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European Big Oil – Big liability in carbon, pollution and health care costs

After large payments to shareholders, management and for lobby activity

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Summary

The Rio Summit in 1992 was the first time that countries decided to act on development and environment. However, since then the activities of the European five Big Oil companies (BP, Eni, Repsol, Shell, and TotalEnergies) have resulted into high societal costs through pollution, deteriorating public health and carbon emissions. The corporate (profit) tax covered only 5% of these costs, in a range of 3-17%; and this while Big Oil and its shareholders benefited from large sums in dividends, share buybacks, rising share prices and management compensation. This was enabled by high spending in lobbying to control the conversation on climate change legislation.

In other words, every time consumers refuel their car, they hand over 1.15 euros to shareholders of the European Big Oil and spend eight eurocents to paid and unpaid oil spill clean-up bills. But every refuelling, Big Oil does not pay for 4.46 to 25.44 euros in health care and shorter lives' costs generated by air pollution, and does not provide for 5.24 euros in climate change causing carbon emissions (see Appendix Table 26). The top-5 passes on this damage to society.

In more detail: shareholders continue to benefit while societal costs are 50 times larger

In 2021, the European Big Oil companies reported EUR 47 billion of net profit, leading the global net profit recorded since 1993 to reach almost EUR 850 billion. Big Oil announced their intention to proceed to extensive dividends payments and share buybacks which will benefit the shareholders.

The shareholders appear to be the major beneficiaries of the profit generated by the Big Oil companies. 78% of the total net profit recorded between 1993 and 2020 was distributed to the shareholders in the form of dividends and share buybacks, in total EUR 625 billion. In addition, the market capitalization increased by EUR 295 billion between 1993 and 2021. Our research revealed that the total management compensation, which is booked as cost before profit distribution, is estimated to equal EUR 2.1 billion (1993-2020).

To control the conversation on climate change legislation, European Big Oil might have spent, worldwide, an estimated total of EUR 3.7 billion in lobbying, and an additional EUR 3.3 billion in advertisements in the period 1993-2020.

Versus a total of EUR 922 billion benefits for shareholders and managements protected by EUR 7 billion in lobby spending, the European Big Oil top-5 paid a total of EUR 662 billion in corporate tax (in 1993-2020; tax on pre-tax profits; excluding excise duties), of which an estimated EUR 361 million in Europe. Versus OECD average corporate tax rates, the rates of European Big Oil were higher. However, a case study on Shell's European tax payments shows that Shell in some periods paid a corporate tax rate which seemed to be below official rates. Differences in definition and scope of 'paid tax', as well as tax optimisation programs, a legal activity, do not enable a conclusion on 'avoided' tax. In addition to corporate tax, the Oil & Gas sector is confronted with a special practice: excise taxes, which are an industry-specific collection for some oil/gas-based products but paid by customers (not by Big Oil), for instance at the gas station. In a case study, the excise tax collection was 3.2 times larger than the corporate tax payments.

The corporate tax payments by the five European Big Oil companies (EUR 662 billion) is dwarfed by the societal costs they have avoided.

In environmental and health care costs, the report distinguishes the pollution by oil spills and the contribution of European Big Oil to global air pollution and its health effects, and climate change.

Since 1993, there have been various large oil spill events that can be linked to the European Big Oil. These led to EUR 59 billion in damages; BP Horizon was responsible for 99% of this. On top of these costs, there are environmental pollution costs that were not paid for by European Big Oil and which did not get media attention: through court cases, for instance, Big Oil has been able to pass on these costs to governments, population or environment. For 1993-2020, these unpaid costs, related to physical pollution, are estimated at EUR 11.1 billion but do not include large externalities like the costs of deforestation, and human rights and indigenous population destruction.

The fossil fuel industry has a material contribution to air pollution, affecting human health. This is mainly due to the burning of fossil fuels. In 1993-2020, European five Big Oil contributed an estimated 12.6% to this pollution. The health costs that have not been paid by the European Big Oil is in a range of EUR 3,585 billion to EUR 20,463 billion for the 1993-2020 period.

European five Big Oil companies bear responsibility for 12.6% of global CO2-equivalent emission in 1993-2020 and even 30.5% in Europe. Up to now, Big Oil's public documents lack data on their expenditures on regional emission schemes. Free-of-charge issued carbon certificates by the EU covered the relevant Scope 1 emissions of Big Oil. They did not pay for them. This report made calculations for Big Oil's Scope 1 (operations), Scope 2 (suppliers) and Scope 3 (use of products sold to customers). Scope 3 emissions are over 90% of the total emissions by Big Oil. Based on average carbon costs (EU ETS) per year, European Big Oil would have had a liability of EUR 372 billion for the period 1993-2020; they did not pay for them. If the current EU ETS market price would have been applied, the liability for the Europe-linked emissions Scope 1, 2 and 3 would have been EUR 4,218 billion for 1993-2020.

The following table provides an overview of the calculated values:

Table 1 Overview of calculated numbers European Big Oil (EUR billion)

EUR billion	1993-2020	Low scenario	High scenario
Published financials – benefits to company and shareholders			
Company: net profit	797		
Management: compensation*	2.1		
Shareholders: dividends	481		
Shareholders: share buybacks	141		
Shareholders: value increase market capitalization	295		
Published financials – benefits to governments			
Paid corporate tax	662		
Not-published and non-financials			
Lobby expenses	3.7		
Advertisement on climate change	3.3		
Paid costs of large oil spill events	59		
Passing on of pollution costs to civil society	11.1		
Unpaid air pollution and health costs**		9,150	20,463
Unpaid carbon costs, scope 1-3		372	4,218

Source: Profundo based on Bloomberg, Thomson EIKON, annual reports, other; * includes estimates; **) adjusted for inflation, based on Table 19. Table 18 shows a range of EUR 3,585 – 7,170 billion. Total range is EUR 3,585 – 20,463 billion – paid corporate tax is 3-17% of this

Abbreviations

CO2	Carbon dioxide
CO2-eq	CO2-equivalent (when other GHG emissions are calculated to equivalents of CO2)
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
EU ETS	European emission trading system
GBP	Great Britain Pound Sterling
GHG	Green House Gas
Market capitalisation	Number of shares x share price
Scope 1, 2, 3	Refers to Scope 1 (operational), Scope 2 (supplies) and Scope 3 (from the use of the products sold) emissions
SBB	Share Buyback
Tax rate	Tax as % of pre-tax profit
USD	US Dollar

Introduction

This study aims to quantify the 'historic climate debt' of oil majors to European society. The European top-5 in oil & gas activities are BP, Eni, Repsol, Shell, and TotalEnergies. They have made large profits, paying their shareholders billions of euros, paid management remunerations including bonuses, expended large sums on lobbying and control the climate change conversation, whilst continuing their business and creating external costs free-of-charge, that were passed on to society. The companies have paid corporate tax, but how do they relate to the value of these externalities and have the companies paid their share of tax? One question is whether European Big Oil should absorb a larger part of the EU's carbon price on fossil fuels, including Scope 3 emissions, so Europe can use the revenues to enable the most vulnerable in their transition towards clean technologies.

This report quantifies the above-mentioned crucial numbers for the period 1993-2020, since the Rio Summit in 1992 established worldwide that countries need to act. This was for the first time that countries decided to act on development and environment.

The companies have not always been publicly-listed companies. Eni became public since 1995, Repsol through a process from 1989 to 1997. Total was public since 1991. BP and Shell have been public already before 1993.

The British government sold 80 million shares of BP in 1979, as part of Thatcher-era privatisation. This sale represented slightly more than 5% of BP's total shares and reduced the government's ownership of the company to 46%. In 1987, the government's remaining 31% stake in the company was sold.[1] In 1995-1998, Eni became a listed company and 70% of the shares were sold to private shareholders, while the Italian government retained 30% of the shares.[2] In 1997, the Spanish State completed the process of privatization of Repsol and an IPO of 10% of Repsol capital took place.[3] The privatisation process already began in 1989, when the Spanish public organisation IHN partially privatized Repsol with an IPO of 26% of the shares.[4] In 1993 Shell was already for a long time a publicly listed company. Major events were the sale of the mining company Billiton (now part of BHP) in 1994, and the acquisition of British Gas in 2016.[5] Total(Energies) got its name in 1991, when it was listed on the New York Stock Exchange. The French government, which used to control more than 30% in 1991, reduced its stake in the firm to less than 1% by 1996.[6]

1

Shareholders' and management's benefits

Since the Rio Summit in 1992, BP, Eni, Repsol, Shell and Total have made large profits. This section aims at identifying how much of these profits have been distributed to the shareholders and management. It exposes first the total profit earned by the Big Oil over the last three decades. It compares then this amount to the remuneration paid to the Board and Executives of the five companies over the same period. Finally, it analyses how much the shareholders have benefitted from the profits generated, in the form of dividend distribution, share buybacks and increase in the market capitalization.

1.1 Methodology and definitions

1.1.1 Methodology

The financial databases Refinitiv and Bloomberg were used to compile the financial data of the five companies in scope from year end 1993 to year end 2020. It includes the net profit, the dividends paid, and the share buybacks. When financial data was unavailable, further manual research was conducted through annual reports as much as possible.

The financial database Refinitiv was used to compile the market capitalization data from year end 1993 to year end 2021.

The financial database Bloomberg was used to compile the management compensation data. No data was available before 2007. Estimates were used for the data before 2007. The methodology used for the estimates is presented in the management compensation section.

1.1.2 Definitions

Net profit: Also called net income or net earnings, net profit is calculated as sales minus cost of goods sold, selling, general and administrative expenses, operating expenses, depreciation, interest, taxes, and other expenses.[7]

Dividends paid: Distribution of corporate profits to eligible shareholders. Dividend payments and amounts are determined by a company's board of directors.[8]

Share buybacks: A buyback, also known as a share repurchase, is when a company buys its own outstanding shares to reduce the number of shares available on the open market.[9]

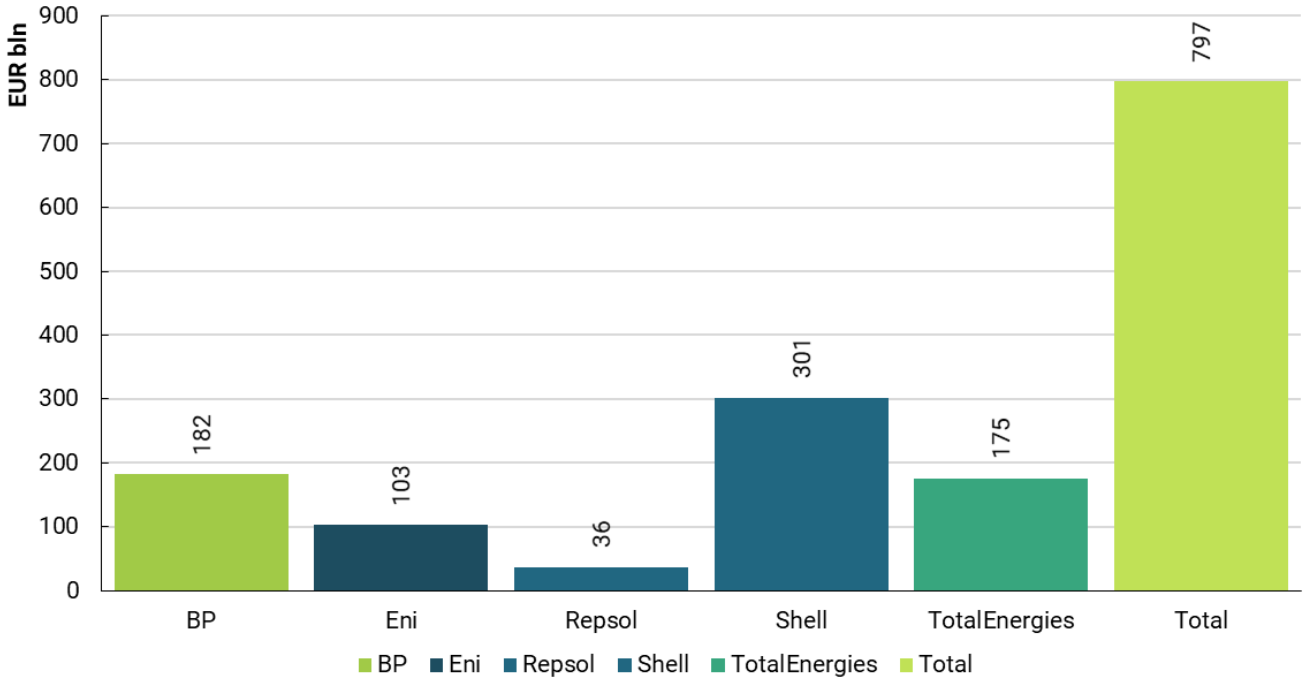
Market capitalization: Market capitalization refers to how much a company is worth as determined by the stock market. It is defined as the total market value of all outstanding shares.[10]

Management compensation: The management compensation refers to the amount paid to the management of the company for the work they do. It includes various kinds of pay and incentives, such as salaries, bonuses, pension plans, and other benefits. It includes the remuneration of the Board of Directors, Executives and non-Executives Directors.

1.2 Big Oil have recorded EUR 800 billion of profit since 1993

The 5 Big Oil companies have earned nearly EUR 800 billion in net profit over the past three decades worldwide.

Figure 1 Big Oil profits since 1993 (EUR billion)

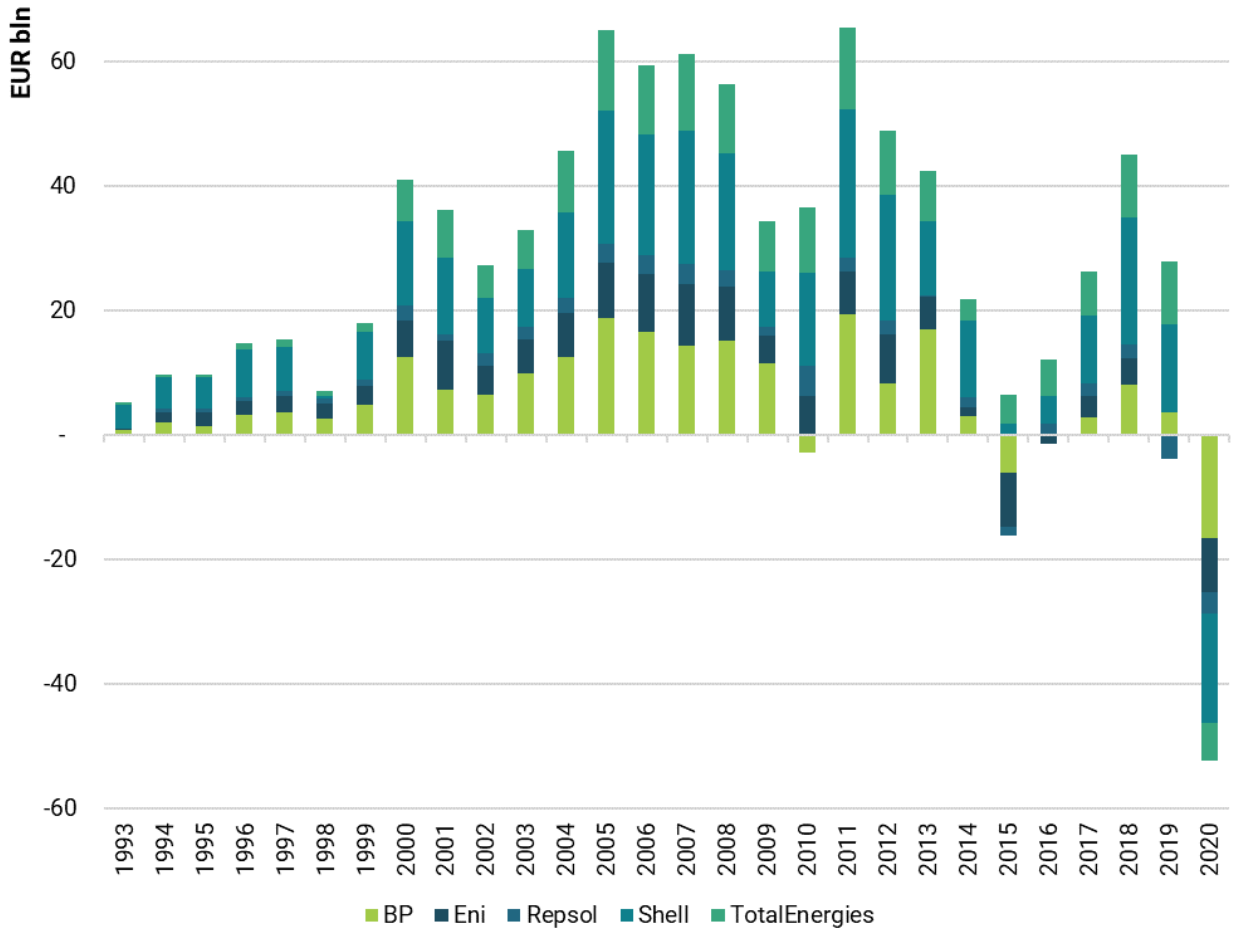


Source: Thomson EIKON (2022, January), Financial Analysis.

Yet, the EUR 797 billion include significant losses recorded in 2020. Indeed, due to the Covid-19 pandemic and the related crash in oil demand, coupled with a global economic instability, the selected oil and gas companies all recorded negative profits in 2020. In total, the five Big Oil companies accounted a loss of more than EUR 50 billion.

In 2015, the supply of oil became abundant, with a higher US production and no action taken by the OPEC. Meanwhile the demand weakened, driven by a slowdown in China's economy (the largest oil importer). As a result, the oil prices plunged, leading the O&G companies to record significant losses. The five Big Oil recorded a total of EUR 10 billion of losses in 2015. As represented in Figure 2, the after-crisis period of 2008 also showed a dip in the net profit for a couple of years, although only BP recorded a negative net profit, in 2010.

Figure 2 Profit of the Big Oil by year (1993-2020, EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

1.3 The management earned an estimated EUR 2 billion

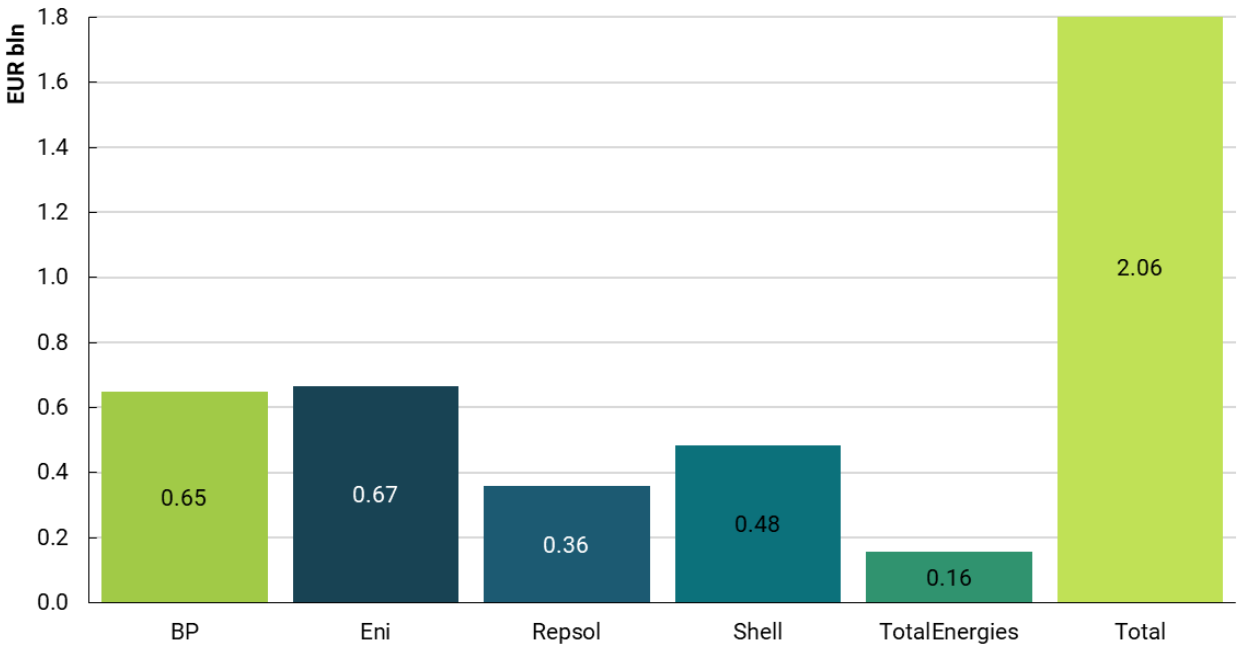
This section presents the total compensation paid to the members of the Board of Directors as well as the Executives of the 5 companies under study. It includes various kinds of pay and incentives for labour in the form of salaries, bonuses, insurance and pension plans, and benefits and allowances. It includes the remuneration of the Board of Directors, Executives and non-Executives Directors.

Overall, according to our research using the financial database Bloomberg, the managements of the five Big Oil companies have earned a total of EUR 1 billion since 2007. It consists of all compensation, including salaries, bonuses and other benefits such as performance shares.

Data was not available before 2007, i.e., over the first half of the period under study. Assumptions were used to estimate the level of management remuneration from 1993 to 2006. The methodology that was applied, assumed that the level of total management compensation, fixed and variable, is proportional to the level of net profit recorded. The assumption was made that salaries, bonuses and other benefits were overall the same relative size over the whole period.

Given the level of net profit over 1993-2006 (EUR 388 million) and 2007-2020 (EUR 409 million), as well as the amount of management compensation over 2007-2020 (EUR 1.1 billion) it is estimated that the management earned around EUR 1 billion between 1993 and 2006. In total, the management have earned an estimated EUR 2.1 billion over the past three decades.

Figure 3 Estimated management compensation of the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

1.4 Big Oil returned significant amounts to shareholders

This section analyses how much the shareholders benefited from the profits generated by the Big Oil in the form of dividend distribution, share buybacks and increase in the market capitalization, since 1993.

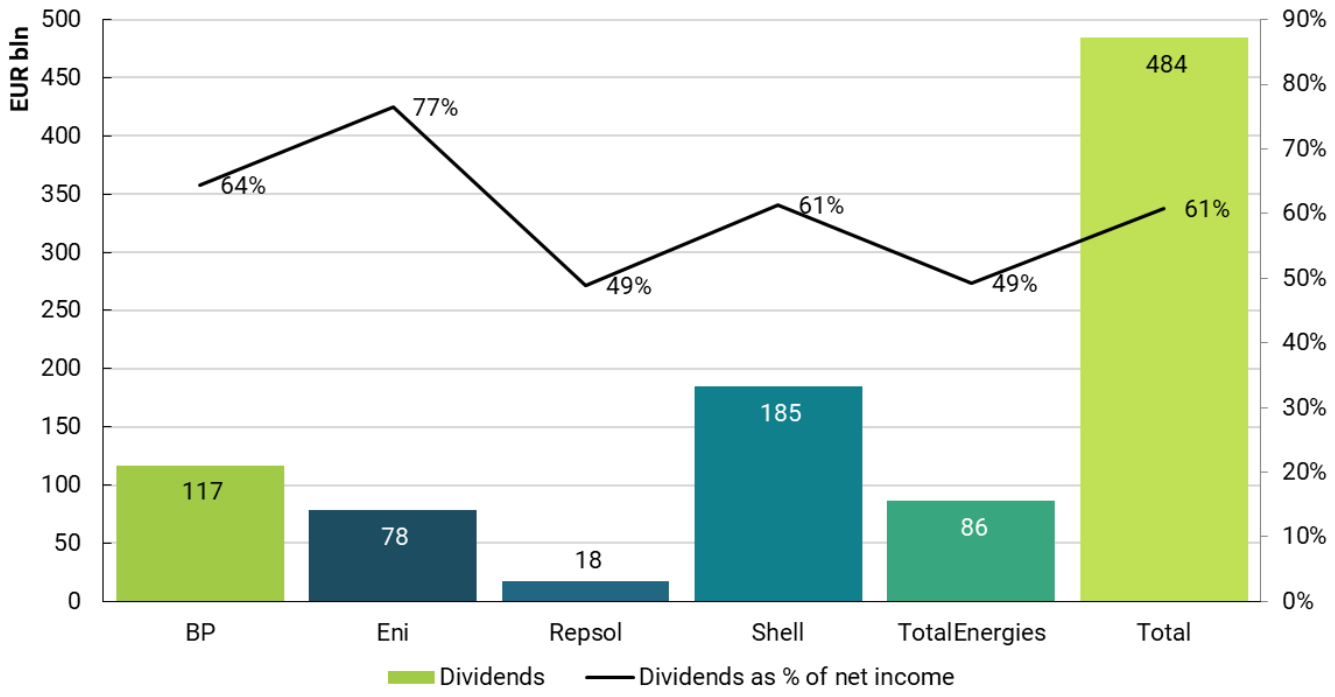
1.4.1 61% of the net profit recorded was distributed in dividends

Oil and gas companies ensure a high return to their shareholders in the form of dividend distribution, in order to keep investors interested in their business.[11]

Since 1993, shareholders of the Big Oil received EUR 484 billion of dividends. This represents 61% of the total net profit recorded between 1993 and 2020, as represented in Figure 4.

Note that Eni only became a listed company in 1995. Before that, it was publicly-owned, by the Italian government. Therefore, any benefit directed to the shareholders was profiting to the government. For this reason, the shareholder distribution was analysed from 1996 only for Eni. Note that the exclusion of 1993-1995 in the time scope for Eni only impacts dividends by EUR 585 million, which is not material compared to the EUR 78.5 billion distributed between 1996 and 2020.

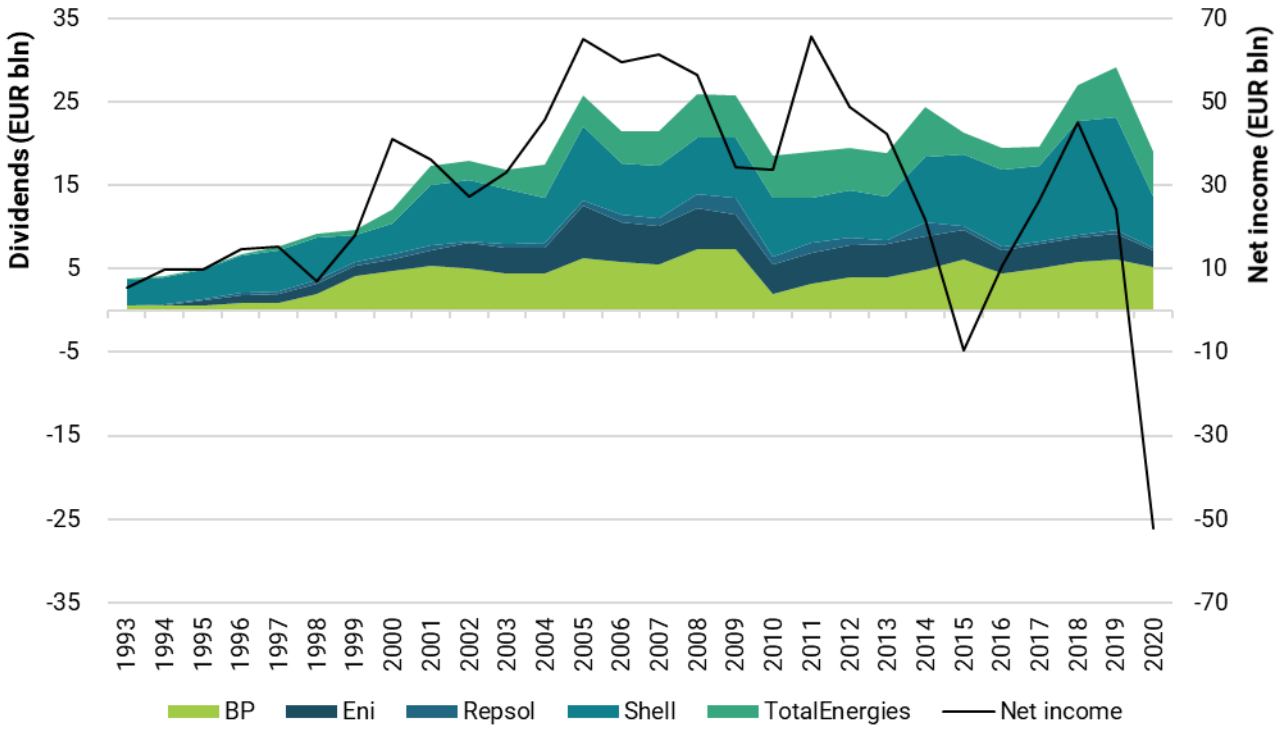
Figure 4 Total dividends distributed by the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

Figure 5 illustrates the dividend distribution per year and shows a growing trend over the period. It also exposes the net profit recorded since 1993. Despite the dips in net profit, including losses recorded in 2015 (EUR -10 billion) and 2020 (EUR -52 billion), the Big Oil companies kept distributing significant dividends to their shareholders.

Figure 5 Dividends distributed per year by the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

1.4.2 European Big Oil proceeded to significant share buybacks in addition to dividends

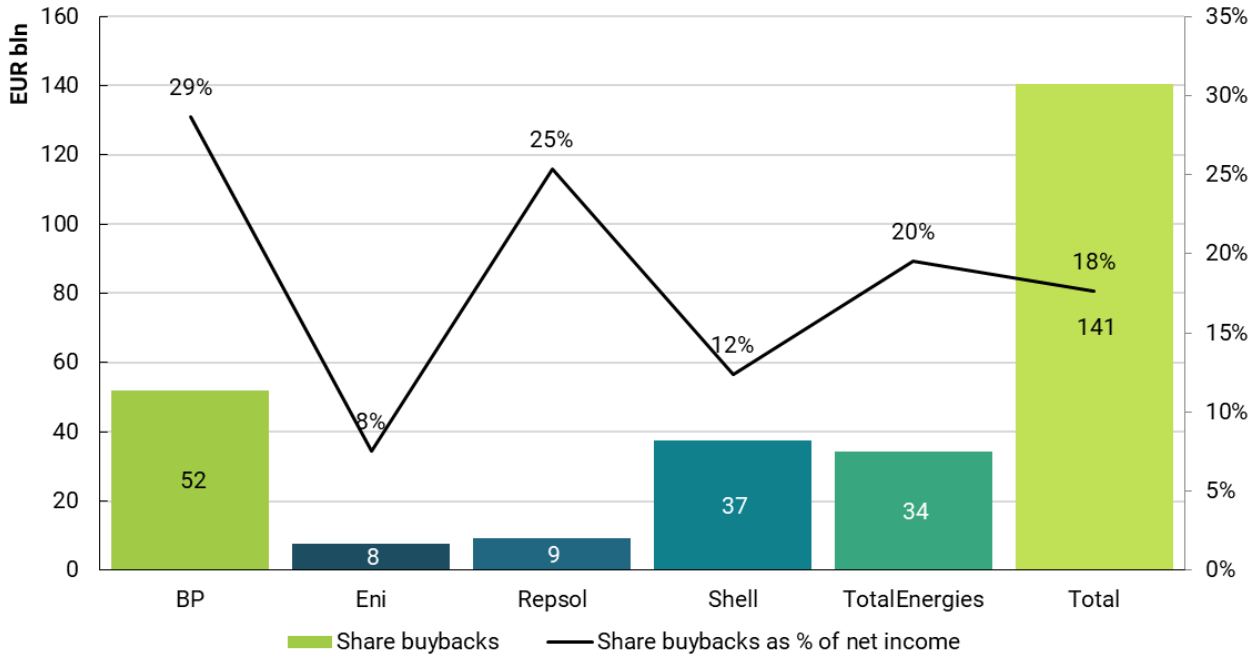
Dividends are the most direct and substantial form of remuneration or benefit for the shareholders. However, other forms of benefit should be considered when looking at how much the shareholders earned. The share buybacks are also indirectly benefiting the shareholders.

Share buybacks are when a company buys its own outstanding shares to reduce the number of shares available on the open market. As share buybacks reduce the number of shares outstanding, it mechanically increases profitability indicators which are based on the number of shares. This includes EPS (earnings per share = net profit / number of shares), which is the most common measurement of shareholder value. As the EPS increases, the stock of the company becomes more attractive, which will generally drive the share price higher over time.

Note that share buybacks also present tax benefits for the shareholders. Traditionally, buybacks are taxed at a capital gains tax rate, whereas dividends are subject to ordinary income tax.

Since 1993, a total value of EUR 141 billion of shares was repurchased by the Big Oil. They repurchased significant amounts of shares, representing between 8% and 29% of the net profit recorded.

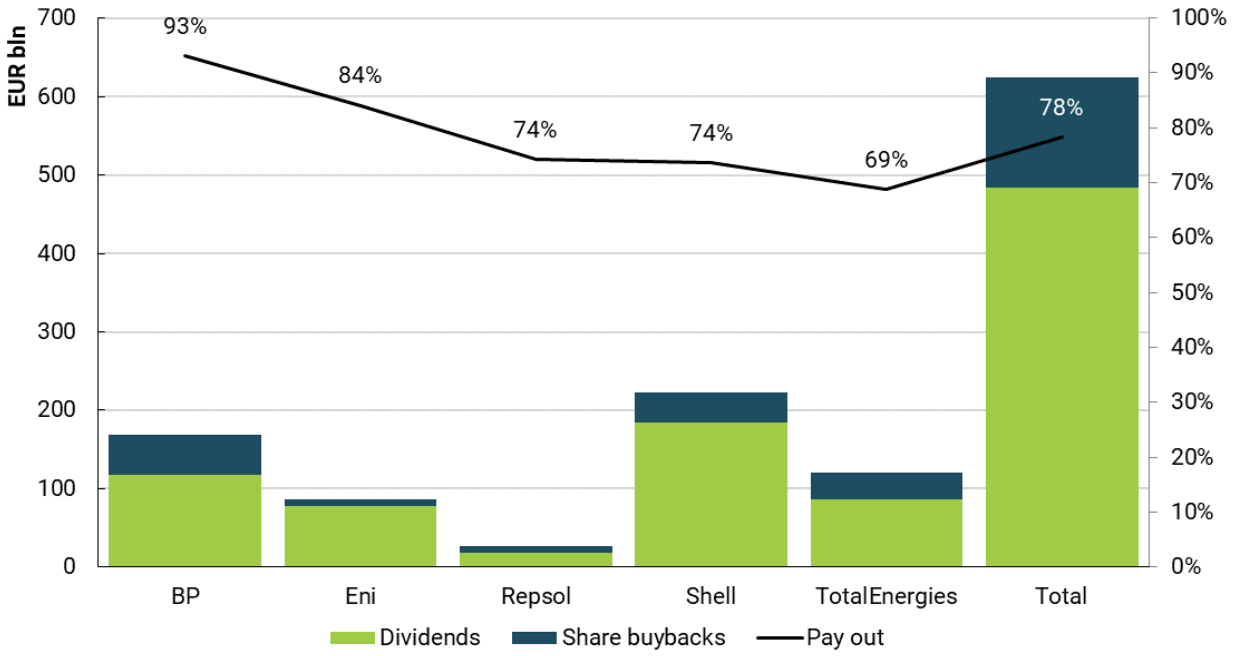
Figure 6 Share buybacks by the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

As a result, the total shareholders distribution reaches almost EUR 625 billion since 1993, of which EUR 484 billion of dividends and EUR 141 billion of share buybacks. On average, this represents a total pay-out of 78% over the 1993-2020 period.

Figure 7 Dividends and share buybacks distributed by the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

1.4.3 Market capitalizations of the five Big Oil have increased by EUR 295 billion since 1993

Finally, shareholders benefit from the increase in market capitalization. The market capitalization, which is the value obtained by multiplying the share price by the number of outstanding shares, reflects how the market values a company. Shareholders directly benefit from the increase in the market capitalization, as it reflects the increase of the value of the shares they hold.

As of 1993, the total market capitalization of the five Big Oil companies was EUR 109 billion. As Table 2 illustrates, at the end of 2021, the total market capitalization reached EUR 404 billion, i.e., an increase of EUR 295 billion, or 270%.

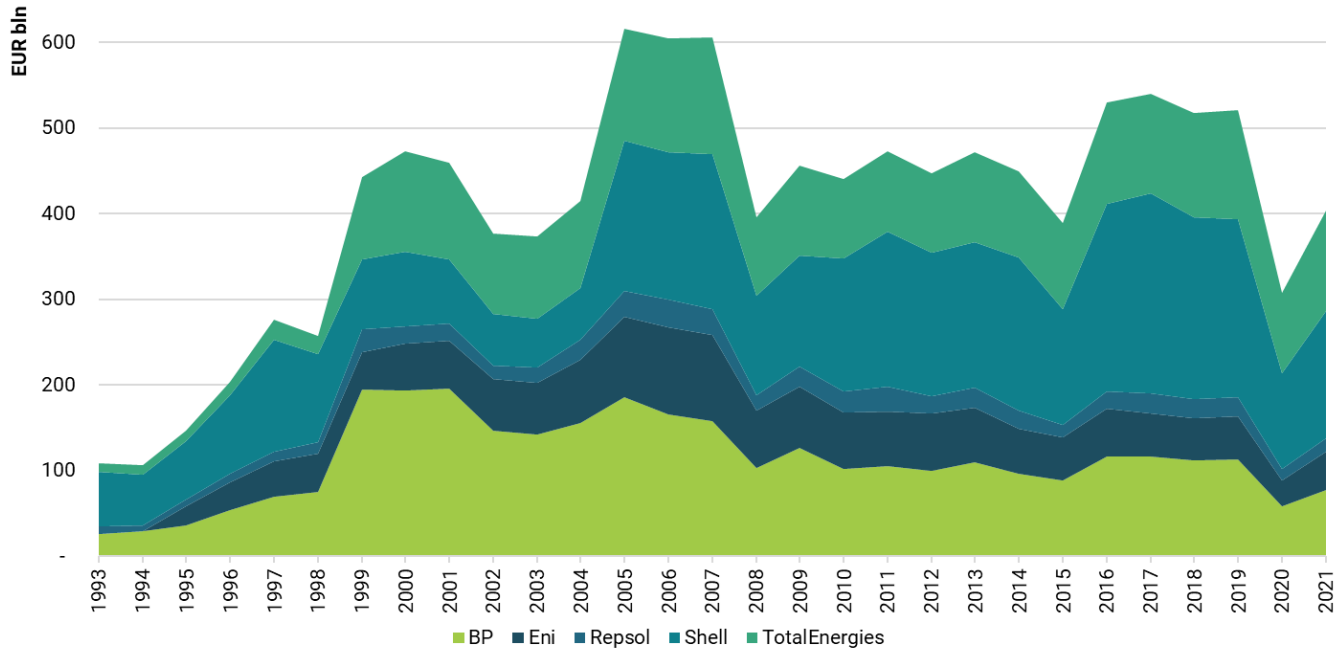
Table 2 Market capitalization evolution (1993-2021, EUR billion)

	BP	Eni	Repsol	Shell	TotalEnergies	Total
Market capitalization 1993 (EUR bln)	26	22	8	64	11	**109**
Market capitalization 2021 (EUR bln)	78	44	16	148	118	**404**
Change 2021-1993 (EUR bln)	52	22	8	84	107	**295**
Change 2021-1993 (%)	198%	102%	90%	132%	1000%	**270%**

* Except Eni: 1995; Source: Thomson EIKON (2022, January), Financial Analysis.

As noted in section 0, the performance of the Oil & Gas companies was severely affected in 2020 by the market conditions, which led the share price down significantly. On average, the market capitalization of the five Big Oil companies was down by 41% in 2020. Although the market capitalizations have bounced back in 2021, they have not reached their 2019 levels (EUR 521 billion), as shown in Figure 8.

Figure 8 Market capitalization of the Big Oil since 1993 (EUR billion)



Source: Thomson EIKON (2022, January), Financial Analysis.

1.5 Conclusion – Overall analysis shows major benefits to the shareholders

Overall, from 1993 to 2020, the five Big Oil companies generated almost EUR 800 billion of net profit.

The management compensation is estimated to equal EUR 2.1 billion. The majority of Big Oil profits went to their shareholders. A total of EUR 484 billion was distributed in the form of dividends. Additional EUR 141 billion benefited to the shareholders in share buybacks. As a result, 78% of the total net profit recorded between 1993 and 2020 was distributed to the shareholders in the form of dividends and share buybacks. Finally, the market capitalization increased by EUR 295 billion between 1993 and 2021.

Table 3 Summary - benefits to shareholders and management (EUR billion)

	BP	Eni	Repsol	Shell	TotalEnergies	Total
Company						
Net profit	182	103	36	301	175	**797**
Management						
Management compensation	0.6	0.7	0.4	0.5	0.2	**2.1**
% of net profit	*0.4%*	*0.7%*	*1.0%*	*0.2%*	*0.1%*	***0.3%***
Shareholders						
Dividends	117	78	18	185	86	**484**
Share buybacks	52	8	9	37	34	**141**
Pay-out	93%	84%	74%	74%	69%	**78%**
Market capitalization 1993	26	22	8	64	11	**109**

	BP	Eni	Repsol	Shell	TotalEnergies	Total
Market capitalization 2021	78	44	16	148	118	**404**
Value increase in market cap	*52*	*22*	*8*	*84*	*107*	***295***

Source: Thomson EIKON (2022, January), Financial Analysis; Profundo

Eventually, it should be highlighted that each of the five Big Oil companies recorded huge profits in 2021. Together, the Big Oil reported EUR 47 billion of net profit in 2021. According to our data, the last time the Big Oil reported such high profits was back in 2012, 13with EUR 49 billion. In total, over the period 1993-2021, Big Oil recorded EUR 844 billion of net profit.

Following the publication of these record high figures, four of the Big Oil announced their intention to proceed to extensive dividends payments and share buybacks:

- BP intends to execute USD 1.5 billion share buybacks in the first quarter of 2022.[12] As a comparison, Shell has proceeded to EUR 52 billion share buybacks from 1993 to 2020.
- Repsol will propose at its next Ordinary General Shareholders' Meeting an increase of 5% in the dividend. It will also proceed to the redemption of 75 million treasury shares (i.e., 4.91 of the capital as of December 31, 2021), which will reduce the share capital.[13]
- Shell committed to buy back USD 8.5 billion of shares in the first half of 2022 and raise its dividend by roughly 4 per cents a share in the first quarter.[14] As a comparison, Shell has proceeded to EUR 37 billion share buybacks from 1993 to 2020.
- TotalEnergies announced the definition of a return-to-shareholder policy for 2022 that will combine an increase in interim dividends of 5% and buybacks that are expected to be USD 2 billion for the first half of 2022.[15] As a comparison, TotalEnergies has proceeded to EUR 34 billion share buybacks from 1993 to 2020.

2

Paid tax and tax optimization

This section investigates the corporate tax that has been paid by the top-5 in European Big Oil in the period 1993-2020. Indications of material tax optimisation programs will be investigated. This would result in the calculation of a value for 'avoided' tax. Finally, the size of the excise duty collection function will be analysed, to show how much consumers have paid (versus what the companies have paid in tax).

2.1 Introduction – Tax paid versus tax collected

Big Oil companies pay and collect various taxes, while also paying royalties to government. In their reporting, some Big Oil companies release a tax report, which shows the payments to governments in jurisdictions where they are active. These reports increase the transparency about whether Big Oil has been paying tax in various jurisdictions in a fair way.

In tax payments, the focus in this report is on the corporate (profit) tax. This tax is paid on the pre-tax profits on oil & gas activities of the top-5 European Big Oil. This is the share the government receives from pre-tax profits, while shareholders benefit from (pre-tax) profits through dividends. They also benefit from share buy-backs and share price increases (see section 1). As corporate tax proceeds by governments benefit directly from the profits of Big Oil, corporate tax has a different position than tax collected by Big Oil, such as excise duties and VAT (for which the consumer has paid for), personnel tax (in fact paid by employees) and some other taxes.

Therefore, this report does not investigate personnel tax, VAT and royalties/concession payments. Personnel taxes and VAT are paid by employees and consumers. Moreover, personnel tax and VAT are also collected by other industries and organisation to pay for welfare states and general government spending like infrastructure. Royalties/concession payments are not investigated as these are part of commercial ventures and negotiations with governments, and/or here Big Oil needs to compete with other commercial organisation to make use of the land or the earth beneath it.

Excise duties are industry-specific (fossil fuels, tobacco, alcohol) and are collected by Big Oil and immediately transferred to governments. As mentioned above, the tax is in fact paid by consumers and Big Oil has only a collection function, for instance at the gas station. Nevertheless, it is a sector-specific tax and this report will spend a section on this, in order to investigate the materiality and how much consumers have been paying versus companies.

2.2 Global and European tax paid

Based on Refinitiv data, and the sum of corporate tax paid globally, the total corporate tax (tax on pre-tax profits) paid in 1993-2020 by the European Big 5 amounted to EUR 662 billion. As geographical transparency for a major part of the period was absent, the tax paid to European countries is calculated by multiplying the global corporate tax payment with the average turnover exposure to Europe. This leads to an estimated EUR 361 billion corporate tax payment to European governments.

Table 4 Corporate tax globally and in Europe (1993-2020, EUR billion)

	BP	Eni	Repsol	Shell	TotalEnergies	Total
Corporate tax	97	144	25	230	165	662
Exposure to Europe (average)	47%	67%	60%	40%	67%	
Corporate tax Europe	46	97	15	93	110	361

Source: Refinitiv, Bloomberg, Profundo, Annual Reports

2.3 Methodology for tax payments

While the European Big Oil companies paid their corporate tax in Europe, the question is whether these taxes were in line with their presence in Europe and existing corporate tax rates in countries.

A first check of whether tax optimization has occurred by European Big Oil, the OECD average tax rates can be compared with the tax rates (paid corporate tax/pre-tax profit) of the companies. Although this is a first step in a total methodology, which can be very sophisticated when geographical revenues are exactly known, the first step is an important one. Shell also uses this as a benchmark to communicate its tax fairness. Shell indicated that against the OECD 23.1% average in 2020, Shell's tax rate was 20.1%.[16]

From 2000 to 2019, the corporate tax rates in OECD countries declined substantially. While the unweighted average in 2000 was still 32.2%, in 2019 this number was 23.5%. This is a decline of 8.8%-points in 20 years' time.[17] When looking at the global tax rate of European top-5 Big Oil, in the years 2000-2020 the groups had a corporate tax rate (45.8%) ahead of the OECD average corporate tax rate (26.7%). As the average for the global OECD is even an annual 1.26-% point higher than that for the European OECD members, Big Oil's corporate tax rate seem ahead of official tax rates. This while the case study on Shell (see 2.3.1) might indicate that this company is having a lower tax rate than OECD averages, which is mainly due to different reporting and scope reasons.

Table 5 Corporate tax versus OECD average 2000-2020 (EUR billion)

	2000-2020
Corporate tax	604
Pre-tax profit	1,318
Tax rate	45.8%
OECD tax rate	26.7%
Gap in % points	19.2%
Amount above/below	253

Source: Refinitiv, Bloomberg, Profundo. 1993-1999 was not included because of data availability

2.3.1 A case study: Shell

Greater granularity can be reached by a deep dive in recent tax reports. A starting point is Shell's pre-tax profit and this is multiplied by Shell's European turnover exposure. As Shell does not provide regional pre-tax profit numbers, this approach is needed. Subsequently, this European pre-tax profit is multiplied by the European OECD country tax average. This can be compared with the tax reports published nowadays on Shell's website. For many years, multinationals did not publish taxes paid per region. However, in recent years more data is available. For a period of 5-years, the tax paid in Europe is published under the category Taxes, which is slightly broader than only corporate tax: *"These are taxes paid by Shell on its income, profits or production (which include resource severance tax, and petroleum resource rent tax), including those settled by a government on behalf of Shell under a tax-paid concession. Payments are reported net of refunds. Consumption taxes, personal income taxes, sales taxes, property and environmental taxes are excluded."*

For the 2016-2019 period Shell paid EUR 3,641 million while European OECD average tax rates would have led to the calculation of EUR 5,137 million tax, suggesting Shell tax payments were lagging by EUR 1,496 million. Differences can be due to tax optimization, which is legal. This could include:

- Shell's transfer price decisions that shift profits from one country to another.
- All kinds of tax discounts that countries offer to large groups, such as an investment deduction. In the capital-intensive oil industry, this plays an important role in the tax burden.

For 2016-2020 the outcome differs from the conclusion for 2016-2019. Despite the large pre-tax loss in 2020, Shell still paid some tax according to the tax report (this might be a lagging/trailing effect in payments schedules). Also, the tax definition of Shell is broader than corporate tax and includes "resource severance tax, and petroleum resource rent tax".[18]

Table 6 Shell case study: European tax paid and not paid (EUR million)

	2016	2017	2018	2019	2020	2016-2019	2016-2020
Shell revenue exposure to Europe (%)	34.9%	33.0%	30.6%	28.5%	27.8%		
Implied European pre-tax profit	1,861	4,987	9,504	6,479	-6,138	22,832	16,693
OECD Europe tax rate	23.0%	22.8%	22.5%	22.2%	22.2%		
Implied European tax	428	1,135	2,136	1,438	-1,362	5,137	3,775
Shell's European tax (USD million)							
UK	0	88	-147	-117	467		
Italy	-143	3	15	25	-107		
Denmark	109	195	540	241	0		
Germany	-1	-18	-10	0	0		
Norway	472	776	1,041	1,088	0		
Sum in USD	437	1,044	1,439	1,237	360		
USD/EUR exchange rate	1.11	1.13	1.18	1.12	1.14		
Sum in EUR	394	923	1,219	1,104	316	3,641	3,956
Above/below implicit	-34	-211	-917	-334	1,678	-1,496	182
Above/below implicit in billion						-1.5	0.2

Source: Profundo, Refinitiv, Bloomberg, and Shell.[19]

2.4 Excise tax collection, paid by consumers

Big Oil has also collected industry-specific tax like excise tax on oil products, which in fact are paid by consumers. For specific years some of the companies have published excise duties (two did not publish). Based on data availability of Refinitiv and Bloomberg, Table 7 reports these amounts and compare them to the corporate tax paid and profits. In total, the excise taxes paid by consumers were 3.2 times larger than the corporate taxes the three companies paid for in those time periods. Note that the time periods for which excise tax was reported differ. For TotalEnergies the period was much longer than for Shell.

Table 7 Excise tax collected: the relative size versus corporate tax (EUR billion)

	Repsol	Shell	TotalEnergies	Sum
Period	2013-2020	2003-2006	2004-2020	
Excise tax	49.1	220.4	334.0	603.6
Corporate tax	3.2	45.3	140.4	188.9
Net profit	-0.5	63.5	143.3	206.3
Pre-tax profit	1.9	111.3	284.9	398.1
Excise tax/corporate tax (x)	15.4	4.9	2.4	3.2

Source: Refinitiv, Bloomberg, Profundo

2.5 Conclusion on tax payments

In 1993-2020, the European top-5 Big Oil had total corporate tax payments of EUR 662 billion, of which an estimated EUR 361 billion in Europe. Versus OECD average tax rates, the corporate tax rates of Big Oil were higher. However, a case study on Shell's European tax payments based on its reporting on payments to governments in 2016-2019, showed Shell paid EUR 1.5 billion below European OECD tax rates. The large pre-tax loss of 2020 disturbed this picture, while also Shell's broader definition of paid tax will have led to differences. Note that tax optimisation is a legal activity.

Finally, a special note should be made on excise tax collection by Big Oil, which is industry-specific for some oil/gas-based products. However, these are paid for by customers. In a case study, the excise tax collection was 3.2 times larger than the corporate tax payments paid by companies in those periods.

3

Lobby expenses by Big Oil

Regularly, Big Oil has been accused of spending money in lobby work against environmental regulation including measures to counter climate change. This section strives for an estimate of annual expenditures by the European Big Oil. Alternatively, these expenses could have been used to restore environmental damage and to accelerate renewable energy projects.

3.1 Introduction – various data on lobby spending and lobby 'advertisement'

Companies do not publish explicitly on lobby expenses that are meant to counter climate change measures. NGOs have done work on valuing the lobby expenses by investigating public registers at EU and other government entities, as well as by the reporting by some companies elaborating on expenditures to trade associations.

A next challenge is the definition of lobby expenses, and the question whether advertisement is part of lobby expense? Over the period 1986-2015 (for 30 years in the USA), the large oil companies in the USA (ExxonMobil, Shell, ChevronTexaco, BP, and ConocoPhillips) spent USD 3.6 billion in advertisements to control the climate change conversation.[20] On average, they spent USD 120 million per year. When looking deeper in these numbers, 61% of the USD 3.6 billion advertisement occurred from 2006 when climate change came higher on the agenda. The five companies spent USD 315 million in 2010 alone, which is when the highest possibility of binding climate legislation occurred. The crucial conclusion of this research was that the factors that most influence corporate promotional spending are media coverage and congressional attention to the issue of climate change.[21] Thus, although advertisements are not seen as lobby expenses in other reports, Big Oil seems to use advertisements to control the climate change conversation in strong correlation with lobby work. The annual expenditure in 2006-2015 was 3.1 times larger than in 1986-2005.

Table 8 USA advertisement spending on climate change 1986-2015 (USD million)

	1986-2015	A: 1986-2005	B: 2006-2015	Factor B/A (X)
USA top-5 Big Oil	3,600	1,404	2,196	
# of years	30	20	10	
Per year	120	70	220	3.13

Source: Robert J. Brulle & Melissa Aronczyk & Jason Carmichae[22]l, Profundo. Companies: ExxonMobil, Shell, ChevronTexaco, BP, and ConocoPhillips

As said, Table 8 excludes lobbying work in parliament through trade associations and the USD 3.6 billion might be the tip of the iceberg as other research found out that lobbying work in the USA Congress against climate legislation was more than USD 2 billion between 2000 and 2016.[23] As indicated in Table 8, USA advertisement spending on climate change per year was 3.13 times higher in 2006-2015 than in 1986-2005. The same ratio (3.13X) is applied in Table 9, although we are aware that the time periods are different. However, without further public information from USA Big Oil, this is the best estimate. This leads to the following outcome: the annual lobby expenses are USD 155 million from 2006 onwards and USD 49 million until 2005.

Table 9 **Lobby expenses on climate legislation in USA Congress (USD million)**

	2000-2016	A: 2000-2005	B: 2006-2016	Factor B/A (X)
Lobby expenses	2,000	297	1,703	
# of years	17	6	11	
Per year	118	49	155	3.13

Source: Profundo based on Table 8 and Guardian[24]

The next step is to apply this to the 1993-2020 time period in which the current paper is interested. The 3.13X factor has again the same limitations as mentioned above, however without public information from Big Oil it is the best estimate. As climate change lobbying after 2016 will have accelerated, the factor might be higher, however, the lower expenses from 1993 to 2000 (as also proved in the research on climate advertisement on which Table 8 is based) compensates for this. Based on this methodology, the total lobby expenses in the USA Congress are estimated at USD 2,965 million in 1993-2020, or USD 106 million per year.

Table 10 **Lobby expenses on climate change legislation USA 1993-2020 (USD million)**

	1993-2020	A: 1993-2005	B: 2006-2020
Per year	106	49	155
# of years	28	13	15
Lobby expenses period	2,965	643	2,322

Source: Profundo. Spending by Big Oil, mainly larger companies.

The above-mentioned studies were focused on the US market. In a more global study by InfluenceMap, BP has the highest annual expenditure (2018, globally) on climate lobbying at USD 53 million, followed by Shell (USD 49 million) and ExxonMobil (USD 41 million). Chevron and TotalEnergies each spend around USD 29 million every year. Climate lobbying was circa USD 200 million per year. On top of this, the five companies support their lobbying expenditures by a financial outlay of USD 195 million annually for focused branding activities which suggest they support action against climate change.[25] In total, the spending is USD 400 million per year (2018). Since the creation of the Paris climate agreement in 2015 (December), in the period 2016-2018, the five largest oil & gas companies have spent USD 1 billion in total on climate-related lobbying and marketing. This is more than 25% of all their lobbying and marketing, including marketing their chemical and oil products.[26] The InfluenceMap material further escalates the USD 155 million from Table 10 to EUR 201 million and confirms the climate branding/advertisement additional spending.

Table 11 Spending on climate lobbying and climate branding (global 2018, USD million)

	BP	Shell	TotalEnergies	Exxon	Chevron	Sum
Spending on climate lobbying	53	49	29	41	29	201
Spending on climate branding	30	55	52	56	4	197
Sum	83	104	81	97	33	398
Other data:						
Spend on climate lobbying via trade groups	3	4	3	5	1	16
US political contributions since 1990	8.6	3.3	0.4	21.0	28.4	61.7

Source: InfluenceMap, Profundo

Research by Fossil Free Politics members (Corporate Europe Observatory, Friends of the Earth Europe and Food & Water Action Europe) explored 71 revolving door cases involving the public sector (national governments and agencies, the EU, and international institutions), six Big Energy firms and five of their lobby groups between 2015-2021.[27] The methodology led to calculation of over EUR 170 million in total lobbying spend in the period after the COP21 meeting in Paris (2015), or EUR 30 million per year. The companies themselves had lobby expenses of tens of millions of euros, but the lobby groups did much more. In earlier research by the same group (now including Greenpeace) for the period 2010-2018, it was found that BP, Shell, ExxonMobil, Chevron and TotalEnergies spent EUR 251.3 million in total, including spending by their lobbying groups. In this period, the annual spending was rising from EUR 10 million to over EUR 30 million per year. The growth was in line with their growth in CO2 emissions by 4.7% in total over the 2010-2018 period.[28]

Table 12 Spending on climate lobbying towards EU (EUR million)

	BP	Shell	TotalEnergies	Eni	Sum	Per year
2015-2021 by BP, Shell, TotalEnergies, Eni	18	28	13	7	66	9.4
2010-2018 top-5 (incl Shell, BP, TotalEnergies. lobby groups)					251	27.9

Source: FossilFreePolitics, Profundo

Companies are increasing the visibility of their lobby expenditures, and this is also used by the civil society reports mentioned above. For instance, since 2019 Shell publishes an Industry Associations Climate Review[29], in which it elaborates on payments to lobby organizations and results of these efforts. There is no total number of payments given, but in 2020 Shell spent between USD 10 million and USD 12.5 million to American Petroleum Institute (API), a lobby group for the oil & gas industry.

Table 13 Shell: Contributions to industry associations

Year	USD million
2020	37.2
2019	32.9
2018	NA
Per year	35.1

Source: Shell, and Profundo estimates

3.2 Conclusion on lobby spending by European Big Oil – EUR 100 million per year

The various reports calculate that the European top-5 Big Oil will have spent approximately EUR 132 million per year on lobbying related to climate change. Additionally, the companies might have spent approximately EUR 119 million per year on advertisement which contributes to influencing politics. These two annual averages are based on the calculated ratio that the annual spending in the period 2006-2020 is 3.13 times larger than in 1993-2005 as the attention for climate change legislation has increased strongly.

The analysis shows that in 1993-2020 the European top-5 Big Oil might have spent in total EUR 3.7 billion in lobbying and an additional EUR 3.3 billion in advertisements to control the conversation on climate change legislation.

Table 14 Summary climate lobby and advertisement expenses

Millions USD/EUR	Currency	Area	Per year	Relevant period	Total period	Source	1993-2020
Lobby expenses							
Lobby expenses USA Congress	USD	USA	106	1993-2020	2,965	Profundo	2,965
Five Big Oil (incl Shell, BP, TotalEnergies)	USD	Global	201	2018	201	InfluenceMap	
Influencing EU by BP, Shell, TotalEnergies, Eni	EUR	EU	9.4	2015-2021	66	Fossil Free Politics	
Influencing EU (incl money to lobby groups)	EUR	EU	27.9	2010-2018	251	Fossil Free Politics	
Estimates for European top-5 Big Oil*	**EUR**	**EU-Global**	**132**	**1993-2020**	**3,695**	**Profundo**	**3,695**
Climate advertisements							
Five Big Oil in USA (incl Shell, BP)	USD	USA	120	1986-2015	3,600	Brulle and others	
Climate branding global (incl BP, Shell, TotalEnergies, Eni)	USD	Global	197	2018	197	InfluenceMap	
Estimates for European top-5 Big Oil*	**EUR**	**EU-Global**	**119**	**1993-2020**	**3,325**	**Profundo**	**3,325**
Total lobby + advertisement expense	**EUR**	**EU-Global**		**1993-2020**			**7,020**

Source: Profundo; *) the ratio 3.13x is applied for the period 1993-2005 vs 2006-2020 like in Table 8; for 'per year' lobby spending EUR 200 million was used as basis, resulting in (200+(200/3.13))/2 = 132 per year. For advertisement, EUR 180 million was used as basis, resulting in (180+(180/3.13))/2 = 119 per year. For Repsol and Eni no/incomplete numbers were found but assumed as small in the 'per year' numbers. The numbers for 1993-2020 are 28X the 'per year' numbers.

4

Oil spill, pollution and health costs

This section contains a list of examples of the environmental disasters caused by the five European Big Oil companies, or damages as a consequence of production for European markets. This list contains clean-up costs after oil spills, air pollution related health care costs, and specifically on costs for which the top-5 did not pay. The current list does not include external costs like human right costs and deforestation costs, which would increase cost numbers further.

4.1 Introduction

In the first part of this section, several oil and gas spills will be mentioned related to the European market. Of the largest oil spills in history[30], most of them occurred before our 1993-2020 research period. Twelve of them were before 1993, and only one happened after (BP's Deepwater Horizon). The other examples mentioned in this section were all 'smaller' oil spills, related to the European market. A case study on Shell highlights the environmental costs approach in annual reports.

The second part of this section discusses air pollution and health care costs, which are linked to the use of fossil fuels.

4.2 Oil and gas spills – Examples and reporting

4.2.1 The Prestige disaster: on the way to European refineries – Big Oil was not fined

On 13 November 2002, the Prestige was en route from Ventspils, Latvia, carrying 77,000 tons of two different grades of heavy fuel oil, when it encountered stormy weather off Costa de la Muerte (Galicia), north-western Spain. It started to take on water from high waves. The crew was evacuated with helicopters and the ship drifted within four miles of the Spanish coast already leaking oil. The vessel split in half on 19 November in Portuguese waters. It eventually sank about 250 kilometres from the Spanish coast, releasing over 76,000 m3 of oil into the water. About 22,000 dead birds were found in the immediate aftermath of the incident. The court process on damages took a while. Various numbers have been mentioned:

- A 2013 court ruling put the cost of the disaster at EUR 368 million to the Spanish state, EUR 145 million to the Spanish region of Galicia and EUR 68 million to France.[31]
- Total losses for the Spanish fishing sector were estimated at EUR 296 million for the period 2002-2006. In November 2017, the Spanish court ordered the regional government of Galicia, off whose coast the Prestige tanker sank, to be compensated EUR 1.8 million and France, which was affected as well, EUR 61 million. Also, the court asked the ship's insurers to pay USD 1 billion which is the maximum limit fixed by the company in its contract for the ship.[32]

Relevant for this report, none of the European top-5 in Big Oil could be related to this oil spill.

4.2.2 The Erika disaster in 1999: oil for European refineries - TotalEnergies was fined

The ship called 'Erika' broke in two off the coast of Brittany (France) in December 1999, spreading a slick of 15,000 tons of fuel oil. TotalFina (the predecessor of TotalEnergies), which had chartered the 24-year old tanker (registered in Malta) was found "not legally liable" to pay compensation for damages. TotalFina had used subsidiaries like the Bermuda- based Total International Ltd and the Panama-based Total Transport Corporation.

Under pressure of publicity, in the first instance **TotalFina** put up GBP 4 million for the clean-up.[33] On January 16, 2008, Total SA, Giuseppe Savarese (the shipowner), Antonio Pollara (the handler) and RINA (the expert company) were sentenced in solidum to pay indemnities of **EUR 192 million**, plus individual penalties. The judgement, while recognizing the risks inherent to oceangoing vessels, reckons Total SA was "guilty of imprudence", from the fact that Total SA did not take into account "the age of the ship", and "the discontinuity of its technical handling and maintenance". On March 30, 2010, Total SA lost their appeal to overturn the court's decision.[34]

4.2.3 Shell and Nigeria: crude oil for European market – several settlements

Shell has been accused about many pollution cases in Nigeria because of oil spills through exploration or through pipelines.

In 2021, Shell agreed to pay EUR 95 million (USD 111 million) for an oil spill of 50 years ago. The Ogoni people in the Niger Delta stage protested against Shell and the other oil majors for the decimation of their fish, which for them means not only their "jobs" but their day to day survival.[35] In 2021, Friends of the Earth and some Nigerian inhabitants won a court case on leakages in 2004. 2005 and 2007 in Goi Oruma. Total costs for Shell are related to improving detection systems and to compensates the costs of the proceedings on appeal, in such manner that each party bears their own expenses, and determines that Shell awards the expenses of the experts for an amount of EUR 22,420 and GBP 8,500 in respect of one case to Shell.[36]

UNEP (United Nations Environmental Programme) published an extensive report on pollution in Ogoni land. Over a 14-month period, the UNEP team examined more than 200 locations, surveyed 122 kilometres of pipeline rights of way, reviewed more than 5,000 medical records and engaged over 23,000 people at local community meetings. Detailed soil contamination investigations were conducted at 69 sites. Altogether more than 4,000 samples were analysed, including water taken from 142 groundwater monitoring wells drilled specifically for the study and soil extracted from 780 boreholes. Over the first five years, a USD 1.0 billion fund was advised, although the project would need 25-30 years to clean up the area.[37]

On 7 January 2015, Shell said to that its Nigerian subsidiary had reached a GBP 55 million (EUR 75.8 million) settlement with the Bodo community for oil spills in 2008.[38]

Various courts have awarded sums of USD 1.92 billion (EUR 1.7 billion) to oil-producing communities in Niger Delta (including farmers from the Ejalawa community in the southern Rivers state) as compensations for oil spills and land encroachment. Some of the court's decisions are however being challenged by Shell[39] and the status is that this still continues.[40]

In total the payments by Shell for Nigerian environmental cases have been relatively limited versus estimates made by UNEP and versus its global net profits and other key numbers.

4.2.4 Sea Empress which hit rocks off Pembrokeshire in 1996

On 15 February 1996, the Sea Empress was en route to the **Texaco** oil refinery near Pembroke when the ship became grounded on mid-channel rocks at St. Ann's Head. In a week time, the ship spilt 72,000 tons of crude oil into the sea. The spill occurred within the Pembrokeshire Coast National Park – an important wildlife and marine conservation areas. The cost of the clean-up operation was estimated to be GBP 60 million. When the effects to the economy and environment are taken into account, the final cost is estimated to have been twice that, at GBP 120 million.[41]

4.2.5 BP Deepwater Horizon oil spill: 2010

In April 2010, an explosion hit BP's rented Deepwater Horizon drilling rig. After large oil spills, the well was finally closed September 2010. Large environmental and economic (fisheries, beaches) occurred. In September 2014, a U.S. District Court judge ruled that BP was primarily responsible for the oil spill because of its gross negligence and reckless conduct. In April 2016, **BP agreed to pay USD 20.8 billion (EUR 18.8 billion) in fines**.[42] **In 2018 the costs have moved up to USD 65 billion, all paid by BP.**[43]

Although this oil would have been used in the US market probably, it is generated by a European publicly-listed company.

4.2.6 Repsol oil spill in Peru in 2022 – USD 34.5 million fine could follow

At the time of the Tonga 2022 volcano eruption, an oil spill of 6,000 barrel at a Repsol refinery occurred, polluting the sea. The refinery could face a fine of up to USD 34.5 million, Peru's environment ministry said as prosecutors opened an investigation into the company for environmental contamination.[44] It is too early now to know the exact costs.

4.2.7 Conclusion on pollution

In pollution event like oil spills, the list of well-known events that can be linked to European Big Oil, is limited. The large BP Deep Water Horizon event in 2010 was by far the largest one. The costs ultimately paid were EUR 60 billion. Shell's court cases on pollution in Nigeria are publicly discussed, but the payments seem to remain far behind the costs estimated by various reports. The lack of public research reports does not enable an analysis on unpaid pollution bills. Probably many of the oil spills do not get to court and companies get away not paying for the damage.

Table 15 Environmental costs and pollution examples

EUR million	1999	2015	2016	2018	2021	2022	1993-2022
Total / Erika ship disaster	192						192
Shell Nigeria / Bodo		76					76
Shell Nigeria / Ogoni					95		95
Shell Nigeria / Goi Oruma					0.03		0
BP Deep Horizon			18,803	40,288			59,091
Repsol oil spill Latin America						30	30
Sum							59,483

Source: Profundo, various websites

4.2.8 Pollution: a case study on accounting in annual reports and other documents

The case study is on Shell. Its 2020 Annual Report indicates that end 2020, Shell had environmental provisions (provisions represent funds set aside by a company as assets to pay for anticipated future losses[45]) in its balance sheet: short-term respectively long-term liabilities of USD 263 million and USD 952 million, in total USD 1,225 million. This was an increase versus USD 1,197 million at the end of 2019. Shell does not elaborate for which environmental issues this is provided for. In a 4-year period, Shell charged USD 746 million (see Table 16) against provisions, however it had also USD 710 million downward remeasurements. These remeasurements are not explained, but can be due to efficient solution of pollution events, and also due to court cases that has reduced the burden for Shell. Costs might have been passed on to others (like governments, population).

Section 4.2.3 mentions that Shell in 2015 reached a EUR 75.8 million settlement. This separate case cannot be found in the annual report of 2015. In that year, environmental provisions were not reported separately and were part of a larger item 'other provisions'. This item also includes the relatively large legal and redundancy provisions. Therefore, movements in this provision cannot be attributed to environmental settlements only.

Table 16 Case study: Shell's reporting on environmental provisions/costs (USD million)

	2017	2018	2019	2020	2017-2020
01-Jan Provision	1,482	1,505	1,338	1,197	
Charged against provision	-173	-212	-223	-138	-746
Remeasurements	-352	-130	-155	-73	-710
Other	548	175	237	239	
31-Dec Provision	1,505	1,338	1,197	1,225	

Source: Shell Annual Reports/Financial Statements

On top of this, Shell reports in its 2020 Annual Report legal proceedings and other contingencies, which are not in the balance sheet and no monetary value is added to this:

- Decommissioning and restoration of manufacturing facilities with more than 50 years to go. Shell admits that there will be costs, but impossible to add a number to that.
- Pesticide litigation: Shell Oil Company (SOC), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts, and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 60 such cases pending. Shell is weighing the outcomes of investigation, but does think that a negative outcome will have a material impact on results. However, Shell said that a change needed in production might have larger impacts, which are difficult to calculate.
- Louisiana coast litigation: The State of Louisiana and multiple local governments have initiated 43 lawsuits against 200 oil/gas companies, claiming either current or historical oil and gas operations caused contamination, land loss and the erosion of the Louisiana coastline. Shell entities are named in 14 of the suits. Shell indicates high chances to win this case.
- NAM (Groningen gas field) litigation: NAM (50-50 joint venture Shell and Exxon) has received more than 100,000 claims for physical damage to property. It says that the majority has been successfully settled. Shell says that solution has still to be found for housing claims where NAM was found liable for value loss, and other civil litigation matters. No value number is mentioned.

- Nigerian litigation: Shell says that its subsidiaries and associates operating in Nigeria are parties to various environmental and contractual disputes brought in the courts of Nigeria, England and the Netherlands. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities. If taken at face value, the aggregate amount of these judgements could be seen as material. Management believes that the outcomes will be favourable to Shell.

A case study on Eni's F-20, its IPO document (1995): the balance sheet contained a liability for environmental risk of Italian Lira 388 billion, or USD 246 million (1995). No explanation was given. In the section 'legal proceedings', only one environmental event is mentioned. The Italian Environment Ministry had started an investigation of waste water in a lake, caused by an Eni petrochemical unit. On 17 June 1996, the Eni unit was ordered to stop discharging wastewater into the lake for 90 days. At the time of the 20-F, Eni considered challenging this decision.[46]

The conclusion is that, as expected, annual reports and other documents do not give sufficient insight on the total costs, including external costs, of pollution. Additional research is needed to provide more insights, including discussion with NGOs and on-site visits with environmental specialists.

However, Shell's recent annual reports show that the charges and the remeasurements are substantial. The charges in the last 4-year period (USD 746 million) are much larger than the values mentioned in the sections above about concrete oil spills. This means that many other environmental pollution cases do not reach the headlines of the media.

4.2.9 A model on environmental pollution

In particular the item 'remeasurements', which are mostly adjustments to first estimates, can be used as input for assumptions on pollution and environmental costs that Shell has avoided through court cases and was able to pass on as external costs.

- The scope 1, 2 and 3 emissions in 1993-2020 are taken as starting point in the model. The assumption is that Shell's emissions are indicative for its fossil fuel volumes versus the top-5 and for its share in pollution versus the top-5. Shell contributed 40% of emissions to the total (see Table 20) of European Big Oil.
- Shell's 4-year's 'charged' (= paid) values and measurements are assumed as indicative for the top-5.
- The 4-years are seen as indicative for the 1993-2020 period.

This model calculates that the European Big Oil had USD 13.2 billon in environmental pollution payments and USD 12.6 billion (EUR 11.1 billion) in remeasurements. This model is based on the case study of Shell; the large payments by BP for the Deep Horizon disaster are not included. Excluding this large case, the charged costs are much higher than mentioned in the examples of the oil spills, which indicates that Big Oil is involved in many other cases.

Although the model will include more granularity in a future form, the EUR 11.1 billion of remeasurement value can be considered as environmental pollution charges that have been externalised by the European Big Oil.

Table 17 Model environmental pollution 1993-2000

USD million	Shell	European Big Oil
Scope 1-3 CO2-eq emissions (million tons)	41,952	106,182
As % of total European Big Oil	40%	100%
Charged against provisions 2017-2020	746	1,888

USD million	Shell	European Big Oil
Remeasurements	710	1,797
Ratio 28 years/4 years (X)		7.0
1993-2020 environmental pollution paid for		13,217
1993-2020 remeasurements (USD million)		12,579
1993-2020 remeasurements (EUR million)		11,132
Remeasurement per year (EUR million)		398

Source: Shell, Profundo

4.3 Air pollution – denials by oil industry and various studies on costs

4.3.1 Efforts by Big Oil to cast doubt on air pollution

Air pollution represents a considerable threat to health worldwide. According to the 2015 Global Burden of Disease Study, exposure to outdoor fine particulate matter (PM2.5) forms the fifth leading risk factor for death worldwide. This is accounted for 4.2 million deaths and 103.1 million disability-adjusted life-years in 2015.[47] In internal memos and reports, Imperial Oil, an Exxon subsidiary, acknowledged in 1967 the petroleum industry was a "major contributor to many of the key forms of pollution". In 1968, Shell admitted that oil industry contributed to air pollution and health problems, and that cars were mainly responsible for this.[48]

A major report in 1993, known as the Harvard "six cities" study, was the start of increasing awareness by oil companies to prepare on more civil society action on air pollution issues. The report found air pollution was spurring deaths from heart disease and lung cancer. This report led to pressure on the US Environmental Protection Agency to set pollution limits for the smallest particles (known as PM2.5) as they measure less than 2.5 micrometres across (about a 30th of the diameter of a human hair). "The health issue is increasing in importance," was found in the minutes of a meeting of the Global Climate Coalition (GCC) in 1997. This is a business lobby group. "The GCC has got to be prepared to respond to the issue this year." A scientist commissioned by the American Petroleum Institute (API - a US oil and gas industry group) told a congressional hearing in 1997 the link between air pollution and mortality was "weak". Exxon pushed out its own study claiming "there is no substantive basis" for believing PM2.5 was causing more deaths. Although regulation has been introduced, **in 2021 a team of US and UK researchers calculated that nearly one in five of all deaths worldwide each year** is due to particulate pollution. Overall, the oil and gas industry has probably done a lot of push-back to studies. They tried to stymie and to cast doubt on air pollution science.[49]

The analysis in the paragraph above strongly relies on documents from US companies and the API. In a first search, no information was yet found that the European Big Oil companies were also active in this kind of "lobbying".

4.3.2 The health costs of air pollution

One study (Aidan Farrow and others) says that the economic and health costs of air pollution from burning fossil fuels totalled USD 2.9 trillion in 2018 (EUR 2,566 trillion), calculated in the form of work absences, years of life lost, and premature deaths.[50] This is 3.3% of annual global GDP. The study blames the coal, oil and car industry for pushing outdated technologies.[51] Subsequently two scenarios A and B are applied by the current study, with A more cautious assumption that 50% of health cases is due to fossil fuel industry. To contribute a certain share of the total fossil fuel industry to the European Big Oil top-5, the top-5's contribution to global emissions is used. Table 18 indicates that the top-5 European Big Oil, which in total contributed to 12.6% of global emissions in 1993-2020, could have been linked to EUR 162 billion to EUR 323 billion costs in 2018, or one year. As production and emissions have grown only slightly for the total of the top-5, 28 years would lead to health costs of EUR 4,525 billion to EUR 9,050 billion on a global scale linked to the European top-5 Big Oil. Adjusted for inflation, the costs are respectively EUR 3,585 billion and EUR 7,170 billion.

Table 18 Global health costs (work absence, years of lost life lost, death) - 1 (EUR billion)

	A	B
Global health care and lost working days 2018	2,566	2,566
Share of fossil fuel industry	50%	100%
Share of BP, Eni, Repsol, Shell, TotalEnergies in global emissions	12.6%	12.6%
Cost attributable to Top-5 Big Oil Europe 2018	162	323
Number of years (1993-2020)	28	28
Total 1993-2020 costs (EUR billion)	4,525	9,050
Total 1993-2020 costs (EUR billion), inflation adjusted*	3,585	7,170

Source: Profundo based on Table 23 and Aidan Farrow and others: * In the period 1993-2020, annual average inflation was 2.18%. In this row, the EUR 162 billion number is adjusted to the nominal number for each year.

These outcomes are underlined by a Yale study. Illness and loss of life exert a heavy burden to humanity, but the harm does not end there. Health problems inflict a financial toll because of health care costs, lost productivity from missed workdays and school days, and reduced economic growth. The price tag for the health effects of human-caused air pollution in the U.S. is estimated at USD 886 billion to USD 1 trillion per year.[52] This is 4-5% of USA's GDP.[53]

One study from Harvard and three UK universities showed that air pollution from fossil fuels kills 8 million people per year, worldwide, which is more than in earlier studies.[54] A large study published in 2020 showed that some of the air pollution costs are underestimated, meaning that the health care benefits associated with reducing air pollution may be much larger than previously estimated. Incremental costs per patient have been estimated at USD 74,957 to USD 83,819 per person, including health care costs and work loss.[55] In Table 19 these costs (in EUR) are multiplied by 103.1 million disability-adjusted life-years[56]. Subsequently, a cautious 50% scenario is applied to the 12.6% contribution of the European top-5 Big Oil to global emissions. In 28 years, they can be linked to health costs in the range of EUR 12,058 billion to EUR 26,968 billion. Inflation adjusted, the numbers are respectively EUR 9,150 billion and EUR 20,463 billion.

Table 19 Global health costs (work absence, years of lost life lost, death) – 2 (EUR billion)

	A	B
Disability years 2015 (million)	103.1	103.1
Costs from study 2020 (EUR)	66,334	74,176
Total costs (EUR billion)	6,839	7,648
Share of fossil fuel industry	50%	100%
Share of BP, Eni, Repsol, Shell, TotalEnergies in global emissions	12.6%	12.6%
Cost attributable to Top-5 Big Oil Europe 2020	431	963
Number of years (1993-2020)	28	28
Total 1993-2020 costs (EUR billion)	12,058	26,968
Total 1003-2020 costs (EUR billion), inflation adjusted*	9,150	20,463

Source: Profundo; * In the period 1993-2020, annual average inflation was 2.18%. In this row, the EUR 162 billion number is adjusted to the nominal number for each year.

4.3.3 Conclusion on health costs of air pollution

The global fossil fuel industry has a material contribution to air pollution as this pollution is mainly due to the burning of fossil fuels. The calculations in the current study show that the European top-5 Big Oil contributed 12.6% to global CO2 emissions (scope 1 to 3) in 1993-2020. This 12.6% is used as a proxy for the share of the European Big Oil top-5 for their contribution to the health costs by the fossil fuel industry. Two scenarios (50% and 100%) are applied to reflect the responsibility of fossil fuels for air pollution. Then the health costs that have not been paid by the European Big Oil is in a range of EUR 3,585 billion to EUR 20,463 billion for the 1993-2020 period.

5

Carbon and climate costs

In various jurisdictions, carbon costs have been introduced in recent years. These costs form a start to a mechanism of pricing of externalities and to use the market price mechanism to reduce GHG emissions by companies and/or industries. Industries are generating Scope 1 (operations), Scope 2 (sourcing) and Scope 3 (the use of the products sold) emissions. Big Oil's emissions are for approximately 90% or more in the Scope 3 zone. Scope 3 emissions have not been included in the main carbon emission pricing mechanism. Since 1993, the top-5 in European Big Oil has nearly not paid for carbon costs or tax. In this section, value estimates will be made for carbon tax – and indirectly climate costs - that have not been paid.

5.1 Introduction and methodology

For most of the years since 1992/93, carbon costs did not exist. From 1990 to 2004, mainly Scandinavian countries and Poland took some smaller initiatives. Since 2005, EU ETS trading started.[57] Since then, European big oil has received free-of-charge emission rights for their operations, to be used for Scope 1 emissions. The intention of the scheme is to reduce the issue of free emission allowances to incentive companies to make their operation less carbon intensive, also by rising prices when they have to pay for their too carbon intensive activities. Currently, some oil and gas companies in Europe are already paying up to 10 percent of their operating costs in carbon taxes.[58]

Scope 2 and 3 were neglected in this scheme. For Big Oil, itmeans that the use of fossil fuels and other products in their portfolio were not taken into account. Yet scope 3 represents approximately 90% or more of their total carbon emissions.

In this section, quantification of carbon costs in 1993-2020 in Europe will be based on Scope 1, 2 and 3 emissions that have been published or are related to Big Oil's oil & gas production as well as other activities. As in the early phase and even a large part of 1993-2020 not much information is available on fossil fuel volumes and emissions, various assumptions and 'sanity' checks will be applied. The outcomes will be multiplied by an available carbon price (average per year) in 1993-2020 and multiplied by the sales exposure percentage to Europe. Next to this first scenario, the current EU ETS carbon price will be applied to all years to show the magnitude of the not paid carbon emissions. One ton of carbon emission in 1992 contribute in the same size to climate change as one ton in 2020.

5.1.1 EU ETS

In 1992, Denmark, Finland, Norway and Sweden had carbon pricing initiatives, with Norwegian prices above USD 50 per ton. Slovenia joined in 1996, Estonia in 2000, Latvia in 2004, and EU ETS finally in 2005.[59]

Set up in 2005, the EU ETS is the world's first international emissions trading system. It has since continued to inspire the development of emissions trading in other countries and regions.[60] The EU ETS already covers a part of the five European oil & gas companies. EU ETS applies to certain activities in which the top-5 has been active. This contains electricity and heat generation, and the energy-intensive industry sectors including oil refineries.

The EU ETS applies a 'cap' and 'trade' system. Companies that mandatory need to participate in the system receive a certain amount of free ETS rights (the cap) and need to buy ETS on the market when they need more. The cap is reduced each year. This means, that the top-5 oil & gas already might have spent money on ETS acquisition, which can be seen as a carbon tax. However, this CO2 counting is only based on Scope 1 and does not include oil & gas exploration (only refining) and does not include Scope 2 and Scope 3. The refining activities probably cover a large part of the sales in the EU, and thus also the operational emissions (Scope 1) in Europe.

5.1.2 Big Oil narrative is focused on limiting the scale and basis of carbon costs

The oil & gas industry narrative is that a carbon tax will only be applied to operations of upstream oil & gas companies and that it will only happen in certain jurisdictions. There is no expectation of a global carbon price. In this scenario, the impact for the oil industry can be limited. The value-at-risk of upstream assets is estimated at less than 4% in a USD 90 carbon price (per ton CO2). In a global carbon cost, the value-at-risk might be approximately 15%.[61] The Austrian oil & gas company OMV[62] also followed this narrative.

Sample of OMV narrative on carbon emission costs

In calculating the costs of carbon legislation, OMV calculated its potential carbon costs for 2040 based on scope 1 (direct emissions), and only applied it to the EU ETS as that is already working. This means that production outside the EU was neglected and also the emissions from the products sold. This while the downstream sales of this company (total refined and natural gas sales) was 32X larger than the upstream production. Its Scope 3 emissions formed 91% of the 2020 emissions. OMV received freely allocated emissions certificated, ca 3 million ton versus 13 million for global operations scope 1. The 3 million ton was 2.3% its scope 1, 2 and 3 emissions 2020 (130 million ton). Based on scope 3 emissions of its sales, OMV would need to pay € 4 -10 billion in carbon costs globally. This pre-tax costs would substantially exceed its € 1.3 billion net profit in 2020.

In the current report, the Scope 3 will be included. Companies are increasingly reporting on the Scope 3 emissions "equivalent to GHG Protocol, Scope 3, category 11, with the specific scope of upstream production volumes" or "based on products sold including products from third parties". This last definition with the inclusion of products from third parties seems most relevant as these products belong to the portfolio offering of the top-5 European Big Oil, contribute to their profits, dividends, management remuneration, tax, health and pollution effects, and lobby expenses.

5.2 Big Oil – Lack of data

Only in recent years, an increasing number of companies have started to publish data on Scope 3 emissions. However, there are many gaps which do create hurdles for the analysis in this report:

- Data on cost of emission rights, or CO2 emission certificates related to the EU ETS, are absent in the annual reports as the companies still not need to publish on this. As a consequence, a calculation on paid carbon costs cannot be made. Our assumption is that emission credits issued free-of-charge by the EU have covered the Scope 1 needs of the companies.
- For most of the years in 1993-2020, Scope 3 emission data are absent for all companies.

- If Scope 3 is published, then it could have a small base (only upstream), or a broader base (including use of products by customers of sales produced by third parties). There are differences per company.
- Calculation of Scope 3 emission could be tried in this report based on volumes in annual accounts or collected by data providers. Emissions on tons of fossil fuel do not change in 28 years' time. However, most companies and data providers do not provide consistent volume details or even no relevant volumes for many years in the 1993-2020 period.

In the following subsections, the data available for the top-5 are discussed.

5.2.1 Shell

In its most recent annual reports, Shell elaborates on its Scope 1, 2 and Scope 3 emissions. For 2020, emissions add up to 1,376 million CO2-eq. This includes sales from third-party products. Scope 1 is 4.6% of the total.[63] In the current report, the Scope 1 emissions on operational control are taken into account, thus excluding equity investments by Shell. These would have added 36 million ton CO2-equivalent.

In the current report, Shell's extensive output and sales volume data were used to calculate a Scope 1, 2, and 3 emissions for earlier years. In fact, in 1993-2020 the volume sales of the company have not changed a lot despite several acquisitions.

Shell had emission costs and related costs recognized in the income statement of USD 150 million in 2020.[64] This was the first time Shell reported on this.

5.2.2 BP

In its annual reports, BP does not elaborate on the size of its Scope 3 emissions, although BP says to aim for net zero in 2050. On its website BP said that in 2019 its Scope 3 was 361 million ton CO2-eq, excluding Rosneft and broadly equivalent to the GHG Protocol, Scope 3, category 11, with the specific scope of upstream production volumes.[65] This excludes products sold made by third-parties, and thus BP uses a small base.

5.2.3 TotalEnergies

In recent accounts, TotalEnergies publishes its Scope 1, 2 and 3 emissions. Its aim is to achieve net zero by 2050 for indirect GHG emission related to the use by customers of the energy products sold for end use (Scope 3).[66] This seems to include products derived from third parties. A recent annual report does not provide information on emission right costs and/or purchases. In this context, TotalEnergies said that it is confronted with the absence of a current IFRS standard or interpretation on accounting for emission rights of carbon dioxide generated as part of the EU Emission Trading scheme (EU ETS).[67]

5.2.4 Repsol

In recent years, Repsol publishes separately Scope 1, 2 and 3 emissions.[68] Geographical data is lagging, as the company initially did not have a segment for Europe. Later it reported on Europe, but only for revenues and later on for EBITDA.

5.2.5 Eni

Eni defines the Scope 3 emissions as emissions produced along the upstream and downstream value chain of the company's activity (e.g. suppliers and customers). This means Eni includes sales from own production as well as products derived from third parties.[69] In its 2019 carbon reporting, however, Eni used a smaller definition of Scope 3, resulting in total emissions for 2019 that were only 55%[70] of the total stated in 2020 reporting which was based on broader base.

5.3 Calculations

This section contains calculations on carbon emissions and costs, based on available data, assumptions by Profundo and scenario of costs.

- The lack of data has been described above.
- Emission data are partially available. Therefore, historic volume developments have been used, assuming emission per barrel equivalent has not changed over time.
- Volume definition changed through time. A volume index has been composed for every company based on available material.
- Exposure to Europe is based on available numbers in annual reports. To connect gaps between for instance 1995 and 2000, the methodology is used to bridge this gap through linear increases/decreases.
- The outcomes for European emissions costs have been calculated for two scenarios: European emissions were multiplied 1) with the annual average EU ETS carbon cost per ton in 1993-2020 and 2) with the current price of EUR 81 per ton for every year.
- A 'sanity' check of the emissions has been executed by comparison with other studies that do not cover the same period and that have had the same challenges as the current study in estimating emission data.

The 1993-2020 emissions globally and those that can be linked to Europe are as follows. These emissions include Scope 1, 2 and 3. For Scope 3, the emissions include those of the sales based on products of third parties (if available) and the way the products are used (mainly burning). Table 20 shows that BP and Shell have been the largest emitters of the European top-5 Big Oil. The five Big Oil companies emitted 12.6% of the global emissions (including cement, flaring, other industries) in the period 1993-2020. In Europe (total Europe), Big Oil emitted 30.5% of the total.

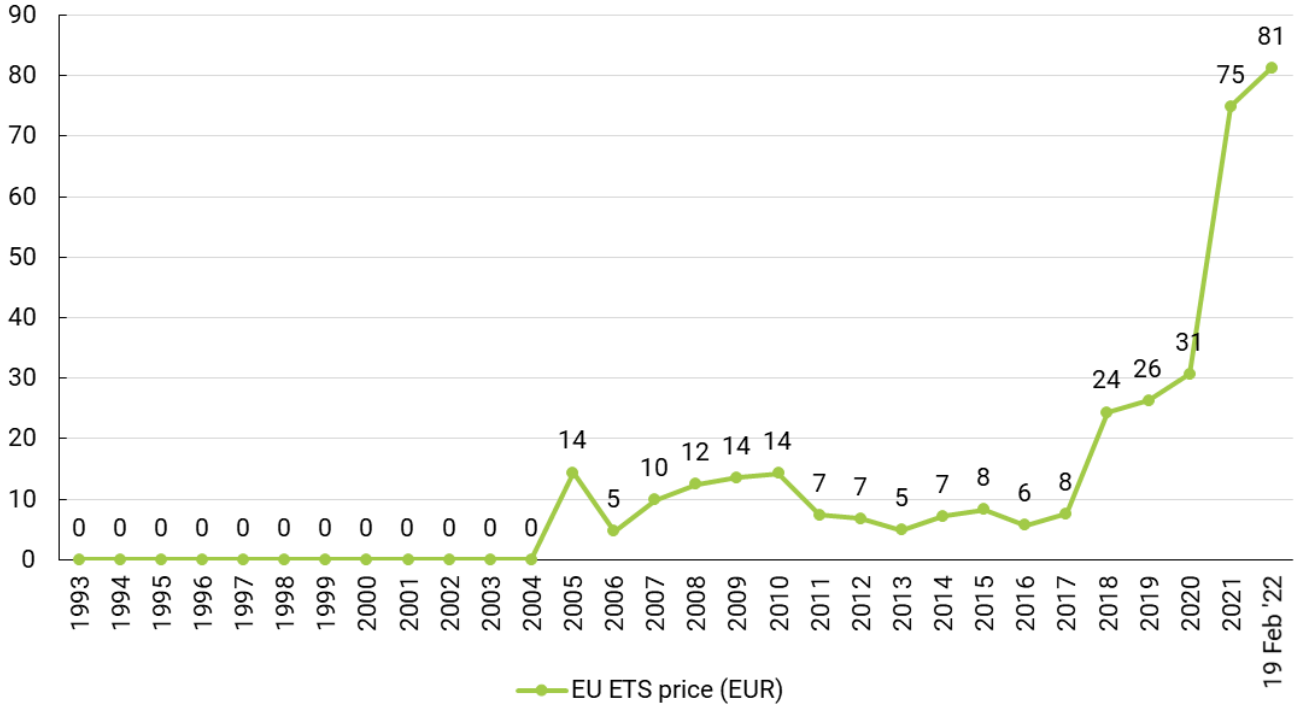
Table 20 EU top-5 Big Oil and Scope 1, 2 and 3 emission 1993-2020

CO2-eq million ton	Total Scope 1+2+3 emissions	European-linked emissions	Average Europe exposure
BP	39,233	18,514	47.2%
Eni	11,884	8,005	67.4%
Repsol	5,742	3,467	60.4%
Shell	41,952	16,978	40.5%
TotalEnergies	7,371	4,914	66.7%
Sum	106,182	51,877	48.9%
Global/European emissions 1993-2020*	843,112	170,124	
Sum top-5 as % of global/European emissions	12.6%	30.5%	

Source: Annual Reports, Profundo. Total global and European emissions based on Our World in Data[71]

The average carbon costs EU ETS developed as follow:

Figure 9 EU ETS end of year prices



Source: Bloomberg, European Climate Exchange OTC 1st year CO2 Emission EU ETS Px

In Table 21 the average carbon costs (EU ETS) per year are multiplied with the emissions per company. In the first column, this leads to a liability of EUR 372 billion for the top-5 for the 1993-2020 period for their emissions in Europe. If the current market price (EUR 81/ton CO2) is applied to every year in the period 1993-2020, the liability for the Europe-linked emissions Scope 1, 2 and 3 would be EUR 4,218 billion.

Table 21 European carbon costs European top-5 Big Oil (EUR billion)

	Carbon costs (market price per year)*	Carbon costs (current price)*
BP	138	1,505
Eni	35	651
Repsol	44	282
Shell	108	1,380
TotalEnergies	46	399
Sum	372	4,218

Source: Profundo, based on end of year European Climate Exchange OTC 1st year CO2 Emission EU ETS Px; *) Weighted European exposure

5.4 'Sanity' check through comparison with other reports

This report will be based on the latest and broadest Scope 3 that is given by each company. The quality of the current research can be checked by comparing the outcomes with emissions by two other reports/publications. Additionally, Profundo methodology will be applied to Shell and the emission outcomes will be compared.

5.4.1 CAI and CDP

A study by The Climate Accountability Institute (CAI) is the first one. Although the calculation takes into account Scope 3, this seems to be only applied to the production by Big Oil and thus might miss the emissions on products from third parties. The report says that the direct operational emissions, including CO2 from flaring and venting and own fuel use and fugitive methane, is around 12% of the total. Including the product emissions of production (Scope 3), the top-20 emitters would have contributed 35.5% to the cumulative 1.35 trillion metric tonnes of global CO2 emissions in 1965-2017 period. BP is on place 6, Shell on place 7 and TotalEnergies on place 17.[72]

Table 22 Top-20 companies 1965-2017 cumulative global emissions

#	Company	Million ton CO2-eq	% of global emissions
1	Saudi Aramco	59,262	4.4%
2	Chevron	43,345	3.2%
3	Gazprom	43,230	3.2%
4	ExxonMobil	41,904	3.1%
5	National Iranian Oil Co.	35,658	2.6%
6	BP	34,015	2.5%
7	Shell	31,948	2.4%
8	Coal India	23,124	1.7%
9	Pemex	22,645	1.7%
10	Petroleus de Venezuela	15,745	1.2%
17	Total SA	12,352	0.9%
	Top-20	480,169	35.5%
	Global	1,354,388	100.0%

Source: Climate Accountability Institute

CDP published a 1988-2015 estimate for total emissions. The top-5 Big Oil in Europe belongs to a group of top-100 emitters, responsible for 70.6% of the GHG emissions in the 1988-2015 period. The global top-3 emitters were China Coal (14.3%), Aramco (4.5%) and Gazprom (3.9%).[73] The CDP might miss a part of the Scope 3 emissions. The outcomes do not seem consistent with recent publications by Shell. In 2020, Shell published a number for Scope 1, 2 and 3 emissions of 1,376 million CO2-equivalent for one year. This is 9.0% versus the number given by CDP for 28 years. As Shell has not grown so fast in the last 30 years in total, there seems to be a gap versus the last updated Scope 3 calculation. Note that CDP's numbers are based on Climate Accountability Institute methodology.

Table 23 1988-2015 Cumulative Scope 1 and 3 emissions Top-5 Europe

#	Company	Million ton CO2-eq	% of global emissions
1	Shell	15,017	1.7%
2	BP	13,791	1.5%
3	TotalEnergies	8,541	0.9%
4	Eni	5,319	0.6%

#	Company	Million ton CO2-eq	% of global emissions
5	Repsol	2,996	0.3%
	Sum	45,664	5.0%

Source: CDP, Scope 3 Category 11 'use of sold products'

Table 24 shows the comparison between the three studies. Scope 3 reporting has improved (and extended) substantially in recent years, and Profundo applied the extended Scope 3 for all companies. Therefore, the Profundo analysis shows that the European top-5 Big Oil contributes to 12.6% of the total emissions, while the CDP study comes to 5.0%.

Table 24 Shell: 'sanity' check of Scope 3 emissions

CO2-eq million ton	1993-2020 - Profundo	1965-2017 - CAI	1988-2015 - CDP
BP	39,233	34,015	13,791
Eni	11,884	NA	5,319
Repsol	5,742	NA	2,996
Shell	41,952	31,948	15,017
TotalEnergies	7,371	12,352	8,541
Sum	106,182	NA	45,664
Global CO2 emissions 1993-2020	843,112	1,354,388	913,280
Sum top-5 as % of global emissions	12.6%	NA	5.0%

Source: Table 20, Table 22, Table 23

5.4.2 Profundo methodology: Shell case study

Profundo's 'sanity check' for Shell's Scope 3 emissions of its most recent product portfolio, using emission conversion rates, leads to an outcome below that of Shell's Annual Report 2020. The gap can be explained by the absence of the Chemical activities in Profundo's calculation due to a lack of transparency on products, as well as lack of granularity of oil products sales.

Table 25 Shell: 'sanity' check of Scope 3 emissions

Million ton CO2-eq emission	Volume/day	kg CO2/m3	kg CO2/kg	CO2
Natural gas (million mcf/d)	9,181	1.90		182
Marketing volumes (thousands boe/d)	4,710		2.64	767
Scope 3 - own calculation				949
Scope 3 (source Shell)				1,304
Gap				355

Source: Profundo, Shell Annual report 2020, Innovation Norway (Conversion guidelines)[74]

5.5 Conclusion

European five Big Oil companies bear responsibility for 12.6% of global CO2-equivalent emission in 1993-2020 and even 30.5% in Europe. Up to now, Big Oil's public documents lack data on their expenditures on regional emission schemes. Free-of-charge issued carbon certificates by the EU (for instance) existed and covered the relevant European Scope 1 emissions of Big Oil. They did not pay for them. This report made calculations for Big Oil's Scope 1 (operations), Scope 2 (suppliers) and Scope 3 (use of products sold to customers). Scope 3 emissions are over 90% of the total emissions by Big Oil. Based on average carbon costs (EU ETS) per year, the top 5 in Europe would have had a liability of EUR 372 billion for the period 1993-2020 as they did not pay for them. If the current EU ETS market price would have been applied, the liability for the Europe-linked emissions Scope 1, 2 and 3 would have been EUR 4,218 billion for 1993-2020.

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Appendix 1 Consumers: what they really pay at every refuelling

Every time consumers refuel their car, they hand over 1.15 euros to shareholders of the European Big Oil – dividends, share buy-backs and share price increase (these items reflect all benefits: dividends are part of net income, and share-buy-backs are paid from net income mainly) – and every refuelling they spend eight eurocents to paid and unpaid oil spill clean-up bills (seven cents plus one cent). But every refuelling, Big Oil does not pay for 4.46 to 25.44 euros (inflation adjusted) in health care and shorter lives' costs generated by air pollution, and does not provide for 5 euros in climate change causing carbon emissions (see Appendix Table 26). The top-5 passes on this 39 euros to society.

Table 26 Unknown costs that diesel consumers are paying (equivalent, in Euros)

Input			
Carbon emissions top-5 1993-2020 CO2-eq millions tons	106,182		
Diesel CO2-eq emissions per litre (kg)	2.64		
Diesel litres equivalent sold (billion)	40,220		
Euro	Per litre	Per 50 litre refuelling	Per year refuelling*
Published financials – benefits to company and shareholders			
Company: net income	0.02	0.99	23.78
Management: compensation	0.00	0.00	0.06
Shareholders: dividends	0.01	0.60	14.35
Shareholders: share buybacks	0.00	0.18	4.21
Shareholders: value increase market capitalization	0.01	0.37	8.80
Published financials – benefits to governments			
Paid corporate tax	0.02	0.82	19.75
Not-published and non-financials			
Lobby expenses	0.00	0.00	0.11
Advertisement on climate change	0.00	0.00	0.10
Paid costs of large oil spill events	0.00	0.07	1.76
Passing on of pollution costs to civil society	0.00	0.01	0.33
Unpaid air pollution and health costs* (high end)	0.51	25.44	610.54
Unpaid air pollution and health costs* (low end)	0.09	4.46	106.96
Unpaid carbon costs, scope 1-3**	0.10	5.24	125.85

Source: Profundo, Innovation Norway (Conversion guidelines); * inflation adjusted; ** current carbon cost (EUR 81.3/ton)

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