Young, 2012, 2013a). Hartley and Medlock (2008) claimed that many NOCs have restricted (but exclusive) operations in their host country because of the severe national legal regulations; however, they behave very similarly to the profit-oriented IOCs overseas (Feng and Mu, 2010; Ma et al., 2012; Pegg, 2012).

Thus, IOCs must face not only decreasing oil and gas reserves and the lack of newly discovered oil fields that can be relatively easily exploited but also powerful NOCs that have become rivals in new investments. For these reasons, the Supermajors (primarily ExxonMobil, Chevron, BP, and Royal Dutch Shell) have turned to explore such oil fields located in extreme environmental conditions (for example, under the Arctic ice cap), for which exploitation is a real financial and technological challenge, even for those giant companies.

Another possibility – to prepare themselves for the exhaustion of the oil and gas reserves – could be a more intensive use of renewable energies.

3.1. ExxonMobil Corporation

The ExxonMobil Corporation (Irving, Texas, United States) is not only the largest listed oil and Gas Company in the world, but also the most influential player of the global energy sector (Juhasz, 2009). Thus, its attitude toward renewable energies could be a positive example for oil and gas companies. In 'The outlook for energy: A view to 2040' the company describes that the global energy demand will grow 35%, even with significant efficiency gains, as the world's population expands from approximately 7 billion people today to nearly 9 billion people by 2040 (ExxonMobil, 2013). Because the use of renewable energy will grow at the fastest rate, primarily in the OECD countries, its proportion in the total energy supply will reach 15%.

According to the company, this fact will not have an effect on the oil and gas consumption because the significant decrease of coal and the minimal decrease of oil will be equalized by the growth of natural gas; therefore, oil will remain the most important global fuel by 2040, while natural gas will overtake coal. For these reasons, it is not surprising that ExxonMobil does not address renewable energy investments; moreover, in its communication ExxonMobil does not endeavor to emphasize the importance of them. For example, Rex Tillerson, CEO of ExxonMobil, at the annual shareholders meeting in Dallas in 2009, indicated that the transition away from oil-derived fuels was most likely 100 years away. After self-justification, it is acceptable for ExxonMobil that all available sources (185 billion USD in the next five years) should be invested in primarily the oil and gas industry.

In 2009, Forbes awarded ExxonMobil the 'Green Company of the Year', primarily because the company was to invest 600 million USD in the development of algae farms and it had serious interest in the liquefied natural gas (LNG) segment, which contributed to the reduction of the carbon dioxide emission. Nevertheless, according to Rex Tillerson, creating motor fuels from algae may not succeed for at least another 25 years because of technical hurdles; in addition, MSCI considers algae investment as a purely political step to appease environmentalists. While natural gas is a much cleaner source of energy than coal or oil, it is much less so than wind or solar power. Yet, ExxonMobil (and other oil companies) tends to lobby hard to exclude renewable energy from the portfolio of utility companies, at least in the United States.

3.2. Chevron Corporation

The Chevron Corporation (San Ramon, California, United States), the third most valuable oil and gas company in the world, is seriously engaged in issues such as social responsibility, environmental protection, and renewable energy (Chevron, 2012). The Wall Street Journal says that, following the explosion and sinking of the Deepwater Horizon oil rig in the Gulf of Mexico in 2010, oil companies have been criticized for not paying enough attention to the environmental problems caused by their operation; moreover "the company has consistently ranked dead last among 25 business sectors in Gallup polls, below even than the healthcare, airline and banking industries." In the same year, Chevron launched its global campaign called "We agree" to describe the actions the company took in producing energy responsibly and in supporting the communities where it operates. Rhonda Zygocki, vice president of Policy, Government and Public Affairs at Chevron indicated: "We hear what people say about oil companies – that they should develop renewables, support communities, create jobs and protect the environment – and the fact is, we agree."

Currently, solar power, biomass, and geothermal power comprise Chevron's renewable energy businesses. The company solar portfolio totals approximately 22 megawatts of generated capacity, with more than 128,000 solar panels installed, while its biomass solutions transform an urban waste into a revenue-generating asset for cities and deliver renewable power and energy savings. Furthermore, Chevron uses solar power to enhance oil production from the Coalinga Oil Field in the San Joaquin Valley by injecting steam to heat the crude, thereby reducing its viscosity and making it easier to produce. According to Chevron, "the solar-to-steam project will supplement the gas-fired steam generators and help determine the commercial viability of using heat from the sun instead of natural gas to generate steam." Moreover, the company was planning to return to the United States geothermal power market, developing power plants with an electricity capacity of at least 10 megawatts.

Of course, Chevron has had experiences on geothermal power systems since 2005, when it drilled 84 wells and then built a large power plant in Indonesia, which significantly contributes to the electricity supply of Jakarta. Chevron currently operates two geothermal projects in Indonesia, Darajat and Salak, which have a combined operating capacity of 636 megawatts, and has 40% interest in the Philippine Geothermal Production Company, whose power plants have a combined generating capacity of 637 megawatts.

In summary, Chevron is one of the most significant players of global renewable energy market out of the Supermajors, even if its investment in the renewable energy segment is less than 1 to 2% of its total annual investments.

3.3. Royal Dutch Shell Plc

The Anglo-Dutch Royal Dutch Shell Plc (the Hague/London, Netherlands/United Kingdom) had

the second largest revenue in the world in 2013, overtaking every company in the energy sector. According to the company, 9 billion people will live on Earth by 2050, led by growth in Africa and Asia. For this reason, the total energy demand could increase by 80%, in which the share of renewable energy could reach 30% (the latter estimate is the twice the estimate of ExxonMobil).

Shell was to spend 100 billion USD from 2011-2014 to support new energy production, including LNG projects, and the development of cleaner energy sources, such as natural gas. However, planned investments in renewables were negligible, as they reached 2.2 billion USD in five years only. The state of renewables in Shell's portfolio is very unsteady. According to Reuters, between 1999 and 2006, Shell expended approximately 1.25 billion USD to renewable energy investments, primarily to wind, solar, and hydrogen power. And yet, in 2009, Shell announced that it no longer would invest in renewable technologies, such as wind, solar and hydro power, because they were not economic enough. Linda Cook, Shell's executive director of gas and power indicated: "If there aren't investment opportunities which compete with other projects we won't put money into it. We are businessmen and women. If there were renewables (which made money) we would put money into it."

However, in the beginning of the 2000s, Shell had serious interests in wind farms (550 megawatts installed capacity all over the world) and solar power plants. In 2004, Geosol and Shell Solar, a subsidiary of Shell, developed the world's largest solar power plant, with 33,500 panels installed for 22 million EUR in Espenhain, Germany. Miller (2013) indicated that Shell left off solar power investments not only because they were not profitable enough but also because the technology of the solar industry was too difficult for oil companies. Shell changed its attitude in 2013: according to the company's New Lens Scenarios report, solar power will overtake oil by 2060 and will become the world's most important energy source by 2100 (Royal Dutch Shell, 2013). Peter Voser, CEO of Shell, outlined the most acceptable solution for the company: "The scenarios highlight the need for business and government to find ways to collaborate, fostering policies that promote the development and use of cleaner energy and improve energy efficiency."

3.4. BP Plc

The BP Plc (London, United Kingdom) is the fourth largest listed oil and gas company in terms of revenues, and the fifth most valuable at the same time. In the business portfolio of BP, only wind power and biofuels exist (BP, 2013c). BP owns 16 wind farms in the United States, with an aggregate installed capacity of 1,558 megawatts and three sugar cane ethanol mills in Brazil, with a crushing capacity of 7.2 million tons of sugar cane. BP expended one billion USD in its renewable energy business in 2012 and has invested 7.6 billion USD in it since 2005. However, renewable energy is not expected to be part of the company's future plans. According to BP's Sustainability Review, "sufficient policy support is required to help commercialize effective lower-carbon options and technologies, but renewables will ultimately need to become free from subsidy and be commercially self-sustaining" (BP, 2013d). This lack of priority is one of the reasons why the company abandoned the solar industry in 2011 and, after 40 years of operation, it eliminated BP Solar. Business analysts at Bloomberg think that BP acted in contrast to other major companies (such as Google or Total), but Miller (2013) believes that the motivation of BP was the same as that of Shell, when Shell was to withdraw from the solar industry. At the beginning of 2013 Mark Salt, spokesmen of BP, summarized the company's future: "BP has decided to market for sale our U.S. wind energy business as part of a continuing effort to become a more focused oil and gas company and re-position the company for sustainable growth into the future."

This thought clearly indicates the reason of why the company ended the Beyond Petroleum campaign, which was launched in 2000. According to Beder (2002), the original purpose of the rebranding campaign was to portray BP as an energy company, not just an oil company. However, that was not the first step. BP sold the Indian wind energy business in 2009, closed its London based alternate energy headquarters in the same year, exited the solar industry in 2011 and was planning to sell its American wind energy business. Four months later, BP decided to keep its wind farm business in the United States because it failed to attract a bid the company could have accepted. However, the decision was not permanent. Matt Hartwig, spokesman of BP said that the company had a number of bids, but then they thought that it was not the right time to sell.

Of course, there could be other reasons why BP wants to sell its renewable energy business than merely strategic considerations. On 22 April, 2010, Deepwater Horizon, a rig leased by BP from Transocean, exploded and sank, leaving the well gushing at the seabed and causing the largest offshore oil spill in the history of the United States. According to Bozeman (2011) estimates, the costs of the damages reached 20 billion USD; furthermore, BP had to set up a 20 billion USD fund for damage claims from the Gulf of Mexico and suspended dividend payments to its shareholders. That amount was almost three times greater than the annual profits of BP; thus, it was unavoidable to obtain external sources. Some experts thought that only two options remained for the company: on the one hand, it had to cease all less profitable businesses that did not belong to its oil and gas profile, and on the other hand, it had to sell its renewable energy segment to obtain money. And BP supports all this despite the fact that the public opinion about the company, which is not very favorable, is deteriorating (Muralidharan et al., 2011).

3.5. Total S.A.

France-based Total S.A (Paris, France) is the third largest listed oil and gas company in Europe. Total is perhaps the one and only company among the Supermajors that generally receives more honors for its investments in renewable energy than criticisms for its oil and gas operations. The company's renewable energy business has four arms: biomass, wind power, tidal energy, and solar power (Total, 2013a, 2013b). Total considers the latter as the most important future renewable energy source. The company currently operates not only solar power plants (the Shams concentrating solar power station in Abu Dhabi is one of the largest in the world, with its 100 megawatts capacity installed) but also manufactures high efficiency solar panels.

In 2011, Total announced its acquisition of 66% of SunPower Corporation (San Jose, California), one of the most successful players of solar industry, for 1.37 billion USD. Experts thought that it was a very significant sign for the sector that an oil giant invested such a significant amount into the solar industry. Furthermore, in 2013, Total was selected to develop a 86 megawatt-peak ground-mounted solar power project by South Africa's Department of Energy.

However, Total is planning other large investments. In 2012, MidAmerican Solar and SunPower began the development of the world's largest photovoltaic power plant, with a total of 579 megawatts generation capacity in California (Solar Star Project). The power plant will satisfy the energy demand of approximately 400,000 households.

And yet, Total is typical oil company, which primarily focuses on oil and gas industry (Total, 2013b). It seems, however, that there are lines that the company does not want to step over, unlike other Supermajors. The U.S. Geological Survey estimated that the Arctic could hold approximately 13% of the world's undiscovered oil reserves and as much as 30% of the world's undiscovered natural gas reserves (Ernst & Young, 2013b).

For this reason, exploitation of Arctic oil and gas fields are a high priority for the Supermajors, with most of them having joint ventures with national oil companies (for example, Rosneft and Statoil) that focus on deep-sea oil drilling. However, "Total currently does not conduct any exploration activities for oil fields under the ice cap, and favors either the development of gas fields or the development of oil fields not located under the ice cap" (Ernst & Young, 2013b; Total, 2013b).

According to the Financial Times, Total is the one and only among the large oil and gas companies that keeps itself away from the Arctic Ocean. Christophe de Margerie, CEO of Total declared to Financial Times: "The risk of an oil spill in such an environmentally sensitive area was simply too high. Oil on Greenland would be a disaster. A leak would do too much damage to the image of the company."

4. Conclusions

Large oil and gas companies, independent organizations and governments all agree that the increasing world population will drive an increase in the energy demand. Renewable energy will play a key role in the world's energy supply because its share in the total energy consumption will increase to 15% by the middle of the 21th century. However, there are significant differences between the viewpoints of the companies and the governments about the future role of fossil fuels.

Most oil and gas companies assert that, despite how important the renewable energy could be, the world's growing energy demand could be supplied only from oil and gas. Therefore, oil and gas companies focus primarily on investments in the exploration of fossil fuels all over the world. They cannot leave out renewable energy from their portfolio, although each company has a different attitude towards renewables. ExxonMobil, the largest Supermajor, openly admits that it does not want to address less profitable renewables, while BP, in part because of external pressures, currently tends to sell its renewable energy business. In contrast, Royal Dutch Shell and Chevron own remarkable and diverse interests in the renewable energy business, with both companies seeing future opportunities in the renewable energy market.

Of course, their renewable energy businesses, which are only approximately 1-2% of the total investments of these companies, have significant advertising value: for example, renewable energy is a key element of Chevron's global corporate social responsibility campaign. Total, the France-based Supermajor, has the most complex interest in the renewable energy business because it not only uses renewables as an energy source but also, through the company's subsidiaries, it is a global renewable energy market player.

In 2013, the Supermajors made 123.34 billion USD profits, which is equivalent to three-quarters of the cumulative profits of the healthcare sector's 92 companies ranked by Forbes; in other words, it is equal the nominal GDP of Hungary. The current profit is more important than anything else and is more important than the public opinion, and this fact unambiguously determines the margin of the oil and gas companies. Perhaps a former CEO of Shell expressed most explicitly this antagonism (Miller, 2009): "Maybe Exxon got it right. Maybe it's not the oil company's job to do solar. If the day comes when the world doesn't need more oil, it may be the oil company's job is to simply switch off the lights and return the money to its shareholders."

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