WORDS VS ACTIONS

The truth behind fossil fuel advertising

CONTENTS

INTRODUCTION

We are deep into a climate crisis, and the most recent and devastating IPCC report showed us only drastic action now will avert further catastrophe. The last five years since the Paris Agreement have been the hottest on record, and as we approach COP26 in Glasgow we are estimated to be headed towards a catastrophic 2.9 degree increase[1]. According to the UN this is a "code red for humanity"[2], and we have everything to lose.

What's unforgivable is that politicians know what is causing the climate crisis, and who is producing these dangerous emissions. In 2018 the Carbon Brief found that emissions from fossil fuels are the dominant cause of global warming and, 89% of global CO2 emissions came from fossil fuels and industry[3]. We know that European based fossil fuel companies such as Total and Royal Dutch Shell are some of the top 20 most carbon polluting fossil fuel companies in the world[4]. However these companies dedicate large parts of their public communications to climate disinformation and greenwashing which acts to distract, delay, and deflect the real climate action the world so desperately needs.

So why do we allow fossil fuel companies to greenwash their dangerous business models through advertisements and sponsorships? Why do we allow companies to manipulate people into thinking that they are taking the climate emergency seriously when many fossil fuel companies are still looking for new opportunities to extract fossil fuels? Why do we allow companies to misrepresent false solutions that are often unsafe or untested as climate friendly?

The answer is simple, we need a fossil advertising and sponsorship ban in order to stop their dangerous propaganda which is ultimately delaying the rapid fossil fuel phase out we need. The EU has already introduced a directive banning cross border tobacco advertising and sponsorships[5] for our collective health. Now it's time for a similar law against fossil fuel industries for the health of the planet and our future.

The EU Green Deal is currently underway, and yet many of the decisions made so far have been woefully inadequate, and have even given active advantages and public funding to fossil fuel industries[6]. In the next year, EU politicians will discuss a proposal that companies substantiate their environmental claims using certain footprint methods, the so-called Substantiation of Green Claims initiative. This law has the potential to be an important step to prevent climate disinformation and fight the climate crisis, but it must not become another way for polluting companies to skirt their responsibilities and shift them onto consumers instead.

This investigation, conducted by Desmog demonstrates how fossil fuel companies across Europe have used their advertisements in order to delay, distract, and deflect attention away from their business models which are largely invested in fossil fuels. Greenpeace commissioned this research to cover a range of companies, big and small, including one utility company to demonstrate the scope of this problem as well as indicating key trends. Desmog's evidence demonstrates why we cannot trust fossil fuel companies to stop

[1]Climate Action Tracker "Addressing Global Warming" 1st July 2021 https://climateactiontracker.org/global/temperatures/
[2]BBC "Climate change: IPCC report is 'code red for humanity' 9th August 2021 https://www.bbc.co.uk/news/science-environment-58130705
[3]Carbon Brief "Analysis: Fossil-fuel emissions in 2018 increasing at fastest rate for seven years" December 2018 https://www.carbonbrief.org/analysis-fossil-fuel-emissions-in-2018-increasing-at-fastest-rate-for-seven-years
[4]The Guardian "Revealed: the 20 firms behind a third of all carbon emissions" 9th October 2019 https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions
[5]European Commission "Ban on cross-border tobacco advertising and sponsorship" 2021 https://ec.europa.eu/health/tobacco/advertising_en#:~:text=The%20Tobacco%20Advertising%20Directive%20(2003,Games%20and%20Formula%20One%20races.
[6]EU Observer "December 2020 New EU rules for energy-project funding to keep fossil gas" https://euobserver.com/green-deal/150381

greenwashing whilst they continue to invest in fossil fuels, and why fossil fuel companies must be banned from advertising and sponsoring in order for urgent action to be taken to rapidly phase out fossil fuels.

SUMMARY

DeSmog conducted an analysis of over 3000 adverts and promotions on Twitter, Facebook, Instagram and Youtube from six selected European fossil fuel companies for an investigation together with Greenpeace Netherlands. These companies include Royal Dutch Shell, Total Energies, Preem, Eni, Repsol and Fortum. From this initial analysis we can confidently say that all the companies in the dataset are greenwashing as their advertisements do not accurately reflect their business activities — either through an over-emphasis on their 'green' activities, or an under-emphasis on their fossil fuel activities.

TRENDS

1. The research found significant evidence of greenwashing. Particular key takeaways are:
    a. For all six companies there was a distinct discrepancy between the number of adverts and promotions focussing on 'green' activities, and the amount of their portfolios that appear to be dedicated to 'green' technologies[6].
    b. The largest discrepancy was for Preem, for which 81% of the advertisements that were reviewed promoted 'green' technologies or false solutions (on a primary topic analysis), compared to an estimated 1%[7] of their portfolio being in non-fossil fuel energies.
2. There was a major discrepancy for all companies between the amount they promoted fossil fuels, versus the reality of the extent of these activities.

All companies promoted fossil fuels significantly less than their portfolio implies they are involved in fossil fuels[8]. The company with the most adverts and promotions promoting fossil fuels was Repsol (36% of Repsol's assessed adverts and promotions), while the least was Fortum (0%). The estimated amount of fossil fuels in company portfolios, based on the publicly available information (see footnote 6), ranged between 54% (Fortum) and 90% (Total).

WHAT IS A GREENWASH?

The Cambridge Dictionary definition of a greenwash is "to make people believe that your company is doing more to protect the environment than it really is" or "to try to make your business seem interested in protecting the natural environment, when it is not:"[9] On this basis we have defined greenwashing advertisements as a combination of both fossil fuel companies' advertisements promoting genuinely climate friendly initiatives, as well as their advertisements that promote false climate solutions as 'green'. All of these advertisements contribute to the image of the company being 'green', even though the false solutions they are presenting are harmful for the planet and their emphasis on their renewable investments are drastically overstated.

WHAT IS A FALSE SOLUTION?

A 'false' solution is a climate solution, presented by governments or companies that has either been proved to be actively harmful to the planet and or communities, or is so severely under researched or developed that it cannot be seen as a substantial alternative to renewable energy technologies. This includes fossil gas, CCS,

[6]Company portfolios were established from available resources such as Annual Reports, strategy plans and third-party analysis. Current figures for each company are based on the following data, based on publicly available information for these companies.
Preem - 2020 Sustainability Report; Based on current fuel output as detailed in "What we create" section - p.9
Fortum - 2020 Sustainability Report; Based on 2020 power generation figures in "Power generation by energy source" graphic - p24
Shell - "Despite the talk, Shell and Total are still investing much more in fossil fuels than renewables" Institute for Energy Economics and Financial Analysis, July 23 2020, (Based on Shell's estimated capex in 2020)
Total - "Despite the talk, Shell and Total are still investing much more in fossil fuels than renewables" Institute for Energy Economics and Financial Analysis, July 23 2020
Eni - Strategy Presentation 2021 - 2024; Based on planned capex 2021 - 2024
Repsol - 2021 - 2025 Repsol Strategic Plan; Based on capex on low carbon projects in 2019, p16
[7]Preem - 2020 Sustainability Report; Based on current fuel output as detailed in "What we create" section - p.9
[8]Please note it was not possible to gain detailed information on what the "green" investments entailed from the publicly available information from these companies, and what was defined as "green" will likely differ between companies.
[9]Cambridge Dictionary 'Greenwash' 2021 https://dictionary.cambridge.org/dictionary/english/greenwash

bioenergy, offsetting, nature based solutions and hydrogen with the exception of green hydrogen[10]. Please see a full explanation for Greenpeace Netherland's stances on which solutions we determine as false, with an explanation at the bottom of this report.

KEY FINDINGS

- The average percentage across the six companies assessed adverts and promotions (greenwash = climate friendly + false solutions) totalled at 63%, almost two thirds.
- Half (three) of the companies analysed dedicated 81% of the advertisements assessed to greenwashes.
- The average of 'green' climate friendly adverts and promotions assessed across all six companies companies was 50%.
- The worst greenwashers were Shell, Fortum and Preem who dedicated 81% of the advertisements reviewed (from Twitter, Facebook, Instagram and Youtube) to greenwashes between December 2019 when the European Green Deal was announced and April 2021.

FIGURES ACROSS ALL SIX COMPANIES

PERCENTAGE OF GREENWASHING ADVERTS AND PROMOTIONS (GREENWASH = GREEN + FALSE SOLUTIONS)

63%[11]

This is 1902 out of 3034 adverts and promotions reviewed on Twitter, Facebook, Instagram and Youtube from December 2019 when the European Green Deal was announced to April 2021.

These figures show an overwhelming amount of fossil fuel companies' advertisements, almost two thirds, are dedicated to greenwashes. This shows a huge general trend, particularly in Europe, particularly after the European Green Deal was announced to present themselves as climate friendly businesses both to the public and politicians. Considering the six companies explored appear to have an average of 80% fossil fuel investments in their portfolio[20], this shows a huge gap between their investments, and the products they are marketing in their advertisements. The worst culprits for greenwashing were Fortum, Preem and Shell who dedicated 81% of their advertising to greenwashing. This runs in stark contrast to the respective companies' fossil fuel portfolio, with Fortum at 54%, Preem at 98% and Shell at 80%[12].

PERCENTAGE OF 'GREEN'[13] ADVERTS AND PROMOTIONS AMONGST ALL COMPANIES

50%

Exactly half, 50% of all adverts and promotions reviewed were dedicated to promoting 'green' climate friendly solutions. This includes wind, solar, hydro, renewable energy in general, circular economy, company climate plans and initiatives, engagement with climate policy, reducing fossil fuel use and making transport sustainable. This is 1,524 out of 3034 adverts and promotions reviewed from December 2019 when the European Green Deal was announced to April 2021 on Twitter, Instagram, Facebook and Youtube.

[10]Please note that we did not include nuclear energy in our final analysis, as less than 1% of advertisements promoted nuclear energy. However Greenpeace as a network regards nuclear energy as a false solution, for more information explaining reasons we do not support nuclear energy please visit Greenpeace UK's website https://www.greenpeace.org.uk/challenges/nuclear-power/

[11]This includes categories: Renewable energy, wind, solar, hydro, engagement with climate policy, company climate plans and initiatives, reduction of fossil fuel use, making transport sustainable, circular economy, gas as a green fuel, hydrogen, carbon capture storage CCS, bioenergy and nature based solutions.

[12]Milieudefensie Voor Veranderaars, Donald Pols "Milieudefensie: 'Shell focuses on CO2 compensation, but does not invest in it" 11th February 2021
https://milieudefensie.nl/actueel/milieudefensie-201cshell-zet-in-op-co2-compensatie-maar-investeert-er-niet-in201d

[13]This includes categories: Renewable energy, wind, solar, hydro, engagement with climate policy, company climate plans and initiatives, reduction of fossil fuel use, making transport sustainable and circular economy

Why are these 'green' advertisements a greenwash? All companies explored have vastly insubstantial investments or portfolios in renewable technologies, and yet half of their advertisements promote genuinely green alternatives such as wind and solar. Shell, according to publicly available portfolio information, appears to be investing less than 10-15% in renewables in contrast to the 60% of all investigated advertisements in this report that promote climate friendly solutions. That's roughly six times the amount. Due to this wider trend and contrasts, we are presenting these 'green' adverts and promotions as a greenwash.

The company with the highest amount of green, climate friendly adverts and promotions was Fortum at 77% in contrast to the 54% share of fossil fuels in power generation in 2020.. Coming a close second is Shell, who despite investing in 80% in fossil fuels and requesting new opportunities for fossil fuel exploration such as the Cambo oil field in the UK, are dedicating almost two thirds of their advertisements (60%) to promoting renewable energy alone. This trend manipulates the public into thinking that fossil fuel companies or 'energy' companies are green, when they are actively exacerbating the climate crisis by for example applying for new licensing permits and actively extracting fossil fuels from the ground despite cheap and available renewable energy technology.

This trend extends far beyond the companies assessed in this report. Last year ClientEarth filed a legal complaint using OECD guidelines against BP for misleading consumers into thinking they were a renewables company, when according to Client Earth, BP were in fact spending 96% on oil and gas[14]. The OECD rules that information about potential environmental impacts should be accurate, measurable and verifiable, and that companies should not engage in deceptive or misleading practices[15]. BP cancelled the 'Advancing Possibilities' advertising campaign after the complaint was brought.

These drastic disparities indicate a wider trend implying that consumers may be being misled by fossil fuel company advertisements regularly across the EU. Directives such as the Unfair Commercial Practices Directive exist to prevent company conduct that could mislead consumers into buying a product or a service on unfair terms. However this directive is severely underused in relation to the scale of greenwashing occuring, not specific enough to deal with greenwashing, and deals only on a case by case basis at the expense of a lot of time and money. When the level of misleading advertisements is this high, how can we expect each advert campaign to be legally challenged and for this greenwashing to be stopped? A full ban is necessary to meet the scale of the problem we are facing with greenwashing.

PERCENTAGE OF FALSE SOLUTION ADVERTISEMENTS ACROSS ALL COMPANIES

12%

This is 378 out of 3034 adverts and promotions reviewed from December 2019 when the European Green Deal was announced to April 2021 on Twitter, Instagram, Facebook and Youtube. The highest percentage of false solution advertising was Preem at 44%, with a particular emphasis on bio-energy and carbon capture storage.

'False solutions' are also being defined as a greenwash, as they are promoting climate damaging solutions as green or climate friendly. One of these false solutions is fossil gas which is a fossil fuel, however is presented as 'green'. Other examples, such as bioenergy are not fossil fuels, however are damaging for the climate.

Fossil fuel companies use advertising and sponsorships to promote false solutions which are a dangerous distraction from the real renewable solutions we need. A recent investigation by Influence Map found that over $9.5 million was spent on over 25,000 adverts and promotions by oil and gas companies on Facebook adverts and promotions that promoted fossil gas as

[14]Client Earth "BP pulls advertising campaign just months after our legal complaint" 14th February 2020 https://www.clientearth.org/latest/latest-updates/news/bp-pulls-advertising-campaign-just-months-after-our-legal-complaint/
[15]Client Earth "Our OECD complaint against BP explained" 18th December 2019 https://www.clientearth.org/latest/latest-updates/stories/our-oecd-complaint-against-bp-explained/

a clean alternative to younger target audiences[16]. These attempts from companies such as Exxon Mobil to promote the climate benefits of fossil gas (which is a fossil fuel) are a clear demonstration of the fossil fuel industry's tendency to actively deny climate science or manipulate facts via their advertising in order to serve business interests.

It can be considered likely that we will see an increase of false solutions promoted by fossil fuel companies as we get closer to the COP26 negotiations in November 2021 as fossil fuel companies continue to attempt to 'green' their brands. False solutions are often presented, even sometimes alongside renewable energies as a constructive solution and a legitimate part of decarbonisation plans which misleads the public, as well as decision makers as to which 'solutions' are safest for the planet.

PERCENTAGE OF FOSSIL ADVERTISEMENTS AMONGST ALL COMPANIES

16%

In total, 16% of the adverts and promotions by the fossil fuel companies investigated promoted oil, gas and coal. This is 946 out of 3034 adverts and promotions from December 2019 when the European Green Deal was announced to April 2021 on Twitter, Instagram, Facebook and Youtube. When we look at how much the assessed companies are either investing in fossil fuels, or what portion of fossil fuels are in their portfolio, there is a clear discrepancy as detailed below. . In all six cases, there is a clear disparity between the business model and the advertisements of the companies investigated. There are two important takeaways from these figures:

Firstly, even one advertisement promoting fossil fuels is too much. We are deep in a climate emergency, and we know that fossil fuels are causing a continued increase in emissions which our planet cannot afford. But simply banning the advertisement or promotion of fossil fuel products alone, as the French Climate Law suggests, would not solve the issue at hand because. Why? It is not only the promotion of fossil fuel products that is problematic. A major issue that we can see from the deep discrepancy in the above data is that this gap between rhetoric and investment appears to demonstrate that fossil fuel companies are using advertisements to distract, delay and deflect attention from their deeply damaging business models.

'Fossil' advertisements include adverts and promotions promoting:

- Benefits of fossil fuels
- Conventional transport, petrol stations and petroleum products
- Fossil gas

SOCIAL JUSTICE

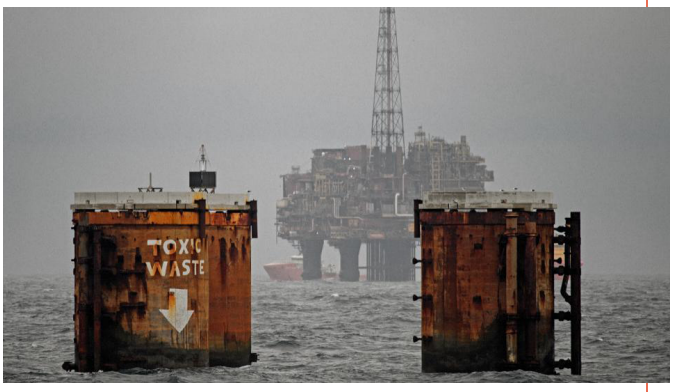
Companies are keen to present themselves as socially progressive actors. The six companies studied dedicate an average 16% of their adverts and promotions on social good, distracting their audience from their responsibility in the climate and environmental crisis. The highest percentage of social good adverts and promotions is from Eni (37% of those analysed) were dedicated to social good). This 'discourses of climate delay' paper[17] argues that this trend, described as 'wokewashing' to researchers, can take two forms: arguing that the energy transition will negatively affect poor or marginalized communities, or by claiming that fossil fuel companies are aligned with such communities. While arguments for a just transition are highly important, these claims from such companies can be regarded to be problematic, due to the fossil fuel industry's activities continuing to plunge us deeper into climate and human rights crises which often affect the most marginalised[18].

[16]Influence Map "*Climate Change and Digital Advertising: The Oil and Gas industry's Digital Advertising Strategy*" August 2021 https://influencemap.org/report/Climate-Change-and-Digital-Advertising-a40c8116160668aa2d865da2f5abe91b#2

[17]Cambridge University Press William F. Lamb Open the ORCID record for William F. Lamb , Giulio Mattioli , Sebastian Levi , J. Timmons Roberts , Stuart Capstick , Felix Creutzig , Jan C. Minx , Finn Müller-Hansen , Trevor Culhane and Julia K. Steinberger "Discourses of climate delay" 1st July 2020 https://www.cambridge.org/core/journals/global-sustainability/article/discourses-of-climate-delay/7B11B722E3E3454BB6212378E32985A7

[18]Greenpeace USA "Fossil Fuel Racism How Phasing Out Oil, Gas, and Coal Can Protect Communities" 13th April 2021 https://www.greenpeace.org/usa/reports/fossil-fuel-racism/

The climate crisis is affecting human rights[19], namely people's right to life, food, adequate housing and water, sanitation and health. As the climate emergency worsens we can expect increasing deaths, hunger, and displacement, and we know that companies burning fossil fuels are



making this crisis worse. To make matters worse some fossil fuel majors are under scrutiny for their alleged involvement in human rights violations. Amnesty International has called on governments[20] to investigate Shell for three ongoing legal cases[21] which question Shell's complicity in unlawful arrest, detention and execution, or seek compensation for oil spills and for systemic ongoing oil pollution. Shell denies all claims. Total Energies have been accused of effectively displacing communities[22] and financing military dictatorships[23] which TE have disputed. With these disturbing allegations, and the evidence that the climate crisis is affecting human rights, do companies responsible for the climate emergency and human rights crises deserve a public platform?

Finally, we can identify some broad trends across the six companies within these advertisements:

- Most of the greenwashing claims are based around an emphasis on the companies' own climate plans or other initiatives focused around the climate;
- Among the six companies assessed larger, more recognisable brands are more likely to greenwash;
- Companies are eager to avoid the issue of their environmental impact;
- Companies are keen to promote themselves as well-run business.

SHELL

CONTEXT

Shell is one of the most polluting companies in the world[24], and one of the world's largest fossil fuel companies. In May this year, following a challenge by Milieudefensie Voor Veranderaars and Greenpeace Netherlands, a Dutch Court ruled that Shell is liable for damaging the climate, which is the first time that a major fossil fuel company has been held accountable for their contribution to climate change. Shell has been ordered to reduce their CO2 emissions by 45% by 2030 in contrast to 2019 levels, in line with limiting global warming to 1.5 degrees[25]. Shell have appealed this case and have since publicly stated that they have no plans to meet this "unreasonable" demand to reduce their emissions[26].

Shell is arguably one of the worst greenwashing culprits we have found in this investigation.

[19]Amnesty International UK "What has the climate crisis got to do with human rights?" 13th February 2020 https://www.amnesty.org.uk/what-has-climate-crisis-got-do-human-rights

[20]Amnesty International "Investigate Shell for complicity in murder, rape and torture" November 28, 2017 https://www.amnesty.org/en/latest/press-release/2017/11/investigate-shell-for-complicity-in-murder-rape-and-torture/

Amnesty International "Nigeria: 2020 could be Shell's year of reckoning"February 10, 2020

[22]#StopEACOP Alliance Statement in Response to Total's Recent Disclosures pg6 https://www.actu-environnement.com/media/pdf/news-37370-stop-eacop.pdf

[23]Le Monde Birmanie : comment Total finance les généraux à travers des comptes offshore May 2021 https://www.lemonde.fr/international/article/2021/05/04/birmanie-comment-total-finance-les-generaux-a-travers-des-comptes-offshore_6078990_3210.html

[24]The Eco Experts, Beth Powell The Top 9 Most Polluting Companies 31st March 2021 https://www.theecoexperts.co.uk/blog/most-polluting-companies

[25]Sky News Shell ordered to reduce emissions by 45% by 2030 in landmark ruling May 27th 2021 https://news.sky.com/story/shell-ordered-to-reduce-emissions-by-45-by-2030-in-landmark-ruling-12317324#:~:text=Shell%20ordered%20to%20reduce%20emissions%20by%2045%25%20by%202030%20in%20landmark%20ruling,-The%20firm%20expects&text=The%20landmark%20ruling%2C%20thought%20to,line%20with%20the%20Paris%20Agreement.

[26]Bloomberg Shell to Appeal Landmark Dutch Court Ruling on Climate Goals 20th July 2021 https://www.bloomberg.com/news/articles/2021-07-20/shell-to-appeal-landmark-climate-case-in-the-netherlands The Guardian "Shell boss: we have no plans to change strategy despite emissions ruling" 29th July 2021 https://www.theguardian.com/business/2021/jul/29/shell-raises-dividend-soaring-oil-prices

According to their 2021 Q2 report[27] Shell's investing between $16 and 17 billion dollars in oil and gas this year, meanwhile just $2-3 billion dollars in renewable energy. A Dutch Advertising Standards agency recently urged Shell to stop running advertisements promoting petrol and diesel as 'carbon neutral' if they chose to offset through initiatives such as tree planning. This came after nine law students from the Free University of Amsterdam, supported by Greenpeace Netherlands made a complaint accusing Shell of greenwashing in their 'Drive CO2 Neutral' advertisements[28].

FOSSIL FUEL PROFILE

- Whilst Shell is planning to invest more money in renewable energy, Shell will be expanding their gas business by more than 20% in the next few years[29]. They justify this by offsetting expansion via carbon capture and nature based solutions[30].
- Shell is still planning to spend US$8 billion annually on oil and gas production, and US$4 billion a year in fossil gas[31].
- According to Statista, Shell's total emissions in 2020 worldwide are 63 GHG emissions in million tons of carbon dioxide equivalent [30].
- According to their 2020 annual report, Shell spent some $611 million U.S. dollars on exploration operations in 2020. It was a notable increase of $330 million compared to the previous year[31].
- According to the same report, Shell is also due to increase its gas production from 12 billion cubic in 2019 to roughly 13 in 2030[32].
- Reportedly Shell is planning to offset 120 million tonnes of Co2 a year by 2030. That is the equivalent of more than the entire global voluntary offsetting market capacity in 2019, for just one company[33].
- Shell also reportedly suggested a reforestation programme that will require tree planting that will require 700 million hectares of land over the next 100 years, which is an area roughly the size of Brazil[40].
- Meanwhile according to Shell less than 10-15% of Shell's investments are in renewables (this number includes other false solutions such as CCS)[34].

WORDS VS ACTIONS

Greenwashing adverts and promotions (green + false solutions)	Fossil fuels investments
81%	80%

Green adverts and promotions only	Fossil fuels investments
60%	80%

Fossil fuel adverts and promotions	Fossil fuels investments
16%	80%

21% of Shell's adverts and promotions analysed in this data set promoted false solutions. This included: gas as a green fuel, hydrogen, carbon capture storage (CCS), bioenergy, nature based solutions.

In total, if we combine Shell's advertisements promoting false solutions and fossil fuels themselves,

[27]Shell Global,"Second Quarter 2021 Results" July 29th 2021 https://www.shell.com/investors/results-and-reporting/quarterly-results/2021/q2-2021.html
[28]Edie "Shell campaign promoting carbon offsetting is greenwashing, Dutch advertising watchdog rules" 1st September 2021 https://www.edie.net/news/7/Shell-campaign-promoting-carbon-offsetting-is-greenwashing--Dutch-advertising-watchdog-rules/
[29] Jillian Ambrose, "Shell to expand gas business despite pledge to speed up net zero carbon drive," The Guardian, February 11, 2021, https://www.theguardian.com/ business/2021/feb/11/shell-grow-gas-business-energy-net-zero-carbon
[30]Milieudefensie Voor Veranderaars "Report: green words, fossil deeds, Shell's climate ambitions under the microscope" https://milieudefensie.nl/actueel/groene_woorden_fossiele_daden_shells_klimaatambitie_onder_de_loep-05-02-2021-v5.pdf
[31]Shell, "Shell accelerates drive for net-zero emissions with customer-first strategy," February 11, 2021, https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html.
[30]Statista "Direct greenhouse gas emissions of Royal Dutch Shell globally from 2007-2020" https://www.statista.com/statistics/788448/ghg-emissions-emitted-by-shell/
[31]Shell "2020 Annual report" pg46 https://reports.shell.com/annual-report/2020/servicepages/downloads/files/shell-annual-report-2020.pdf2020
[32]Rystad Energy UCube, August 2020, referenced by Oil Change International in "Big Oil Reality Check: Assessing Oil and Gas Company Climate Plans" September 2020 Discussion Paper, pg3
[33]Reuters Staff, "Shell turns to forests and the earth to soak up its emissions," Reuters, February 11, 2021, https://www.reuters.com/article/us-shell-strategy-carboncapture-carbonof/shell-turns-to-forests-and-the-earth-to-soak-up-its-emissions-idUSKBN2AB0TU
[34]Shell Global Shell accelerates drive for net-zero emissions with customer-first strategy February 2021 https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html

we can see that 37% of Shell's adverts and promotions are actively promoting climate damaging products.

TOTAL ENERGIES
CONTEXT

In 2021, Total changed their name from Total, to Total Energies to emphasise their broader investments outside fossil fuel energies and highlight their commitment to greener energy.

FOSSIL FUEL PROFILE

- TotalEnergies reports project an increase of 50 percent in group wide production of oil and gas between 2015 and 2030[35]
- According to ClientEarth by 2030, Total plans to reduce oil sales but increase its fossil gas sales – from 33% of its sales in 2019 to 50% in 2030[36].
- In 2019, the total emissions operated are 455 million metric tons of emissions, out of which 258 Mt for Europe[37].
- In Total Energies' 2020 capex, only $1.5 billion on average between 2015-2020[38] out of $12.989 bn[39] was invested in 'low carbon[40]' energy.
- From 2018 to 2030 Total's planned emissions are estimated to account for 1% of the global 1.5°C carbon budget[41].
- In 2019, oil production was 1431kbl/d and in 2020, it was 1298 kbl/d[42].
- According to Greenpeace France's calculations, considering the figures published by Total for 2020[43], and the conversion between Twh and kbep/d given by The Mines[44], we found that for every 1 renewable energy unit produced by Total Energies in 2020, there were 445 fossil fuel units produced.

WORDS VS ACTIONS

Greenwashing adverts and promotions (green + false solutions)	Fossil fuels investments
55%	90%

Green adverts and promotions only	Fossil fuels investments
42%	90%

Fossil fuel adverts and promotions	Fossil fuels investments
20%	90%

13% of the advertisements assessed in this data set from Total Energies promoted false solutions, and 8% of which presented fossil gas as a false solution. If we combine their fossil fuel adverts and promotions alongside their false solutions adverts and promotions, we can see that exactly a third of Total's advertisements (33%) are promoting climate products that are actively harmful for the planet.

PREEM
CONTEXT

Preem is the largest fossil fuel company in Sweden and accounts for 80 percent of the Swedish refinery capacity and 30 percent of the Nordic refinery capacity[45]. Preem is owned

[35]Total Energies "Board of Directors' report on the resolutions submitted to the Annual Shareholders' Meeting to be held on May 2021" pg 11, May 2021 https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2021-04/ENG_Board-of-Directors-Report-on-the-resolutions.pdf
[36]Client Earth, "Greenwashing Files: Total" 19th April 2021 https://www.clientearth.org/the-greenwashing-files/total/
[37]Total, "Universal Registration Document 2020", pg 255 2020 https://totalenergies.com/system/files/documents/2021-03/2020-universal-registration-document.pdf
[38]Total "From Net Zero Ambition to Total Strategy" September 2020 pg 10 https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-09/strategy-and-outlook-2020.pdf
[39]Total "Fourth quarter and full year 2020 results" pg 10 20201 https://totalenergies.com/system/files/documents/2021-02/results_q4_2020_en.pdf
[40]Low carbon energies are (according to Total): solar, wind, biogas, hydroelectric and combined cycle gas turbine plants
[41]Client Earth, "Greenwashing Files: Total" 19th April 2021 https://www.clientearth.org/the-greenwashing-files/total/
[42]Total, "Universal Registration Document 2020", pg 69 2020 https://totalenergies.com/system/files/documents/2021-03/2020-universal-registration-document.pdf
[43]Total, "Universal Registration Document 2020",
[44]The Mines, Equivalences énergétiques 2021 https://direns.mines-paristech.fr/Sites/Thopt/fr/co/equivalences-energetiques.html
[45]Preem "From raw material to customer" 2019 https://www.preem.com/in-english/about/what-we-do/

by Corral Petroleum Holdings AB, which in turn is owned by the parent company Moroncha Holdings Co. Limited, founded by Mr. Mohammed Hussein Al-Amoundi which also is the main shareholder[46]. The former CEO of Preem, Petter Holland, worked for 27 years at Exxon[47] (a company that was found to have withheld research about climate change over many years, and paid for the spread of disinformation about it[48]) before joining Preem. He is now on the board for Preem. Still, Preem has taken a very vocal stand for being the solution to climate problems through efficient refineries, participating in carbon storage projects and focusing on refining biofuels from by-products from logged Swedish forests[49].

FOSSIL FUEL PROFILE

- Preem has a refining capacity of more than 18 million m^3 of crude oil every year[50].
- According to Preem around two-thirds of their production is exported. This means that Preem is also one of Sweden's largest export companies [51].
- For a long time, Preem has spent a lot of their marketing spendings on promoting biofuels, and more specifically biofuels from the Swedish forest as is reflected in our current data.
- Preem have stated that less renewables make up less than 1% of their fuel production[52].

WORDS VS ACTIONS

Greenwashing adverts and promotions (green + false solutions)	Fossil fuels investments
81%	98%

Green adverts and promotions only	Fossil fuels investments
38%	99%

Fossil fuel adverts and promotions	Fossil fuels investments
19%	98%

44% of Preem's adverts and promotions analysed in our data set promoted false solutions. Out of these false solutions, Preem was particularly focused on advertising bio-energy and carbon capture storage. If we combine their false solutions adverts and promotions and their fossil fuel adverts and promotions, we can see that 63% of their adverts and promotions promote climate harming products. It is also worth noting that biodiversity risks are to a large extent ignored or directly misleading.

Preem has had several interventions[53] from the Swedish Consumer Agency and Reklamombudsmannen for misleading consumers with their environmental claims. The latest case was in 2020 after a Greenpeace investigation of over 50 suspected misleading advertising units was published at preemwashing.se[54]. Preem's latest greenwashing marketing initiative was an advertising campaign where they suggested that if only everyone just slowed down with their cars on average 10 km/h, loads of CO2 would not be emitted, thus helping the climate. While true as a fact, the purpose was to shift focus away from their unsustainable business and communication.

ENI

CONTEXT

Eni is a state owned fossil fuel company based in Italy. The state owns approximately 30% of the shares of the company, and has an additional power with the so-called "golden share". Eni recently presented a decarbonization plan to be carbon

[46]Preem "Welcome to Investor Relations" 2019 https://www.preem.se/en/in-english/investors/
[47]Preem New President and CEO at Preem AB (publ) 2012 https://www.preem.se/en/in-english/investors/corral/results-and-reporting/2012/new-president-and-ceo-at-preem-ab-publ/
[48]Greenpeace USA Exxon's Climate Denial History: A Timeline 2015 https://www.greenpeace.org/usa/ending-the-climate-crisis/exxon-and-the-oil-industry-knew-about-climate-change/exxons-climate-denial-history-a-timeline/
[49]Preem *"2020 Sustainability Report"*; Based on current fuel output as detailed in "What we create" section pg11
[50]Preem "From raw material to customer" 2019 https://www.preem.com/in-english/about/what-we-do/
[51]Preem "Sweden's largest fuel company" 2019 https://www.preem.se/en/in-english/about/
[52]Preem "Sustainable Products" 2017 https://www.preem.se/om-preem/hallbarhet/hallbarhetsredovisning/hallbarhetsredovisning-2017/fokusomraden/hallbara-produkter/
[53]See examples: *Reklamombudsmannen Reported advertising Advertising for fuel from Preem* 2020 https://reklamombudsmannen.org/beslut/enskilt-beslut/?caseid=2003-72, *Reklamombudsmannen* Radio advertising for fuel from Preem 2016 https://reklamombudsmannen.org/beslut/enskilt-beslut/?caseid=1605-118, *Reklamombudsmannen* Allegations of LPG from Preem 2014 https://reklamombudsmannen.org/beslut/enskilt-beslut/?caseid=1309-150
[54]https://preemwashing.se/

neutral by 2050. This plan does not appear to be in line with the 1.5°C goal. Eni also presented an investment plan for the period 2021-2024, where it is very clear that the company will still focus on finding, selling more oil and gas in the next decisive years.

FOSSIL FUEL PROFILE

- According to Eni's latest relevant available data, Eni emitted in 2018 505 million tonnes of CO2, in 2019 emitted 501 million tonnes of CO2, and in 2020 420 million tonne of CO2, but this number is obviously depending on the Covid-19[55].
- In Eni's 2050 decarbonization plan[56] Eni admits plans to use offsetting (REDD+ projects for approximately 40 million tonnes of CO2 by 2050) and CCS (50 million tonnes of CO2 by 2050).
    - To offset 40 million tons of CO2 per year, ENI would need more than 12,5 million hectares of forest: this would mean 17 million football fields[57]. To demonstrate how predatory these compensation schemes can be:
        - Eni has not addressed where this land will be (with the only exception of the Luangwa Community Forests Project in Zambia).
        - Reportedly Eni would manage to meet its target using just 0.8% of its gross profit. This cost is far below the social cost of the emissions, which is the overall damage carbon emissions cause to society[58].
        - Eni is not the only corporation that is planning to use forests to meet its net-zero carbon emission pledges[59]. The risk these schemes pose of threatening Indigenous People's land rights processes and the food sovereignty and security of peasant farmers whose livelihoods are dependent on forests in the Global South is massive[60]. Eni denies this claim.
        - Eni has no public commitments to address the damages to forests or other relevant carbon sinks caused by its current or planned oil and gas extraction and processing.
- Eni plans to use fossil gas after 2050[61].
- In the 2021-24 investment plan[62] Eni plans to spend 65% of the Capex (Capital Expenditure) in oil and gas, and to even increase the production of hydrocarbons in this period.
- In the 2021-24 investment plan, Eni plans to spend 20% of the Capex in "green" activities, including false solutions such as biorefineries. Only approximately 10% of the Capex will go for renewables[63].
- In January 2020 Eni has been ordered to pay a fine of 5 million € for "false advertising" in relation to their product "Eni Diesel+"[64].
- The Climate Action 100+ Net Zero Company Benchmark Eni does not meet their criteria to decarbonise their future capital expenditures, to explicitly commit to align future capital expenditures with their long term GHG reduction targets or the Paris Agreement to limit global warming to 1.5. The company has also not disclosed it's methodology to reach the Paris Agreement[65].

[55]Eni Spa, *"Eni for 2020 Neutralità carbonica 2050" 2020* https://www.eni.com/assets/documents/ita/sostenibilita/2020/Eni-for-2020-neutralita-carbonica-al-2050.pdf
[56]Eni Spa, *"Eni for 2020 Neutralità carbonica 2050" 2020* https://www.eni.com/assets/documents/ita/sostenibilita/2020/Eni-for-2020-neutralita-carbonica-al-2050.pdf
[57]Greenpeace Italia *"Using the 2019 profit of $22.587 billion48 and average price of carbon credits in the LCFP of $4.5 per tCO2e"* (pg 15) https://www.greenpeace.org/static/planet4-italy-stateless/2021/06/719f406b-gp-lcfp_scientific-report_english-version-1.pdf
[58]Greenpeace Italia *"Using the 2019 profit of $22.587 billion48 and average price of carbon credits in the LCFP of $4.5 per tCO2e"* (pg 18) https://www.greenpeace.org/static/planet4-italy-stateless/2021/06/719f406b-gp-lcfp_scientific-report_english-version-1.pdf
[59]Corporate Accountability *"The Big Con"* 2021 https://www.corporateaccountability.org/wp-content/uploads/2021/06/The-Big-Con_EN.pdf
[60]https://www.greenpeace.org/static/planet4-italy-stateless/2021/05/5b1bf55a-report-eni-redd.pdf
[61]Eni Spa, *"Eni for 2020 Neutralità carbonica 2050" 2020* pg 20 https://www.eni.com/assets/documents/ita/sostenibilita/2020/Eni-for-2020-neutralita-carbonica-al-2050.pdf
[62]Eni Spa, "*We accelerate transformation: strategic plan 2021-2024"* 2021 https://www.eni.com/it-IT/investitori/piano-strategico.html
[63]Eni Spa, "Assemblea ordinaria di Eni SpA: 12 maggio 2021" 2021 (pg 65) https://www.eni.com/assets/documents/ita/governance/assemblea/2021/Domande-e-Risposte-prima-Assemblea-2021.pdf
[64]AGCM "PS11400 - ICA: ENI fined 5 million euros for misleading advertising in its ENI diesel+ campaign" 15th January 2020 https://en.agcm.it/en/media/press-releases/2020/1/PS11400
[65]Climate Action 100+ "Company Assessment: Eni Spa" 2021 https://www.climateaction100.org/company/eni-spa/

WORDS VS ACTIONS

Greenwashing adverts and promotions (green + false solutions)	Fossil fuels investments
55%	80%

Green adverts and promotions only	Fossil fuels investments
38%	80%

Fossil fuel adverts and promotions	Fossil fuels investments
8%	80%

16% of Eni's advertisements assesed in this data promoted false solutions including bioenergy, gas as a 'green' fuel, hydrogen and carbon capture storage. Bioenergy featured most heavily out of the above list. 24% of the advertisements assessed in this data set from Eni (almost a quarter) promoted false solutions and fossil fuel advertisements, which are all deemed climate damaging adverts and promotions.

FORTUM CONTEXT

Fortum is a Finnish energy company whose biggest owner is the Finnish state with 50.76% of shares[66]. It has become one of the energy giants in Europe after acquiring 76% stake of German energy giant Uniper[67]. Fortum and its subsidiary Uniper gained worldwide publicity in 2020 when they opened a new coal plant, Datteln 4 in Germany[68]. In spring 2021 Uniper also sued the Dutch government over its decision to impose a coal phase out law[69].

In December 2020 Fortum & Uniper presented a new joint strategy[70]. According to the new strategy the companies aim to be carbon neutral in Europe by 2035 (Scope 1 & 2) and globally they aim to be carbon neutral by 2050. According to Uniper the carbon neutrality will be met with the help of CCS and compensation[71].

While Fortum & Uniper aim to build 1.5-2 GW of new onshore wind and solar power generation capacity by 2025 they are also planning to invest more and more on fossil gas. In fact, Uniper aims to triple its LNG portfolio by 2025 from current 3 mtpa (million tons per annum) to 10 mtpa[72]. Uniper is also heavily involved in two other infamous fossil gas projects: Nordstream 2[73] and sources pipeline gas from SOCAR[74].

We decided to include a major utility company in this research to demonstrate that greenwashing is a problem for energy companies across the board.

FOSSIL FUEL PROFILE

- In 2020 Fortum & Uniper produced in total 142 terawatt hours of power. 54% of this was done with lignite, hard coal and fossil gas, fossil gas being the biggest source of electricity with 45% stake. Only 1% was produced with wind and solar[75].
- The total CO2 emissions from Uniper & Fortum (77,7 MT in 2020[76]) are bigger than the

[66]Fortum "*Major shareholders, list of Fortum's largest shareholders, updated monthly"* Forum 2021 https://www.fortum.com/about-us/investors/share-information/major-shareholders

[67]Uniper "*Shareholder Structure"* 2021 https://ir.uniper.energy/websites/uniper/English/1300/shareholder-structure.html

[68]*BNN Bloomberg "Germany's Newest Coal Plant Becomes Focal Point of Climate Protests" May 2020 https://www.bnnbloomberg.ca/germany-s-newest-coal-plant-becomes-focal-point-of-climate-protests-1.1443240*

[69]Euractiv "*Energy Charter Treaty strikes again as Uniper sues Netherlands over coal phase-out"* 20th April 2021 https://www.euractiv.com/section/energy/news/energy-charter-treaty-strikes-again-as-uniper-sues-netherlands-over-coal-phase-out/

[70]Fortum "*Fortum CMD: strategy update – new financial and climate targets with a clear path to carbon neutrality and a growing dividend"* 3rd December 2020 https://www.fortum.com/media/2020/12/fortum-cmd-strategy-update-new-financial-and-climate-targets-clear-path-carbon-neutrality-and-growing-dividend

[71]S&P Global Market Intelligence *"Europe's Uniper bets on green gas, carbon capture to decarbonize"* 10th March 2020 https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/europe-s-uniper-bets-on-green-gas-carbon-capture-to-decarbonize-57507213

[72]Uniper *Annual Report 2020 Financial Results* February 2021 pg 115 https://ir.uniper.energy/download/companies/uniperag/Annual%20Reports/2021-03-04_FY2020_Uniper_Group_Annual_Report_en.pdf

[73]Nord Stream 2 *"Shareholder & Financial Investors"* 2021 https://www.nord-stream2.com/company/shareholder-and-financial-investors/

[74]Urgewald "*Two days ahead of Uniper's AGM, Dutch state asks German court to review legal basis for compensation claims"* May 17th 2021 https://urgewald.org/en/medien/two-days-ahead-unipers-agm-dutch-state-asks-german-court-review-legal-basis-compensation

[75]Fortum, *"Sustainability 2020"* 23rd April 2021 https://www.fortum.com/files/fortum-sustainability-2020/download pg24

[76]Fortum, *"Sustainability 2020"* 23rd April 2021 https://www.fortum.com/files/fortum-sustainability-2020/download

emissions of Finland[77] (48,3 MT)[78].

WORDS VS ACTIONS

Greenwashing adverts (green + false solutions)	Fossil fuels in portfolio
81%	54%

Green adverts only	Fossil fuels in portfolio
77%	54%

Fossil fuel adverts	Fossil fuels in portfolio
0%	54%

REPSOL

CONTEXT

Repsol is the leader in emissions in Spain[79]. The greatest sign of Repsol's resistance to change is that the fossil fuel company is postponing two decades, until after 2040, the main efforts to reduce 50% of their emissions. Repsol is not committed at all with gross emissions reductions as their own carbon intensity indicator include offsetting[80].

In 2019, it entered the list of the leading fossil gas operators in Spain, ranking third in terms of sales volume with an 11% share sales volume and is the marketer that has grown the most in recent years in terms of sales[81]. The company intends to make a strong commitment to fossil gas in the coming years, both in terms of marketing and in the use of fossil gas for land and sea transport[82].

On the other hand, the company has its focus on hydrogen with several projects for the coming years. One of the projects aims to produce synthetic fuels in the refinery in Bilbao. Repsol's commitment for the coming years also focuses on synthetic fuels, CCS/U and blue hydrogen[82]. It is part of the Clean Hydrogen Alliance, the largest hydrogen lobby in Brussels, which pushes for fossil hydrogen to be taken into account. In total, 10% of Repsol's advertisements were dedicated to such false solutions.

FOSSIL FUEL PROFILE

- In 2019, Repsol oil refineries reportedly had a capacity of 44.5 million tons, which represented the highest capacity among all other companies in Spain[83].
- According to Oil Change International by 2030 they are projected to increase their oil production by 22%[84].
- The Climate Action 100+ Net Zero Company Benchmark finds that Repsol's decarbonisation strategy does not meet almost any of their criteria[85].

WORDS VS ACTIONS

Greenwashing adverts and promotions (green + false solutions)	Fossil fuels investments
48%	78%

[77]Statistics Finland, Greenhouse gas emissions decreased by 9 per cent 2021 https://www.stat.fi/til/khki/2020/khki_2020_2021-05-21_tie_001_en.html
[78]Uniper reported in Fortum papers "Sustainability Report 2020" p. 19 https://www.fortum.com/files/fortum-sustainability-2020/download
[79]El Diario "*Estas son las diez empresas que más CO2 emiten en España: Repsol adelanta a Endesa"* 13th April 2021 https://www.eldiario.es/ballenablanca/crisis_climatica/son-diez-empresas-contaminantes-pais-gas-nuevo-carbon_1_7801491.html
[80]Repsol *Informe de Gestión Integrado* 2020 p71 https://www.repsol.com/content/dam/repsol-corporate/es/sostenibilidad/informes/2020/informe-gestion-integrado-2020.pdf
[81]*Greenpeace España "¿Por qué lo llaman gas natural cuando quieren decir gas fósil?" 2021 https://es.greenpeace.org/es/en-profundidad/por-que-lo-llaman-gas-natural-cuando-quieren-decir-gas-fosil/*
[82]El periodico de la energía. Repsol espera comenzar a explotar su enorme reserva de gas en Brasil en 2026, 12th 2020 https://www.expansion.com/empresas/energia/2020/07/28/5f1ff61d468aeb35688b459b.html
Expansión. Repsol y Nortegas acuerdan abrir una red de suministro de gas natural vehicular en gasolineras, 20th July https://www.expansion.com/empresas/energia/2020/07/28/5f1ff61d468aeb35688b459b.html
[82]Repsol "*Carbon Capture Storage and Use"* 2021 https://www.repsol.com/es/sostenibilidad/cambio-climatico/nuevos-desarrollos-tecnologicos/index.cshtml
[83]Cores "*Estadísticas*" 2021 "https://www.cores.es/es/estadisticas
[84]Oil Change International *"Big Oil Reality Check; Assessing Oil and Gas Company Climate Plans"* pg 15 September 2020 http://priceofoil.org/content/uploads/2020/09/OCI-Big-Oil-Reality-Check-vF.pdf
[85]Climate Action 100+ *"Company Assessment: Repsol"* 2021 https://www.climateaction100.org/company/repsol/

Green adverts and promotions only	Fossil fuels investments
38%	78%

Fossil fuel adverts and promotions	Fossil fuels investments
27%	78%

METHODOLOGY

DeSmog's team of researchers analysed adverts and promotions from the following companies and platforms, published between start of December 2019 and end of April 2021. In total, over 3,000 adverts and promotions from the six companies were analysed and classified.

- **Companies:** Total (France), Preem (Sweden), Repsol (Spain), Eni (Italy), Royal Dutch Shell (Netherlands / UK), Fortum (Finland).[86]
- **Platforms:** Twitter, Facebook, Instagram and Youtube.[87]

WHY ARE THESE 'FALSE SOLUTIONS' FALSE?

Fossil gas

Fossil gas is certainly not a 'green alternative' as it has been presented in many fossil advertisements, as it is in fact a fossil fuel. Fossil gas consists of over 80% of methane[88], a potent greenhouse gas that is approximately 80 times more powerful than CO2 at warming the atmosphere over a 20-year time frame[88]. Methane leaks into the atmosphere during the extraction, processing, distribution and use of fossil gas[89]. This means that fossil gas contributes significantly, and with a growing share, to anthropogenic greenhouse gas emissions. It also contributes to the formation of harmful air pollution. Global growth and new investments in fossil gas consumption or production is inconsistent with a 1.5C carbon budget[90] and the protection of rights, including the rights of Indigenous Peoples and local communities. It can't be treated as a transitional fuel. For the decade 2008–2017, global human made methane emissions from oil and gas are estimated be 80 Tg CH4 yr−1 or 63 % of all fossil methane emissions[91].

Hydrogen

Blue and grey hydrogen refer to hydrogen made by processing a fossil fuel, they are therefore both fossil fuel based products. The production of both blue or grey hydrogen results in the release of greenhouse gases. Recent research from Stanford University argued that Blue Hydrogen is in fact worse for the environment than fossil gas, or even coal[92]. A recent report by the Fossil Free Politics coalition found that 'green' hydrogen currently only represents less than 0.1% of the hydrogen produced in Europe[93]. On that basis, there has been widespread concern amongst environmental NGOs that 'clean hydrogen' serves as a Trojan Horse that energy companies can use to encourage more investment into new or existing fossil gas or fossil hydrogen infrastructure.

[86]DeSmog's researchers analysed all posts from the "global" social media accounts for the above companies, as well as any social media accounts set up specifically for the following countries: Belgium, Germany, France, Bulgaria, Denmark, Sweden, Finland, Italy, Spain, Hungary, Romania, the Netherlands.

[87]For Twitter, researchers analysed all posts on the "media" tab. For Facebook and Instagram researchers analysed all posts appearing in Facebook Ad Library (which covers adverts published on both / either of the platforms.)

[88]VanLoon, Gary W., and Stephen J. Duffy. Environmental chemistry: a global perspective. Oxford university press, 2017.

[88]IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

[89]Shorter, J. H., Mcmanus, J. B., Kolb, C. E., Allwine, E. J., Lamb, B. K., Mosher, B. W., Harriss, R. C., Partchatka, U., Fischer, H., Harris, G. W., Crutzen, P. J., and Karbach, H.-J.: Methane emission measurements in urban areas in Eastern Germany, J. Atmos. Chem., 124, 121–140, 1996.

Lamb, B. K., Edburg, S. L., Ferrara, T. W., Howard, T., Harrison, M. R., Kolb, C. E., Townsend-Small, A., Dyck, W., Possolo, A., and Whetstone, J. R.: Direct Measurements Show Decreasing Methane Emissions from Natural Gas Local Distribution Systems in the United States, Environ. Sci. Technol., 49, 5161–5169, https://doi.org/10.1021/es505116p, 2015.

Saunois, Marielle, et al. "The global methane budget 2000–2017." Earth System Science Data 12.3 (2020): 1561-1623.

[90]Welsby, D., Price, J., Pye, S. et al. Unextractable fossil fuels in a 1.5 °C world. Nature 597, 230–234 (2021). https://doi.org/10.1038/s41586-021-03821-8.

[91]Saunois, Marielle, et al. "The global methane budget 2000–2017." Earth System Science Data 12.3 (2020): 1561-1623.

[92]Robert W Howarth, Mark Z Jacobson "How green is blue hydrogen" 12th August 2021 https://onlinelibrary.wiley.com/doi/10.1002/ese3.956

[93]Fuel Cells and Hydrogen Observatory, 'Chapter 2 Hydrogen molecule market', September 2020, https://www.fchobservatory.eu/sites/default/files/reports/ Chapter_2_Hydrogen_Molecule_Market_070920.pdf

Green hydrogen or non-fossil hydrogen is produced using renewable electricity via electrolysis in a power-to-gas plant (P2G)[88]. It can be stored and then used to produce extra electricity when needed, or can go to hard-to-decarbonise heavy industries like steel. It can also be injected in limited quantities into existing fossil gas grids. When burnt, hydrogen produces water rather than CO2. However, until all grid electricity is from renewable sources, there is a risk that in reality, 'green hydrogen' is produced by a mix of renewable and fossil fuel production. Greenpeace supports green hydrogen produced by renewable sources.

Carbon capture storage

Carbon Capture and Storage (CCS) is a term to describe various methods used to capture carbon dioxide emitted from coal power plants, fossil gas processing or other industrial activities. The CO2 is liquefied and then stored deep under the earth's surface, removing it from the atmosphere for the foreseeable future.

CCS technology has been promised by the fossil fuel industry for decades, but despite large amount of money spent on it, both by companies and public funds it has not been deployed at scale and even the EU admits it has never taken off[89]. The IPCC's 2018 report on limiting global warming to 1.5 degrees describes most carbon removal technologies as largely unproven and raising substantial concerns about adverse side-effects on environmental and social sustainability[90]. CCS requires storage space in geological formations which will require management to minimise the risk of leakage and induced seismicity[91].

Greenpeace supports pollution prevention over pollution control as a way to protect the environment. Pollution prevention is premised on the development of clean production instead of "end-of-pipe" fixes that seek to control the fate of hazardous substances and waste products after they are produced. CCS is an example of an "end-of-pipe" pollution control technology, that is a costly technological response to the creation of the waste product CO2.

CCS should not be used as a justification for building or approving new fossil fuel power plants, in particular when used to argue that emissions might be captured and sequestered at some unspecified point in the future (i.e. the so-called 'capture ready' concept). Building expectations about large-scale carbon capture in the future can lead to an actual reduction of near-term mitigation efforts[92]. Greenpeace does not support countries providing public financial support to CCS, at the expense of funding renewable energy development and investment in energy efficiency. For more information on the dangers of CCS please refer to Greenpeace USA's attached report[93].

[88]Note there is no universally accepted definition of Green Hydrogen AnthonyVelazquez Abad (Research Associate in Energy Systems) Paul E.Dodds PhD(Associate Professor in Energy Systems) Green hydrogen characterisation initiatives: Definitions, standards, guarantees of origin, and challenges Energy Policy Volume 138, March 2020, 111300

[89]European Commission "*Carbon capture, utilisation and storage*" 2021 https://ec.europa.eu/jrc/en/research-topic/carbon-capture-utilisation-and-storage

[90]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press.
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Dooley, K. and S. Kartha, 2018: Land-based negative emissions: risks for climate mitigation and impacts on sustainable development. International Environmental Agreements: Politics, Law and Economics, 18(1), 79–98, doi:10.1007/s10784-017-9382-9.

[91]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press.
Pawar, R.J. et al., 2015: Recent advances in risk assessment and risk management of geologic CO2 storage. International Journal of Greenhouse Gas Control, 40, 292–311, doi:10.1016/j.ijggc.2015.06.014.
Nicol, A. et al., 2013: Induced seismicity; observations, risks and mitigation measures at CO2 storage sites. Energy Procedia, 37, 4749–4756, doi:10.1016/j.egypro.2013.06.384.

[92]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press.
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Dooley, K. and S. Kartha, 2018: Land-based negative emissions: risks for climate mitigation and impacts on sustainable development. International Environmental Agreements: Politics, Law and Economics, 18(1), 79–98, doi:10.1007/s10784-017-9382-9.

[93]Greenpeace USA *"Carbon Capture SCAM (CCS). How a False Climate Solution Bolsters Big Oil" 2015* https://www.greenpeace.org/usa/

Bioenergy

Bioenergy is energy released by burning plant material such as wood, crops or agricultural waste for example. Land use for bioenergy (with or without CCS) could have substantial impacts on environmental services and ecosystems as well as on agricultural and food systems[86]. Dedicated bioenergy crops could substantially increase agricultural water demand and nitrogen fertilizer use[87]. Bioenergy, when used with carbon capture and storage, could have significant impacts on land, energy, water, and nutrients if deployed at the scales proposed to address global heating[88]. Despite growing evidence[90] of the negative climate and biodiversity impacts of many forms of bioenergy, it is often falsely claimed that all forms of bioenergy are renewable energy. This is driving the increasing extraction of wood from forests, and use of food and feed crops for fuel. The devastation driven by the European energy industry is already seen and felt in forests across Europe[91]. Forests help stabilise the climate by absorbing CO2 and are home to most land-based species and biodiversity. The negative climate impacts are already showing as declines in the carbon sinks provided by European forests[92].

While the use of some residue and waste streams from forestry and agriculture for energy can be sensible if the resources don't have other material uses, these sources can play only a small role in the needed mix of renewable energy. Currently making up 60% of the EU's renewable energy, and with more than half of the wood harvested ending up as energy[93] projects boasting an even bigger use of bioenergy are far from being sustainable.

Nevertheless over €6.5 billion[94] in subsidies were paid out by 15 European governments in 2017 alone for the burning of wood for energy. Our tax money should be supporting only truly clean and green energy.

Nature based solutions

Many fossil fuel companies have announced vague and distant 'net zero by 2050' climate targets, which may sound ambitious but involve little

[86]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press. Full list of original citations is: Smith, L.J. and M.S. Torn, 2013: Ecological limits to terrestrial biological carbon dioxide removal. Climatic Change, 118(1), 89–103, doi:10.1007/s10584-012-0682-3. Boysen, L.R., W. Lucht, D. Gerten, and V. Heck, 2016: Impacts devalue the potential of large-scale terrestrial CO2 removal through biomass plantations. Environmental Research Letters, 11(9), 1–10, doi:10.1088/1748-9326/11/9/095010. Heck, V., D. Gerten, W. Lucht, and L.R. Boysen, 2016: Is extensive terrestrial carbon dioxide removal a 'green' form of geoengineering? A global modelling study. Global and Planetary Change, 137, 123–130, doi:10.1016/j.gloplacha.2015.12.008. Krause, A. et al., 2017: Global consequences of afforestation and bioenergy cultivation on ecosystem service indicators. Biogeosciences, 14(21), 4829–4850, doi:10.5194/bg-14-4829-2017. Creutzig, F. et al., 2012: Reconciling top-down and bottom-up modelling on future bioenergy deployment. Nature Climate Change, 2(5), 320–327, doi:10.1038/nclimate1416. Calvin, K. et al., 2014: Trade-offs of different land and bioenergy policies on the path to achieving climate targets. Climatic Change, 123(3–4), 691–704, doi:10.1007/s10584-013-0897-y. Popp, A. et al., 2014b: Land-use transition for bioenergy and climate stabilization: Model comparison of drivers, impacts and interactions with other land use based mitigation options. Climatic Change, 123(3–4), 495–509, doi:10.1007/s10584-013-0926-x. Creutzig, F. et al., 2015: Bioenergy and climate change mitigation: an assessment. GCB Bioenergy, 7(5), 916–944, doi:10.1111/gcbb.12205. Kreidenweis, U. et al., 2016: Afforestation to mitigate climate change: impacts on food prices under consideration of albedo effects. Environmental Research Letters, 11(8), 085001, doi:10.1088/1748-9326/11/8/085001. Boysen, L.R., W. Lucht, and D. Gerten, 2017a: Trade-offs for food production, nature conservation and climate limit the terrestrial carbon dioxide removal potential. Global Change

[87]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press.

[88]IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. In Press.
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[90]Timothy D. Searchinger et al. *"Europe's renewable energy directive poised to harm global forests"* Nature 2018 https://www.nature.com/articles/s41467-018-06175-4

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[93]Joint Research Centre *"The use of woody biomass for energy production in the EU"* 2020 https://publications.jrc.ec.europa.eu/repository/handle/JRC122719

[94]Trinomics Financial support for electricity generation & CHP from solid Biomass 2019 http://trinomics.eu/wp-content/uploads/2019/11/Trinomics-EU-biomass-subsidies-final-report-28nov2019.pdf

real change[95]. Instead of stopping the extraction and burning of fossil fuels, fossil fuel companies' "net zero by 2050" targets are often based on plans to purchase huge amounts of carbon credits to offset their emissions. Carbon offsetting on this scale is expected to require vast areas of land for tree plantations in the Global South[96], which will threaten food production and forests – particularly harming farming and indigenous communities who have done little to cause the climate crisis but who are already experiencing severe climate change impacts.

False solutions category	% average across companies in order of size
Gas as green fuel	4.2%
Bioenergy	2.7%
Hydrogen	2.6%
Carbon Capture Storage	1.8%
Nature based solutions	1%

CONCLUSION

While DeSmog has only analysed six companies in this investigation, this report gives a snapshot into the increasing global phenomenon of greenwashing which we can see is delaying climate action across the globe. From the UK[97], to Australia[98] to the US[99] where we are seeing increasing examples of NGOs and grassroots groups challenging fossil fuel companies on the basis of greenwashes. As we approach COP26 we are likely to continue witnessing increasing public communication from fossil fuel companies assuring us that they are front runners in the energy transition. But the reality is that many fossil fuel companies are still heavily invested in fossil fuels that are spiralling the climate disaster out of control. Governments are not properly regulating them, and companies' future orientated promises have too often not been met.

We need more radical action in order for us to have a livable planet. These greenwashes are a distraction and are increasingly a blocker to the climate action we need. Green words won't save us, only actions will. It's time to rapidly phase out fossil fuels, and stop giving a platform to industries that knowingly create disaster. It's time to stop the lies and propaganda of the fossil fuel industry, and for the EU Commission to ban fossil fuel advertisements and sponsorships.

For full access to the dataset, please visit DeSmog's full table for reference here.

Research conducted by DeSmog
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