



AVAAZ

Meta-Denial: How Facebook Fails to Keep Up with the Evolving Tactics of Today's Climate Misinformers

- The top five climate misinformers on Facebook racked up over 61 million views
- 88% of their posts went unlabelled
- PragerU led top misinformers in polluting News Feeds and running ads with climate change denial

December 16, 2021

Contents

- [Executive Summary](#)
 - [Key Findings](#)
 - [Section 1: The Top 5 Emitters of Climate Change Misinformation on Facebook](#)
 - [Section 2: Facebook Allowed Top Climate Misinformers to Skirt Ad Policies and Run Climate Change-Denying Ads](#)
 - [Policy Recommendations](#)
 - [Timeline of Facebook's Climate-Related Promises and Missteps](#)
 - [Methodology and Dataset](#)
 - [Acknowledgment](#)
-

Executive Summary

The science has never been clearer: we are in unprecedented territory, [with every region on Earth](#) already feeling the effects of human-driven climate change. But many leaders are still hesitant to take the action needed to keep Earth's temperature rise to the crucial benchmark of 1.5° C by the end of the century.

For decades, [climate misinformation campaigns](#) have played a strong role in [delaying effective climate action](#).

They continue to do so -- in part because top climate misinformers have found a welcome home on Facebook.

Despite [repeated assurances](#) from Facebook that it is addressing the spread of climate misinformation on its platform,¹ an analysis by Avaaz shows that Facebook allowed top climate misinformers to skirt its policies and spread false and misleading information on climate change to millions of users unchecked.

Dovetailing [research conducted earlier this year](#), Avaaz analyzed posts from known climate misinformers² with significant followings on Facebook between April 6, 2021 and November 15, 2021, comparing claims made in these posts to fact checks from Facebook's U.S. third-party fact-checking partners,³ the scientific consensus represented by the Intergovernmental Panel on Climate Change, NASA, NOAA and other scientific or academic sources,⁴ and Facebook's own [Climate Science Center](#). Experts from [Climate Feedback](#), a Facebook fact-checking partner, then reviewed all posts and advertisements judged to contain potential misinformation by Avaaz, and Avaaz relied on the fact-checker's judgement. All misinformers studied were ranked according to the number of estimated views that their climate change misinformation posts had accumulated on Facebook in the past seven months.

Avaaz found that, **within this time period, the top 5 emitters of climate misinformation on Facebook were PragerU, Turning Point USA, John Stossel, Bjørn Lomborg, and Alan Jones**. All five **accumulated more than 61 million estimated views⁵ combined on posts containing climate falsehoods**, including the claim that there is no evidence for the adverse effects of climate change. **Facebook failed to label 88% of these posts**. Moreover, Avaaz **researchers found that the platform allowed these same actors to promote climate change denial and other misinformation through paid advertisements that were seen an estimated 6.9 million times by users**.

As mounting scientific evidence has made the physics of the greenhouse effect [impossible to deny](#), climate misinformers have shifted to more nuanced tactics of "lukewarmers" - individuals who admit that climate change is real while pushing narratives that risk undermining effective policy action. The tactics of these Facebook influencers identified in this analysis reflect this shift, like other actors Avaaz has [analyzed](#). Adopting a "lukewarmer" stance allows misinformers to appear as moderate interlocutors in debates about climate change, while [pushing for similar policy outcomes to climate deniers](#). These policy positions are often supported by [outright falsehoods, cherry-picked data, and misleading claims](#).

Facebook has failed to keep up with these evolving tactics, as evidenced by the low percentage of misinformation in our dataset that had fact-checking labels applied and the reach of the misinformers behind them. The company has also declined to take substantive and meaningful steps, including endorsing a sufficient definition of climate change misinformation that encompasses the current misinformation landscape, [despite repeated calls](#) to do so [from experts and advocates](#), including Avaaz. Not only does Facebook need to take more aggressive steps against this problem, lawmakers in the U.S., EU, and other parts of the world must urgently work together to introduce tech regulation that requires transparency from the platforms and algorithmic accountability.

Key Findings

Facebook allowed top climate misinformers to rack up over 61 million estimated views on climate misinformation posts

- Between April 6, 2021 and November 15, 2021, 136 posts⁶ from five known climate misinformers -- PragerU, Turning Point USA, John Stossel, Bjørn Lomborg, and Alan Jones -- containing misinformation about climate change and energy accumulated over 61 million estimated views.⁷
- The majority of posts contained claims that there is no evidence for the adverse effects of climate change (57% of total estimated views, or nearly 35 million) or attempted to discredit climate advocates by citing false or misleading information (30% of total estimated views, or over 18 million).
- John Stossel accumulated over 25 million estimated views on just 7 climate misinformation posts. PragerU racked up over 24 million estimated views on 61 posts. Turning Point USA accumulated nearly 11 million estimated views on only 5 posts. Bjørn Lomborg and Alan Jones accumulated 813,000 views and 352,000 estimated views, respectively, on 51 and 12 posts.

Facebook failed to apply fact-checking labels on 88% of climate misinformation posts from these top five actors

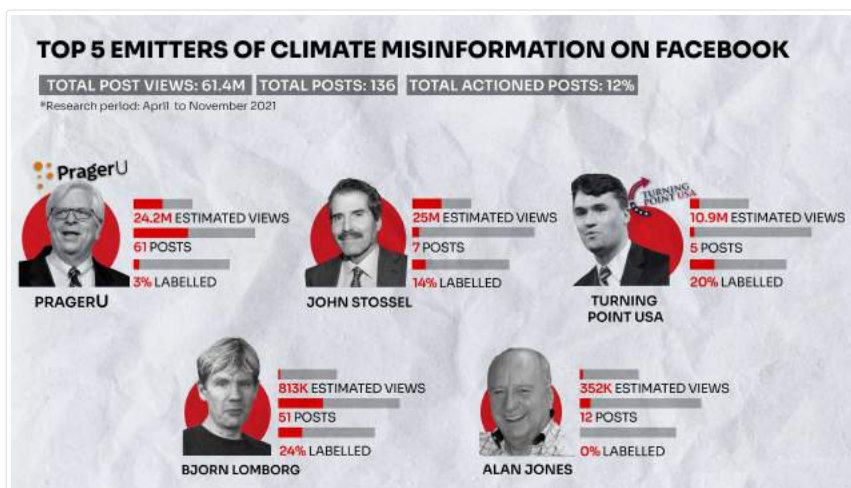


- As of November 15, 2021, only 12% of the climate misinformation posts from these actors contained a fact-checking label despite having been fact-checked by Facebook's fact-checking partners.
- PragerU accounted for 45% of the misinformation posts in this study yet only 3% contained a fact-checking label.
- 40% of posts were debunked by information about common climate myths in the Facebook Climate Science Center. However, only 10% of those posts contained a fact-checking label or directed users to the Climate Science Center.
- In the week leading up to COP26 in Glasgow and during the summit, 18 posts with 4.2M views were posted by Turning Point USA (6% of posts), Lomborg (39% of posts), PragerU (33%), and Jones (22%).² Only 6% of these posts were labeled by Facebook as false or misleading.

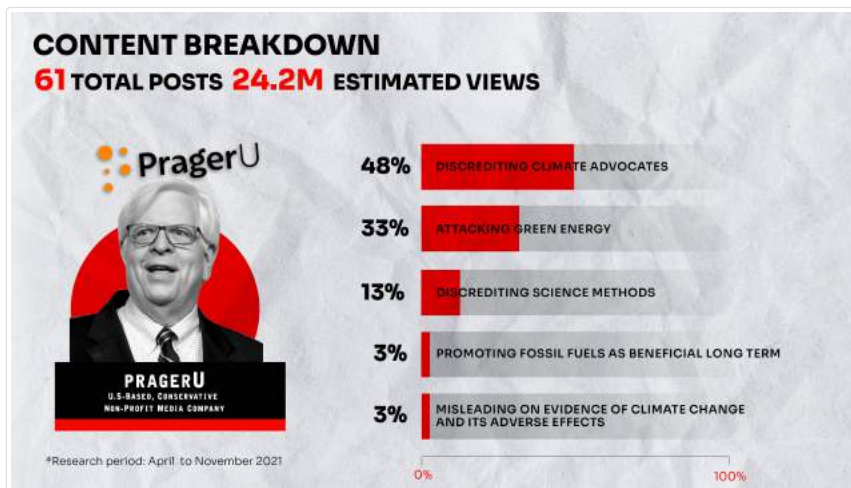
In the lead up to and during COP26, Facebook allowed lead climate misinformers to skirt ad policies by running climate-denying ads

- Between January 1, 2020 and November 11, 2021, PragerU and Turning Point USA spent \$56,900 to promote climate misinformation through Facebook's ad platform, placing 92 ads that were seen by users nearly **7 million times**.²
- PragerU ran a 16-part ad campaign showcasing a viral, multi-platform video that contains several incorrect and misleading claims on the effects of climate change. While the same [video](#) was labelled "Partly False" by Facebook prior to this ad campaign, just one of those 16 ads was removed by the platform for violating advertising policies. 15 other ads containing the video remained unactioned.

Section 1: The Top 5 Emitters of Climate Change Misinformation on Facebook



1. PRAGER U



10

PragerU is a U.S.-based, non-profit organization with the stated aim of publishing videos to “[promote American values](#)” to help “people think and live better”; targeting to [Gen-Z viewers](#) and [educators](#). It was founded in 2009 by [conservative radio host Dennis Prager](#). Despite PragerU’s [track record](#) of publishing content that contains false or misleading claims, the organization has amassed a large following on social media [with the help of Facebook and YouTube’s algorithms](#), and Facebook’s [failure to effectively enforce policies against misinformation](#).

PragerU has [received funding from several large conservative donors](#), including Texas fracking billionaires Dan and Farris Wilks, dark money conduit group DonorsTrust, and the Lynde and Harry Bradley Foundation, which is known for [funding institutions that oppose renewable energy](#).

Between April 6, 2021 and November 15, 2021, PragerU published 46 videos on its Facebook page ¹¹ containing fact-checked climate misinformation, accumulating an estimated 20.2 million views. Facebook allowed 97% of PragerU’s climate misinformation posts to spread unchecked, with just two receiving a fact-checking label as of November 15, 2021.

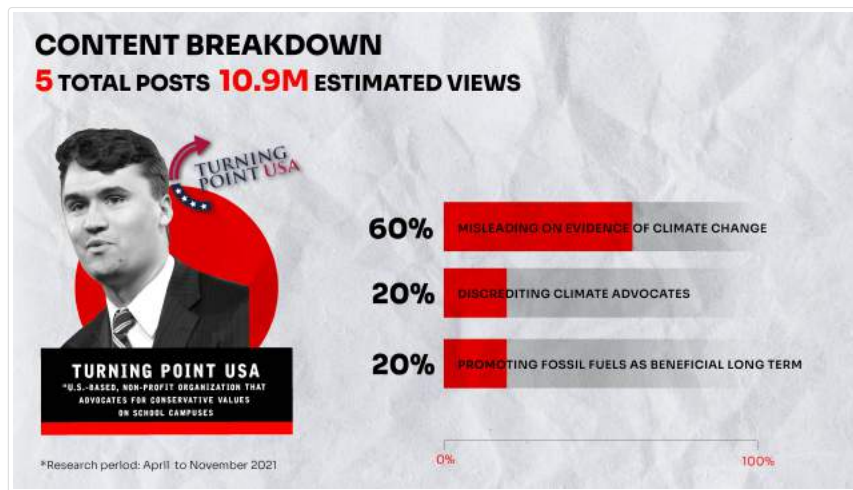
Nearly half (48%) of PragerU’s climate misinformation posts were focused on [discrediting climate](#) advocates and climate “alarmism”; while the rest attacked green energy as excessively polluting, unreliable, and/or expensive, or promoted fossil fuels as environmentally and/or economically beneficial in the long term.



One [video](#), which received over 6.3 million views as of November 15, 2021, makes several misleading claims about the consequences of increased concentrations of carbon dioxide in the atmosphere, suggesting that warming caused by CO2 is “much less significant than we’ve been told,” and that increased CO2 levels are “far from unprecedented territory for our planet because global concentrations of CO2 have been ten times higher in the past.”

In fact, scientists agree that the warming due to increased CO2 levels is unprecedented and already having [measurable effects on the planet](#). They also say the Earth has experienced CO2 levels much higher than current levels -- but the narrator fails to mention that [this occurred around 600 million years ago](#), before the existence of humans and other mammals.

2. TURNING POINT USA



Turning Point USA is a U.S.-based, non-profit organization that targets students with a stated mission “ [to identify, educate, train, and organize students to promote the principles of freedom, free markets, and limited government.](#) ” It was founded in [2012 by then-student activist Charlie Kirk.](#)

Turning Point USA has a history of [spreading misinformation](#) about [climate change](#), COVID-19 and other pressing issues, and during the 2020 election cycle, it was reported that [the organization ran a domestic troll farm on Facebook, Twitter, and Instagram.](#)

The organization discloses sources for [less than 3% of its funding](#) , but Kirk has admitted that it accepts money from donors “ [in the fossil-fuel space.](#) ” Barry Russell, president and CEO of the Independent Petroleum Association of America (IPAA), [is part of the Turning Point USA advisory board](#) , and Allie Hanley, of Hanley Petroleum, [is an advisory board member and donor.](#) Like PragerU, Turning Point USA [has accepted donations](#) from the [anti-renewable Lynde and Harry Bradley Foundation](#), as well as several [Koch-tied institutes.](#)

Within the time period analyzed, Turning Point USA’s most-viewed climate misinformation video accumulated 8,6 million views, spreading the narrative that the evidence for climate change and its adverse effects should be questioned.

The following post features this video, viewed 8.6 million times, titled “ [Climate Change panic is not based on facts.](#) ” The speaker in the video, in discussing climate change, asks, “Why would we hinder America’s energy dominance around something that has highly questionable data?” It was posted multiple times to the Turning Point USA Facebook page, including after it was [fact-checked](#) by Climate Feedback in 2021. Facebook applied the “Partly False” label inconsistently to identical versions of the video - while a [June 2021 post](#) is labeled with a Facebook measure, an [identical version](#) posted in October 2020 remained unlabeled at the time of publication.

The [video also ran on Twitter](#) without any measures and can be found live with over 5,800 views to date.

Example of Post Without Label from Facebook

Post date: Oct 29, 2020



Example of Post With “Partly False” Label from Facebook

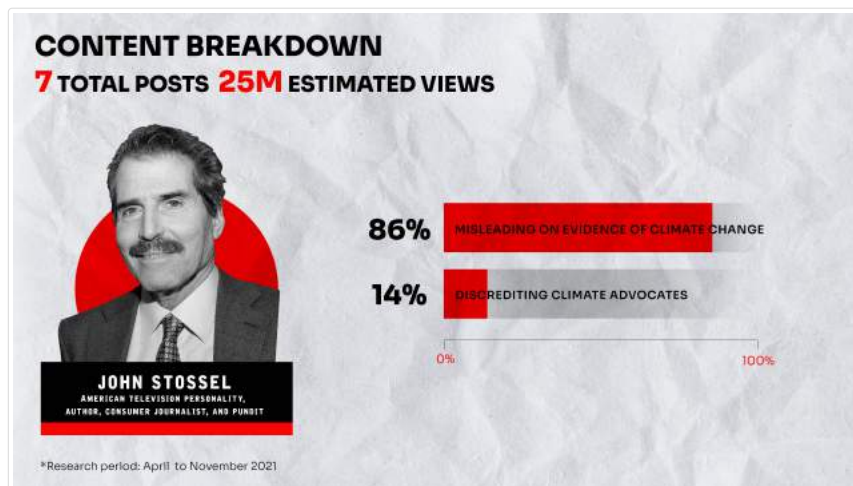
Post date: June 18, 2021



Unactioned Tweet of the Same Video from April 23, 2020



3. JOHN STOSSEL



John Stossel is a former Fox News anchor and long-time climate change skeptic who, throughout his career, "has purposefully and wrongfully denied much of the scientific data that we currently hold to be true regarding our planet's changing climate and its potential consequences." Before forming Stossel TV, a news show primarily distributed through social media, Stossel served as the host for Green Tyranny, a Fox News show dedicated to downplaying the consequences of climate change.

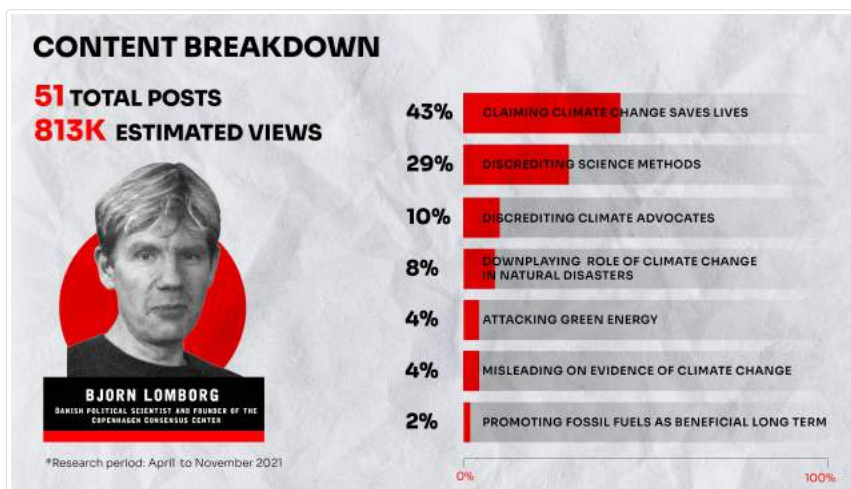
In September 2021, Stossel sued Facebook and its third party fact-checker Climate Feedback, for evaluating two of his videos on climate change as "partly false" and "missing context." Documents filed as part of the lawsuit show that Stossel normally makes more than \$10,000 a month from videos posted to Facebook.

The majority (86%) of Stossel's climate misinformation content on Facebook between April 6, 2021 and November 15, 2021 misled on evidence of climate change and its adverse effects. The content found by Avaaz accumulated over 25 million estimated views. ¹²



In a [video](#) titled *Fighting Back with a Lawsuit*, viewed over 790,000 times and counting, Stossel contests Climate Feedback's judgments on claims he made in a [previous misleading video](#) about climate change. In doing so, the video rehashes the inaccurate claims and imprecise language used to mislead viewers in the first video, falsely reiterating that "sea levels have been rising for 20,000 years," and that hurricanes are not getting "stronger and stronger," while omitting several blatantly inaccurate claims made in the first video. In fact, [historical data shows that sea level was largely stable until an acceleration in sea level rise 100-150 years ago](#). The most recent [scientific data also demonstrates an expected increase in hurricane risk, due to the increasing proportion of hurricanes that become major hurricanes](#).

4. BJØRN LOMBORG



Bjørn Lomborg is a noted "lukewarmer" on climate change - according to experts, "he does not deny the physics of the greenhouse effect, but instead cherry-picks information to deny that the risks of climate change are large enough to justify strong and urgent action." Lomborg is a political scientist who founded the [Copenhagen Consensus Center](#), a think tank with the stated mission to find the "smartest solutions to the world's biggest problems."

Lomborg has a history of cherry-picking and misrepresenting data. [In 2003, he was found guilty of scientific dishonesty in his home country of Denmark, after an investigation by the Danish Committees on Scientific Dishonesty, the government's research agency.](#) He is the subject of the book, "[The Lomborg Deception: Setting the Record Straight About Global Warming](#)," written by American author Howard Friel and published by Yale University Press, and [his claims are regularly debunked by practicing climate scientists](#). Despite this record, he regularly writes for mainstream media outlets such as [Forbes](#) and the [Wall Street Journal](#).

[The Copenhagen Consensus Center has stated that it does not accept funding from the fossil fuel industry. It is financed through donations](#) from various charitable foundations.

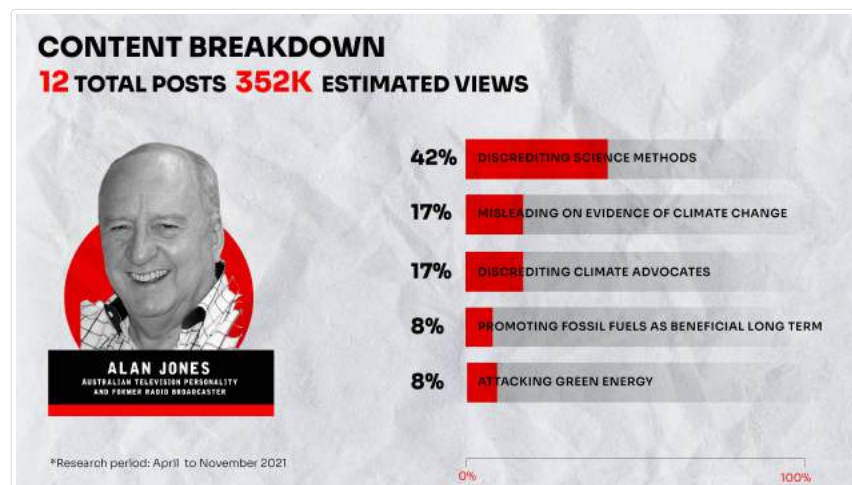
Nearly half (43%) of climate misinformation Lomborg published on Facebook between April 6, 2021 and November 15, 2021 claimed that climate change saves lives, while 29% sought to discredit research methods used by scientists and fact-checkers.



In one post, Lomborg shares an August 9, 2021 article he authored for the New York Post, in which he [states](#), “You don’t hear this, but so far climate change saves 166,000 lives each year.” Climate Feedback, in a fact check that directly addressed the article, found this claim [unsupported and based on cherry-picked data](#).

In fact, accurate scientific studies show that “ [climate change is already contributing to increased heat-related mortality and global warming will further increase health outcomes related to heat stress](#). ” Lomborg’s claim is based on a misinterpretation of data that is not directly concerned with mortality risk from climate change: after Lomborg [contested](#) Climate Feedback’s evaluation, an author of the [Lancet paper](#) that Lomborg cites to support his claim [confirmed](#) that Lomborg’s interpretation of the data was incorrect.

5. ALAN JONES



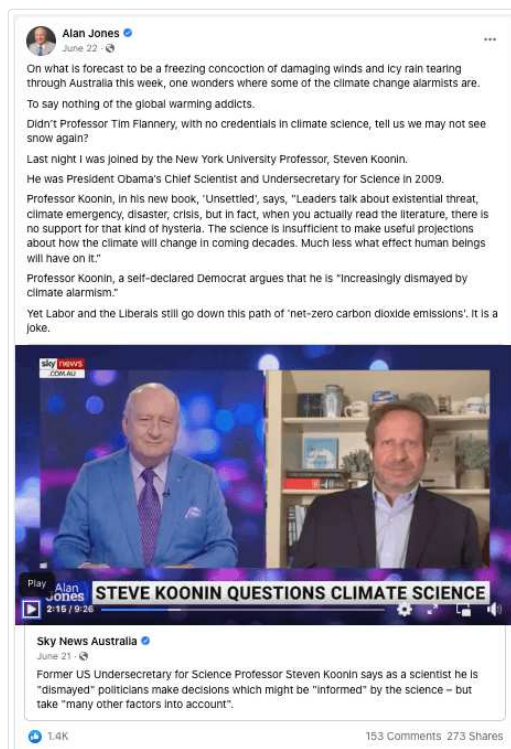
Alan Jones is a [longtime Australian radio commentator](#) known for his [inflammatory rhetoric and history of violating guidelines around misinformation and incitement of violence](#).

In August 2021, he was a factor in [broadcaster Sky News’ week-long suspension from YouTube](#) -- his regular promotion of COVID-19 misinformation violated the platform’s terms of service. He was also [dropped as a columnist for Sydney’s Daily Telegraph over similar statements](#).

In 2019, *The Guardian* named Jones “ [one of Australia’s most prominent climate deniers](#), ” for his repeated claims that climate change is a hoax and lacks scientific credibility. In late 2021, his nightly Sky News program, [Alan Jones](#), which Jones used to regularly spread climate misinformation, ¹³ was [canceled due to low ratings](#).

None of the 12 climate misinformation posts from Alan Jones in our dataset received a fact-checking label

from Facebook. 42% of the content posted discredits science and scientists. Unlike other “lukewarmer” actors featured in this report, Jones continues to deny the physics of the greenhouse effect, [repeatedly suggesting](#) that because CO2 makes up just 0.04% of the Earth's atmosphere, it cannot have a significant, negative impact on the Earth's climate.



14

In a [post](#) viewed an estimated 30,000 times, Jones criticized “alarmist and apocalyptic political utterances” on climate change, citing [contrarian scientist](#) Steven Koonin's claim that “the science is insufficient to make useful projections about how the climate will change in coming decades, much less what effect human beings will have on it.” In fact, climate models [have proven to be reliable](#), accurately predicting changes in climate and weather over time.

Section 2: Facebook Allowed Top Climate Misinformers to Skirt Ad Policies and Run Climate Change-Denying Ads

In November 2021, Facebook released [a statement](#) about its role “in empowering people with information about the climate crisis,” saying that it doesn't, “allow ads that have been rated by one of our fact-checking partners.” Yet, of the top five climate misinformers identified in this study, Facebook allowed PragerU and Turning Point USA to skirt its ad policies and run ads promoting climate misinformation to thousands of users.

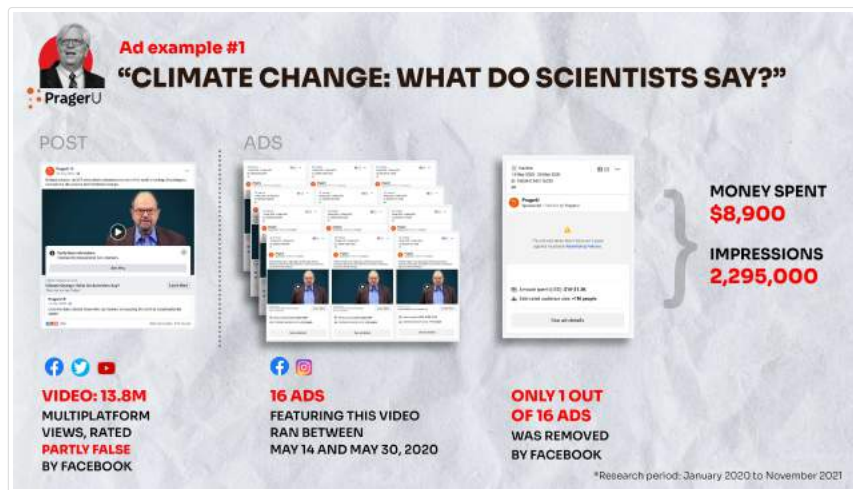
Between January 1, 2020 and November 12, 2021, PragerU spent \$56,900 to promote climate misinformation through Facebook's ad platform, placing 90 ads that were seen by users nearly **7 million times**.

Facebook allowed PragerU to run paid climate misinformation campaigns during the duration of the COP26 climate change summit and the week leading up to it. During this period, PragerU paid Facebook \$3,400 to run 32 ads containing climate misinformation, which were seen more than 168,000 times.

Our research team also found Turning Point USA campaigns ads featuring posts [previously labelled “Partly False” by Facebook](#) or debunked by Facebook's [Climate Science Center](#).

The following examples show Facebook's poor enforcement of [its very own ad policies](#) against climate misinformation:

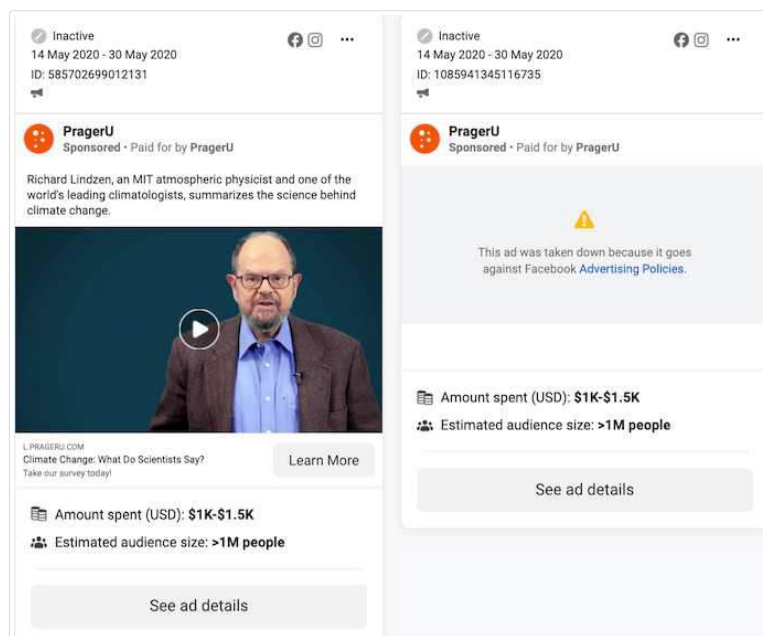
PragerU Ad Example 1: “Climate Change: What Do Scientists Say?”



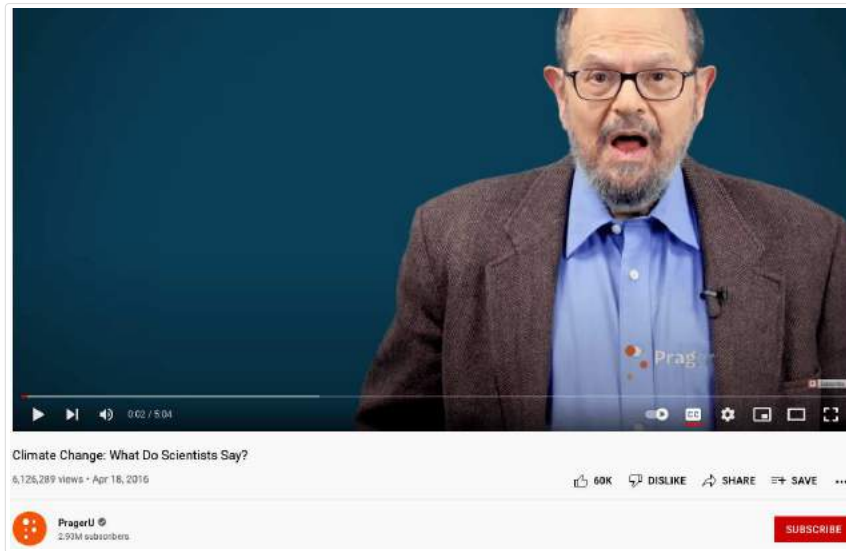
The video, “Climate Change: What Do Scientists Say?”-- which was **rated incorrect and misleading** by Facebook partner fact checker Climate Feedback on May 8, 2020 and labelled “Partly False” by Facebook - was promoted in PragerU advertisements more than 16 times across Facebook and Instagram between May 14, 2020 and May 30, 2020.

PragerU spent a total of \$8,900 to promote this ad campaign. Each ad had an estimated audience of 1 million people, garnered 2.3 million impressions (views) and included a [survey form](#) to be filled to collect data from viewers about facts learned on the video as well as their demographic information.

While an [identical video](#) published as a post on PragerU’s official page during the same period received a fact-checking label, only 1 of the 16 ads containing the video was removed by Facebook, despite the fact that Facebook [claims](#) to prohibit “ads that include claims debunked by third-party fact checkers or, in certain circumstances, claims debunked by organizations with particular expertise.”

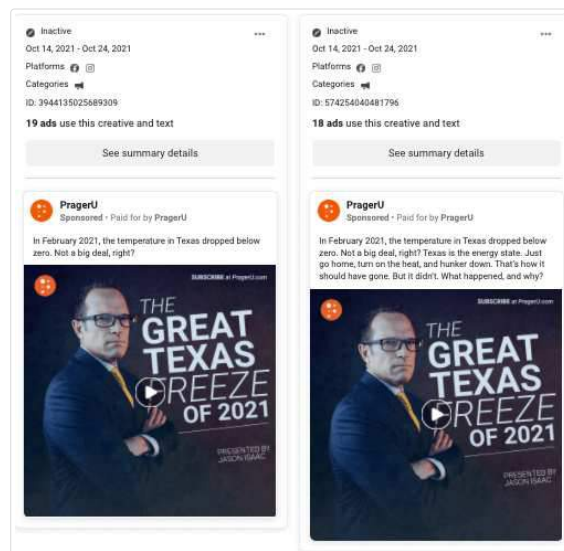
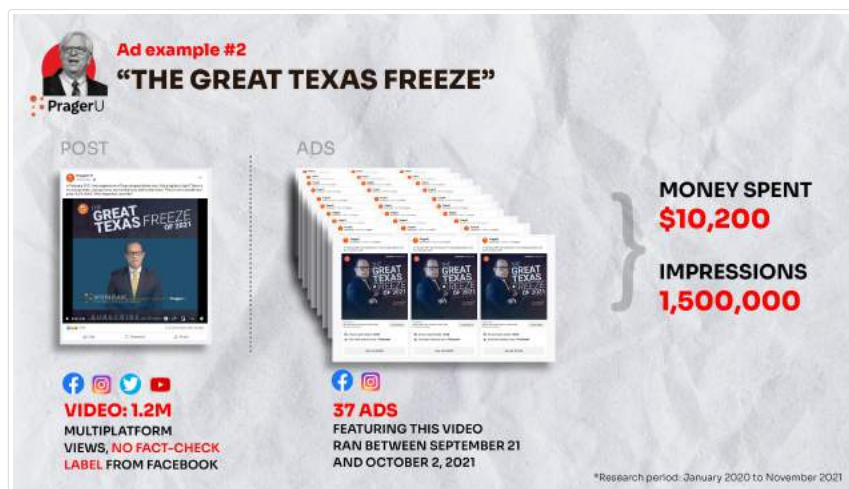


This [YouTube version](#) of this video was featured in a [2019 Avaaz report](#). At the time, the video had reached nearly 2 million views. Three years later, this figure has tripled to 6.1 million views.



Across [Twitter](#), [Facebook](#) and [YouTube](#), this video has accumulated 13.8 million views ¹⁵ in total.

PragerU Ad Example 2: “The Great Texas Freeze”



PragerU also ran a 37-ad campaign that featured a [video](#) about “The Great Texas Freeze of 2021,” which made the false claim that “renewable energy is expensive and unreliable” that was able to “render America’s leading power producer powerless” in winter storms. The claim that renewables were behind the Texas power failures has been [repeatedly debunked](#) as misleading by Facebook partner fact checkers; in fact, state energy officials stated that the blackouts were caused largely by [declines in output from fossil fuels and nuclear power plants](#).

The ads disseminating this false claim were used to [solicit donations for PragerU from Facebook users](#). No ads were flagged by Facebook or removed from the platform by the end of the research period.

Each of the 37 ads had an estimated audience of 1 million people, and accumulated 1.5 million unique impressions (views). In addition, the video, which was shared by PragerU channels on [Twitter](#), [Instagram](#), [Facebook](#), and [YouTube](#), has accumulated 1.2 million views ¹⁶ across major platforms since it was first

posted in September 2021.

Turning Point USA Ad Example 1: “Climate Change Panic is Not Based on Facts”

The screenshot shows a Facebook ad interface. At the top, it indicates the ad is 'Inactive' and ran from June 21, 2021, to June 26, 2021. It was promoted on Facebook and Instagram, reaching an estimated audience of 1M people. The ad cost \$100-\$199 and received 125K-150K impressions. Below the stats is a 'See ad details' button. The ad content features the Turning Point USA logo, a sponsored notice, and a quote from Charlie Kirk: 'Charlie Kirk is So Right... Conservatives Are Pro-Science, While Leftists Are Pro-Panic! Climate Change is A HOAX! #ThinkForYourself'. The main image shows a person shouting with a megaphone, with the text 'CLIMATE CHANGE PANIC IS NOT BASED ON FACTS' overlaid. At the bottom, it says 'Climate Change Panic is Not Based On Facts'.

Facebook allowed Turning Point USA to promote the “Climate change Panic is Not Based on Facts” video discussed in the previous section, despite the fact that it was [rated inaccurate](#) by partner fact checker Climate Feedback, and [labelled](#) at least once with a fact check measure when published as a normal post.

The video ran as an advertisement between June 21, 2021 and June 26, 2021 the week after the labelled post was published. Altogether, the video has been viewed 8.6 million times.

Turning Point USA spent \$100 to disseminate this misinformation to an estimated audience of 1 million Facebook users.

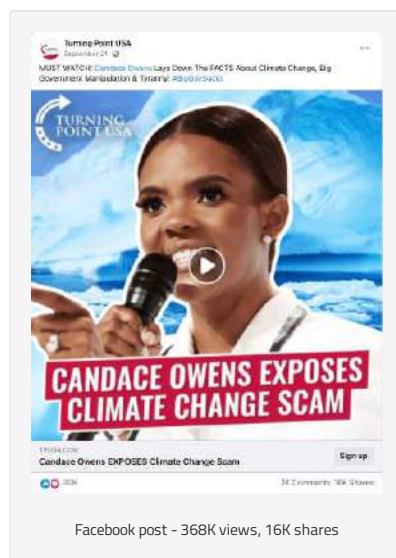
Turning Point USA Ad Example 2: “Candace Owens Lays Down The FACTS About Climate Change

The screenshot shows a Facebook ad interface. It indicates the ad is 'Inactive' and ran from September 23, 2021, to September 26, 2021. It was promoted on Facebook and Instagram, reaching an estimated audience of 1M people. The ad cost \$200-\$299 and received 100K-125K impressions. Below the stats is a 'See ad details' button. The ad content features the Turning Point USA logo, a sponsored notice, and a headline: 'MUST WATCH! Candace Owens Lays Down The FACTS About Climate Change, Big Government Manipulation & Tyranny! #BigGovSucks'. The main image shows Candace Owens speaking into a microphone, with the text 'CANDACE OWENS EXPOSES CLIMATE CHANGE SCAM' overlaid. At the bottom, it says 'www.TPUSA.com Candace Owens EXPOSES Climate Change Scam' and includes a 'Sign up' button.

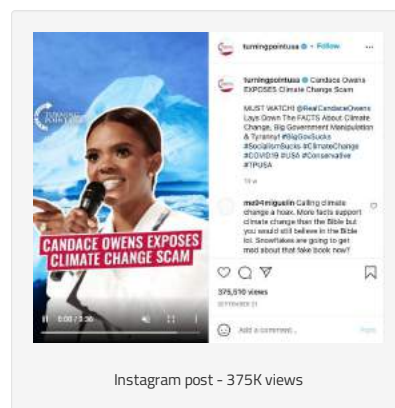
Between September 23, 2021 and September 26, 2021, Turning Point USA also paid to promote a [video](#) featuring multiple false and misleading claims to support Candace Owens’ assertion that climate change is a scam to an estimated audience of 1 million users. In the video, speaker Candace Owens claims that climate change is a “joke”, that scientists have repeatedly “guaranteed the planet will be gone in 10 years,” and that the polar bear population has recently doubled.

These claims are contradicted by reliable information from Facebook’s own [Climate Science Center](#), and from partner fact-checkers. Contrary to Owens’ claims in the video, there is a multitude of scientific evidence showing that [climate change is real](#), and [human induced](#). Similarly, the majority of scientists [did not claim](#) that previous issues of environmental concern would cause drastic, short-term catastrophes and overall, polar bear populations are [declining due to global warming](#).

The video has accumulated over 750,000 views across major platforms since it was first published in September 2021, the vast majority of them on [Facebook](#) and [Instagram](#).¹²



Facebook post - 368K views, 16K shares



Instagram post - 375K views

Policy Recommendations

In the absence of government regulation to combat the epidemic of misinformation on social media, past and future misinformation waves threaten to undermine world leaders' climate agendas and international efforts to limit global warming to 1.5°C above pre-industrial levels.

Avaaz, alongside allied organizations throughout the world, have called on [Facebook and other tech platforms](#) to [implement more expansive policies](#) that combat the spread of climate misinformation in all its forms. Avaaz and other NGOs have urged Facebook to adopt the following policies as applicable to content, algorithms, and advertising:

- Accept a robust definition of climate misinformation, as defined by climate and anti-misinformation experts;
- Retroactively Correct the Record on climate misinformation, by ensuring all users targeted with such content receive a correction when the content is flagged by independent fact-checkers.
- Produce and publicize a transparent company plan to eliminate the spread of climate misinformation on your platform;
- Do not publish advertisements if they contain climate misinformation based on a more robust definition of climate misinformation;
- Share internal research on how climate misinformation spreads on the platform with researchers, journalists, and lawmakers so we can work together to tackle this global, multi-faceted issue;

As Avaaz has [demonstrated above and in previous investigations](#), Facebook is unprepared to address the growing and evolving landscape of climate misinformation. **Because Facebook cannot be relied upon to regulate itself, lawmakers in the U.S., EU, and other parts of the world must urgently work together to introduce tech regulation that includes the following:**

1. **Transparency:** Regulation that ensures transparency, requiring Facebook and other large social media platforms to provide comprehensive reports on disinformation and misinformation, measures taken against it, and the design and operation of their curation algorithms. Platforms' algorithms must also be continually and independently audited based on clearly aligned KPIs to measure impact, prevent public harm, and to improve design and outcomes.
2. **Detox the Algorithm:** Regulation that ensures Facebook and other social media platforms consistently and transparently implement Detox the Algorithm policies to protect citizens from the amplification of online harms. Such regulation can change the way its algorithms incentivize and amplify content, downranking hateful, misleading, and toxic content from the top of people's feeds. This [can cut the spread of misinformation content and its sharers by 80%](#).
3. **Correct the Record:** Regulation that ensures Facebook implements Correct the Record - requiring the platform to show a retroactive correction to each and every user who viewed, interacted with, or shared fact-checked misinformation. This can cut belief in false and misleading information [by nearly half](#).

Timeline of Facebook's Climate-Related Promises and Missteps

Jun 20

Facebook creates a fact-checking exemption for climate deniers after the CO2 Coalition, a [US climate change denial organization](#), successfully lobbies to overturn a Science Feedback ruling. Facebook quietly removes the fact check label from the post in question, claiming that the article was not eligible for fact-checking because it was an "opinion piece."

Jul 20

Facebook maintains that climate misinformation content is not prioritized for fact-checking because climate change does not pose "an immediate threat to human health and safety."

Sept 20

Ahead of Climate Week, Facebook announced the establishment of the Climate Science Information Center to "connect people with science-based information." Facebook also announced their goal to reach net-zero emissions for their value chain – including emissions from suppliers and other factors such as employee commuting and business travel – by 2030.

Sept 20

Facebook suspends the accounts of several environmental organizations, including Greenpeace USA, Climate Hawks Vote, and Rainforest Action Network ahead of an online action to oppose the construction of a pipeline in Canada. Facebook stated that these accounts were "mistakenly removed" and restored them.

Oct 20

Facebook announces a partnership with Carnegie Mellon University, aimed at using AI to fight climate change by optimizing renewable energy storage and use.

Feb 21

Facebook states that it "already direct[s] people to the Climate Science Information Center when they search for climate-related terms, and will keep doing that where the center is available. In countries where it isn't, we will soon direct people to the UN Environment Programme, a leading global environmental authority. We're also starting to add informational labels to some posts on climate in the UK that direct people to the center, and we plan to expand to more countries soon."

Apr 21

Zuckerberg admits in a 2021 April congressional hearing that climate misinformation is a serious issue. In the past, the company had said such misinformation accounts for "a very low percentage of total misinformation" on their platform but declined to share figures.

May 21

Facebook announces, "Today, we're expanding our informational labels to some posts about climate change in Canada, France, Germany, Ireland, Nigeria, South Africa and the US. These labels will link to the Climate Science Information Center where people can find factual information from leading climate organizations and resources to take action against climate change." May 2021: Facebook announces, "new ways to inform people if they're interacting with content that's been rated by a fact-checker as well as taking stronger action against people who repeatedly share misinformation on Facebook", including "false or misleading content about... climate change." This included more context for pages that repeatedly share false claims, expanding distribution penalties to individuals' pages that repeatedly share misinformation, and redesigning notifications when people share fact-checked content.

May 21

Facebook announces, "new ways to inform people if they're interacting with content that's been rated by a fact-checker as well as taking stronger action against people who repeatedly share misinformation on Facebook", including "false or misleading content about... climate change." This included more context for pages that repeatedly share false claims, expanding distribution penalties to individuals' pages that repeatedly share misinformation, and redesigning notifications when people share fact-checked content.

Sept 21

Facebook expands the Climate Science Information Center and renamed it the Climate Science Center, and announced a \$1 million investment to support organizations working to combat climate misinformation. The company also added more facts to the Climate Science Center, and created a video series to "highlight young climate advocates on Facebook and Instagram between Climate Week and COP26."

Oct 21

After pressure from Avaaz, allied organizations, and advertisers, Google announces that it is updating its ads and monetization policies to "prohibit ads for, and monetization of, content that contradicts well-established scientific consensus around the existence and causes of climate change," making this the most "aggressive" ban on climate change denial ads on any major tech platform. Meanwhile, it is reported that Facebook is still allowing climate denial and greenwashing ads to run on its advertising platform.

Oct 21

Internal Facebook documents leaked by whistleblower Frances Haugen show that:

- From a Facebook survey of more than 5,000 users across eight countries, the majority had no idea that the Climate Science Information Center existed;
- A Facebook employee found that a video called "Climate Change Panic is Not Based on Facts" by the conservative group Turning Point USA was the second search result for "climate change" on Facebook Watch and had amassed 6.6 million views in a little over a week;
- An internal Facebook thread from October 2019 reveals that Facebook opposed fact-checking climate change misinformation because "it seems problematic to treat scientific consensus as the definitive truth for the purpose of suppressing content that disagrees with it."

Nov 21

Ahead of COP26, Facebook announces that it expanded the Climate Science Center, "to more than 100 countries" and launched a program called "Green Boost", a "sustainability training program to help small businesses reduce their carbon emissions and grow sustainably." The platform said, "We're also supporting the UN by encouraging conversations around climate change and helping people take action. With the help of Spectrm, the UN will soon be launching an updated version of its ActNow chat experience with 10 new actions you can take to combat climate change. It's available on Messenger through the app, Instagram and the UN website."

Nov 21

Facebook releases a statement saying that it has, "a responsibility to do what we can to help slow warming and help make climate science more accessible." This includes combating the spread of climate misinformation, according to the statement: "When [fact-checking partners] rate content as false, we add a warning label and move it lower in News Feed so

fewer people see it. We don't allow ads that have been rated by one of our fact-checking partners. And we take action against Pages, Groups, accounts, and domains that repeatedly share false claims about climate science." Additionally, the company said, "Ahead of important climate events like COP-26 and Earth Day, we activate a feature we use during these events to utilize keyword detection to gather related content in one place, making it easy for fact-checkers to find — because speed is especially important during critical public events or when breaking news hits."

Methodology and Dataset

In this section we describe the 4-step methodology we used to measure Facebook's stated claims about its fact-checking efforts and its commitment to fight against the spread of climate misinformation. In particular:

- Step 1: Methodology for identifying climate misinformation content
- Step 2: Methodology for identifying the top 5 climate misinformers
- Step 3: Viewership Calculation
- Step 4: Methodology for identifying climate misinformation advertisements

"Climate misinformation" definition

For the analysis in this report we define climate misinformation as verifiably false or misleading information that has the potential to cause public harm, such as undermining public support for efforts to limit human-induced climate change, as assessed against the scientific consensus represented by the Intergovernmental Panel on Climate Change, NASA, NOAA and other scientific or academic sources,¹⁸ and that cumulatively:

1. Were fact-checked by Facebook's [third-party fact-checking partners](#) or other reputable fact-checking programs.¹⁹ To confirm the accuracy of all fact checks, Avaaz hired Climate Feedback, to review all samples chosen for this study (see below).
2. Were rated "false" or "misleading" or any of the following ratings according to the tags used by the fact-checking organizations in their fact-check articles:

Inaccurate, Unsupported, Not enough data, Wrong, Distraction, Overall scientific credibility: "very low", No evidence, Myth, Not true, Missing context, Incorrect, Flawed reasoning, Mostly False, Incorrect, Busted

"Climate Feedback"

Experts from [Climate Feedback](#), a Facebook partner fact checker, then reviewed all posts and advertisements – judged to contain potential misinformation by the Avaaz research team – in order to confirm whether they contained false or misleading information as assessed against the scientific consensus represented by the Intergovernmental Panel on Climate Change, NASA, NOAA and other scientific or academic sources. The final dataset of 136 posts and 92 advertisements used for research contains only those that Climate Feedback confirmed as meeting the definition of climate misinformation used in this study.

STEP 1: METHODOLOGY FOR IDENTIFYING CLIMATE MISINFORMATION CONTENT

For the purpose of measuring Facebook's stated claims about its fact-checking efforts and its commitment to fight against the spread of climate misinformation, the investigative team analyzed a final sample of 136 posts²⁰ between April 6, 2021 and November 15, 2021, based on the above criteria.

To identify those 136 posts, we used the DeSmog Climate Disinformation Database²¹ to retrieve a list of 173 individuals and 178 corporations with an active public Facebook account.^{22 23}

Secondly, we used CrowdTangle²⁴ to retrieve the last 6 months of historical data^{25 26} published by those public accounts and including at least one of the following keywords:

- a. Carbon dioxide, emissions, fossil fuels, sea-level rise, global average temperature, COP, CO2, climate, greenhouse, oil, renewable, energy, gas, glasgow, electric, biofuel, carbon footprint, leakage, offsetting, neutral, global warming, coal, temperatures, IPCC, methane, tipping point, weather, solar energy, wind energy, green energy, green new deal, climate science, climate scientists, climate models, carbon tax, fossil fuels, paris climate agreement, CO2, green tax, rising sea levels, UN, climate hypocrisy, existential threat, climate catastrophe, global heating, global warming, climate disaster, climate justice, environmental justice, greta thunberg, climate myth, climate facts, climate experts, bureaucratic power, saving the planet, hysterical, carbon capture, green gas, carbon trading, climate panic, climate alarmism

Researchers then manually reviewed all the posts to determine whether they contained content related to climate change, and excluded posts that were not climate-related.

Out of the remaining²⁷ climate-related posts, Avaaz conducted a second review to determine those²⁸ that fall under the climate misinformation definition stated above, by comparing claims made in posts to

information from Facebook's third-party fact-checking partners or other reputable fact-checking programs ²⁹ and other authoritative sources of information on climate. ³⁰ Climate Feedback, a reputable fact-checking organization, was then hired by Avaaz to conduct an independent assessment of each post to confirm whether it was misinformation or not. Avaaz relied on the final judgment of Climate Feedback.

It is from this sample that Avaaz started establishing the top 5 actors named in this report.

STEP 2: METHODOLOGY FOR IDENTIFYING THE TOP 5 CLIMATE MISINFORMERS

Researchers identified the top 5 climate misinformers in the aforementioned historical dataset provided by CrowdTangle and reviewed by the Avaaz research team by grouping all the remaining content by DeSmog actors and ranking the data by number of posts, views and interactions on climate-related misinformation. Actors selected for the final top 5 were present in at least two of the three aforementioned rankings.

Researchers calculated total estimated views by adding together real video views ³¹ on video posts containing climate misinformation, and estimated views on non-video posts containing climate misinformation.

STEP 3: VIEWERSHIP CALCULATION

• Viewership calculation for videos

Our dataset contained 59 posts of Facebook video content that accumulated a total of 54,475,221 views ³² between the period of April 6, 2021 and November 15, 2021. The breakdown of video views is as follows:

1. John Stossel : 24,958,000 views
2. PragerU: 20,225,221 views
3. Turning Point USA: 9,116,000 views
4. Alan Jones: 176,000 views
5. Bjørn Lomborg: No video view content

• Viewership calculation for images and text

Facebook discloses the number of views for videos, but for posts containing only text and image content the platform only displays the number of interactions (which are shares, reactions and comments). Therefore, in order to estimate viewership for text and image content, we designed and calculated a precise page-specific views ratio for each Top 5 actor page. We took into account the total number of views for all videos uploaded or shared directly on each page between April 6, 2021 and October 6, 2021 and then divided it by the total number of interactions for the same set of videos, giving us the following views/interaction ratios for each actor:

1. John Stossel : $19,490,000 / 1,590,000 = 12.26$
2. PragerU: $154,950,000 / 10,275,587 = 15.08$
3. Turning Point USA: $105,472,181 / 4,894,624 = 21.55$
4. Alan Jones: $1,773,864 / 249,438 = 7.11$
5. Bjørn Lomborg: $7,630 / 963 = 7.92$

• Estimated views calculation

For each actor's image and text posts, we multiplied our views/interaction ratio per the highest available number of interactions for those posts or web links provided by CrowdTangle. Adding all those estimated views together to the real Facebook video views listed in the viewership calculation above, we obtain the final following estimates for the sampled posts shared by our top 5 actors between the dates of April 6, 2021 and November 15, 2021:

1. John Stossel : $(7,496 * 12.26) + 24,958,000 = 25,049,901$ total estimated views
2. PragerU : $(224,364 * 15.08) + 20,225,221 = 24,281,722$ total estimated views
3. Turning Point USA: $(85,484 * 21.55) + 9,116,000 = 10,958,180$ total estimated views
4. Alan Jones: $(24,764 * 7.11) + 176,000 = 352,072$ total estimated views
5. Bjørn Lomborg: $(102,683 * 7.92) = 813,249$ total estimated views

Collectively, the 136 posts shared by the top 5 actors present in this report account for 61,455,125 estimated views.

It is important to note that this estimation of views is a rough approximation based on available data. Avaaz and other researchers have consistently urged Facebook to provide more transparency and data to better assess the reach of misinformation on the platform. However, the platform has not yet provided such data to users.

STEP 4: METHODOLOGY FOR IDENTIFYING CLIMATE MISINFORMATION ADVERTISEMENTS

Researchers reviewed ads from each Top 5 actor using the Facebook Ads library, and documented all climate-related ads from these actors published between January 1, 2020, and November 12, 2021. Where Facebook provided a numerical range for impressions, audience size, and amount spent on advertisements, researchers recorded the lowest number. Total figures for advertisements are therefore likely to be underestimated.

Researchers reviewed all climate-related advertisements to determine whether they contained potential climate misinformation, by comparing claims made in advertisements to information from Facebook partner fact-checkers and other authoritative sources of information on climate.

The final sample of climate misinformation advertisements present in this research is 92.

Acknowledgment

THE NECESSITY OF HAVING A FACT-BASED DISCUSSION ON CLIMATE CHANGE WHILE ALSO DEFENDING FREEDOM OF EXPRESSION

Since its establishment over a decade ago, Avaaz has played a leading role in the struggle to ensure that the international community acts effectively to stop climate change. Consequently, Avaaz is deeply cognizant of the different predictive models used by the scientific community to assess the level of confidence associated with each key finding as reported using the IPCC's calibrated language, based on the assessment of the available scientific, technical and socio-economic literature.

As with any scientific methodology based on probability, Avaaz understands that different models can be used, and different basic assumptions can be made, which impacts both the threat and timeframe assessments of how climate change will play out over the next decades and how cuts in greenhouse gas emissions will directly or indirectly limit global warming.

Avaaz has also been a vocal defender of the right to freedom of speech for years, and supports robust debates on this front. We believe that such debates are pivotal in a thriving democracy. One of the key objectives of this report is to allow for fact-based deliberation, discussion and debate to flourish in an information ecosystem that is healthy and fair, and that allows both citizens and policymakers to make decisions based on the best available data.

In this report, Avaaz has sought to ensure that what we termed climate denial and misinformation is content that is outside of scientific boundaries, which can be readily confirmed by available authoritative literature.

Avaaz's support for freedom of expression means that we believe verifiably false or misleading content should be countered and debunked, but not deleted. It is for this reason that Avaaz's recommended solutions to platforms do not require them to remove false or misleading content, but for them to ensure that such content is not artificially amplified to millions of people and that those who have seen it are shown fact-checked corrections.

We see a clear boundary between freedom of speech and freedom of reach, and the curation and recommendation model currently adopted by most social media platforms is designed to maximise human attention and profit, not the fair and equal debate which is essential for humanity to rise to the great challenges of our time.

Endnotes

1. See also "Timeline of Facebook's Climate-Related Promises and Missteps" ▲
2. Avaaz relied upon the following definition of "climate misinformation" for this study: "verifiably false or misleading information that has the potential to cause public harm, such as undermining public support for efforts to limit human-induced climate change, as assessed against the scientific consensus represented by the Intergovernmental Panel on Climate Change, NASA, NOAA and other scientific or academic sources." See "Methodology" section for how the known climate misinformers were identified. ▲
3. These partners include, Climate Feedback, Associated Press, AFP, Lead Stories, Factcheck.org, Politifact, Reuters, USA Today, and the BBC. ▲
4. National Snow and Ice Data Center, Skeptical Science, Carbon Brief, National Oceanic and Atmospheric Administration, European Environment Agency, International Renewable Energy Agency, London School of Economics, Nature Magazine, Yale Climate Connections. ▲
5. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
6. Four out of the top five actors fall into the "lukewarmer" category - they acknowledge the existence of the greenhouse effect, but produce content that misleads on the scale, consequences, or effective responses to climate change. Only Alan Jones continues to employ outright denier tactics, often suggesting that CO2 cannot affect global warming because it comprises just .04% of the Earth's atmosphere. ▲
7. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
8. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
9. Between Oct 25, 2021 and Nov 15, 2021. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
10. Avaaz identified the most dominant narrative in each post shared by each actor and categorized each based on that dominant narrative theme accordingly. ▲
11. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
12. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
13. Based on data collected by Avaaz for this report: ▲
14. <https://www.facebook.com/10004469248258/posts/352908536201452> ▲
15. [Twitter](#) 114.6K views, [Facebook](#) 7.5 million views, [Youtube](#) 6.1 million views ▲
16. [Twitter](#) 25.5K views, [Instagram](#) 131K Views, [Facebook](#) 542K views, [Youtube](#) 555K views ▲
17. [Youtube](#) 15K views, [Instagram](#) 375K views, [Facebook](#) 368K views ▲
18. National Snow and Ice Data Center, Skeptical Science, Carbon Brief, National Oceanic and Atmospheric Administration, European Environment Agency, International Renewable Energy Agency, London School of Economics, Nature Magazine, Yale Climate Connections. ▲
19. These partners include, Climate Feedback, Associated Press, AFP, Lead Stories, Factcheck.org, Politifact, Reuters, USA Today, and the BBC. ▲
20. A table of all the posts referenced in this brief can be found in Table 1 of the Annex. The full list is available upon request. ▲
21. The Desmog database lists "individuals and organizations that have helped to delay and distract the public and our elected leaders from taking needed action to reduce greenhouse gas pollution and fight global warming". Source: <https://www.desmog.com/climate-disinformation-database/> ▲
22. Verified profile, Page or Public group. ▲
23. Further down referred to as "Desmog actors". ▲
24. [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
25. Query returned 3058 posts for time period from April 6 to October 6 2021. ▲
26. Once the top 5 actors were identified, the research team extended the research period from October 6 to November 15 (to cover the COP26 summit) and retrieved additional climate misinformation posts using direct observation on the actors Facebook pages and applying the criteria described further down in this section. ▲
27. 848 posts ▲
28. 188 posts ▲
29. Climate Feedback, Associated Press, AFP, Lead Stories, Factcheck.org, Politifact, Reuters, USA Today, and the BBC ▲
30. National Snow and Ice data center, Skeptical Science, Carbon Brief, National Oceanic and Atmospheric Administration, European Environment Agency, International Renewable Energy Agency, London School of Economics, Nature Magazine, Yale Climate Connections. ▲
31. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲
32. Data from [CrowdTangle](#), a public insights tool owned and operated by Facebook. ▲